

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Serbia

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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Introductory Text

Present report was done with full engagement of listed experts who provided data for different chapters in accordance with FRA 2015 requirements. Data was collected from different forest users (public forest enterprises, national parks and other users). Compile data was from official database of all mentioned forest users. Listed experts done work as noticed in table, while all data compilation was done by National Correspondent.

It is obvious that from previous FRA 2010, there are some data adjustments in several chapters, based on more detailed aspects than previously provided data from NFI. Data from NFI presented more global overview, while for present reported trend, all data are updated with more accuracy. Differences and discrepancies between two

reported trends (2010 and 2015), are result of data updating based mainly on forest users forest management plans and field reports, which are with more precision and exactness.

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
1	FAOSTAT	Land area	2005, 2011, 2012	N/A
2	Directorate of Forests, State Statistical Office	Forest cover, afforestation data and forest expansion.	1990, 2000, 2007, 2008, 2009, 2010, 2011, 2012	Internal database, Statistical Bulletins

3	Public Enterprises, National Parks and other forest users.	Forest cover, afforestation data, forest expansion.	2008, 2010, 2012	Official data of two PEs and additional data from National Parks and other users.
4	National Forest Inventory	Forest cover, forest origin, afforestation data and forest expansion.	2008	N/A

1.2.2 Classification and definitions

National class	Definition
Forest	A forest is every area over 0.05 ha covered with forest trees in the form of stands having a protective function but is used for production of forest assortments or has a special purpose. Tree line paths, parks in inhabited places, forest tree nurseries, and groups of forest trees on an area under 0.05 ha are not considered a forest.
High forest	High forests are those originated mainly from seed.
Coppice	Coppices are forests, which originated mainly from shoots from stumps.
Shrubs	Shrubs are devastated coppices of small growth and stunted trees mostly used for grazing and browsing of livestock.
Bushes	Bushes (shrubberies) are devastated coppices where bushes prevail.
Maquis	Specific degradation forms in Mediterranean areas. Maquis are evergreen coppices originated by repression of English oak in the Mediterranean climatic zone of our country.
Other forest land (OFL)	Land which is predominantly used for forestry purposes, but without trees on it, and available for afforestation.
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).

1.2.3 Original data

1.1.1

	Total country area 1000 ha	Forest area 2012			Forest cover %	Other wooded land 1000 ha
		1000 ha	%	per inhabitant ha		
Serbia	8,836	2,720	100.0	0.36	30.8	508
Central	5,597	2,101	77.2	0.38	37.5	465
Vojvodina	2,151	154	5.7	0.08	7.2	15
Kosovo & Metohija	1,089	465	17.1	0.24	42.7	28

	Total country area 1000 ha	Forest area 2008			Forest cover %	Other wooded land 1000 ha
		1000 ha	%	per inhabitant ha		
Serbia	8,836	2,713	100.0	0.36	30.7	410
Central	5,597	2,098	77.3	0.38	37.5	ID
Vojvodina	2,151	154	5.7	0.08	7.2	ID
Kosovo & Metohija	1,089	461	17.0	0.24	42.3	ID

	Total country area 1000 ha	Forest area 2005			Forest cover %	Other wooded land 1000 ha
		1000 ha	%	per inhabitant ha		
Serbia	8,836	2,476	100.0	0.33	28.2	521
Central	5,597	1,944	78.5	0.36	34.7	ID
Vojvodina	2,151	103	4.2	0.05	4.8	ID
Kos.&Metoh	1,089	429	17.3	0.22	39.4	ID

	Total country area 1000 ha	Forest area 2000			Forest cover %	Other wooded land 1000 ha
		1000 ha	%	per inhabitant ha		
Serbia	8,836	2,460	100.0	0.32	27.8	521
Central	5,597	1,943	79.0	0.31	34.7	ID
Vojvodina	2,151	101	4.1	0.05	4.7	ID
Kos.&Metoh	1,089	416	16.9	0.27	38.2	ID

Cultivation form (2008)	1000 ha	Structure, as %
High forest	794	29.3
Coppices	1,630	60.1

Artificial forests	289	10.6
Total	2,713	100.0

Afforestation:

Region	Afforestation performed in period:												
	1946-54	1955-60	1961-65	1966-70	1971-75	1976-80	1981-85	1986-90	1991-95	1995-2000	2001-06	2007-11	2012
Central Serbia		19,636	31,910	33,247	29,275	64,722	73,356	42,526	24,476	7,380	4,683		1,599
Vojvodina		19,103	26,745	14,835	7,511	9,336	15,512	12,145	2,323	701	1,652		500
Kosovo & Metohija		1,708	1,175	4,651	3,034	7,360	8,978	5,517	978	295	-		
Total	65,616	40,477	59,830	52,733	39,802	81,418	97,846	60,188	27,777	8,376	6,335	10,245	2,099
Annually	6,562	6,741	11,966	10,547	7,960	16,284	19,569	12,038	5,555	1,675	1,056	2,049	2,099
TOTAL 1946-2012	552,712												

1.3 Analysis and processing of national data

1.3.1 Adjustment

Concerning source of national data and FAOSTAT, it is important to emphasise fact that Republic of Serbia for the first time has unique data provided by National Forest Inventory and for the first time present data only for Serbia, respectively. Nevertheless, led by mentioned facts, opinion of National Correspondent is that Calibration is not needed for this reporting period since there are no data from previous period for comparison. For next reporting periods year 2010 will be the referent year for Serbia data.

Present reporting trend for FRA 2015 is continuation of previous trends and data sources are from national sources and FAOSTAT. Data accuracy was obtained by using actual data delivered by forest users (public enterprises for management of forests and other users like national parks).

1.3.2 Estimation and forecasting

1.3.3 Reclassification

1.4 Data

Table 1a

Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	2313	2460	2476	2713	2720
	Other wooded land	287	521	521	410	508
	Other land	6146	5765	5749	5623	5518
	... of which with tree cover	272	257	256	75	155
	Inland water bodies	90	90	90	90	90
	TOTAL	8836.00	8836.00	8836.00	8836.00	8836.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	147	16	237	0	0	0	0
	... of which afforestation	12.038	1.675	1.056	2.1	N/A	N/A	N/A	0
	... of which natural expansion of forest	N/A	145	15	235	N/A	N/A	N/A	0
	Deforestation	0	0	0	0	0	0	0	0
	... of which human induced	0	0	0	0	0	0	0	0
	Reforestation	N/A	N/A	N/A	0.2	N/A	N/A	N/A	0.01
	... of which artificial	N/A	N/A	N/A	0.2	N/A	N/A	N/A	0.01

Tiers

Category	Tier for status	Tier for reported trend
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Forest	Tier 3	Tier 3
Other wooded land	Tier 1	Tier 1
Forest expansion	Tier 3	Tier 2
Deforestation	Tier 1	Tier 1
Reforestation	Tier 3	Tier 2

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 	<p>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</p> <p>Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago)</p> <p>Tier 1 : Other</p>	<p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p>Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p>Tier 1 : Other</p>

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	<p>Basis for forest data provided from different sources (public enterprises, national parks, statistics, etc). Data for Kosovo and Metohija provided from inventory 2002 and 2012. Dataset used following the adopted methodology from previous reporting periods.</p>	<p>This reporting period continue with dataset from last reporting, like NFI (National Forest Inventory 2008), accomplished by forest users data. Differences in forest areas in years 1990 and 2000, arisen because of 10,000 ha of planted forests in 10 years period (afforestation) Significantly reducing of total forest areas for year 2005, arisen because of entirely using of European criteria and terminology, whereas shrubs, bushes and maquis are now in category other wooded land, Significantly reducing of total forest areas for year 2010, arisen because of Montenegro independence. The reported trend for the period 2005-2010 does not reflect an actual change but is rather a result of incompatible datasets. Trend for 2015. shows simmilar situation like previous, 2010 and indicate almost the same forest areas, but in different distribution, because of restitution proces, area of private forests significantly increased and from last FRA 2010, when it was 45% of private, 51% of state and 4% of other (unknown) ownership. For FRA 2015, situation is different, and now private forests comprise 57% of forest areas in Serbia, compares with 43% of state owned.</p>

Other wooded land	Area increased for 2005, because of FRA 2005 definitions (shrubs, bushes and maquis excluded from forest areas)	The reported trend for the period 2010-2015 need to reflect actual situation because of compiling datasets from national inventory and current situation of different forest users (public enterprises, national parks, etc).
Other land	Used data from national forest inventory, FAOSTAT and other sources (public enterprises, national parks, etc).	N/A
Other land with tree cover	Data used form National forest inventory from 2008 and additionally updated from different national sources (public enterprises, national parks, etc). Data for Kosovo and Metohija used from forest inventory in 2002 and 2012. Additional data for this cathegory obtained from Corine land cover network and WISDOM-Serbia.	The reported trend for the period 2010-2015 need to reflect actual situation because of compiling datasets from national inventory and current situation of different forest users (public enterprises, national parks, etc).
Inland water bodies	Data from National Forest Inventory and FAOSTAT.	N/A
Forest expansion	Data for 1990 = average 1986-1990. Data for 2000 = average 1995-2000. Data for 2005 = average 2001-2006. Data for 2010 = average 2007-2012.	N/A
Deforestation	N/A	N/A
Reforestation	Data obtained by forest users database (public forest enterprises)	N/A

Other general comments to the table

Years 1990, 2000 and 2005 contains data from Statistical Office, while year 2010 contains data from National Forest Inventory. Data for year 2015 provided from forest users (public enterprises for management of forests and National Parks), State Statistical office and other sources (WISDOM Serbia dataset, Agency for Environmental Protection database, etc).

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	State Statistical Office	Forest characteristics	1990, 2007, 2008, 2009, 2010, 2012	Statistical Bulletin
2	Faculty of Forestry	Designated purposes of forests	2004, 2012	Collection of available data from forest management plans;
3	Public Enterprises	Designated purposes of forests	2006-2012.	Official data of two PE's, but for some of main classes.

4	National Forest Inventory	Forests by naturalness	2008	N/A
5	National Parks	Designated purposes of forests	2010-2012	Official data from forest management plans

2.2.2 Classification and definitions

National class	Definition
Primary forests	Forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Semi-natural forests	Forest of naturally regenerated native species where there are clearly visible indications of human activities, as well as forests established through planting, seeding or assisted natural regeneration.
Plantations	Forest of native species and in some cases introduced species, established through planting or seeding mainly for production of wood or non wood goods, as well as protecting functions mainly for soil protection.
N/A	N/A

2.2.3 Original data

Forest origin	Area 2010			
	Total ha	Forests		% of TOTAL
		ha	%	
Other land	6,122,900.0	-	-	69.3
1. High natural stands	794,600.0	794,600.0	29.3	9.0
2. Natural coppice stands	1,656,877.0	1,656,877.0	61.1	18.8
3. Artificially established stands	180,123.0	180,123.0	6.6	2.0
4. Unknown origin	81,600.0	81,600.0	3.0	0.9
TOTAL SERBIA	8,836,100.0	2,713,200.0	30.7	100,0

Forest origin	Area 2012			
	Total ha	Forests		% of TOTAL
		ha	%	
Other land	6,116,843.1	-	-	69.2
1. High natural stands	800,157.9	800,157.9	29.4	9.0
2. Natural coppice stands	1,736,877.0	1,736,877.0	63.9	19.7
3. Artificially established stands	182,222.0	182,222.0	6.7	2.1
TOTAL SERBIA	8,836,100.0	2,719,256.9	30.8	100,0

2.3 Analysis and processing of national data

2.3.1 Adjustment

2.3.2 Estimation and forecasting

Reported figures have been taken from National forest inventory.

2.3.3 Reclassification

2.4 Data

Table 2a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	1	1	1	1	1
	Other naturally regenerated forest	2273	2420	2436	2532	2504

	... of which of introduced species	0	0	0	0	0
	... of which naturalized	N/A	N/A	N/A	N/A	17
	Planted forest	39	39	39	180	215
	... of which of introduced species	0	0	0	0	0
TOTAL		2313.00	2460.00	2476.00	2713.00	2720.00

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
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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	Primary forests do not have large areas in Serbia and mainly exist in National Parks.	N/A
Other naturally regenerating forest	Comprise all other forest categories.	N/A
Planted forest	Planted forests comprises rather large areas in Serbia, but national definition of culture provide a lot of misunderstandings, because after 20 years, artificially established stands become forests, in accordance to the national classification.	N/A
Mangroves	There are no mangroves in Serbia.	N/A

Other general comments to the table

Data for previous period are available for Socialistic Federative Republic of Yugoslavia, for Federal Republic of Yugoslavia, or for Serbia and Montenegro as a whole, and present in proposed table for Serbia is possible only in accordance with previously adopted criteria. Differences in class of plantations and planted forests, arisen because of different national classification in Serbia for years (1990, 2000, 2005), where plantations are artificially established stands no older than 20 years. All other artificially established stands older than 20 years are considered in category-forest.

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	FAOSTAT	Growing stock, biomass stock. Carbon stock	2006, 2010, 2012	FRA 2005, FRA 2010
2	State Statistical Office	Forest cover and growing stock	1990, 2000, 2007-2012	Statistical Bulletin

3	Faculty of Forestry	Growing stock, biomass stock, carbon stock	2005, 2012	Collection of available data from forest management plans; For biomass uncompleted research data National forest inventory data 2008. For carbon: uncompleted research data (not for whole country); National Forest Inventory data 2008.
4	Public Enterprises	Growing stock	2007-2012	Official data of two PE's, but for some of main classes.
5	National Forest Inventory	Growing stock, biomass stock, carbon stock	2008	Complete national inventory data from 2008.
6	National Parks	Growing stocks	2010, 2012	Official data from forest management plans.

3.2.2 Classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees more than 11 cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of 7 cm, and may also include branches to a minimum diameter of 7 cm.
Growing stock of commercial species	The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of 11 cm or more.
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in above-ground biomass	FRA 2010 definition used.
Carbon in below-ground biomass	FRA 2010 definition used.
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.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter of 10 cm, lying dead in various states of decomposition above the mineral or organic soil. This includes the litter, fomic and humic layers.

Soil carbon	Organic carbon in mineral and organic soils in soil profile to a parent rock (substratum).
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3.2.3 Original data

Stand categories	Area	Volume	Increment
	ha	m3	m3
Broadleaves	2,486,390	369,663,449	9,017,398
Conifers	233,137	48,637,855	1,860,710
TOTAL	2,719,527	418,301,304	10,878,108

Stand categories for Central Serbia	Area	Volume	Increment
	ha	m3	m3
Broadleaves	2,048,590	322,451,499	7,841,398
Conifers	206,137	43,280,855	1,669,710
TOTAL	2,254,727	365,732,354	9,511,108

Stand categories for Kosovo and Metohija	Area	Volume	Increment
	ha	m3	m3
Broadleaves	437,800	47,212,000	1,176,000
Conifers	27,000	5,357,000	191,000
TOTAL	464,800	52,569,000	1,367,000

Biomass:

No	Species	Growing stock	Basic density	Stem biomass	Biomass	Biomass	Root-Shoot	A.G. biomass	B.G. biomass	Dead wood	TOTAL
		(million m ³)	(tonnes/m ³)	(million tonnes)	Exp. Fact	Exp. & Conv. Factor	Ratio	(million tonnes)	(million tonnes)	(million tonnes)	

		GS	WD		BEF	BCEF	R	AGB	BGB	DW	
1	Beach (Bukva)	164.4	0.58	95.35	1.40	0.80	0.29	131.52	38.14	23.74062306	193.40
2	Turkey Oak (Cer)	50.9	0.58	29.49	1.40	1.40	0.81	71.19	57.67	12.8511041	128.86
3	Sessile Oak (Kitnjak)	27.2	0.58	15.80	1.40	1.05	0.28	28.61	8.01	5.164548592	36.62
4	Common Oak (Lužnjak)	7.8	0.58	4.52	1.40	1.10	0.15	8.58	1.29	1.548506233	9.87
5	Norway Spruce (Smrča)	17.0	0.40	6.82	1.30	0.75	0.30	12.78	3.83	2.30681267	16.61
6	Hungarian Oak (Sladun)	24.1	0.58	13.96	1.40	1.05	0.27	25.27	6.82	4.562143139	32.10
7	Common Hornbeam (Grab)	19.7	0.58	11.43	1.40	1.60	0.30	31.52	9.46	5.689251353	40.97
8	Silver Fir (Jela)	8.7	0.40	3.49	1.30	0.90	0.21	7.85	1.65	1.417536233	9.50
9	Silver Lime (Srebrna lipa)	4.2	0.43	1.80	1.40	0.55	0.12	2.30	0.28	0.414835319	2.57
10	Black Locust (Bagrem)	15.7	0.55	8.61	1.40	1.50	0.26	23.49	6.11	4.240557182	29.60
11	Other species	78.6	0.40	31.45	1.35	0.65	0.54	51.11	27.60	9.22490201	78.70
	TOTAL	418.3		222.73				394.23	160.85	71.16	626.24

Carbon:

Forest area	AGB	BGB	Carbon fraction	Carbon content in litter	Carbon content in soil	Carbon in AGB	Carbon in BGB	Carbon in DW	Carbon in litter	Soil carbon	TOTAL
1000 ha	mill. T	mill. T		t C/ha		million tonnes					

2,719.53	394.23	160.85	0.47	16	95	185.29	75.60	33.45	43.51	258.36	596.20
OWL											
508	20.3	2.5	0.47	16	95	9.541	1.175	0.94	8.128	48.26	68.044

3.3 Analysis and processing of national data

3.3.1 Adjustment

3.3.2 Estimation and forecasting

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	235	250	298	415	418	6	3	3	26	37
	... of which coniferous	24	26	30	50	48	0	0	0	3	5
	... of which broadleaved	211	224	268	365	370	6	3	3	23	32

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	Fagus Moesiaca	Beach (Bukva)	120	101	127	163

2 nd	Quercus Cerris	Turkey Oak (Cer)	27	15	18	52
3 rd	Quercus Petraea	Sessile Oak (Kitnjak)	19	11	13	26
4 th	Quercus Robur	Common Oak (Lunjak)	3	5	4	9
5 th	Picea Abies	Norway Spruce (Smrca)	11	4	3	20
6 th	Quercus Frainetto	Hungarian Oak (Sladun)	3	4	4	22
7 th	Carpinus Betulus	Common Hornbeam (Grab)	3	4	5	15
8 th	Abies Alba	Silver Fir (Jela)	6	3	4	10
9 th	Tilia Argentea	Silver Lime (Srebrna lipa)	2	3	2	2
10 th	Robinia Pseudoacacia	Black Locust (Bagrem)	2	2	3	26
Remaining			39	98	115	70
TOTAL			235.00	250.00	298.00	415.00

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)	11	Minimum diameter for coppice forests at breast height is 6 cm
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	7	N/A
Minimum diameter (cm) of branches included in growing stock (W)	7	N/A
Volume refers to above ground (AG) or above stump (AS)	AG	N/A

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

Table 3c

Category	Net annual increment (m ³ per hectare and year)				
	Forest				
	1990	2000	2005	2010	2015

	Net annual increment	3.1	2.7	2.7	3.8	4
	... of which coniferous	5.1	4.1	4.9	8	8
	... of which broadleaved	2.7	2.6	2.6	3.4	3.6

Table 3d

Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	201.1	227.7	241.7	389.2	394.2	4.1	2	2	15	20.3
	Below ground biomass	58.5	66.3	70.4	110.8	109.8	1.1	0.5	0.5	1.9	2.5
	Dead wood	36.3	41.2	43.7	70.3	71.2	0.4	0.2	0.2	1.5	2
TOTAL		295.90	335.20	355.80	570.30	575.20	5.60	2.70	2.70	18.40	24.80

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	94.5	107	113.6	182.9	185.3	1.9	0.9	0.9	7.1	9.5
	Carbon in below ground biomass	27.5	31.2	33.1	52.2	51.6	0.5	0.2	0.2	0.9	1.2
	<i>Subtotal Living biomass</i>	122	138.2	146.7	235.1	236.9	2.4	1.2	1.2	7.9	10.7
	Carbon in dead wood	17.1	19.4	20.5	33.1	33.4	0.2	0.1	0.1	0	0.9
	Carbon in litter	37	39.4	39.6	43.4	43.5	4.6	8.3	8.3	6.6	8.1

	<i>Subtotal Dead wood and litter</i>	54.1	58.8	60.1	76.5	76.9	4.8	8.4	8.4	6.6	9.1
	Soil carbon	219.7	233.7	235.2	257.7	258.4	27.3	49.5	49.5	39	48.3
TOTAL		395.80	430.70	442.00	569.30	572.20	34.50	59.00	59.00	53.60	68.00

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 3	Tier 3
Net annual increment	Tier 3	Tier 2
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 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other

Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<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	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Growing stock of broadleaved coniferous	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Growing stock composition	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Net annual increment	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Above-ground biomass	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Below-ground biomass	N/A	The reported trend for the period 2005-2010 does not reflect an actual change but is rather a result of incompatible datasets.
Dead wood	N/A	The reported trend for the period 2010 does not reflect an actual change but is rather a result of incompatible datasets.
Carbon in above-ground biomass	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.
Carbon in below-ground biomass	N/A	Reported trend for the 2015 continue last reporting period (2010), and reflects compatibility.

Carbon in dead wood	N/A	The reported trend for the period 2010 does not reflect an actual change but is rather a result of incompatible datasets.
Carbon in litter	N/A	Reported trend for the 2015 continue last reporting periods (2000, 2005), and reflects compatibility.
Soil carbon	N/A	Reported trend for the 2015 continue last reporting periods (2000, 2005), and reflects compatibility.

Other general comments to the table

Besides the decision of year 2008 (2010) to be as a referent year for Serbia because of National Forest Inventory data, biomass and carbon calculation for 2010 was done in accordance to "Guidelines for Country Reporting to FRA 2010" and forest inventory data for year 2010, where basis for calculation were National Forest Inventory data 2008. Also, calculation for year 2015 was done by guidelines for calculation of biomass and carbon. For other years (1990, 2000, 2005), carbon was recalculated again and figures are in table. Taking into account that dead wood for referent year 2010, was taking over from National Forest Inventory 2008 (beside the suspicious of relevancy presented data), for year 2015, dead wood was recalculated based on guidelines.

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	FAOSTAT	Forest cover, Forest plantations	2006, 2012	FRA 2010
2	State Statistical Office	Forest cover and growing stock	1990, 2000, 2007, 2010, 2012	Statistical Bulletin
3	Faculty of Forestry	Designated purposes of forests	2004, 2012	Collection of available data from forest management plans
4	Public Enterprises	Designated purposes of forests	2012	Official data of two PE's, but for some of main classes.
5	National Forest Inventory	Designated forest functions	2008	N/A
6	National Parks	N/A	2012	Official data from management plans

4.2.2 Classification and definitions

National class	Definition
Production function	Those forest and forest land (other wooded land) designated for maximal production and utilisation of productive potentials of stands without conflicts.
Protective function	Forest complexes with different type of protection as a main purpose of management.
Biodiversity conservation	Forest and forest land (other wooded land) designated for biodiversity conservation as well as biotope protection (conservation).
Recreational forests	Forests and forest land (other wooded land) designated for provision of recreational service as a part of social function.
Multiple function	Forest and forest land (other wooded land) designated as combination of different functions like: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest and forest land (other wooded land) for which a specific function has not been designated or where designated function is unknown.

4.2.3 Original data

Designated function	Area (1000 hectares)				
	Primary function				
	1990	2000	2005	2010	2012
Forest					
Production	2,013	1,952	1,628	2,276	1,787
Protection of soil and water	125	286	586	177	598
Conservation of biodiversity	123	125	128	126	163
Social services	52	64	69	68	164
Multiple use forest	ID	33	65	66	8
Total - Forest	2,313	2,460	2,476	2,713	2,720

Non-wood forest products removals

Marketed <u>plant</u> product / raw material	Ref. year	Marketed <u>plant</u> product/ raw material			Marketed <u>animal</u> product/ raw material	Ref. year	Marketed <u>animal</u> product/ raw material		
		Unit	Quantity	Value			Unit	Quantity	Value
				(1000 nation. currency)					(1000 nation. currency)
			Q	V			Q	V	
Christmas trees	2010	1000 pcs	200.0	160,000.0	Game meat	2010	tonnes	1,178.5	396,836.0
	2005		50.0	20,000.0		2005		909.1	454,550.0
	2000		75.0	30,000.0		2000		4,171.9	2,085,950.0
	1990		n.a.	n.a.		1990		5,738.1	2,869,050.0
Mushrooms	2010	tonnes	3,237.6	1,402,855.6	Game harvest/ shot	2010	1000 pcs	282.2	546,070.0
	2005		5,498.1	8,797,960.0		2005		331.3	662,600.0
	2000		2,300.0	4,600,000.0		2000		303.0	606,000.0
	1990		n.a.	n.a.		1990		1,199.0	2,398,000.0
Fruits, berries and edible nuts	2010	tonnes	3,209.0	335,340.5	Hides, skins and trophies	2010	1000 pcs	264.4	490,100.0
	2005		107.8	8,624.0		2005		10.6	254,400.0
	2000		193.2	15,456.0		2000		5.3	127,200.0
	1990		119.0	9,520.0		1990		12.8	307,200.0
Herbs and aromatic plants	2010	tonnes	602.4	481,920.0	Wild honey and bee-wax	2010	tonnes	4,000.0	1,200.2
	2005		18.3	14,640.0		2005		3,665.0	916.0
	2000		3.1	2,480.0		2000		2,663.0	666.0
	1990		18.1	14,480.0		1990		2,659.0	665.0

Other plant products (seeds, roots, plant parts)	2010	tonnes	113.3	197,687.7		Other animal products	2010	tonnes	n.a.	n.a.
	2005		557.5	446,000.0			1,230.5		984,400.0	
	2000		27.2	21,760.0			1,100.0		880,000.0	
	1990		59.9	47,920.0			n.a.		n.a.	

Source: Directorate of Forests database (2012)

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

4.3.3 Reclassification

National Classes	Percentage of a National Class belonging to a FRA Class				
	Productive function	Protection function	Conservation function	Social function	Multifunctional
	%				
Forests	66	22	6	6	0
OWL	54	33	4	6	3

4.4 Data

Table 4a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	2013	1952	1628	2276	1787
	Multiple use forest	0	33	65	66	8

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Mushrooms, fruits, berries, and edible nuts	Boletus (Boletus Edulis), chanterelles (Cantharellus Cibarius), red pine mushroom (Lactarius deliciosus), black trumpet (Craterellus Cornucopioides), blueberry (Vaccinium Myrtillus), dog rose (Rosa Canina), ivy (Helix spp), etc.	1738196	1
2 nd	Hides, skins, trophies and game harvest	Roe, deer, fallow deer, wild boar, hare, chamois, etc	490100	10
3 rd	Raw material for medicine and aromatic products	Achillea Millefolium, Juniperus Communis, Hypericum Perforatum, Sambucus Nigra etc.	481920	3
4 th	Wild meet	Roe, deer, fallow deer, wild boar, hare, pheasant, partridge, chamois etc.	396836	12
5 th	Other plant products (christmas trees, seeds, plant parts)	Spruce, Fir, Douglas fir, oaks, beech, etc.	357688	8
6 th	Wild honey and bee-wax	Black Locust, meadow herbs and plants	1200	11
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			3465940.00	

2010	
Name of local currency	Republic of Serbia Dinar (RSD)

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	3657	1793
1991	3565	1874
1992	2774	1395
1993	2492	1451
1994	2514	1366
1995	2852	1509
1996	2911	1568

1997	2607	1392
1998	2521	1336
1999	2704	1565
2000	2947	1606
2001	2194	1362
2002	2745	1653
2003	2593	1573
2004	2718	1639
2005	2485	1515
2006	2876	1626
2007	2981	1554
2008	3186	1571
2009	3137	1778
2010	7636	6223
2011	7904	6508

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 2	Tier 2
Multiple use forest	Tier 2	Tier 2

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	Reported trend for the 2015 continue last reporting period (2010).

Multiple use forest	N/A	Reported trend for the 2015 continue last reporting period (2010).
Total wood removals	N/A	Reported trend for the 2010 and 2011, comprise datasets done by field research as a part of FAO project TCP/YUG/3201 about fuelwood consumptions. This is the reason why these data doesn't matches with other years data from national statistic office.
Commercial value of NWFP	N/A	Reported trend for the 2010 continue last reporting period (2005), and reflects compatibility.

Other general comments to the table

Basis for years 1990, 2000 and 2005 was Statistical Office, while data for year 2010 is from National Forest Inventory (NFI). Data for 2010 and 2015 was compilation data from national statistics, NFI and data from forest users (public enterprises, national parka and other users). Qualification of specific functional purposes was done according to the spatial disposal and define categorisation, using more strict criteria. Available data from Kosovo and Metohija used from forest inventory provided by NFG in 2002 and 2012, additionally using expert estimation.

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	Public enterprises for management of forests	Official data from forest management plans	2010-2012	N/A

2	National Parks	Official data from forest management plans	2010-2012	N/A
3	National Forest Inventory (NFI) 2008.	Forest inventory dataset	2008	N/A
4	Other forest users	Official data from forest management plans	2010-2012	N/A

5.2.2 Classification and definitions

National class	Definition
N/A	N/A

5.2.3 Original data

FRA 2015 Categories	Forest area (000 hectares)
	2015
Protection of soil and water	597,917.4
...of which production of clean water	39,183.2
...of which coastal stabilization	0.0
... of which desertification control	33,000.0
... of which avalanche control	0.0
...of which erosion, flood protection or reducing flood risk	466,248.2
...of which other (please specify in comments below the table)	59,486.0
FRA 2015 Categories	Forest area (000 hectares)
	2015

Ecosystem services, cultural or spiritual values	163,619.2
... of which public recreation	4,897.2
... of which carbon storage or sequestration	0
... of which spiritual or cultural services	151,643.4
... of which other (please specify in comments below the table)	7,078.6

5.3 Analysis and processing of national data

5.3.1 Adjustment

5.3.2 Estimation and forecasting

5.3.3 Reclassification

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Protection of soil and water	125	286	586	177	598
CFRQ	... of which production of clean water	5	6	6	7	39
CFRQ	... of which coastal stabilization	0	0	0	0	0
CFRQ	... of which desertification control	50	60	65	70	33
CFRQ	... of which avalanche control	0	0	0	0	0

	... of which erosion, flood protection or reducing flood risk	70	220	515	100	466
	... of which other (please specify in comments below the table)	0	0	0	0	60

Other

View protection, scientific research areas, road protection, archeological protection, memorial monument forests, defense etc.

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	52	64	69	68	164
...of which public recreation	2	3	9	2	5
...of which carbon storage or sequestration	0	0	0	0	0
...of which spiritual or cultural services	50	61	60	60	152
...of which other (please specify in comments below the table)	0	0	0	6	7

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
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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	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Data for 2010 was used from National Forest Inventory where are presented global overview at national level. After comparison with new collected and encompassed data, it was decided to use updated NFI data, compile with forest users field data from management plans and field report for requested trends. 2010 data shows differences that deviate from previous, but also present reported periods. This leads to conclusion that NFI cannot be the reference period for all chapters, especially for those who requires more specific attention at micro level.
Production of clean water	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Data for this aspect used from updated forest management plans in requested trends, where present category was updated with specific attention regarding field work, which shows specific attention to the clean water protection.
Coastal stabilization	N/A	N/A
Desertification control	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Based on data from forest management plans in accordance with convention of forest desertification.
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Updated NFI data with forest management plans data from field at micro level areas.

Other protective functions	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Updated NFI data with forest management plans data from field at micro level areas.
Ecosystem services, cultural or spiritual values	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	N/A
Public recreation	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Updated NFI data with forest management plans data from field at micro level areas.
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Updated NFI data with forest management plans data from field at micro level areas.
Other ecosystem services	Data from forest users (public enterprises, national parks and other users), mainly from forest management plans.	Other services include areas for scientific research and educational purposes, as well as other specific purposes like defense.

Other general comments to the table

View protection, scientific research areas, road protection, archeological protection, memorial monument forests, defense etc.

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	FAOSTAT	Forest cover, Forest plantations	2006, 2012	FRA 2010
2	State Statistical Office	Forest cover and growing stock	1990, 2000, 2007-2012	Statistical Bulletin
3	Faculty of Forestry	Designated purposes of forests	2004, 2010, 2012	Collection of available data from forest management plans
4	Public Enterprises	Designated purposes of forests	2006, 2010-2012	Official data of two PE's, but for some of main classes.
5	National Forest Inventory	Designated forest functions	2008	N/A
6	National Parks	Designated forest functions	2010-2012	Official data from forest management plans
7	Nature Protection Service of Serbia	Nature protection data base	2012	Official data

6.2.2 Classification and definitions

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

6.2.3 Original data

See 4.2.3

6.3 Analysis and processing of national data

6.3.1 Adjustment

6.3.2 Estimation and forecasting

6.3.3 Reclassification

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	123	125	128	126	163
	Forest area within protected areas	N/A	239	380	452	501

Tiers

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

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> Conservation of biodiversity Forests within protected areas 	<p>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</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>

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	Regarding to Law on Nature Protection, there are three levels/degrees of nature protection, while biodiversity conservation is achieved in 1st and 2nd degrees.	Reported trend for the 2015 continue last reporting period (2010).
Forest area within protected areas	Data used from public forest enterprises and national parks.	Reported trend for the 2015 continue last reporting period (2010).

Other general comments to the table

Basis for reporting year/period 2015 is compilation data from different sources (statistical office, public enterprises, national parks, nature protection service and NFI). Qualification of specific functional purposes was done according to the spatial disposal and define categorisation, using more strict criteria Available data from Kosovo and Metohija used from forest inventory in 2002 and 2012, together with other strategic publications, additionally with expert estimation.

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	Public enterprises for management of forests	Data from forest management plans and other internal documentations	2010, 2012	N/A
2	National Parks	Data from forest management plans and other internal documentations	2010, 2012	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

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7.3 Analysis and processing of national data

7.3.1 Adjustment

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7.3.2 Estimation and forecasting

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7.3.3 Reclassification

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7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
Fraxinus Americana	30	39
N/A	N/A	N/A
Total	30	39

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 3	Tier 3

Tier Criteria

Category	Tier for status	Tier for reported trend
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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
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7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	International definition of invasive species can be used nationally.	N/A

Other general comments to the table

Data obtained from public forestry enterprises and national parks during field work for data collecting in process of creation forest management plans.

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	Directorate of Forests	Damages to insects and diseases and fires.	2000-2014	Official and accurate data regarding disturbances and damages caused by insects and diseases. DF database
2	Forestry Public Enterprises	Forest fire, insects and diseases	2006, 2007-2013	Official data of all PE's.
3	National Parks Public Enterprises	Forest fire, insects and diseases	2007-2012	Official data of all national parks.
4	State Statistical Office	Damages to insects and diseases and forest fires.	2007-2012	Statistical Bulletin

8.2.2 Classification and definitions

National class	Definition
Forest fires	International definition of disturbances related with fires can be used nationally. Data obtained from forest users (public enterprises, national parks, etc) with permanent monitoring.
Insects and diseases	International definition of disturbances related with insects and diseases can be used nationally. Data obtained from forest users (public enterprises, national parks, etc) with permanent monitoring.
N/A	N/A

N/A	N/A
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8.2.3 Original data

1.1.1			
No.	Years		Outbreak duration
	Beginning	Ending	
1.	1862	1865	4
1.	1870	1875	6
1.	1882	1885	4
1.	1889	1894	6
1.	1898	1900	3
1.	1906	1908	3
1.	1911	1914	4
1.	1922	1926	5
1.	1930	1935	6
1.	1939	1942	4
1.	1947	1949	3
1.	1953	1957	5
1.	1963	1966	4
1.	1970	1973	4
1.	1984	1987	4
1.	1995	1998	4
1.	2003	2006	4
18.	2011	2014	4

Source: R. Marovic at all (1998): "Outbreak of Gipsy Moth in Serbia" and Directorate of Forests Database

Insect outbreak

Year	Name	Infested areas (1000 ha)	Affected forests
1995	Gipsy Moth	10	All broadleaves
1996	Gipsy Moth	80	All broadleaves
1997	Gipsy Moth	500	All broadleaves
1998	Gipsy Moth	425	All broadleaves
2002	Bark beetle	1	Fir and Spruce
2003	Gipsy Moth	163	All broadleaves
2003	Bark beetle	1	Fir and Spruce
2004	Gipsy Moth	360	All broadleaves
2004	Bark beetle	1	Fir and Spruce
2005/06	Gipsy Moth	64	All broadleaves
2010/11	Gipsy Moth	10	All broadleaves
2011/12	Gipsy Moth	30	All broadleaves
2012/13	Gipsy Moth	175	All broadleaves
2013/14	Gipsy Moth	340	All broadleaves

Source: Directorate of Forests (2014)

Forest fires

Year	Total No of fires on forests and other woode land	Total area burned on forests and other wooded land
2006	43	715
2007	482	16,144
2008	45	526

2009	84	728
2010	72	855
2011	343	3,567
2012	328	11,462
2013	26	700

Source: Directorate of Forests (2014)

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	0.088	102	0.065	12	0.02	15	0.061	43	34.001	482
	... of which forest area burned	0.011	60	0.002	1	0.002	6	0.002	33	16.582	400
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#

	Total land area burned	0.53	45	1.205	84	0.992	72	3.297	343	12.58	381
	... of which forest area burned	0.53	30	0.377	68	0.69	55	1.261	162	11.176	328

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Typographer (Bark-beetle) Ips Typhographus and Bark-beetle (Pityogenes Chalcographus)	2002-2004	1
1	Gipsy Moth (Lymantria Dispar)	2003-2006	1
1	Gipsy Moth (Lymantria Dispar)	2010/2011	10
1	Gipsy Moth (Lymantria Dispar)	2011/2012	30
1	Gipsy Moth (Lymantria Dispar)	2012/2013	175
1	Gipsy Moth (Lymantria Dispar)	2013/2014	340
1	Typographer (Bark-beetle) Ips Typhographus, Bark-beetle (Pityogenes Chalcographus), Polygraphus polygraphus, Ips Curvidens	2013/3014	5
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
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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	N/A	N/A
Insects	N/A	N/A
Diseases	N/A	N/A
Severe weather events	Forest decline as result of outbreaks (insects, fires, etc).	N/A

Other general comments to the table

Very actual problem of forest decline as a result of severe outbreaks. During 2013, it is registered all together 23,628 ha of decline forests.

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	217

Tiers

Category	Tier for reported trend
Reduction in canopy cover	Tier 1

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	Data delivered from forest users (public forest enterprises, national parks and others).

Other general comments

Data about canopy reduction received from forest users (public forest enterprises, national parks and other users).

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	Directorate of Forests database	Law on Forests; Forestry Development Strategy of the Republic of Serbia; Forest Development Program of the Republic of Serbia (draft).	2006, 2010, 2014	N/A
2	Forestry public enterprises	Forest management plans	2013	N/A
3	National parks	Forest management plans	2013	N/A
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
Law on Forests	Adopted by National Assembly 2010.
Forestry Development Strategy of the Republic of Serbia	Adopted by Government 2006.
Forest management plans (FMP)	Minister responsible for forestry issues adopt the FMP.
N/A	N/A

10.2.3 Original data

10.3 Data

Table 10

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

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	N/A
Legislation and regulations supporting sustainable forest management	N/A

Other general comments

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

Documents for this question:

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

11.1 Categories and definitions

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

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	Directorate of Forests	2003, 2006, 2010, 2013	N/A
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
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11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	During the process of adoption all important strategic documents, stakeholder participation process was ensured in large extent, by Directorate of Forests. Additionally, Law on Forests prescribe involvement of stakeholders for adoption of planning documents.

Other general comments

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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	Directorate of Forests	Law on Forests; Forestry Development Strategy of the RS; Forest Development Program of the RS (draft)	2013	N/A
2	Public forest enterprises	Public Enterprises Business Plans; Forest Management Plans;	2013	N/A
3	National Parks	National Parks Business Plans; Forest Management Plans	2013	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
Law on Forests	Area of permanent forest estate was clearly defined in national Law of Forests where is emphasized that reduction of forest area is forbidden (whit rare exceptions in specific cases related with general/public interest).
N/A	N/A
N/A	N/A
N/A	N/A

12.2.3 Original data

Area of permanent forest estate was clearly defined in national Law of Forests where is emphasized that reduction of forest area is forbidden (whit rare exceptions in specific cases related with general/public interest).

12.3 Analysis and processing of national data

12.3.1 Adjustment

12.3.2 Estimation and forecasting

12.3.3 Reclassification

12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	2713
	... of which permanent forest estate	2713

Tiers

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

Tier Criteria

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

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	Law on Forests and strategic forestry documents indicate that forest areas cannot be reduce.
Permanent forest estate	Area of permanent forest estate was clearly defined in national Law of Forests where is emphasized that reduction of forest area is forbidden (whit rare exceptions in specific cases related with general/public interest).

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	Directorate of Forests	Law on Forests; Forestry Development Strategy of the RS	2010; 2006	Directorate of Forests has a contract with Insistute for Forestry for providing annually monitoring for ICP forests on level I and level II.
2	Forestry public enterprise	Forest management plans	2007-2012	N/A
3	Narional parks	Forest management plans	2007-2012	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
Purpose of the Law on Forests	Article 3. This Law shall ensure the conditions for sustainable management of forests and forest lands as goods of public interest, in a manner and to an extent which conserves and enhances their productivity, biological diversity, ability to regenerate and vitality, and increases their potential for the mitigation of climate change and their economic, ecologic and social functions, without inflicting damage to the surrounding ecosystems.
Forestry Development Strategy of the RS	Chapter 3. Guiding Principles of the Forestry Sector; Forest resources of the Republic of Serbia are managed by the principles of sustainable development, which is regulated by the Constitution of the Republic of Serbia.
N/A	N/A

N/A	N/A
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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	0.06	2008		yes	yes		yes	no
Other field assessments	50	2010		yes	no	yes	no	no
Updates to other sources	0.01	Annually	yes	no	yes	yes	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)	yes
4 None	

Other type of forest reporting

Based on contract with Directorate of Forests, Insitute for Forestry provide annual monitoring of forests at permanent ground plots, leading by ICP (the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests) methodology for determing forest decline from Long-range transboundary Air Pollution UNECE Convention.

13.4 Comments

Category	Comments
National Forest Inventory (NFI)	First NFI with modern methodology and permanent ground plots was done from 2005-2008. It was prescribe by Law on Forests that NFI need to be done every 10 years, using same methodology with permanent ground plots.
N/A	N/A
N/A	N/A

Other general comments

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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	Directorate of Forests	Forest management plans	2008-2013	N/A
2	Public enterprises for management of forests	Forest management plans	2008-2013	N/A
3	National parks	Forest management plans	2008-2013	N/A
4	Other users (Faculty of Forestry, waterwork organizations, etc)	Forest management plans	2008-2013	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	2252
... of which for production	2126
... of which for conservation	126

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	10
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Tiers

Category	Tier for status
Forest area with management plan	Tier 3
Percent of area under forest management plan that is monitored annually	Tier 2

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	Duration of forest management plans (FMP) is 10 years, and based on this fact, annual FMPs monitoring is approximately 10% of forest area with management plans.
Adoption of forest management plans	Other relevant sectors, like nature protection and environment sectors provide their opinion towards forest management plans, before they being adopted.
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
Stakeholders participation process	During the process of adoption all important strategic documents, stakeholder participation process was ensured in large extent, by Directorate of Forests. Additionally, Law on Forests prescribe involvement of stakeholders for adoption of planning documents.
Adoption of forest management plans	Other relevant sectors provide their opinion towards forest management plans, before they being adopted.
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	40	169	369	372	1019	1019	
	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
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		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 2
Domestic forest management certification	N/A

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	Forest area certified under the Forest Stewardship Council certification scheme
Domestic forest management certification	Not existing.

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	Statistical Office	Investment and money	2007-2012	Official statistic data
2	Public Enterprises	Annual business reports	2008-2012	Official data of two PE's
3	Directorate of Forests	Financial and budgetary allocations	2007-2012	Directorate of Forests database
4	National Parks	Annual business reports 2008-2012.	2008-2012	Official data of national parks

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	N/A	670803	10203997
Public expenditure on forestry	N/A	539442	10128359
	2000	2005	2010
Name of Local Currency	Federal Republic of Yugoslavia Dinar (YUD)	Republic of Serbia and Montenegro Dinar (CSD)	Republic of Serbia Dinar (RSD)

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	National definition regarding forest revenue consider all revenue collecting from forests in sense of trade, but also in collecting all taxes related to forests (5% tax for cutting wood). Only this tax of 5%, for cutting wood goes directly on budget allocation which is using for development and improving of forests. All other taxes and revenues go in state budget and it is not possible to track money flow. During 2010, based on new Law on Forests it was obligation of all legal subjects in Serbia to pay for forests ecosystem services 0.025% of company income. This is a reason why in 2010 forest based revenues are significantly higher than previous years. During 2012, this system for payment of ecosystem services was canceled by new Government.
Public expenditure on forestry	On national level, it is named as subventions and comprise extension services, defined as-expert and technical support in private forests.
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	State Statistical Office	Ownership category	2007-2012	Statistical Bulletin
2	Faculty of Forestry	Ownership category	2012	Unofficial data from forest management plans;
3	Public Enterprises	Ownership category	2008-2012	Official data of two PE's, but for some of main classes.
4	Directorate of Forests of Serbia	Ownership category	2008-2012	Secondary information of ownership category
5	National Forest Inventory	Forest cover Forest origin	2008	Data from national forest inventory

18.2.2 Classification and definitions

National class	Definition
Private ownership	Land owned by individuals, but also religious communities.
State ownership	Land owned by the State or government-owned institutions or co-operatives or other public bodies including cities and educational institutions.
Other types of ownership	Unspecified ownership (areas of unknown ownership) in Kosovo and Metohija
N/A	N/A

18.2.3 Original data

Categories	Forest area (000 hectares)				
	1990	2000	2005	2010	2015
Public ownership	1,143	1,246	1,252	1,382	1,158
...of which owned by the state at national scale	1,143	1,246	1,252	1,283	1,059

...of which owned by the state at the sub-national government scale	0	0	0	99	99
Private ownership	1,170	1,214	1,224	1,213	1,562
...of which owned by individuals	1,170	1,214	1,224	1,213	1,538
...of which owned by private business entities and institutions	0	0	0	0	23
...of which owned by local, tribal and indigenous communities	0	0	0	0	0
Unknown ownership	0	0	0	118	0
TOTAL	2,313	2,460	2,476	2,713	2,720

18.3 Analysis and processing of national data

18.3.1 Adjustment

18.3.2 Estimation and forecasting

18.3.3 Reclassification

National Classes of Ownership	Percentage of a National Class belonging to a FRA Class		
	Public Ownership	Private Ownership	Unknown ownership
	%		
Forests 1990	49.4	50.6	0
Forests 2000	50.7	49.3	0
Forests 2005	50.6	49.4	0
Forests 2010	51.0	45.0	4.0
Forests 2015	42.6	57.4	0

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	1143	1246	1252	1382
	... of which owned by the state at national scale	1143	1246	1252	1283
	... of which owned by the state at the sub-national government scale	0	0	0	99
	Private ownership	1170	1214	1224	1213
	... of which owned by individuals	1170	1214	1224	1213
	... of which owned by private business entities and institutions	0	0	0	0
	... of which owned by local, tribal and indigenous communities	0	0	0	0
	Unknown ownership	0	0	0	118
TOTAL		2313.00	2460.00	2476.00	2713.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 3
Private ownership	Tier 3	Tier 3
Unknown ownership	Tier 2	Tier 2

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	1143	1246	1252	1382
Individuals	0	0	0	0
Private companies	0	0	0	0
Communities	0	0	0	0
Other	0	0	0	0
TOTAL	1143.00	1246.00	1252.00	1382.00

Category	Tier for reported trend	Tier for status
Public Administration	Tier 2	Tier 3
Individuals	Tier 2	Tier 3
Private companies	Tier 2	Tier 3
Communities	Tier 2	Tier 3
Other	Tier 2	Tier 3

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	N/A	N/A
Private ownership	N/A	N/A
Unknown ownership	Unspecified ownership (areas of unknown ownership) in Kosovo and Metohija	N/A
Management rights	N/A	N/A

Other general comments to the table

Basis for Kosovo and Metohija data provided from State statistical office, as well as from census of 1979 and available data from forest inventory in Kosovo and Metohija 2005, provided by Norwegian Forestry Group. Significantly reducing of total forest areas arisen by entirely usage of European criteria and terminology, whereas shrubs, bushes and maquis (covers 410,000 ha) are now in category other wooded land. Other type of ownership is identified in Kosovo and Metohija, where was not possible to define the ownership.

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	FAOSTAT	1990, 2000, 2005, 2010	FRA 2005, 2010	N/A
2	State Statistical Office	2007-2012	Statistical Bulletin	N/A
3	Faculty of Forestry	2005, 2008, 2013	Collection of available data from forest management plans;	N/A
4	Public Enterprises	2005, 2008-2012	Official data of two PE's (forest management plans).	N/A
5	Directorate of Forests	2014	Directorate of Forests database	N/A

19.2.2 Classification and definitions

National class	Definition
Employment	Includes all persons in paid employment or self-employment.
N/A	N/A
N/A	N/A
N/A	N/A

19.2.3 Original data

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Forestry Public Enterprises	Human resources within public forest enterprises							
	1990		2000		2005		2010	
	Staff No.	%	Staff No.	%	Staff No.	%	Staff No.	%
Srbijasume	10,470	87	3,640	45	3,202	48	3,238	42
Vojvodinasume	-	-	1,878	23	1,780	27	1,571	21
National Parks	640	5	580	7	500	8	409	5
Borjak ¹	ID	ID	51	1	47	1	49	1
Other ²	900	8	1,906	24	1,079	16	2,369	31
TOTAL	12,010	100	8,055	100	6,608	100	7,636	100

¹ Municipal public enterprise for management of spa's forests.

² Private forestry based companies and entrepreneurships for forest utilisations; foresters from Kosovo and Metohija.

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	12	8	6.6	7.6
	... of which female	1.9	1.1	1	1.1

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
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Employment in forestry	Data received from all public and private companies, forest enterprises, national parks, faculty of forestry and waterworks organisations.	Previously decreasing trend mainly because of privatisation in public forest enterprise where almost all forestry workers goes into self-employment category without full time engagement. For year 2010, increasing number of employees in forestry sector because of regulation status of companies for forest harvesting, while their employees became with full time engagement.
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Other general comments to the table

Data performed from previous FRA reports as well as from Directorate of Forests database, public forest enterprises, national parks, faculty of forestry and waterworks organisations, but also in Statistical Yearbooks of Serbia. From year 2000, till year 2010, there are a lot of structural changes in management of public enterprise Srbijasume. First of all it was established new forest enterprise Vojvodinasume, and also number of employees from Kosovo and Metohija become a part of K&M forest service. Trend of reduction number of employees is recorded till 2010, where can be noticed increase of employee number in forestry sector. Reason for this is in establishment of number entrepreneurship and small and medium companies for forest harvesting with full time employees in their structure.

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)	5.279	Dinar	2009

20.3 Comments

Category	Comments
N/A	N/A

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	Government of the Republic of Serbia	Law on Forests, Forest Development Strategy of the Republic of Serbia; Law on Nature protection, National Strategy for Sustainable Use of Natural Resources; Law on Environmental Protection, Sustainable Development Strategy	2006-2013	N/A
2	Directorate of Forests	Forest Development Strategy of the Republic of Serbia; Forest Development program of the RS (draft)	2006-2013	Strategy orientations based on sectoral development strategy
3	Public forest enterprises	Strategic orientations	2007-2013	Strategy orientations based on sectoral development strategy and other relevant strategic documents (sustainable development strategy, national strategy for sustainable use of natural resources, etc)
4	National Parks	Strategic orientations	2007-2013	Strategy orientations based on forestry and nature protection strategy documents

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030

Government target/aspiration for forest area	2757	2770
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Table 21b

Category	Forest area (000 ha)	
	2013	
Forests earmarked for conversion	0	

21.4 Comments

Category	Comments
Government target/aspiration for forest area	N/A
Forests earmarked for conversion	N/A

Other general comments

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