

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Slovenia

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).

The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (<http://www.fao.org/3/a-au190e.pdf>). These reports were submitted to FAO as official government documents.

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TABLE OF CONTENTS

Report preparation and contact persons.....	4
1. What is the area of forest and other wooded land and how has it changed over time?	5
2. What is the area of natural and planted forest and how has it changed over time?	16
3. What are the stocks and growth rates of the forests and how have they changed?	21
4. What is the status of forest production and how has it changed over time?	51
5. How much forest area is managed for protection of soil and water and ecosystem services?	60
6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?	66
7. What is the area of forest affected by woody invasive species?	69
8. How much forest area is damaged each year?	72
9. What is the forest area with reduced canopy cover?	85
10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?	86
11. Is there a national platform that promotes stakeholder participation in forest policy development?	89
12. What is the forest area intended to be in permanent forest land use and how has it changed over time?	91
13. How does your country measure and report progress towards SFM at the national level?	94
14. What is the area of forest under a forest management plan and how is this monitored?	96
15. How are stakeholders involved in the management decision making for publicly owned forests?	98
16. What is the area of forest under an independently verified forest certification scheme?	99
17. How much money do governments collect from and spend on forests?	101
18. Who owns and manages the forests and how has this changed?	103
19. How many people are directly employed in forestry?	108
20. What is the contribution of forestry to Gross Domestic Product (GDP)?	111
21. What is forest area likely to be in the future	112

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Introductory Text

Place an introductory text on the content of this report

(Optional)

Desk Study?

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

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

1.1 Categories and definitions

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

1.2 National data

1.2.1 Data sources

References to sources of information	Variables	Years	Additional comments
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1	Actual land use map (ALUM); Ministry of Agriculture, Forestry and Food (1998 - 2013) • http://rkg.gov.si/GERK/documents/RABA_Pravilnik.pdf • http://rkg.gov.si/GERK/documents/RABA_pravilnik_dopolnitev_14_01_2008.pdf • http://rkg.gov.si/GERK/documents/RABA_IntKljuc_20110101.pdf (since 2011).	Land use / Land cover	1998, 2007, 2012, 2013	N/A
2	Forest compartment database; Slovenia Forest Service (1990-2013)	Forest area, other wooded land (Pinus mugo stands)	1990 – 2013	N/A
3	Forest stand map; Slovenia Forest Service (2008-2013)	Forest area, other wooded land	2008, 2013	N/A
4	Statistical Office of Republic of Slovenia (2004).	Inland water bodies	1997	1 ha; rivers: width >5 m; " / > Water bodies; area > 1 ha; rivers: width >5 m;
5	Reports on forests. Slovenia Forest Service (1998-2012)	Forest area	1999 - 2012	N/A

1.2.2 Classification and definitions

National class	Definition
1221	Intensive orchards
1222	Extensive orchards
1230	Olive groves
1240	Other permanent crops
1300	Meadows and pastures
1322	Other extensive meadows
1410	Overgrown areas
1420	Forest plantations
1500	Trees and bushes
1500	Riparian overgrowth and forest hedges
1800	Forest trees on agricultural land
2000	Forest and other overgrowth areas
2000	Forest

5000	Dried open areas with special vegetation
Afforestation	Establishing forests on non-forest lands by planting or seeding
Artificial regeneration	Regeneration of forests with planting or seeding.
N/A	Because of the importance of the ALUM database, its class definitions have remained mostly unchanged. However, due to the national reporting requirements, the database underwent inevitable nomenclature changes in 2008. In this report all the incompatibilities have been considered and taken into account. The latest ALUM nomenclature and corresponding class definitions are available at: The Pinus mugo stand area was provided by Slovenia Forest Service. The figure was obtained in two ways; by i) summing up the areas of correspondent forest stand-types available in Forest stand maps of Forest management units and by ii) summing up those forest compartments in which Pinus mugo dominated or in which it was admixed with spruce (Picea abies) and/or larch (Larix decidua) trees. The area of inland water bodies (Statistical Office of Republic of Slovenia, 2004) was assessed by summing up the areas of water bodies that were larger than 1 ha and were wider than 5 m.
N/A	Items in Table 1b: national definitions correspond to FRA 2015 definitions.

1.2.3 Original data

Changes in the ALUM nomenclature in the period 2002 - 2013 (Ministry of Agriculture, Forestry and Food, 2002)			
National class	Definition	2002	2008-2013
1221	Intensive orchards	X	X
1222	Extensive orchards	X	X
1230	Olive groves	X	X
1240	Other permanent crops	X	X
1300	Meadows and pasture		X
1322	Other extensive meadows	X	
1410	Overgrown areas	X	X
1420	Forest plantations	X	X
1500	Trees and bushes	X	

1500	Riparian overgrowth and forest hedges		X
1800	Forest trees on agricultural land		X
2000	Forest and other overgrowth areas	X	
2000	Forest		X
5000	Dried open areas with special vegetation	X	X

The structure of the actual land use in 2007* (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 <i>Pinus mugo</i> stands) ²	Forest	1 219 887
	5000 (contains also <i>Pinus mugo</i> 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
		<i>Pinus mugo</i> 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

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

¹According to Slovenia FS 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.

³According 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.

The structure of the actual land use in 2013 (ALUM 2013):

FRA class	National class ID	Definition	Original Area (ha)
Forest area	1410	Overgrown areas	30 175
	1420	Forest plantations	282
	1500 ¹	Riparian overgrowth and forest hedges	18 915
	2000 (contains also <i>Pinus mugo</i> stands) ²	Forest	1 211 378
	5000 (contains also <i>Pinus mugo</i> stands) ²	Dried open areas with special vegetation	17 023
Other wooded land	1300 ³	Meadows and pastures	356 812
	1800 ³	Forest trees on agricultural land	10 331
		<i>Pinus mugo</i> stands ²	13 276
Tree cover within Other land	1221	Intensive orchards	4 316
	1222	Extensive orchards	25 084

	1230	Olive groves	1 901
	1240	Other permanent crops	407
Inland water bodies			13 237

Comments:

¹ALUM class 1500 contains 1 893 ha of FRA forest areas (Slovenian Forest Service, Forest stand map).

²ALUM classes 2000 and 5000, used for calculating Forest area, also contain the areas of *Pinus mugo*, which in fact are part of Other wooded land. Therefore the *Pinus mugo* area (13 276) is subtracted from classes 2000 and 5000 and added to Other wooded land.

³ALUM classes 1300 and 1800 contain 9 625 ha and 1 211 ha of forest area, respectively (Slovenian Forest Service, Forest stand map).

1.3 Analysis and processing of national data

1.3.1 Adjustment

Analysis and processing for the year 2007 based on the ALUM (2008):			
National class ID	Definition	Original Area (ha)	Corrected Area (ha)
1410	Overgrown areas	21 910	21 910
1420	Forest plantations	341	341
1500	Riparian overgrowth and forest hedges	18 669	1 942
2000	Forest	1 219 887	1 219 887
5000	Dried open areas with special vegetation	16 376	16 376
	<i>Pinus mugo stands</i>	-13 276	-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

	<i>Pinus mugo</i> 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

Analysis and processing for the year 2013 based on the ALUM (2013)

National class ID	Definition	Original Area (ha)	Corrected Area (ha)
1410	Overgrown areas	30 175	30 175
1420	Forest plantations	282	282
1500	Riparian overgrowth and forest hedges	18 915	1 893
2000	Forest (including <i>Pinus m.</i> stands)	1 211 378	1 211 378
5000	Dried open areas with special vegetation	17 023	17 023
	<i>Pinus mugo</i> stands	-13 276	-13 276
	FRA Forest area		1 247 475

1300	Meadows and pastures	2	9 625
1800	Forest trees on agricultural land	10 331	1 211
	<i>Pinus mugo</i> stands	13 276	13 276
	FRA Other wooded land		24 112
1221	Intensive orchards		4 316
1222	Extensive orchards		25 084
1230	Olive groves		1 901
1240	Other permanent crops		407
	(FRA Tree cover within Other land)		(31 708)
	FRA Other land		742 476
	Inland water bodies		13 237
	SLOVENIA Total		2 027 300

1.3.2 Estimation and forecasting

A forecast for the year 2015 is based on the trend between the period of 2007-2013. On the basis of the figures of the last 6 years, the 2010 forecast (set in the previous FAO report) showed as inaccurate and have thus been changed.

Summary of estimation and forecasting:

	Year 1990 [ha]	Year 1998 [ha]	Year 2000 [ha]	Year 2005 [ha]	Year 2007 [ha]	Year 2010 [ha]	Year 2013 [ha]	Year 2015 [ha]
Forest	1 188 382	1 228 950	1 233 001	1 243 129	1 247 180	1 247 328	1 247 475	1 247 571

Other wooded land	40 848	40 848	37 555	29 322	26 029	25 070	24 112	23 474
Other land	784 833	744 265	743 507	741 612	740 854	741 665	742 476	743 018
... With trees	26 831	25 438	25 785	26 653	27 000	29 354	31 708	33 278
Inland water bodies	13 237	13 237	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	2 027 300	2 027 300

1.3.3 Reclassification

See Section 1.2.3 - Original data.

1.4 Data

Table 1a

Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	1188	1233	1243	1247	1248
	Other wooded land	41	38	29	25	23
	Other land	785	743	742	742	743
	... of which with tree cover	27	26	27	29	33
	Inland water bodies	13	13	13	13	13
	TOTAL	2027.00	2027.00	2027.00	2027.00	2027.00

Table 1b

Categories	Annual forest establishment / loss (000 hectares per year)	...of which of introduced species (000 hectares per year)
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		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	5.071	1.89	1.4	N/A	0	0	0
	... of which afforestation	0	0	0	0	0	0	0	0
	... of which natural expansion of forest	N/A	5.071	1.89	1.4	N/A	0	0	0
	Deforestation	N/A	0.19	0.11	0.72	N/A	0	0	0
	... of which human induced	N/A	0.19	0.11	0.72	N/A	0	0	0
	Reforestation	N/A	0.728	0.572	0.278	N/A	0	0	0
	... of which artificial	N/A	0.728	0.572	0.278	N/A	0	0	0

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 3	Tier 3
Other wooded land	Tier 3	Tier 3
Forest expansion	Tier 3	Tier 3
Deforestation	Tier 3	Tier 3
Reforestation	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> • Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation 	Tier 3 : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	The Forest area estimation for the year 2013 is based on ALUM 2013.	The forecast for the year 2015 is based on trends in the period 2007 – 2013.
Other wooded land	Estimation based on ALUM 2013, corresponding to year of validity 2013.	The forecast for the year 2015 is based on trends in the period 2007 – 2013.
Other land	The area of OL is computed as 2.027.300 ha – (F + OWL + IWB).	N/A

Other land with tree cover	Estimation for the year 2015 is based on ALUM 2013.	The forecast for the year 2015 is based on trends in the period 2007 – 2013.
Inland water bodies	Including areas larger than 1 ha and rivers wider than 5 m. Data provided by Statistical Office of Republic of Slovenia, 2004.	The IWB area remains the same throughout 1990 – 2015.
Forest expansion	Activities for afforestation of agriculture land are not planned.	The natural expansion of forest is in decline
Deforestation	The figures for the reporting years refer to the average of the 5-year periods 1988-1992, 1998-2002, 2003-2007 and 2008-2012 respectively.	An increase in trend is due to urbanisation and freeway construction.
Reforestation	The figures for the reporting years refer to the average of the 5-year periods 1988-1992, 1998-2002, 2003-2007 and 2008-20012 respectively. Natural regeneration is the prevalent management practise.	N/A

Other general comments to the table

N/A

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

2.1 Categories and definitions

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

2.2 National data

2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest compartment database:Slovenian Forestry Institute database	Preservation degree	1990	Preservation degrees:Preserved, Slightly changed, Changed, Altered
2	Forest compartment database:Slovenia Forest Service database	Preservation degree	2000, 2005, 2008, 2012	Preservation degrees: Preserved, Slightly changed, Changed, Altered
3	Regulation on protective forests and forests with a special purpose	Area	2005- 2013	Names of forest reserve are provided by the regulation

4	FAO, 2006. Global planted forests thematic study	N/A	1990, 2000, 2005	Data on planted forest area reported to FAO.
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2.2.2 Classification and definitions

National class	Definition
Virgin forests	Forests uninfluenced by human activities over a longer time period.
Naturally regenerated forests	Forests regenerated without planting or deliberate seeding.
...of which of introduced species	Forests, with the preservation degree 3 (changed forest) or 4 (altered forests).
Protective forests	Forests in adverse ecological conditions which protect themselves, their land and lower lying land, and forests in which there is a particular stress on any other ecological function

2.2.3 Original data

Category	1991 (1000 ha)	2001 (1000 ha)	2005 (1000 ha)	2008 (1000 ha)	2012 (1000 ha)
Altered (code 4)	34.000	36.000	37.000	30.738	33.216
Virgin Forests	0.282	0.282	0.282	0.282	0.282
Forest reserves (virgin forests included)	9.667	13.408	9.792	9.792	9.501
Protective forests (all)	77.380	74.054	100.395	100.112	98.947
Protective forests without allowable cut	39.400	39.400	39.400	39.400	39.400
Total forests	1 076.914	1 142.869	1.169.196	1 185.147	1 184.472

2.3 Analysis and processing of national data

2.3.1 Adjustment

2.3.2 Estimation and forecasting

On the basis of the current trends and management orientation, it is likely, that in the future, only the area of other naturally regenerated forest will be changing (with increasing or decreasing of forest area).

2.3.3 Reclassification

Primary forest are:

- Virgin forests: Bukov vrh, Snežnik-Ždrocle, Pragozd Krokav, Pragozd Strmec, Pragozd Prelesnikova koliševka, Pragozd Rajhenavski Rog, Pragozd Gorjanci, Pragozd Kopa, Pragozd Peške, Krakovski pragozd, Ravna gora, Pragozd Donaška gora, Pragozd Belinovec, Šumik,
- all forest reserves
- and protection forests without allowable cut

Their areas are not subject to change (Regulation on Forest reserves and Protection forests from years 2005, 2009 and 2013).

These designated forestlands are protected by law (Regulation on protective forests and forests with a special purpose as of 2005, 2007, 2009, 2010 and 2013).

Planted forests: 98 % of forests with the preservation degree of "4"

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

The figures were taken from Slovenia Forest Service databases for the year 2012. The share of a particular category was used for the calculation of the actual forest areas of specific categories.

2.4 Data

Table 2a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	49	53	49	49	49
	Other naturally regenerated forest	1105	1144	1157	1166	1165

	... of which of introduced species	0	0	0	0	0
	... of which naturalized	0	0	0	0	0
	Planted forest	34	36	37	32	34
	... of which of introduced species	0	0	0	0	0
TOTAL		1188.00	1233.00	1243.00	1247.00	1248.00

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
0	0	0	0	0	0	0	0	0

Table 2c

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

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 3	Tier 3
Other naturally regenerated forest	Tier 3	Tier 3
Planted forest	Tier 3	Tier 3
Mangroves	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

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

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	Forests, uninfluenced by human activities over a longer time period (virgin forests).	N/A
Other naturally regenerating forest	Natural regeneration is the main principle of Slovenian sustainable forestry. Artificial regeneration (re-forestation) is used, if needed, as a supplement.	The area is rising, as the forest area as a whole.
Planted forest	Only changed forests are selected (class 4). There is no data on area of planted introduced species.	Planted area is stable Planting of introduced species is not allowed.
Mangroves	N/A	N/A

Other general comments to the table

The area of the converted primary forests (protection forests and forest reserves) between 1995 and 2012 was rather small. In average, we had 3,2 ha of natural regeneration and 2,9 ha of planted forest annually - exclusively/all in protection forests. No management measures was carried out in the forest reserves during the same period.

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

3.1 Categories and definitions

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

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest and Forest Ecosystem Condition Survey (FECS). Slovenian Forestry Institute.	Growing stock, growing stock composition, increment	Growing stock measurement: 1995, 2000, 2007, 2012 Increment: Measurements taken in 1995, 2000, 2007, 2012 Years applied 1995, 2000, 2005, 2010, 2015	The FECS data permits direct calculation of growing stock according to the FRA categories and definitions. Between 1995 and 2000 the inventory concept was changed. The increment was assessed on the basis of the given data.

2	Forest compartment data: Forest Service of Slovenia (FSS) (data used for forest management plans of forest management units)	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.
3	GFRA05 GFRA10	Growing stock, growing stock composition	years applied: 1990, 2000, 2005, 2010	GFRA 2010 report for Slovenia.
4	2003 IPCC Good Practice Guidance for LULUCF2006, IPCC Good Practice Guidance for LULUCF2006, IPCC Guidelines for National Greenhouse Gas Inventories	BEF = Biomass expansion factor	1990, 2000, 2005, 2010, 2015	Default carbon conversion factor (0.5) - Equation 3.2.7, page 3.27. According to guidelines for country reporting for FRA2015 a new conversion factor (0,47) was used to convert biomass stock to carbon stock – Table 4.3, page 4.48 (IPCC, 2006)
5	2006 IPCC Guidelines for National Greenhouse Gas Inventories	WD = wood density; R = average below-ground to above-ground biomass ratio (root-shoot ratio)	1990, 2000, 2005, 2010, 2015	N/A
6	Forest and Forest Ecosystem Condition Survey (FECS). Slovenian Forestry Institute (SFI).	Deadwood	2007, 2012. Years applied: 1990, 2000, 2005, 2010, 2015	N/A
7	M. Kobal, P. Simoncic. SFI, 2008; personal consultation with research fellows	CILf = average amount of carbon in litter - forest; CISf = average amount of carbon in soil - forest; CILo = average amount of carbon in litter (OWL); CISO = average amount of carbon in soil (OWL)	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.

3.2.2 Classification and definitions

National class	Definition
Growing stock	9.99 cm in all forest areas. Growing stock definition: The estimates of growing stock include branches due to the computation system (adapted french tariff functions). " /> All living trees with the DBH>9.99 cm in all forest areas. Growing stock definition: The estimates of growing stock include branches due to the computation system (adapted french tariff functions).
Growing stock of other wooded lands1	9.99 cm in all forest areas. " /> All living trees with the DBH>9.99 cm in all forest areas.
Above-ground biomass	FRA 2015 definition.
Below-ground biomass	FRA 2015 definition.

Deadwood	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)" /> 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)
Carbon in above-ground biomass	FRA 2015 definition.
Carbon in below-ground biomass	FRA 2015 definition.
Carbon in deadwood	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)" /> 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	FRA 2015 definition
Soil carbon	FRA 2015 definition

3.2.3 Original data

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	-

Forest and Forest Ecosystem Condition Survey (FECS) from 2000, 2007 and 2012. Data was collected on the grid 4 km x 4 km:

Time period 2000-2007:

- growing stock (2000): **283.19** m³/ha (confidence interval: 269.37 – 297.01 m³/ha)
- growing stock (2007): **326.43** m³/ha (confidence interval: 312.30 – 340.57 m³/ha)
- increment (gross growth including ingrowth): **8.65** m³/ha/year for time period 2000-07
- removal (cuttings): **3.39** m³/ha/year for time period 2000-07
- accumulation of growing stock (trend): **6.18** m³/ha/year for time period 2000-07
- difference between increment and removal: **5.26** m³/ha/year for time period 2000-07

Time period 2007-2012: The database (e.g. variables of growing stock and deadwood) from the previous national forest inventory – FECS 2007 was corrected due to an improved methodology, used also in FECS 2012 (corr2007).

- corrected growing stock for the year 2007: **313.58** m³/ha (confidence interval: 300.37 – 326.79 m³/ha)
- growing stock for the year 2012: **333.74** m³/ha (confidence interval: 320.12 – 347.36 m³/ha)
- increment (gross growth including ingrowth) for the time period 2007-12: **8.80** m³/ha/year
- removals (cuttings) for the time period 2007-12: **4.15** m³/ha/year
- accumulation of growing stock (trend) for the time period 2007-12: **4.03** m³/ha/year
- difference between increment and removal in the time period 2007-12: **4.77** m³/ha/year

Growing stock composition:

% of growing stock	year
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Scientific name	Common name	2000	2007	*corr2007	2012
<i>Picea abies</i>	Spruce	33.39	30.94	31.19	31.14
<i>Fagus sylvatica</i>	Beech	31.65	31.02	31.22	31.13
<i>Abies alba</i>	Fir	9.27	8.20	8.36	7.44
<i>Quercus petraea</i>	Oak	5.09	5.75	5.66	5.61
<i>Pinus sylvestris</i>	Scotch Pine	4.09	4.12	4.02	4.37
<i>Acer pseudoplatanus</i>	Maple	3.24	3.22	3.27	3.34
<i>Carpinus betulus</i>	Hornbeam	1.62	2.30	2.19	2.25
<i>Castanea sativa</i>	Chestnut	1.52	1.89	1.65	1.62
<i>Pinus nigra</i>	Black Pine	1.16	1.57	1.56	1.64
<i>Ostrya carpinifolia</i>	Hop Hornbeam	0.82	1.25	1.33	1.50
Remaining		8.15	9.75	9.56	9.98
TOTAL		100.00	100.00	100.00	100.00

Dead wood: years 2007, 2007corrected and 2012

	2007		*corr2007		2012	
	DWD	DWD %ofGS	DWD	DWD %ofGS	DWD	DWD %ofGS
	m3/ha	%	m3/ha	%	m3/ha	%
Total	18.564	5.692	19.75	100.00	19.76	100.00
Conifers	9.686	6.396	9.22	46.67	9.17	46.42

Broadleaves	8.878	5.073	10.53	53.33	10.59	53.58
Beech	4.215	4.166	4.40	22.3	3.90	19.72
Spruce	4.268	4.230	4.43	22.4	4.68	23.69
Fir	2.238	8.363	1.87	9.5	1.97	9.98
Oak	0.867	4.620	1.17	5.9	1.30	6.60
Scotch Pine	0.634	4.721	1.00	5.1	0.93	4.72
Maple	0.065	0.620	0.07	0.4	0.33	1.68
Hornbeam	0.230	3.068	0.27	1.4	0.49	2.48
Chestnut	0.664	10.788	1.08	5.5	1.34	6.77
Black Pine	0.306	5.985	0.28	1.4	0.30	1.54
Hop Hornbeam	0.249	6.113	0.33	1.7	0.41	2.08
Remaining	4.824	15.171	4.86	24.6	4.10	20.75

Comments: DWD= deadwood volume (FECS 2007, 2012); DWD%ofGS = share of deadwood in the Growing Stock of a tree species.

WD (wood density), BEF (biomass expansion factor) and R (root shoot ratio) for selected tree-species

	WD	BEF	R	BEF*	R*
	t/m ³				
Beech	0.580	1.400	0.260	1.150	0.240
Spruce	0.400	1.300	0.320	1.150	0.200
Fir	0.400	1.300	0.320	1.150	0.200
Oak	0.580	1.400	0.260	1.150	0.300
Scotch pine	0.420	1.300	0.320	1.150	0.200
Maple	0.520	1.400	0.260	1.150	0.240
Hornbeam	0.630	1.400	0.260	1.150	0.240

Chestnut	0.480	1.400	0.260	1.150	0.240
Black pine	0.420	1.300	0.320	1.150	0.200
Hop Hornbeam	0.630	1.400	0.260	1.150	0.240

Comments: 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: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Table 4.4

*In the 2015 report we used new values for BEF and R. A new BEF default value of 1.15 corresponds to the one, used in the LULUCF sector of Slovenia's National Inventory Report for UNFCCC. According to IPCC Good Practice Guidance (2003) a lower limit of BEF can be used for approximate mature forests or those with high growing stock. A new values of root-shoot ratio (R) were used after the new guidelines for country reporting for FRA 2015.

Table: Growing stock, increment, removal

m3/ha	Year							
	1990	1995	2000	2005	2006	2007	2010	2012
GS								
GFRA05	230.00	-	270.00	282.50	-	-	-	
FECS - SFI	-	272.00	283.19	314.08	-	326.43 313.58(corr)		333.74
FSS	194.00	208.00						
FSSkor	213.35	227.35						
GFRA10	230.00	-	270.00	300.90	-		331.80	
Increment								
FECS – SFI	-	6.40	-	-	-	8.65	-	8.80
FSS	4.95	5.46					-	

Removal								
GFRA05	2.50	-	2.06	2.49	-	-	-	
FECS – SFI	-	-	-	-	-	3.39	-	4.15
FSS	2.27	1.91					-	
Accumulation								
GFRA05	-	-	4.00	2.50	-	-	-	
FECS – SFI	-	-	2.24	-	-	6.18	-	4.03
FSS	-	2.80					-	
Increment - removal								
FECS – SFI	-	-	-	-	-	5.26	-	4.77
FSS	2.68	3.55					-	

year 1995: Growing stock and increment are assessed on the basis of the 1995 FECS. Detailed methodology and figures are provided in: Hošvar 1997. Possibilities and reliability of the growing stock and increment estimation based on the 1995 forest decline inventory. Zbornik Goz. in les. 52, s. 93-118.

WD, BEF, R and CF factors

	Factors				
Tree species		WD	BEF	R	CF
<i>Fagus sylvatica</i>	Beech	0.584	1.150	0.240	0.470
<i>Picea abies</i>	Spruce	0.400	1.150	0.200	0.470
<i>Abies alba</i>	Fir	0.394	1.150	0.200	0.470

<i>Quercus petraea</i>	Oak	0.580	1.150	0.300	0.470
<i>Pinus sylvestris</i>	Scotch Pine	0.420	1.150	0.200	0.470
<i>Acer pseudoplatanus</i>	Maple	0.520	1.150	0.240	0.470
<i>Carpinus betulus</i>	Hornbeam	0.630	1.150	0.240	0.470
<i>Castanea sativa</i>	Chestnut	0.480	1.150	0.240	0.470
<i>Pinus nigra</i>	Black Pine	0.420	1.150	0.200	0.470
<i>Ostrya carpinifolia</i>	Hop Hornbeam	0.630	1.150	0.240	0.470
		Other wooded land			
		WD	BEF	R	CF
	all species	0.469	1.350	0.430	0.470

3.3 Analysis and processing of national data

3.3.1 Adjustment

Net annual increment (iv) for the year 2000. The value was estimated with the formula:	
Data:	
Iv% (1995)=volume percent for the year 1995=0,023529	
Iv% (2007)=volume percent for the year 2007=0,027547	
GS (2000)=283,19	
Iv (2000) = ((Iv2007+Iv1995)/2)*GS(2000)=7,23 m3/ha	
Growing stock composition	
	% of growing stock

Scientific name	Common name	1990 ¹	2000 ²	2007 ²	2005 ³	2010 ⁴	2015 ⁵
<i>Picea abies</i>	Spruce	32.97	33.39	30.94	31.64	31.16	31.11
<i>Fagus sylvatica</i>	Beech	31.35	31.65	31.02	31.20	31.16	31.08
<i>Abies alba</i>	Fir	9.82	9.27	8.20	8.51	7.79	6.94
<i>Quercus petraea</i>	Oak	5.84	5.09	5.75	5.56	5.63	5.58
<i>Pinus sylvestris</i>	Scotch Pine	4.88	4.09	4.12	4.11	4.23	4.56
<i>Acer pseudoplatanus</i>	Maple	2.34	3.24	3.22	3.22	3.31	3.37
<i>Carpinus betulus</i>	Hornbeam	2.60	1.62	2.30	2.10	2.23	2.29
<i>Castanea sativa</i>	Chestnut	1.53	1.52	1.89	1.78	1.63	1.60
<i>Pinus nigra</i>	Black Pine	-	1.16	1.57	1.45	1.61	1.68
<i>Ostrya carpinifolia</i>	Hop Hornbeam	1.05	0.82	1.25	1.13	1.44	1.60
Remaining		7.63	8.15	9.75	9.29	9.82	10.20
TOTAL		100.00	100.00	100.00	100.00	100.00	100.00
Conifers ⁶		52.25	49,44	46.39	47.26	46.32	45.710
Broadleaves ⁷		47.75	50,56	53.61	52.74	53.68	54.290

Comments: ¹ Assessment from GFRA05.

²FECS 2000, 2007.

³Linear interpolation from years 2000 and 2007.

⁴Linear interpolation from years 2007 and 2012 needed for Table Growing stock composition.

⁵Linear extrapolation from years 2007 and 2012 needed for Table Growing stock composition.

6% of conifers in growing stock.

7% of broadleaves in growing stock.

3.3.2 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 predistion in GFRA10 of the value **331.80 m³/ha** was 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**).

Because of known data from 2007 and 2012, this data was substituted with 325,676 that was obtained by interpolation.

5. GS estimation for the year **2007** was corrected from 326.43 m³/ha to **313.58 m³/ha** (GS corr2007).

6. Due to the GS2007 correction the growing stock accumulation trend for the period 2007–2012 has changed. On the basis of linear extrapolation (taken years 2007 and 2012) the GS value for the year 2015 is estimated to **345.8 m³/ha** .

7. The estimate of the yearly accumulation of GS for the time period of 2007-12 is **4.03 m³/ha** , which means that the rate of GS accumulation, in comparison with the one between the 2000-07, decreased.

8. The rate of deadwood accumulation for the time period 2007-2012 is nearly constant. The forecast for the deadwood biomass in the year 2015 is based on the trend 2007-12 and is set to **19.77 m³/ha** . This calculus is based on the data of the national forest inventory survey from two successive occasions (FECS 2007 and 2012) and on the same methodology.

Areas for “Forest” and “OWL” for the years 1990, 2000, 2005, 2010, and 2015 are taken from Table 1 of this report.

Forest, 1990

1990	Growing Stock			
	GSrel	GS%	GSabs	AREA
	m ³ /ha	%	m ³	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	

Comment: * 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	AREA
	m ³ /ha	%	m ³	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	116 694 083	1 243 000
Spruce	95.205	31.64	118 339 815	1 243 000
Fir	25.601	8.51	31 822 043	1 243 000
Oak	16.738	5.56	20 805 334	1 243 000
Scotch Pine	12.370	4.11	15 375 910	1 243 000
Maple	9.699	3.22	12 055 857	1 243 000
Hornbeam	6.329	2.10	7 866 947	1 243 000
Chestnut	5.359	1.78	6 661 237	1 243 000
Black Pine	4.366	1.45	5 426 938	1 243 000
Hop Hornbeam	3.392	1.13	4 216 256	1 243 000
Remaining	27.960	9.29	34 754 280	1 243 000
		GSrel/GS	GSrel*Area	

Forest, 2010

2010	Growing Stock			
	GSrel	GS%	GSabs	AREA
	m3/ha	%	m3	ha
Total	325.676	100.00	406 118 141	1 247 000
Conifers	150.837	46.315	188 094 234	1 247 000
Broadleaves	174.839	53.685	218 023 907	1 247 000
Beech	101.489	31.163	126 557 369	1 247 000
Spruce	101.473	31.158	126 537 099	1 247 000
Fir	25.379	7.793	31 647 688	1 247 000
Oak	18.324	5.626	22 850 128	1 247 000
Scotch Pine	13.778	4.231	17 181 775	1 247 000
Maple	10.778	3.309	13 439 794	1 247 000
Hornbeam	7.260	2.229	9 053 039	1 247 000
Chestnut	5.313	1.631	6 625 570	1 247 000
Black Pine	5.237	1.608	6 530 081	1 247 000
Hop Hornbeam	4.675	1.436	5 829 930	1 247 000
Remaining	31.969	9.816	39 865 668	1 247 000
		GSrel/GS	GSrel*Area	

Forest, 2015

2015	Growing Stock			
	GSavg	GS%	GSabs	AREA
	m3/ha	%	m3	ha

Total	345.834	100.00	431 601 307	1 248 000
Conifers	158.081	45.710	197 284 714	1 248 000
Broadleaves	187.754	54.290	234 316 593	1 248 000
Beech	107.470	31.076	134 122 715	1 248 000
Spruce	107.586	31.109	134 267 391	1 248 000
Fir	23.986	6.936	29 934 974	1 248 000
Oak	19.300	5.581	24 086 075	1 248 000
Scotch Pine	15.759	4.557	19 666 726	1 248 000
Maple	11.672	3.375	14 566 156	1 248 000
Hornbeam	7.917	2.289	9 880 637	1 248 000
Chestnut	5.537	1.601	6 910 103	1 248 000
Black Pine	5.806	1.679	7 245 433	1 248 000
Hop Hornbeam	5.529	1.599	6 899 570	1 248 000
Remaining	35.274	10.200	44 021 527	1 248 000
		GSrel/GS	GSrel*Area	

GSavg2015=average growing stock per hectar was obtained by extrapolation.

Increment for the years 2010 and 2015

Polynomial regression; Increment= - 0,0057X²+0,3031X+4,9501 (R²=0,98)

X=time

year	X=time	Y=Increment	predictedvalue
1995	5	6,4	6,3231
2000	10	7,23	7,4111
2005	15		8,2141
2007	17	8,65	8,4555

2010	20		8,7321
2012	22	8,8	8,8595
2015	25		8,9651

Other wooded land (OWL), years 1990, 2000, 2005, 2010, 2015

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	1 500 000	25 000
2015	60.0	1 380 000	23 000
		GSrel*Area	

Comments: 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. For OWL value of the GFRA10 report it was taken the same growing stock (m3/ha) as in the GFRA05 report, because no better data was available.

Biomass:

Forest, 1990

1990	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD %	DWDabs	DWB
	m3	t/m3	t		t	R	t	%	m3	t
Beech	85 660 740	0.584	50 025 872	1.150	57 529 753	0.240	13 807 141	4.166	3 568 809	2 069 909
Spruce	90 087 228	0.400	36 034 891	1.150	41 440 125	0.200	8 288 025	4.230	3 810 476	1 524 190

Fir	26 832 168	0.394	10 571 874	1.150	12 157 655	0.200	2 431 531	8.363	2 243 952	897 581
Oak	15 957 216	0.580	9 255 185	1.150	10 643 463	0.300	3 193 039	4.620	737 272	427 618
Scotch Pine	13 334 112	0.420	5 600 327	1.150	6 440 376	0.200	1 288 075	4.721	629 473	264 379
Maple	6 393 816	0.520	3 324 784	1.150	3 823 502	0.240	917 640	0.620	39 618	20 602
Hornbeam	7 104 240	0.630	4 475 671	1.150	5 147 022	0.240	1 235 285	3.068	217 980	137 327
Chestnut	4 180 572	0.480	2 006 675	1.150	2 307 676	0.240	553 842	10.788	450 999	216 480
Black Pine	0	0.420	0	1.150	0	0.200	0	5.985	0	0
Hop Hornbeam	2 869 020	0.630	1 807 483	1.150	2 078 605	0.240	498 865	6.113	175 396	110 499
Remaining	20 820 888	0.488	10 154 179	1.150	11 677 306	0.223	2 605 816	15.171	3 158 787	1 538 242
TOTAL	273 240 000		133 256 941		153 245 483		34 819 260		15 032 763	7 206 827
			WD*GS abs		BEF*SB		R*AGB		GSabs* DWD %	DWDabs* WD

Comment: 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	0.584	61 536 937	1.150	70 767 477	0.240	16 984 195	4.166	4 390 000	2 546 200
Spruce	111 172 504	0.400	44 469 002	1.150	51 139 352	0.200	10 227 870	4.230	4 702 333	1 880 933
Fir	30 846 709	0.394	12 153 603	1.150	13 976 644	0.200	2 795 329	8.363	2 579 684	1 031 874
Oak	16 930 865	0.580	9 819 902	1.150	11 292 887	0.300	3 387 866	4.620	782 257	453 709
Scotch Pine	13 629 886	0.420	5 724 552	1.150	6 583 235	0.200	1 316 647	4.721	643 436	270 243
Maple	10 789 288	0.520	5 610 430	1.150	6 451 994	0.240	1 548 479	0.620	66 855	34 764
Hornbeam	5 380 999	0.630	3 390 029	1.150	3 898 534	0.240	935 648	3.068	165 105	104 016
Chestnut	5 047 579	0.480	2 422 838	1.150	2 786 264	0.240	668 703	10.788	544 532	261 375
Black Pine	3 861 030	0.420	1 621 633	1.150	1 864 877	0.200	372 975	5.985	231 073	97 051
Hop Hornbeam	2 743 301	0.630	1 728 280	1.150	1 987 522	0.240	477 005	6.113	167 710	105 657
Remai- ning	27 136 371	0.486	13 176 848	1.150	15 153 375	0.222	3 370 956	15.171	4 116 925	1 995 909
TOTAL	332 910 000		161 654 053		185 902 161		42 085 674		18 389 911	8 781 732
			WD*GS abs		BEF*SB		R*AGB		GSabs* DWD%	DWD abs*WD

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

2005	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD %	DWDabs	DWB
	m3	t/m3	t		t		t	%	m3	t
Beech	116 693 834	0.584	68 149 344	1.150	78 371 746	0.240	18 809 219	4.166	4 861 714	2 819 794
Spruce	118 339 517	0.400	47 335 926	1.150	54 436 315	0.200	10 887 263	4.230	5 005 481	2 002 192
Fir	31 821 460	0.394	12 537 885	1.150	14 418 568	0.200	2 883 714	8.363	2 661 202	1 064 481
Oak	20 805 054	0.580	12 067 094	1.150	13 877 158	0.300	4 163 147	4.620	961 257	557 529
Scotch Pine	15 375 581	0.420	6 457 882	1.150	7 426 565	0.200	1 485 313	4.721	725 846	304 856
Maple	12 055 622	0.520	6 269 046	1.150	7 209 402	0.240	1 730 257	0.620	74 701	38 845
Hornbeam	7 867 215	0.630	4 956 177	1.150	5 699 603	0.240	1 367 905	3.068	241 390	152 076
Chestnut	6 661 781	0.480	3 197 394	1.150	3 677 003	0.240	882 481	10.788	718 671	344 962
Black Pine	5 427 407	0.420	2 279 314	1.150	2 621 211	0.200	524 242	5.985	324 816	136 423
Hop Hornbeam	4 216 762	0.630	2 656 241	1.150	3 054 677	0.240	733 123	6.113	257 789	162 407
Remai- ning	34 754 467	0.489	16 995 458	1.150	19 544 776	0.224	4 368 695	15.171	5 272 684	2 574 151
TOTAL	374 018 700		182 901 760		210 337 024		47 835 358		21 105 553	10 157 715

			WD*GS abs		BEF*SB		R*AGB		GSabs* DWD%	DWD abs*WD
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Comment: 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	126 557 369	0.584	73 909 503	1.150	84 995 929	0.240	20 399 023	20.729	5 107 773	2 982 940
Spruce	126 537 099	0.400	50 614 840	1.150	58 207 066	0.200	11 641 413	23.190	5 714 105	2 285 642
Fir	31 647 688	0.394	12 469 189	1.150	14 339 567	0.200	2 867 913	9.769	2 407 233	948 450
Oak	22 850 128	0.580	13 253 074	1.150	15 241 035	0.300	4 572 311	6.333	1 560 412	905 039
Scotch Pine	17 181 775	0.420	7 216 345	1.150	8 298 797	0.200	1 659 759	4.859	1 197 323	502 876
Maple	13 439 794	0.520	6 988 693	1.150	8 036 997	0.240	1 928 879	1.159	285 553	148 487
Hornbeam	9 053 039	0.630	5 703 415	1.150	6 558 927	0.240	1 574 142	2.039	502 378	316 498
Chestnut	6 625 570	0.480	3 180 274	1.150	3 657 315	0.240	877 756	6.252	1 540 431	739 407
Black Pine	6 530 081	0.420	2 742 634	1.150	3 154 029	0.200	630 806	1.482	365 078	153 333
Hop Hornbeam	5 829 930	0.630	3 672 856	1.150	4 223 785	0.240	1 013 708	1.911	470 944	296 695

Remain- ning	39 865 668	0.491	19 565 428	1.150	22 500 243	0.224	5 037 301	22.277	5 489 262	2 658 002
TOTAL	406 118 141		199 316 252		229 213 690		52 203 012		24 640 493	11 937 368
			WD*GS abs		BEF*SB		R*AGB		GSabs* DWD%	DWD abs*WD

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

Forest, 2015

2015	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD %	DWDabs	DWB
	m3/ha	t/m3	t		t		t	%	m3	t
Beech	134 122 715	0.584	78 327 666	1.150	90 076 816	0.240	21618436	18.196	4 488 991	2 603 615
Spruce	134 267 391	0.400	53 706 956	1.150	61 763 000	0.200	12352600	24.430	6 026 957	2 410 783
Fir	29 934 974	0.394	11 794 380	1.150	13 563 537	0.200	2712707	10.299	2 540 695	1 016 278
Oak	24 086 075	0.580	13 969 924	1.150	16 065 412	0.300	4819624	7.004	1 727 861	1 002 159
Scotch Pine	19 666 726	0.420	8 260 025	1.150	9 499 029	0.200	1899806	4.517	1 114 336	468 021

Maple	14 566 156	0.520	7 574 401	1.150	8 710 561	0.240	2090535	2.466	608 396	316 366
Hornbeam	9 880 637	0.630	6 224 801	1.150	7 158 522	0.240	1718045	3.138	774 237	487 769
Chestnut	6 910 103	0.480	3 316 850	1.150	3 814 377	0.240	915451	7.538	1 859 651	892 632
Black Pine	7 245 433	0.420	3 043 082	1.150	3 499 544	0.200	699909	1.621	399 835	167 930
Hop Hornbeam	6 899 570	0.630	4 346 729	1.150	4 998 739	0.240	1199697	2.344	578 335	364 351
Remai- ning	44 021 527	0.492	21 644 457	1.150	24 891 126	0.224	5575732	18.448	4 551 145	2 200 983
TOTAL	431 601 307		212 209 271		244 040 661		55602540		24 670 438	11 930 888
			WD*GS abs		BEF*SB		R*AGB		DWD_vol *AREA	DWD abs*WD

Comment: Remaining –WD was calculating as weighted arithmetic mean (of deadwood stock) by tree species composition.

Other wooded land (OWL), years 1990, 2000, 2005, 2010, 2015

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	0.43	710 302	5.500	135 300	67 064
2000	2 280 000	0.496	1 130 126	1.35	1 530 996	0.43	658 328	5.500	125 400	62 157
2005	1 740 000	0.496	862 465	1.35	1 168 392	0.43	502 409	5.500	95 700	47 436
2010	1 500 000	0.496	743 506	1.35	1 007 237	0.43	433 112	5.500	82 500	40 893
2015	1 380 000	0.496	684 018	1.35	926 648	0.43	398 458	5.500	75 900	37 621

			WD*GS abs		BEF*SB		R*AGB		GSabs* DWD%	DWD abs*WD
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Comment: Average values for WD, BEF, R and DWD% from »Forest« category are used in »OWL« category calculation.

Carbon: According to IPCC Good Practice Guidance for LULUCF (2006, page 4.48) biomass values were multiplied by default carbon conversion factors 0.47 for all species in »Forest« category. The same default carbon conversion factor 0.47 was used to get carbon stock in aboveground and belowground biomass and in dead wood of »OWL« category.

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	1 247 000	5.6	98.5	6 983 200	122 829 500	25 000	3.4	103.3	85 000	2 582 500
2015	1 248 000	10.4	103.3	12 979 200	128 918 400	23 000	3.4	103.3	78 200	2 375 900
				Area* CILf	Area* CISf				Area* CILo	Area* CISo

Comments: ¹ CILf - average amount of carbon in litter for forest category (5.6 t/ha). Consultation with M. Kobal, and P. Simoncic. SFI, 2008

² CISf - average amount of carbon in soil for forest category (98.5 t/ha). Consultaion with M. Kobal, P. Simoncic. SFI, 2008

³ CILo - average amount of carbon in litter for OWL category (3.4 t/ha). Research study, M. Kopal, P. Simoncic. SFI, 2008

⁴ CISo - average amount of carbon in soil for OWL category (103.3 t/ha). Research study, M. Kopal, P. Simoncic. SFI, 2008

¹ CILf - average amount of carbon in litter for forest category (10.4 t/ha). Research study, M. Kopal, P. Simoncic. SFI, 2012

² CISf - average amount of carbon in litter for forest category (103.3 t/ha). Research study, M. Kopal, P. Simoncic. SFI, 2012

3.3.3 Reclassification

3.4 Data

Table 3a

Category		Growing stock volume (million m ³ over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Total growing stock	273.3	332.8	374.1	406.1	431.6	2.5	2.3	1.7	1.5	1.4
	... of which coniferous	142.8	164.5	176.8	188.1	197.3	1.3	1.1	0.8	0.7	0.6
	... of which broadleaved	130.5	168.3	197.3	218	234.3	1.2	1.2	0.9	0.8	0.8

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	<i>Picea abies</i>	Spruce	90.1	111.2	118.3	126.5
2 nd	<i>Fagus sylvatica</i>	Beech	85.7	105.4	116.7	126.6
3 rd	<i>Abies alba</i>	Fir	26.8	30.8	31.8	31.6
4 th	<i>Quercus petraea</i>	Oak	16	16.9	20.8	22.9
5 th	<i>Pinus sylvestris</i>	Scotch Pine	13.3	13.6	15.4	17.2

6 th	Acer pseudoplatanus	Maple	6.4	10.8	12.1	13.4
7 th	Carpinus betulus	Hornbeam	7.1	5.4	7.9	9.1
8 th	Castanea sativa	Chestnut	4.2	5	6.7	6.6
9 th	Pinus nigra	Black Pine	0	3.9	5.4	6.5
10 th	Ostrya carpinifolia	Hop Hornbeam	2.9	2.7	4.2	5.8
Remaining			20.8	27.1	34.8	39.9
TOTAL			273.30	332.80	374.10	406.10

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

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	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	

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

Table 3c

Category		Net annual increment (m ³ per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	N/A	7.23	8.21	8.73	8.97
	... of which coniferous	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	N/A	N/A	N/A	N/A	N/A

Table 3d

Category	Biomass (million metric tonnes oven-dry weight)
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		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	153.2	185.9	210.3	229.2	244	1.7	1.5	1.2	1	0.9
	Below ground biomass	34.8	42.1	47.8	52.2	55.6	0.7	0.7	0.5	0.4	0.4
	Dead wood	7.2	8.8	10.2	11.9	11.9	0.1	0.1	0	0	0
TOTAL		195.20	236.80	268.30	293.30	311.50	2.50	2.30	1.70	1.40	1.30

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	72	87.4	98.9	107.7	114.7	0.8	0.7	0.5	0.5	0.4
	Carbon in below ground biomass	16.4	19.8	22.5	24.5	26.1	0.3	0.3	0.2	0.2	0.2
	<i>Subtotal Living biomass</i>	88.4	107.2	121.4	132.2	140.8	1.1	1	0.7	0.7	0.6
	Carbon in dead wood	7.2	8.8	10.2	5.6	5.6	0	0	0	0	0
	Carbon in litter	6.7	6.9	7	7	13	0.1	0.1	0.1	0.1	0.1
	<i>Subtotal Dead wood and litter</i>	13.9	15.7	17.2	12.6	18.6	0.1	0.1	0.1	0.1	0.1
	Soil carbon	117	121.5	122.4	122.8	128.9	4.2	3.9	3	2.6	2.4
TOTAL		219.30	244.40	261.00	267.60	288.30	5.40	5.00	3.80	3.40	3.10

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 3	Tier 3

Net annual increment	Tier 3	Tier 3
Above ground biomass	Tier 1	Tier 1
Below ground biomass	Tier 1	Tier 1
Dead wood	Tier 1	Tier 1
Carbon in above-ground biomass	Tier 1	Tier 1
Carbon in below ground biomass	Tier 1	Tier 1
Carbon in dead wood and litter	Tier 1	Tier 1
Soil carbon	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon 	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	N/A	N/A
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	N/A	N/A
Net annual increment	N/A	N/A
Above-ground biomass	BEF, WD factors are taken from literature that's why their reliability 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.	N/A
Below-ground biomass	R, WD factors are taken from literature that's why reliability of them is marked as »medium«.	N/A
Dead wood	Dead wood definition includes stumps that represent significant part of dead wood stock composition. Data on deadwood for the years 2007 and 2012 originate from FECS 2007 and 2012, respectively. The method of deadwood stock status estimate for the year 2012 was used after Kusar/Kovac/Simoncic (2009). Tree species composition in dead wood in OWL category is assumed to be the same as in forest category.	The forecast for the year 2015 is based on trends in period 2007 – 2012. First, yearly change was calculated for the period 2007 – 2012 and linear extrapolation was applied for the year 2015 afterwards.
Carbon in above-ground biomass	0.5 default carbon conversion factor is used. 0.48 default carbon conversion factor for broad-leaved and 0.51 for conifers was used in forest category and 0.47 for all in OWL category.	Because default carbon conversion factor is used reported trend is similar to biomass trend.
Carbon in below-ground biomass	0.5 default carbon conversion factor is used. 0.48 default carbon conversion factor for broad-leaved and 0.51 for conifers was used in forest category and 0.47 for all in OWL category.	Because default carbon conversion factor is used reported trend is similar to biomass trend.
Carbon in dead wood	Before 2007 the estimates for carbon in deadwood were obtained by taking a certain percent of growing stock. In 2007 the first measurement of deadwood was performed and the reliable estimate of 5.6 mio metric tonnes was produced. 0.5 default carbon conversion factor is used. 0.48 default carbon conversion factor for broad-leaved and 0.51 for conifers was used in forest category and 0.47 for all in OWL category.	Because default carbon conversion factor is used reported trend is similar to biomass trend.

Carbon in litter	Before 2007 (and thus also for the year 2010 which was forecasted) the estimates of carbon in litter were biased. In 2007 we launched an inventory of soils and litter on the 8x8 km grid (soil inventorying is subsystem of FECS) which was brought to an end (along with chemical analysis) after 2010. Since then we thus use more credible data than earlier. The estimates of CILf and CILo thus come from that national inventory.	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. Soil carbon estimate holds for the soil depth (cm) of 40 cm (MANUAL on methods and criteria for harmonized sampling, assessment, monitoring and analysis of the effects of air pollution on forests. Part X Sampling and Analysis of Soil. ICP Forests 2010. http://www.icp-forests.org/pdf/FINAL_soil.pdf)	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. Soil depth (cm) used for soil carbon estimates 50

Other general comments to the table

Working group growing stock: David Hladnik, Bostjan Mali, Laura Zizek-Kulovec, Mitja Skudnik Marko Kovac (all SFI) Dragan Matijasic (SFS). Working group biomass: Nike Krajnc, Primoz Simoncic, Mitja Piskur, Boštjan Mali, Mitja Skudnik, Laura Žižek Kulovec (SFI), Dragan Matijasic (SFS). Working group on carbon: Primoz Simoncic, Milan Kobal (SFI).

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

4.1 Categories and definitions

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

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest functions database (as of 2001, and 2011) (FSS)	All	2001; 2011	N/A
2	Regional forest management plans (2011 – 2020). (FSS)	All	2011-2020	N/A
3	Funkcije gozdov in gozdovi v prostoru v obmocnih gozdnogospodarskih nacrtih. Pogacnik, J. Analiza ocena in predlogi. Ljubljana, Gozdarski vestnik, 5-6/92, str. 294-303. 1992.	All	1991	N/A
4	Non-wood forest products: case study made by A. Japelj	N/A	N/A	N/A
5	Mushrooms (source: http://www.arso.gov.si/narava/...); data for the year 2010:	N/A	N/A	N/A

6	Game meat: Statistical office of the Republic of Slovenia (http://www.stat.si/letopis/2012/17_12/17-12-12.htm)	N/A	N/A	N/A
7	Game trophies: FSS (http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/).	N/A	N/A	N/A
8	Christmas trees: FSS (http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html),	N/A	N/A	N/A

4.2.2 Classification and definitions

National class	Definition
Production	All forests with planned wood extraction have this function.
Protection of soil and water	Forests protecting soil from wind and water erosion, avalanches, etc. Also forests, acting as water reservoirs.
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.
Multiple purpose	Multipurpose forests: All forests performing two or more forest functions.

4.2.3 Original data

Data are taken from the map of forest function elaborated in the years 2001 and 2011.

Primary function	Syntax for data extraction	Area 2001	Area 2011
		1000 ha	1000 ha
Production	1. Lstop="1" 2. Nstop <> "1" and Jstop <> "1" 3. Socialna >= "2" and Ekoloska >= "2"	553.151	555.144

Protection of soil and water	<ol style="list-style-type: none"> 1. Vstop="1" or Hstop="1" 2. Bstop<>"1" and Kstop<>"1" 3. Socialna >= "2" and Proizvodna >= "2" 	88.990	89.863
Conservation of biodiversity	<ol style="list-style-type: none"> 1. Bstop="1" 2. Vstop<>"1" and Hstop<>"1" and Kstop<>"1" 3. Socialna >= "2" and Proizvodna >= "2" 	12.662	8.886
Social Services	Socialna = "1" and Proizvodna >= "2" and Ekoloska >= "2"	20.851	22.152
Multiple purpose	all other forests with more than one function		

Lstop="1" etc. are GIS queries used for computing the areas of various ecosystem services from the vector-based forest function maps of FSS. L means les=wood production function; vstop means protection function; etc.

Mushroom

all sorts: 26614 kg

price per 1 kg 13,66 Euro

Total value: 363547.24 EUR

GAME MEAT: data on the number of hunted animals per species are taken from the national level statistics. source: Prices of game meat are subtracted from price lists of a number of enterprises purchasing game meat. Average meat mass per species are taken from previous FRA (2010) report where those originated from expert assessment of Slovenia hunting association.

TROPHIES: data on value of trophies are readily available only for state hunting reserves, which report on economic value (out-turn) of trophies, hunted and sold on reserves' lands. source: statistics are published in the financial reports of Slovenia Forest Service State forest reserves cover app. 10% of the state area. Individual hunting associations cover the rest of the territory, but they do not report financial statistics for trophies to the head association.

CHRISTMAS TREES: data on the number of Christmas trees is taken from Slovenia Forest Service's report where the number of permit stickers (one per tree) is reported. Each tree harvested for

ornamental purposes has to be marked with a sticker in order the harvest to be legal. source: Report on work of Slovenia Forest Service (<http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html>). Average price per tree is the average price on food markets or holiday fairs (20 EUR) where domestic trees are usually being sold.

*In last two FRA reports (2005 and 2010), data on chestnuts and mushrooms were also reported. No information is given in this report exclusively due to lack of data. Data on chestnut is especially poor, since data on amount of sold chestnuts does not distinguish between those harvested in forests and those grown in intensive orchards.

Data on the amount and the prices of mushrooms vary significantly during the pre- and main growing/picking season (e.g. 2-40 EUR per kg for *Boletus edulis*). For the purpose of this Report the amount of 26214 and the average price of 15Euro/1kg was taken. However, these officially reported amounts of chestnut and mushrooms are underestimated due to the people's right of mushrooming in the nation's (also private) forests (subsistence and recreation).

4.3 Analysis and processing of national data

4.3.1 Adjustment

The original data is calibrated with forest area. Because of changed classification, the data for the previous reporting period has been changed.

4.3.2 Estimation and forecasting

4.3.3 Reclassification

The basic differences in reclassification between the years 2008 and 2011:

Year 2008:

Conservation of biodiversity: all the areas within NATURA 2000 and other forests with the biodiversity function set to the first degree.

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

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

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

Production: all other forests.

Year 2013:

Conservation of biodiversity: only forest areas with the biodiversity function set to the first degree. Protection of soil and water: all areas with the first degree of protection and hydrological function.

Social services: all areas with the first degree of any of social function

Production: all other forests without ecological or social function at the first or second degree and with the production function.

Multiple use: all other forests

FRA Categories / Designated function	Area (1000 hectares)			
	Primary function			
	1990	2000	2008	2011
Forest				
Production	581.78	620.33	553.15	555.14
Protection of soil and water	76.07	145.42	88.99	89.86
Conservation of biodiversity*	4.98	76.62	12.66	8.89
Social services	50.79	159.40	20.85	22.15
Multiple purpose	357.53	140.35	577.60	571.53
No or unknown function	0	0	0	0
Total - Forest	1 071.151	1 142.126	1 253.257	1 247.571
Other wooded land	n.a.	n.a.	n.a.	n.a.

Comment: * The rank in the Natura 2000 lands has been set to 2 (2nd degree). For this reason, Natura 2000 is part of multipurpose forestlands.

Classification and definitions: 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).

4.4 Data

Table 4a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	645	667	676	553	555
	Multiple use forest	N/A	N/A	N/A	N/A	N/A

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Wildhoney	N/A	N/A	N/A
2 nd	Gamemeat	Red, roe and fallow deer, chamois, bear, mouflon, hare, pheasant, wildboar	2990.864	12
3 rd	Trophies	bear, reddeer, mouflon, chamois, wildboar	880.132	10
4 th	Christmastrees	Norwayspruce, Scotspine, whitefir	612.2	6
5 th	Mushroom	edible mushroom	363.547	1
6 th	N/A	N/A	N/A	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			4846.74	

2010	
Name of local currency	EUR (euro)

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

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m ³ u.b.)	
	Total wood removals	...of which woodfuel
1990	3387.9	1336.17
1991	N/A	N/A
1992	1671	520
1993	1065	107
1994	1944	235

1995	1866	227
1996	1991	362
1997	2208	546
1998	2133	539
1999	2068	505
2000	2253	532
2001	2257	295
2002	2283	280
2003	2591	359
2004	2551	725
2005	2732.8	943.34
2006	3179.1	983.56
2007	2881.7	788.28
2008	2990.1	928.29
2009	2930.2	982.6
2010	2945.4	1104.05
2011	3387.9	1336.17

Tiers

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

Tier Criteria

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

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	N/A	N/A
Multiple use forest	N/A	N/A
Total wood removals	N/A	N/A
Commercial value of NWFP	N/A	N/A

Other general comments to the table

N/A

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

5.1 Categories and definitions

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

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest functions database, Regional Forest Management plans (2011-2020). Slovenia Forest Service 2011.	All forest functions	2011	N/A

2	Instructions for renovation of GIS layers of forest functions for new regional plans, 2011.	All forest functions	2011	Document for internal use.
3	Forest functions database. Regional Plans (2001 – 2010). Slovenia Forest Service. 2001.	All forest functions	2011	N/A
4	N/A	N/A	N/A	N/A

5.2.2 Classification and definitions

National class	Definition
Protective function	Forests with a protective function are: forests with extreme forest communities; all forest vegetation above the upper limit of dense forest (mountains); forests in areas with high inclination; forests on erodible bedrock; forests in torrential areas with a high density of erosion phenomena; forests on very shallow soil (10 cm) or forests high rockiness; forests, preventing or delaying avalanches; forests along streams in the range of 10-year high water;
Hidrological function	Forests with a hidrological function are: areas of the 1st and 2nd protection zones according to the decrees on the protection of drinking water sources; the close areas of water reservoirs and other water sources; above known caves, shafts and underground water flows; by the lakes in the belt 50 to 500 m - depending on the terrain;
Social function	Group of social functions (10): • protective function • hygienic and health function • defense function • recreational function • tourist function • educational function • research function • function of protecting natural values • function of protection of cultural heritage • aesthetic function
Recreational function	This function encompasses urban forests in and around the cities, recreational trails and nearby attractions points, including forests around access paths to this points.
Function of cultural heritage protection	The forests around the objects of cultural heritage and other cultural heritage values.

5.2.3 Original data

<p>Original data are derived from map of forest function units (Forest Regional Plans 2001-2010 and Forest Regional Plans 2011-2020).</p> <p>Forest functions and syntax commands</p> <p>For all years:</p> <ul style="list-style-type: none"> • Protection of soil and water: <p>Vstop="1" or Hstop="1"</p>

For year 2005 and 2010 are values the same (from Forest Regional Plans 2001-2010)

For year 2015 (Regional Plans (2011 – 2020), see codelist of function argumentation)

- clean water supply:

Ut1="Ha" or Ut2="Ha" or Ut3="Ha" or Ut4="Ha" or Ut5="Ha"

- coastal stabilization

Ut1="Hf" or Ut2="Hf" or Ut3="Hf" or Ut4="Hf" or Ut5="Hf"

- avalanche control

Ut1="Vf" or Ut2="Vf" or Ut3="Vf" or Ut4="Vf" or Ut5="Vf"

- erosion, flood protection or reducing flood risk

Ut1="Ve" or Ut2="Ve" or Ut3="Ve" or Ut4="Ve" or Ut5="Ve"

5.3 Analysis and processing of national data

5.3.1 Adjustment

No adjustment needed.

5.3.2 Estimation and forecasting

Forecasting: for year 2015, the value is computed from the data of the regional Forest management Plan 2011-2020.

5.3.3 Reclassification

FRA 2015 Categories	National categories	Syntax
Ecosystem services, cultural or spiritual values	all social functions on first degree	Socialna="1"
... of which public recreation	recreation (r)	Rstop="1"
... of which carbon storage or sequestration	n.a.	-
... of which spiritual or cultural services	cultural heritage protection (c)	Cstop="1"

... of which other (please specify in comments below the table)	all other ecological and social functions on first degree	
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5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	76.07	145.42	181.871	181.871	237.268
	... of which production of clean water	N/A	N/A	N/A	N/A	131.087
	... of which coastal stabilization	N/A	N/A	N/A	N/A	7.217
	... of which desertification control	0	0	0	0	0
	... of which avalanche control	N/A	N/A	N/A	N/A	0.636
	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	36.203
	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	62.125

Other

All others protective forests (forest associations on forest border, forests on high inclination terrain, forests on shallow soils or with high rockiness) and all other forest with hydrological function.

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	N/A	N/A	113.658	113.658	143.017

...of which public recreation	N/A	N/A	27.937	27.937	26.775
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	4.718	4.718	1.057
...of which other (please specify in comments below the table)	N/A	N/A	81.003	81.003	115.185

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 2	Tier 2
Ecosystem services, cultural or spiritual values	Tier 2	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend
Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> Cultural or spiritual values Public recreation Spiritual or cultural services Other 	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Protection of soil and water	N/A	New water protection areas of national importance have been designated in 2010.
Production of clean water	No data available for this table for previous years	N/A

Coastal stabilization	No data available for this table for previous years	N/A
Desertification control	Not applicable	N/A
Avalanche control	No data available for this table for previous years	N/A
Erosion, flood protection or reducing flood risk	No data available for this table for previous years	N/A
Other protective functions	No data available for this table for previous years	N/A
Ecosystem services, cultural or spiritual values	N/A	Increase of the area of these values is due to the increase in mapped areas tourist, recreational and aesthetic functions. These functions are increasingly gaining in importance (more and more people are involved in recreation activities and more and more tourists visiting nature).
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	N/A	N/A

Other general comments to the table

The system of forest function classification has not been changed since 2001. However, from 2011 onwards there is a unified system for the argumentation of functions (purpose of designation).

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

6.1 Categories and definitions

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

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Regional Plans (2011 – 2020). Slovenia Forest Service. 2011.	Conservation of biodiversity	2011	N/A
2	Forest compartment database Slovenia Forest Service, 2013	Forest area within protected areas	2004-2012	N/A
3	Regional Plans (2001 – 2010). Slovenia Forest Service. 2001.	Conservation of biodiversity	2001	N/A
4	Funkcije gozdov in gozdovi v prostoru v območjih gozdnogospodarskih nacrta. Pogacnik, J. Analiza ocena in predlogi. Ljubljana, Gozdarski vestnik, 5-6/92, str. 294-303. 1992.	Conservation of biodiversity	1991	N/A

6.2.2 Classification and definitions

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

N/A	N/A
-----	-----

6.2.3 Original data

Data are taken from the map of forest function elaborated in the year 2001 and 2011 and from forest management plans (tables) for year 1991 (only biotopic function on first degree).

6.3 Analysis and processing of national data

6.3.1 Adjustment

No adjustment needed.

6.3.2 Estimation and forecasting

For the year 2015, the value is computed from their data of the regional Forest management Plan 2011-2020.

6.3.3 Reclassification

Biodiversity conservation data was derived via the spatial data of biotopic function of first degree.

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	5.1	5.1	59.3	59.3	60.5
	Forest area within protected areas	228	238	239	241	179

Tiers

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

Conservation of biodiversity	Tier 2	Tier 2
Forest area within protected areas	Tier 3	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> Conservation of biodiversity Forests within protected areas 	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	Unlike in the 2010 FRA report, this report encompasses only the areas which are not part of the Natura 2000 network and are classified as forests of first degree of biotopic function. If NATURA 2000 areas were included (2nd degree), the areas would be: 575 (2010) and 552 (2015) respectively.	In first reported years (Regional FMP 1991-2000) biodiversity was not recognized as so important (small areas were selected).
Forest area within protected areas	All areas protected by law: all compartments with forest categories 2, 3 and 4 are selected (forests with special purpose (with intervention (national, regional and other parks) and without intervention) and protective forest (Regulation of protective forests and forests with special purpose, Official Gazette. RS, N. 88/2005 and 56/2007, 29/2009, 91/2010, 1/2013).	Differences between the years are due to legal changes.

Other general comments to the table

N/A

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

7.1 Categories and definitions

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

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Slovenia Forest Service database	Invasive tree species	2012	N/A
2	Article: Non-native and invasive tree species in the Slovenian forests(Tujerodne in invazivne drevesne vrste v gozdovih Slovenije). Kutnar, L., Pisek, R., 2013.	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
N/A	N/A

7.2.3 Original data

--

7.3 Analysis and processing of national data

7.3.1 Adjustment

The area of Robinia stands was calculated by selecting and summing up the areas of those forest compartments in which Robinia has had at least 50% share in the growing stock.

The areas of all other introduced species was derived by converting their shares in growing stock into areal proportions and by summing up these areas.

1. <i>Robinia pseudoaccacia</i>	DV="56"	LZ56 / LZSKU >= 0.5
2. <i>Ailanthus altissima</i>		expert judgement, field inventory

7.3.2 Estimation and forecasting

--

7.3.3 Reclassification

No reclassification needed.

7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
1. <i>Robinia pseudoaccacia</i>	8.769	8.645
2. <i>Ailanthus altissima</i>	0	0
N/A	N/A	N/A

N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Total	8.769	8.645

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 2	Tier 2

Tier Criteria

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

7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	Currently there is no data on the species <i>Ailanthus altissima</i> .	Forest areas with <i>Robinia pseudoacacia</i> are stable or slowly decreasing.

Other general comments to the table

N/A

8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

8.1 Categories and definitions

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

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Natural and other disasters in RS– Annual Bulletin for 2003 in 2004(Ministry of defense; Administration of the Republic of Slovenia for Civil Protection and Disaster Relief)	ha and numbers of fires for category “Total land area burned”	2003,2004	All fires in nature
2	SPIN - information system for the reporting of interventions of Administration of the Republic of Slovenia for Civil Protection and Disaster Relief	ha and numbers of fires for category “Total land area burned”	2005-2012	All fires in nature
3	Annual report of Slovenian Forest service 2003-2012	ha and numbers of fires for forest fire (category “... of which forest area burned”)	2003-2012	N/A
4	Annual report of Slovenian Forest service 2003-2012	m3 of sanitary felling	2003-2012	N/A
5	Calculation of area from annual report of Slovenian Forest service 2003-2012	ha (area damaged)	2003-2012	N/A

8.2.2 Classification and definitions

National class	Definition
Number of fires	Number of fires per year.
Burned area	Area burned per year (ha).
Cause - insects	The cause of sanitary felling are insects
Cause - diseases	The cause for sanitary felling are tree diseases
Cause - severe weather events	The cause for sanitary felling are severe weather events: wind, snow, ice,sleet, avalanche.
Cause - other	The cause for sanitary felling are other causes: ungulates, air pollution imissions, forest work, other

8.2.3 Original data

Fires: The area of all fires in nature and forest fires is actual area affected by the fire (not calculated).

Other disturbances affecting forest health and vitality (insects, diseases, sever wether events and other causes):

The original data contains the number of cut trees and the volume of total fellings, attributed to the cause of sanitary felling.

Sanitary felling in Slovenia for the period 2003 - 2012, by causes of felling in m3 (Annual report of Slovenian Forest Service):

** unknown causes, less common causes, complex causes*

Sanitary felling in Slovenia for the period 2003 - 2012, by causes of felling, in number of trees

(Annual report of Slovenian Forest Service)

Causes of felling	Tree species	1000 m3											
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Sum 2003-2012	Annual average
Insects	Conifers	406	566,66	745	701	511	320,11	256	230,22	231,58	233	4,199	420
	Deciduous	1	7	2	2	1	2	1	1	1	1,76	21	2
	Together	407	574	747	703	512	322	257	232	233	234	4,220	421,97
Tree disease	Conifers	70,54	85	74	74	74	78	78	80	93	106	812	81
	Deciduous	55	45	49	57	50	53,39	64	58	80	78	589	59

	Together	125	131	123	130	124	131	142	138	172	185	1,401	140
Wild animals	Conifers	5	4	4,14	3	4	4	6	5	5	6	46	5
	Deciduous	0.229	0.125	0.106	0.049	0.045	0.048	0.06	0.054	0.09	0.05	0.856	0.0856
Hoofed animal	Together	6	4	4	3	3,72	4	6	5	5	6	47	5
Wind	Conifers	146	118	129	149	50	304	149	74	36	62	1,217	122
	Deciduous	20	43	44	31	17	125	113	51	21	23	488	49
	Together	166	160,42	173	180,28	67,15	429,21	262	124	57	85	1,705	170
Snow	Conifers	99,32	27	10	42	156	68	94,67	41	27	20	585	59
	Deciduous	12	10	3,93	5	27	10	17	10	11	36	141	14
	Together	112	38	14	47	183	78	111	50	37	56	726,32	73
Ice, sleet	Conifers	4	1,22	1	1	19	3	2	4	3	1,14	40	4
	Deciduous	5	2	2	2	14	2	1	3,17	3	3	36,71	4
	Together	8,54	4	3	3,09	33	5	3,06	7	6	4	77	8
Avalanche	Conifers	2	2	2	4	2	3	3	3	4	3	27	3
	Deciduous	0.965	0.485	0.372	4	0.633	2	2	3	3	1	17	2
	Together	3	2	2	8	3	4,46	4,55	6,74	7	4	44	4
Imissions (local)	Conifers	4	4	4	4	4	5	5	3	2	2	37	4
	Deciduous	0.469	0.629	0.198	0.053	0.155	0.062	0.062	0.06	0.068	0.04	2	0.18
	Together	4	5	4	4	4	5	5	3	2	2	39	4
Forest work	Conifers	40	37,46	37	45	35	35	38	44	47	45,22	403	40
	Deciduous	18	13,71	17	16	14	13	15	14	13	13	147	15
	Together	57	51,17	54	61	49,1	48	53	58	60	58	551	55
Other*	Conifers	75,09	74	70	68	74	72	67	55	61	59	674	67
	Deciduous	11	10,88	15	15	9,48	15,57	17,34	18	19	20	151	15,05
	Together	86	85	84	82	83	88	84	74	80	79,02	825	82
Together	Conifers	851	919	1,076	1,091	928	893	698	539	508	538	8,041	804

	Deciduous	123	133	134	131	133	223	231	158	151	176	1,592	159
	Together	974	1,052	1,210	1,222	1,062	1,115	928	698	659	714	9,634	963
Causes of felling	Tree species	1000 trees											
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Sum 2003-2012	Annual average
Insects	Conifers	343	479	619	606	440	266	209	199	211	212	3,583	358
	Deciduous	2	4,9	3	3	2	3	2	2	1	4	25	3
	Together	344	484	621	609	442	269	210,65	201	212	216	3,608	361
Tree disease	Conifers	66	80	60	61,7	58,51	63	74	64	74	81	682	68
	Deciduous	85	69	77	93	79,8	85	111	95	134	132	962,75	96
	Together	151	148,76	138	155	138,31	149	186	159	208,3	213	1,645	165
Wild animals	Conifers	21,7	15	18	14	14	15	19,28	19	18	23,59	176,97	18
	Deciduous	0.37	0.149	0.302	0.124	0.092	0.069	0.136	0.401	0.232	0.16	2.035	203,5
Hoofed animal	Together	22,07	15	18	14	14	15	19	19,75	18,34	23,75	179	18
Wind	Conifers	118	92	102	118	43	237	134	62	36	52	996	100
	Deciduous	23	37	45	46	20	128,36	115	51	24	28	517	52
	Together	141	129	147	164	63	366	249	113	60	80	1,513	151
Snow	Conifers	144	51	19	89	367,62	196	253	130	65	37	1,353	135
	Deciduous	24	25	10	11,01	47	23	30	20	21	68	280	28
	Together	167	76,12	30	100	415	219	283,04	150	87	105	1,632	163
Ice, sleet	Conifers	6	2	2	3	44	9	2,53	17	9	2	94	9
	Deciduous	14	7	5	5	21	5	4	13	10	8	93	9
	Together	20	9	7	8	65	14	6	30	18	10	187	19
Avalanche	Conifers	1	1	2	3,88	2	3	3	3	3,11	3	24	2
	Deciduous	1.007	0.66	0.441	6	1.278	3	3	6	4	2	27	3

	Together	2	2	2	10	3	5	5	9	8	5	51	5
Emissions (local)	Conifers	4	4	3	3	4	4	4	2	2,34	2	32	3
	Deciduous	0.581	0.682	0.219	0.106	0.248	0.09	0.071	0.093	0.053	0.041	2	0.218
	Together	4,15	4	3	3	3,77	5	4	2	2	2	34	3
Forest work	Conifers	31	31	29	39	27	25	29	33,02	36	34	314	31
	Deciduous	22	18	20	21	19	17	20	17	16	15	185	19
	Together	53	49,43	49	60	46	42,4	49	50	52	49	499	50
Other*	Conifers	46	46	42	38	46	58	49	46	64	66	501	50
	Deciduous	14	16	21	21	14	21	29	32	30	46	244,53	24
	Together	59	62	63	59	61	79	78	77	94,17	112,48	745	74,52
Together	Conifers	779	801	894	977	1,045	877	778	575	519	511	7,756	776
	Deciduous	186	178	184	206	205	285	313	236	241	304	2,339	234
	Together	965	980	1,077	1,183	1,250	1,162	1,091	811	760	815	10,095	1,009

* *unknown causes, less common causes, complex causes*

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 $SI_{100} = 26$ (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 period 2003 - 2012, by causes of felling, in average tree volume (Annual report of Slovenian Forest Service)

Causes of felling	Tree species	2003 m^3	2004 m^3	2005 m^3	2006 m^3	2007 m^3	2008 m^3	2009 m^3	2010 m^3	2011 m^3	2012 m^3	Average 2003-2012 m^3
Insects	Conifers	1,18	1,18	1,20	1,16	1,16	1,20	1,22	1,16	1,10	1,10	1,17

	Deciduous	0,65	1,41	0,90	0,84	0,79	0,78	0,68	0,65	0,81	0,42	0,84
	Together	1,18	1,19	1,20	1,15	1,16	1,20	1,22	1,15	1,09	1,09	1,17
Tree disease	Conifers	1,07	1,07	1,24	1,20	1,27	1,23	1,05	1,24	1,25	1,32	1,19
	Deciduous	0,64	0,66	0,63	0,61	0,62	0,63	0,58	0,61	0,59	0,59	0,61
	Together	0,83	0,88	0,90	0,84	0,90	0,88	0,76	0,86	0,83	0,87	0,85
Wild animals	Conifers	0,25	0,24	0,23	0,23	0,27	0,29	0,29	0,26	0,27	0,26	0,26
	Deciduous	0,62	0,84	0,35	0,40	0,49	0,70	0,44	0,13	0,39	0,31	0,42
Hoofed animal	Together	0,26	0,24	0,24	0,23	0,27	0,29	0,29	0,26	0,27	0,26	0,26
Wind	Conifers	1,24	1,28	1,26	1,26	1,15	1,28	1,11	1,19	0,99	1,20	1,22
	Deciduous	0,86	1,16	0,99	0,67	0,87	0,97	0,99	0,99	0,89	0,80	0,94
	Together	1,17	1,24	1,18	1,10	1,06	1,17	1,05	1,10	0,95	1,06	1,13
Snow	Conifers	0,69	0,53	0,52	0,48	0,42	0,35	0,37	0,31	0,41	0,54	0,43
	Deciduous	0,53	0,42	0,38	0,44	0,57	0,42	0,57	0,48	0,49	0,53	0,50
	Together	0,67	0,49	0,47	0,47	0,44	0,36	0,39	0,34	0,43	0,53	0,44
Ice, sleet	Conifers	0,66	0,67	0,86	0,55	0,44	0,30	0,68	0,26	0,38	0,65	0,43
	Deciduous	0,34	0,33	0,37	0,32	0,64	0,42	0,34	0,25	0,31	0,33	0,40
	Together	0,43	0,39	0,48	0,40	0,50	0,35	0,47	0,25	0,34	0,39	0,41
Avalanche	Conifers	1,28	1,09	1,24	1,02	1,08	1,05	1,17	1,10	1,19	1,16	1,12
	Deciduous	0,96	0,73	0,84	0,62	0,50	0,60	0,55	0,58	0,64	0,70	0,62
	Together	1,14	0,97	1,16	0,77	0,84	0,82	0,86	0,75	0,87	0,96	0,86
Imissions (local)	Conifers	1,02	1,17	1,37	1,16	1,14	1,22	1,12	1,45	0,99	1,15	1,17
	Deciduous	0,81	0,92	0,90	0,50	0,63	0,69	0,87	0,65	1,28	0,98	0,82
	Together	0,99	1,13	1,34	1,14	1,11	1,21	1,11	1,42	1,00	1,14	1,15
Forest work	Conifers	1,28	1,20	1,29	1,15	1,31	1,38	1,33	1,33	1,28	1,35	1,28
	Deciduous	0,80	0,75	0,81	0,79	0,74	0,78	0,75	0,85	0,83	0,85	0,79
	Together	1,08	1,04	1,09	1,02	1,08	1,14	1,09	1,17	1,15	1,19	1,10

Other*	Conifers	1,64	1,59	1,67	1,76	1,59	1,25	1,35	1,22	0,95	0,89	1,35
	Deciduous	0,77	0,70	0,68	0,70	0,66	0,74	0,60	0,57	0,64	0,43	0,62
	Together	1,44	1,37	1,34	1,39	1,37	1,11	1,07	0,95	0,85	0,70	1,11
Together	Conifers	1,09	1,15	1,20	1,12	0,89	1,02	0,90	0,94	0,98	1,05	1,04
	Deciduous	0,66	0,75	0,73	0,64	0,65	0,78	0,74	0,67	0,63	0,58	0,68
	Together	1,01	1,07	1,12	1,03	0,85	0,96	0,85	0,86	0,87	0,88	0,95

* *unknown causes, less common causes, complex causes*

Conifers SI =30			Deciduous SI = 26		
No. of trees	Volume m3	Average tree volume m3	No. of trees	Volume m3	Average tree volume m3
2140	361	0,17	1645	310	0,19
1850	402	0,22	1425	334	0,23
1623	442	0,27	1253	355	0,28
1442	479	0,33	1115	375	0,34
1295	513	0,40	1002	395	0,39
1173	547	0,47	908	414	0,46
1071	578	0,54	830	431	0,52
984	607	0,62	764	448	0,59
910	634	0,70	706	464	0,66
846	661	0,78	657	479	0,73
790	685	0,87	613	494	0,81
741	709	0,96	575	509	0,89
679	731	1,08	542	522	0,96
659	752	1,14	512	535	1,04
624	772	1,24	485	548	1,13
593	791	1,33	461	560	1,21

565	809	1,43	439	572	1,30
539	826	1,53			
516	843	1,63			

Calculation of affected forest area for the period 2003 - 2012 and average area per year in ha, by causes of felling

Causes of felling	Tree species	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	SUM	Average per year ha
		ha	2003-2012 ha										
Insects	Conifers	534	746	975	927	675	419	333	305	314	315	5.542	554,2
	Deciduous	2	12	5	4	3	4	2	3	2	4	41	4,1
	Together	536	757	979	931	678	423	335	307	316	320	5.583	558,3
Tree disease	Conifers	97	117	96	97	95	101	107	103	120	135	1.068	106,8
	Deciduous	119	98	107	125	109	117	144	128	178	174	1.299	129,9
	Together	216	215	204	222	204	218	252	231	298	309	2.367	236,7
Wild animals	Conifers	13	8	10	8	8	9	12	12	11	14	106	10,6
	Deciduous	1	0	0	0	0	0	0	0	0	0	2	0,2
	Together	13	9	10	8	8	9	13	12	11	14	108	10,8
Hoofed animal	Conifers	189	151	166	192	66	390	201	97	50	82	1.584	158,4
	Deciduous	40	77	84	66	34	238	215	96	41	46	939	93,9
	Together	229	228	250	259	100	628	416	193	91	128	2.523	252,3
Wind	Conifers	157	48	18	77	298	140	190	87	52	34	1.100	110,0
	Deciduous	29	26	10	12	61	24	38	23	25	83	330	33,0
	Together	186	73	28	89	359	164	228	110	77	117	1.430	143,0
Snow	Conifers	6	2	2	3	36	6	3	10	7	2	75	7,5
	Deciduous	13	7	5	4	30	5	4	9	8	7	92	9,2
	Together	19	9	7	7	66	11	7	19	15	9	167	16,7
Ice, sleet	Conifers	6	2	2	3	36	6	3	10	7	2	75	7,5
	Deciduous	13	7	5	4	30	5	4	9	8	7	92	9,2
	Together	19	9	7	7	66	11	7	19	15	9	167	16,7

	Together	19	9	7	7	66	11	6	19	15	9	167	16,7
Avalanche	Conifers	2	2	3	5	3	4	4	5	5	4	36	3,6
	Deciduous	2	1	1	8	1	4	3	8	6	3	37	3,7
	Together	4	3	3	14	4	8	7	12	11	7	74	7,4
Imissions (local)	Conifers	5	6	5	5	5	7	6	3	3	3	49	4,9
	Deciduous	1	1	0	0	0	0	0	0	0	0	4	0,4
	Together	6	7	5	5	6	7	6	4	3	3	52	5,2
Forest work	Conifers	51	49	47	60	45	44	49	56	60	57	516	51,6
	Deciduous	36	28	34	33	29	28	31	29	26	26	299	29,9
	Together	87	77	81	93	74	71	80	84	86	83	815	81,5
Other*	Conifers	89	88	82	79	88	93	84	72	86	85	847	84,7
	Deciduous	22	23	31	31	20	32	39	41	42	49	330	33,0
	Together	111	111	113	110	109	126	123	113	128	135	1.177	117,7
Together	Conifers	1.143	1.217	1.404	1.452	1.320	1.212	989	749	707	731	10.924	1.092,4
	Deciduous	264	273	277	284	288	452	476	336	330	393	3.374	337,4
	Together	1.406	1.489	1.681	1.736	1.608	1.665	1.466	1.085	1.036	1.125	14.297	1.429,7

* *unknown causes, less common causes, complex causes*

Calculation of affected forest area for the period 2003 - 2012 and average area per year in ha, by category

Cate- gory	2003 ha	2004 ha	2005 ha	2006 ha	2007 ha	2008 ha	2009 ha	2010 ha	2011 ha	2012 ha	SUM 2003- 2012 ha	Average per year ha
Insects	536	757	979	931	678	423	335	307	316	320	5.583	558
Diseases	216	215	204	222	204	218	252	231	298	309	2.367	237
Severe weather events	438	313	289	368	529	811	657	334	194	261	4.194	419

Other*	217	204	209	215	196	213	221	213	229	235	2.153	215
Together	1.406	1.489	1.681	1.736	1.608	1.665	1.466	1.085	1.036	1.125	14.297	1.430

**The cause for sanitary felling are: wild (hoofed) animals, imissions (local), forest work, other*

8.3 Analysis and processing of national data

8.3.1 Adjustment

Fires:

The area of all fires in nature and forest fires is actual area affected by the fire (not calculated).

Other disturbances affecting forest health and vitality (insects, diseases, sever wether events and other causes):

The original data has only number of cut trees and volume of total felling, divided 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 $SI_{100} = 26$ (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.

8.3.2 Estimation and forecasting

The damage cause by insects, diseases, severe weather events and fires will rise in the next years. The basic reasons are climate changes. The average temperatures rise and the dry periods in the growing season are more frequently. Because of global trade has also increased the probability of invasion of new organisms in our territory.

8.3.3 Reclassification

No reclassification needed.

8.4 Data

Table 8a

Category	000 ha, number of fires
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		2003		2004		2005		2006		2007	
		000 ha	#								
	Total land area burned	3.02	2820	0.303	986	0.736	1679	1.973	1555	0.696	1947
	... of which forest area burned	1.593	224	0.077	51	0.142	73	1.023	112	0.099	133
Category		2008		2009		2010		2011		2012	
		000 ha	#								
	Total land area burned	1.036	1431	0.996	1840	0.41	1036	1.185	1924	1.424	2439
	... of which forest area burned	0.047	74	0.115	122	0.052	32	0.159	114	0.606	168

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1.	Outbreaks of insects affecting <i>Picea abies</i>	2005	5.583
2.	Tree diseases such as <i>Heterobasidion</i> spp., <i>Armillaria</i> spp., <i>Diplodia pinea</i> , <i>Cryphonectria parasitica</i> .	N/A	2.367
3.	Severe weather events	2008*	4.194
N/A	Other disturbances	N/A	2.153
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Outbreak category

1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 3	Tier 3
<ul style="list-style-type: none"> Insects Diseases Severe weather events 	Tier 2	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend
Burned area	Tier 3 : National fire monitoring routines Tier 2 : Remote sensing surveys Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> Insects Diseases Severe weather events 	Tier 3 : Systematic survey (e.g. via inventory or aerial damage assessment) Tier 2 : Management records Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area	Area affected by fire is in close relation to the dry seasons of the year.	Because of climate changes the dry periods in the growing season are more frequent. It is expected a higher number of fires and also a few larger burned forest area in the future.
Insects	Ips typographus is the most dangerous insect of Slovenia's coniferous forests. Between 2008-2012 it caused 96% of all damages (in m3) in the forests with prevalent Norway spruce species.	The bark Beetle outbreak in Slovenia started in 2003, the culmination was in the year 2005 and the end in the years 2007/2008.
Diseases	The most common causes of damage by diseases are fungi Heterobasidion spp., Armillaria spp., Diplodia pinea, Cryphonectria parasitica.	Because of the more frequent dry periods in the growing season it is expected increasing trend of damages caused by diseases.
Severe weather events	In 2008 strong winds caused damages on 500.000 m3 of wood. Totally damaged forest area was 700 ha. In the year 2012 snow storm disaster caused a damage on 350.000 m3 of wood.	Because of the more frequent climatic extreme events it is expected increasing trend of climatic extreme events.

Other general comments to the table

The figures in Table 8b contain all the damaged areas and not only the areas of the most severe outbreaks or other events.

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

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

Table 9

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

Tiers

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

Tier criteria

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

Comments

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

Other general comments

--

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

10.1 Categories and definitions

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

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Resolution on National Forest Programme	N/A	2007	N/A
2	Act on Forest	N/A	1993(amendments - 1998, 2002, 2007, 2010, 2013)	N/A
3	Fores management plans	N/A	N/A	Forest management plans are legal basis for the management and use of all forests (irrespective of ownership).
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
N/A	N/A

10.2.3 Original data

The damage caused by insects, diseases, severe weather events and fires will rise in the next years. The basic reasons are climate changes. The average temperatures rise and the dry periods in the growing season are more frequent. Because of global trade has also increased the probability of invasion of new organisms in our territory.

10.3 Data

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes			yes
... of which, in <u>publicly</u> owned forests	yes			yes
... of which, in <u>privately</u> owned forests	yes			yes
Legislation and regulations supporting sustainable forest management	yes			yes
... of which, in <u>publicly</u> owned forests	yes			yes
... of which, in <u>privately</u> owned forests	yes			yes

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	National Forest Programme (NGP) is a fundamental strategic document aimed at determining the national policy of sustainable development of forest management in Slovenia. The NFP was prepared in dialog with numerous participants. In order to create favourable political, legislative and institutional environment we have established cooperation with different stakeholders in setting objectives, priorities and also indicators as tool for verifying the achievement of defined objectives.
Legislation and regulations supporting sustainable forest management	Forest management in Slovenia is implemented on the principles of sustainability, close-to-nature approach and multifunctionality of forests by Act on Forests. Slovenia is not divided into regions, provinces or states.

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

11.1 Categories and definitions

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

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	Resolution on Legislative Regulation	2009	Any authority and its civil servants need to collaborate with the public when preparing legislation.
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

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

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	Stakeholder can contribute to policy-making at each stage of the policy-making cycle (development, implementation, evaluation). Development: Through the subportal e-Democracy (http://e-uprava.gov.si/e-uprava/edemokracija.euprava) stakeholders can actively participate in the procedure of legal acts preparation with suggestions and questions Implementation, Evaluation : Through web tool My.suggestion.gov.si (http://predlagam.vladi.si/) stakeholders can express their opinions, suggestions and proposals for the any regulation of certain issues. Stakeholders proposals are presented publicly and enter into a public debate. Stakeholders in relation to forestry are not organized in a specific platform.

Other general comments

--

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

12.1 Categories and definitions

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

12.2 National data

12.2.1 Data sources

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

12.2.2 Classification and definitions

National class	Definition
N/A	N/A

12.2.3 Original data

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12.3 Analysis and processing of national data

12.3.1 Adjustment

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12.3.2 Estimation and forecasting

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12.3.3 Reclassification

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12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	1247
	... of which permanent forest estate	

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 1
Permanent forest estate	Tier 1

Tier Criteria

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

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	See comments 21.4

Permanent forest estate	N/A
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Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

13.1 Categories and definitions

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

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Annual Report on State of the Slovenian Forest - Slovenia Forest Service. (http://www.zgs.si/slo/gozdovi-slovenije/o-gozdovih-slovenije/letna-porocila/index.html)	N/A	N/A	N/A
2	Annual report on Forest Degradation and Damage – Slovenian Forestry Institut (http://www.gozdis.si/publikacije/)	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	100	2013	yes	no	yes	no	no	yes
Other field assessments	N/A	N/A	no	no	no	no	no	no
Updates to other sources	N/A	N/A	no	no	no	no	no	no
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	yes
2 Periodic national state of the forest report	yes
3 Other (please document)	no
4 None	no

Other type of forest reporting

N/A

13.4 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

10% forest area is inventoried per year

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

14.1 Categories and definitions

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

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest Report 2012, Slovenia Forest Service	Forest area with management plan	2012	N/A
2	Regulation on protective forests and forests with a special purpose	Forest area with management plan... of which for conservation	2013	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	1247
... of which for production	1237
... of which for conservation	10

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country	
1 Soil and water management	yes

2 High conservation value forest delineation	yes
3 Social considerations community involvement	no

Table 14c

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

Tiers

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

Tier criteria

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

14.4 Comments

Category	Comments
Forest area with management plan	All forests are managed according to the forest management plans guidelines, irrespective of ownership category.
Percent of area under forest management plan that is monitored annually	The implementation of forest management plans is annually monitored for all plans and is presented annually Forest Report, prepared by Slovenia Forest service.
N/A	N/A

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

15.1 Categories and definitions

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

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	yes
3. Review of operations	yes

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

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

15.2 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

16.1 Categories and definitions

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

16.2 Data

Table 16a

International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	0	0	0	0	0	0	0
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	262	270	212	257	269	265	
	PEFC	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	1.Name	0	0	0	0	0	0	0
	2.Name	0	0	0	0	0	0	0
	3.Name	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
	1.Name	0	0	0	0	0	0	
	2.Name	0	0	0	0	0	0	
	3.Name	0	0	0	0	0	0	

Tier criteria

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

Tiers

Category	Tier for status
International forest management certification	Tier 3
Domestic forest management certification	Tier 3

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	N/A
Domestic forest management certification	N/A

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: <ul style="list-style-type: none"> • <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.
Public expenditure on forestry	All government expenditure on forest related activities.

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Annual Report of Slovenia Forest Service. Slovenia Forest Service 2001 and 2006	Revenue from hunting in hunting reserves with special purpose	2000, 2005, 2010	N/A
2	Annual report of Farmland and Forest Found of the Republic of Slovenia 2000 and 2005	Concession fee for State forest	2000, 2005, 2010	N/A
3	The Environmental Agency of the Republic of Slovenia Register of mushrooms purchasers	Tax on mushrooms trade	2000, 2005, 2010	N/A
4	Tax Administration of republic of Slovenia	Tax on trade of forest product, Taxable person's cadastral income	2000, 2005, 2010	N/A
5	Ministry of Finance, State Budget reports	Expenditure in forest sector	2000, 2005, 2010	N/A

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	2226036	5630540	38383

Public expenditure on forestry	3312184	4618526	29908
	2000	2005	2010
Name of Local Currency	SIT	SIT	EUR

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	N/A
Public expenditure on forestry	N/A
Other general comments	N/A

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

18.1 Categories and definitions

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

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Annual Report of Slovenia Forest Service. Slovenia Forest Service.	Ownership structure	1995,2005,2012	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).
2	Database of land owners of the Surveying and Mapping Authority of the Republic of Slovenia.	Land use structure	1995,2005,2012	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).
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

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

18.2.3 Original data

	Area (1000 hectares)			
Categories	<i>Forest</i>			
	1990	2000	2005	2012
Private ownership	675	815	865	891
Public ownership	400	343	304	293

TOTAL	1 075	1 158	1 169	1 185
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18.3 Analysis and processing of national data

18.3.1 Adjustment

The total area is calibrated with Forest area.

18.3.2 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.

18.3.3 Reclassification

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	442	365	323	309
	... of which owned by the state at national scale	442	365	323	309
	... of which owned by the state at the sub-national government scale	0	0	0	0
	Private ownership	746	868	920	938
	... of which owned by individuals	734	853	885	905

	... of which owned by private business entities and institutions	0	0	0	0
	... of which owned by local, tribal and indigenous communities	12	15	35	33
	Unknown ownership	0	0	0	0
TOTAL		1188.00	1233.00	1243.00	1247.00

Tiers

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

Tier criteria

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

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	442	365	323	309
Individuals	0	0	0	0
Private companies	0	0	0	0
Communities	0	0	0	0
Other	0	0	0	0
TOTAL	442.00	365.00	323.00	309.00

Category	Tier for reported trend	Tier for status
Public Administration	Tier 3	Tier 3
Individuals	Tier 3	Tier 3
Private companies	Tier 3	Tier 3
Communities	Tier 3	Tier 3
Other	Tier 3	Tier 3

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	N/A	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	N/A	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.
Unknown ownership	N/A	N/A
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 Farmland and Forest Fund of the Republic of Slovenia, which is a state institution, is completely responsible for the management of state (public) forests. The concession rights are only for exploitation and not for management.	N/A

Other general comments to the table

N/A

19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

19.1 Categories and definitions

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

19.2 National data

19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Statistical yearbook of the Republic of Slovenia Year 1991. Statistical Office of Republic of Slovenia (SORS). 1991.	Persons in paid employment in enterprises and other organizations by activity – Forestry	1990	Until 1991 private enterprises were excluded.
2	Economic accounts for forestry. Statistical Office of Republic of Slovenia (SORS). 2011, 2012	Employment in forestry	2000, 2005, 2010	Employment in forestry, measured in annual work units (AWU)
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

19.2.2 Classification and definitions

National class	Definition
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.

N/A	N/A
N/A	N/A

19.2.3 Original data

Source: Economic accounts in Forestry (SORS)	2000	2005	2010
Employment in annual work units (AWU) Employment (1.000)	5.1	6.0	5.4
From that: employees (1.000)	1.9	1.8	1.5
Source: Statistical Office of Republic of Slovenia (SORS)	1990		
Employment in Forestry (1.000)	6.1		

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	6	5	6	5
	... of which female	N/A	N/A	N/A	N/A

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
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Employment in forestry	Until 1991 private enterprises were excluded.	Data are not comparable according to changes in methodology.
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Other general comments to the table

Historical data for reference years 2000 and 2005 were adjusted to official data from Economic Accounts for Forestry. Data on the share of female are not available. Employment in public forestry organisations is excluded according to EAF definition for Employment in forestry.

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

20.1 Categories and definitions

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

20.2 Data

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

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	190	Euro	2012

20.3 Comments

Category	Comments
Gross value added from forestry (at basic prices)	Data source for 2012 –Statistical Office of the Republic of Slovenia

Other general comments

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

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

21.1 Categories and definitions

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

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Resolution on National Forest Programme (NFP)	Forest area	2007	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	1200	1200

Table 21b

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

21.4 Comments

Category	Comments
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Government target/aspiration for forest area	Forest management in Slovenia is not focused at further extension of forest area. One of the main objectives of NFP is: Preserve diverse landscape pattern with forest as natural element.
Forests earmarked for conversion	Some forests are earmarked for conversion through system of physical planning but exact data are not available. We estimate that area of forests earmarked for conversion represent only few percent of total forest area.

Other general comments

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