



Food and Agriculture  
Organization of the  
United Nations

# Global Forest Resources Assessment 2020

Report

**Slovenia**

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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# Introduction

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## Introductory text

Place an introductory text on the content of this report

# 1 Forest extent, characteristics and changes

## 1a Extent of forest and other wooded land

### National Data

#### Data sources + type of data source eg NFI, etc

National forest inventory data (recent available year: 2018).

Actual land use map (ALUM); Ministry of Agriculture, Forestry and Food (<http://rkg.gov.si/GERKtest/WebViewuer/>).

Slovenia Forest Service database, based on permanent sample plots and managerial records.

#### National classification and definitions

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

#### Original data

NFI, stand inventory 2018

## Analysis and processing of national data

### Estimation and forecasting

Recent available year: 2018, no extrapolation for the year 2020.

Assessment is based on data from Forest stand map (Slovenia Forest service) and Land use map (Ministry of Agriculture, Forestry and Food).

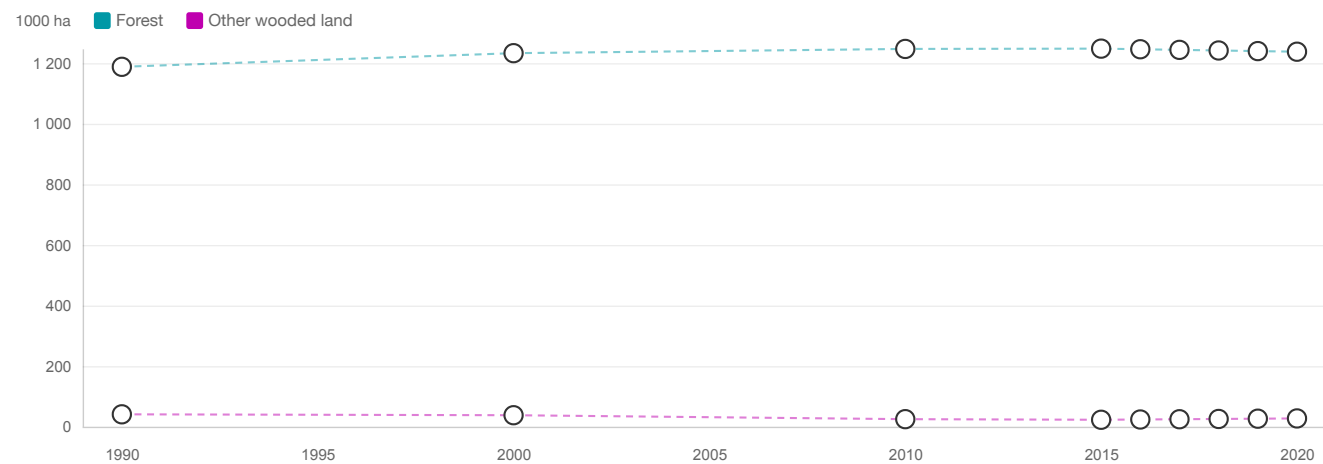
Area of forest: Land use map, categories: 2000 (minus Pinus mugo stands), 1410, 1420 and 1500.

Other Wooded Land: Land use map, categories: 1800 (plus (added) Pinus mugo stands).

### **Reclassification into FRA 2020 categories**

National class and Definitions:

- 1221 Intensive orchards
- 1222 Extensive orchards
- 1230 Olive groves
- 1240 Other permanent crops
- 1300 Meadows and pastures
- 1322 Other extensive meadows
- 1410 Overgrown areas
- 1420 Forest plantations
- 1500 Trees and bushes
- 1500 Riparian overgrowth and forest hedges
- 1800 Forest trees on agricultural land
- 2000 Forest and other overgrowth areas
- 2000 Forest
- 5000 Dried open areas with special vegetation
- Afforestation: Establishing forests on non-forest lands by planting or seeding
- Artificial regeneration: Regeneration of forests with planting or seeding.



FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	1 188.00	1 233.00	1 247.00	1 248.00	1 245.97	1 243.93	1 241.90	1 239.86	1 237.83
Other wooded land (a)	41.00	38.00	25.00	23.00	23.88	24.77	25.65	26.57	27.42
Other land (c-a-b)	785.00	743.00	742.00	743.00	744.15	745.30	746.45	747.57	748.75
Total land area (c)	2 014.00	2 014.00	2 014.00	2 014.00	2 014.00	2 014.00	2 014.00	2 014.00	2 014.00

The FAOSTAT land area figure for the year 2015 is used for all reference years

Climatic domain	% of forest area 2015	Override value
Boreal	0.00	
Temperate	95.00	
Sub-tropical	5.00	
Tropical	0.00	

Comments

Forest area change in the recent years is the result of natural expansion on the abandoned agricultural land in hilly rural area on one side, and pressure on forest through deforestation in urban areas on the other. In the past few years, there have been more deforestations than new established forest areas, resulting in forest area decrease on a country level.



# 1b Forest characteristics

## National Data

### Data sources + type of data source eg NFI, etc

References to sources of information	Quality	Category	Year(s)	Type of inventory
Forest stand map	High	/	2018	Stand inventory
Overgrowing areas map for 2015	Medium	/	2015	Mixed
SFS report	High	/	2017	Managerial records

### National classification and definitions

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

### Original data

Slovenia Forest Service reports, stand inventory data.

## Analysis and processing of national data

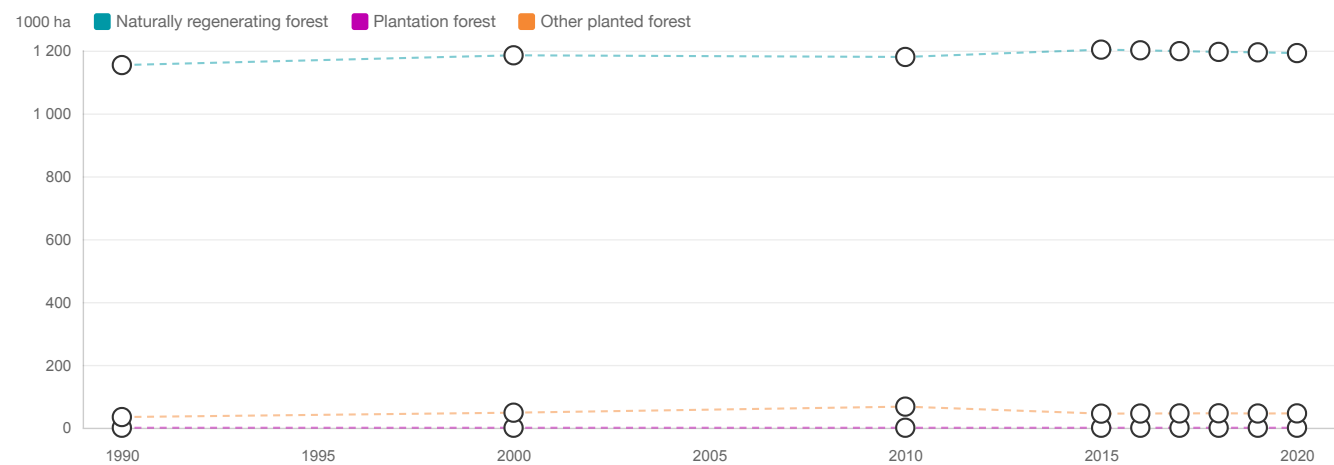
### Estimation and forecasting

No estimation or extrapolation.

### Reclassification into FRA 2020 categories

Approach applied to reporting on introduced/invasive species

Reference area for assessment (size of sample plot/average stand), ha:	Stand inventory (except <i>Ailanthus altissima</i> - expert survey (dr. Kutnar Lado and Slovenia Forest Service, 2013))
Reference period used to classify as “ <i>introduced</i> ” (years since introduction), years:	All not native species in Slovenian forests
Criteria or thresholds used to classify species as “ <i>invasive</i> ”:	Project Life Artemis (list of species, <a href="https://www.tujerodne-vrste.info/en/project-life-artemis/">https://www.tujerodne-vrste.info/en/project-life-artemis/</a> )



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	1 154.00	1 185.10	1 179.80	1 203.11	1 201.00	1 198.32	1 195.93	1 194.53	1 192.14
<b>Planted forest (b)</b>	<b>34.00</b>	<b>47.90</b>	<b>67.20</b>	<b>44.89</b>	<b>45.25</b>	<b>45.61</b>	<b>45.97</b>	<b>45.33</b>	<b>45.69</b>
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which introduced species	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	34.00	47.90	67.20	44.89	45.25	45.61	45.97	45.33	45.69
<b>Total (a+b)</b>	<b>1 188.00</b>	<b>1 233.00</b>	<b>1 247.00</b>	<b>1 248.00</b>	<b>1 246.25</b>	<b>1 243.93</b>	<b>1 241.90</b>	<b>1 239.86</b>	<b>1 237.83</b>
<b>Total forest area</b>	<b>1 188.00</b>	<b>1 233.00</b>	<b>1 247.00</b>	<b>1 248.00</b>	<b>1 245.97</b>	<b>1 243.93</b>	<b>1 241.90</b>	<b>1 239.86</b>	<b>1 237.83</b>

## Comments

Criteria for plantations in the past reporting was: heavily altered (planted) forests on compartment level. From FRA 2018 "Plantations" were counted as "Semi-natural". Definition of "Plantations", especially in regular spacing, does not valid for Slovenian forests.

In the past reporting in pan-European Questionnaire 2019 Excel tabel, part of "Semi-natural" forests were counted as "Plantations". Correction was made for the whole period, also in FRA reporting, where forests were counted as "Other planted forests". See FRA tabel 1b (Forest characteristics).

Species: Robinia pseudoaccacia (invasive) and Pinus nigra, Pinus strobus, Pseudotsuga menziesii, Quercus rubra (introduced).

No extrapolation for 2020.

## 1c Primary forest and special forest categories

### National Data

#### Data sources + type of data source eg NFI, etc

National forest inventory data (recent available year: 2018).

Actual land use map (ALUM); Ministry of Agriculture, Forestry and Food (<http://rkg.gov.si/GERKtest/WebViewner/>).

Slovenia Forest Service database, based on permanent sample plots and managerial records.

#### National classification and definitions

Primary forest are forest reserves, virgin forests (9508 ha) and protection forests without prescribed cut.

#### Original data

Slovenia Forest Service database, managerial records, Decree on protective forests and forests with a special purpose.

### Analysis and processing of national data

#### Estimation and forecasting

Area of forest reserves and virgin forests (9508 ha), as well as share of protection forests without prescribed cut will probably stay at this level also in the future.

#### Reclassification into FRA 2020 categories

No reclassification was done.

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	49.00	53.00	49.00	49.00	33.60
Temporarily unstocked and/or recently regenerated			44.90	44.90	44.80
Bamboos	0.00	0.00	0.00	0.00	0.00
Mangroves	0.00	0.00	0.00	0.00	0.00
Rubber wood	0.00	0.00	0.00	0.00	0.00

### Comments

Temporarily unstocked area is counted as juvenile phase in the process of natural regeneration, as well as in the event of catastrophic event.

Comment on trend in Primary forest: while forest reserves and virgin forest area stay the same through the reported periods, while protective forest without prescribed measures decrease is a result of reclassification into protective forest with approved (prescribed) measures (to increase protective forest function).

# 1d Annual forest expansion, deforestation and net change

## National Data

### Data sources + type of data source eg NFI, etc

Forest stand map, 2018 stand inventory.

Overgrowing areas map for 2015, mixed data sources.

Slovenia Forest Service report 2017, managerial records.

### National classification and definitions

Forest expansion area is defined as area in the process of transformation of non-forest use into forest land. After 20 years of first classification of forest expansion area and covering at least 70 % land area with trees higher than 5 m, land is transformed into forest land.

Deforestation area is area, legally changed from forest area to other land use.

### Original data

Slovenian Forest Service data on forest expansion and deforestation (database and spatial data).

Deforestation area:

year	ha
2008	137
2009	382
2010	383
2011	298
2012	287
2013	310
2014	219
2015	236
2016	217
2017	252
2018	258

## Analysis and processing of national data

### Estimation and forecasting

No estimation or forecasting was used. In the period 2015-2020, data on years from 2015 till 2018 (included) was used.

### Reclassification into FRA 2020 categories

Slovenia Forest Service operates with annual data on deforestation/forest expansion.

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)	4.50	1.78	0.50	0.00
...of which afforestation	0.00	0.00	0.00	0.00
...of which natural expansion	4.50	1.78	0.50	0.00
Deforestation (b)	0.00	0.38	0.30	2.03
Forest area net change (a-b)	<b>4.50</b>	<b>1.40</b>	<b>0.20</b>	<b>-2.03</b>

### Comments

Forest area net change between the periods 2010-2015 and 2015-2020 is aside to change in forest area in nature (see table in "Original data"), based also on change in national methodology. Data is based on the Forest stand map (Slovenia Forest service) and Land use map (Ministry of Agriculture, Forestry and Food). Area of forest: LU map, categories: 2000 (minus Pinus mugo stands), 1410, 1420 in 1500.

Change in forest land in years from 2004 on, is the result of not only the change in land use (deforestation and forest expansion), but also of the more detailed digitalized process of land use definition. Why this influence is seen in several years is that each year, 10 % of the countries forest management plans are renovated. Difference of deforestation area to change (or reduction) of forest land in recent years is therefore methodological.



# 1e Annual reforestation

## National Data

### Data sources + type of data source eg NFI, etc

Forest stand map, 2018 stand inventory.

Overgrowing areas map for 2015, mixed data sources.

Slovenia Forest Service report 2017, managerial records.

### National classification and definitions

Reforestation is re-establishment of forest stand on the forest land in regular procedure after final cut (if natural regeneratoin is not successful, or in addition to), after catastrophic event (windthrow, ice break, forest fire, bark beetle attack), or to improve semi-natural monospecies forest. Reforestation is done by seeds or saplings of domestic tree species in accordance with forest renovation plan, elaborated for individual event.

### Original data

Annual report on Slovenian forests.

## Analysis and processing of national data

### Estimation and forecasting

No estimation or forecasting was used. In the period 2015-2020, data on years from 2015 till 2018 (included) was used.

### Reclassification into FRA 2020 categories

Slovenia Forest Service operates with annual data on reforestation, decadal data was calculated for the table of "Annual reforestation".

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation		0.56	0.31	0.35

Comments

Also in the case of catastrophic events, natural regeneration is prime option. When not sufficient, reforestation is included using seed and/or saplings of known and approved origin from Slovenian forests (seed bank is runned by the Slovenian Forestry Institute).

# 1f Other land with tree cover

## National Data

### Data sources + type of data source eg NFI, etc

National forest inventory data (recent available year: 2018).

Actual land use map (ALUM); Ministry of Agriculture, Forestry and Food (<http://rkg.gov.si/GERKtest/WebViewr/>).

Slovenia Forest Service database, based on permanent sample plots and managerial records.

References to sources of information	Quality	Category	Year(s)	Type of inventory
Forest stand map (Slovenia Forest service)	H	all	2018	Stand inventory
Land use map ( Ministry of Agriculture, Forestry and Food)	H	all	2019	Mixed

### National classification and definitions

Land use classes: 1221, 1222, 1230, 1240

### Original data

Forest reserves (Regulation 2015), Protective forests (Regulation 2015) and Map of forest functions (defense function on 1.st degree).

## Analysis and processing of national data

### Estimation and forecasting

Assesment is based on data from Forest stand map (Slovenia Forest service) Land use map (Ministry of Agriculture, Forestry and Food). Other Wooded Land: LU map, cathegories: 1800, plus (added) Pinus mugo stands.

### Reclassification into FRA 2020 categories

No reclassification was used.

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Palms (a)	0.00	0.00	0.00	0.00	0.00
Tree orchards (b)					
Agroforestry (c)					
Trees in urban settings (d)					
Other (specify in comments) (e)	27.00	26.00	29.00	33.00	35.16
Total (a+b+c+d+e)	27.00	26.00	29.00	33.00	35.16
Other land area	785.00	743.00	742.00	743.00	748.75

Comments

Land use classes:

1221 - Intensive orchard

1222 - Extensive orchard or meadow orchard

1230 - Olive trees orchard

1240 - Other agricultural plantations

## 2 Forest growing stock, biomass and carbon

### 2a Growing stock

#### National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality	Category	Year(s)	Type of inventory	Additional comments
Kušar, G., Kovač, M. and Simončič, P. 2010 Chapter 33 - Slovenia. In National Forest Inventories - Pathways for Common Reporting. E. Tomppo, T. Gschwantner, M. Lavvrence and R.E. McRoberts (eds.), Springer, pp. 507-528.	H/M	all categories	2000, 2007, 2012, 2018	National forest inventory	The total number of NFI plots in 2018 was 759. The grid is 4 x 4 km.

#### National classification and definitions

Calculated growing stock presents stem volume over bark above stump height up to a stem top diameter of 7.0 cm and including branches with a diameter >= 7.0 cm

#### Original data

NFI

### Analysis and processing of national data

#### Estimation and forecasting

Extrapolation based on trend between the NFI 2007 and 2018. For GS of OWL the first measurements were done in 2018. To extrapolate the data for the years between the value taken from the literature (60) and true value from 2018 the polynomial function was used. For 2020 we assumed that the value will be the same as in 2018. Those values will be corrected in the next report when we will have measurments from two periods.

#### Reclassification into FRA 2020 categories

Minimum diamater used: 10 cm,

minimum top diameter used: 7 cm,

minimum branch diameter used: 7 cm,

volume above stump.

FRA categories	Growing stock m³/ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest									
Planted forest									
...of which plantation forest									
...of which other planted forest									
Forest	230.00	270.00	325.68	332.39	332.46	332.69	331.36	333.19	334.60
Other wooded land	60.00	60.00	60.00	60.00	51.09	42.79	37.43	37.64	37.56

FRA categories	Total growing stock (million m³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest									
Planted forest									
...of which plantation forest									
...of which other planted forest									
Forest	273.24	332.91	406.12	414.82	414.23	413.84	411.52	413.11	414.18
Other wooded land	2.46	2.28	1.50	1.38	1.22	1.06	0.96	1.00	1.03

## Comments

In NFI 2018 the OWL were estimated for the first time. In 2018 on grid 4 x 4 km only 7 plots were OWL plots.

In Slovenia forestry bases on the close-to-nature principle and sustainability. Based on the Slovenian forest service as many as 99.5 % of forests are regenerated naturally ([http://www.zgs.si/fileadmin/zgs/main/img/PDF/PDF\\_BROSURE/Brosura\\_ANGL.pdf](http://www.zgs.si/fileadmin/zgs/main/img/PDF/PDF_BROSURE/Brosura_ANGL.pdf) - page 6). Only exceptionally is forest regeneration carried out by planting seedlings or sowing seeds, which is only an addition to natural regeneration and is carried out in cases when in forests, damaged by the rigours of the weather. So if trees are planted it is often in the combination of natural regeneration.

## 2b Growing stock composition

### National Data

**Data sources + type of data source eg NFI, etc**

National Forest Inventories, years of inventory: 2000, 2007, 2012, 2018

**National classification and definitions**

Kušar, G., Kovač, M. and Simončič, P. 2010 Chapter 33 - Slovenia. In National Forest Inventories - Pathways for Common Reporting. E. Tomppo, T. Gschwantner, M. Lavvrence and R.E. McRoberts (eds.), Springer, pp. 507-528.

**Original data**

National forest inventory data.

### Analysis and processing of national data

**Estimation and forecasting**

The year and data reported for 2020		
How did you generate values for 2020	- the recent available year	<b>2018</b>
	- extrapolation	<b>based on trend between the NFI 2007 and 2018</b>
	- assessment based on:	<b>assessment based on forecast</b>

**Reclassification into FRA 2020 categories**

No reclassification was made.

FRA categories	Scientific name	Common name	Growing stock in forest (million m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#1 Ranked in terms of volume	Fagus sylvatica	Common Beech	85.70	105.40	126.56	134.79	139.92
#2 Ranked in terms of volume	Picea abies	Norway Spruce	90.10	111.20	126.54	123.14	117.14
#3 Ranked in terms of volume	Abies alba	Fir	26.80	30.80	31.65	31.98	32.36
#4 Ranked in terms of volume	Quercus petraea	Oak	16.00	16.90	22.85	22.58	21.85
#5 Ranked in terms of volume	Pinus sylvestris	Scots pine	13.30	13.60	17.18	16.91	15.98
#6 Ranked in terms of volume	Acer pseudoplatanus	Maple	6.40	10.80	13.44	14.65	15.44
#7 Ranked in terms of volume	Carpinus betulus	Hornbeam	7.10	5.40	9.05	9.61	9.89
#8 Ranked in terms of volume	Castanea sativa	Chestnut	4.20	5.00	6.63	6.64	6.54
#9 Ranked in terms of volume	Pinus nigra	Black pine	0.00	3.90	6.53	6.64	6.54
#10 Ranked in terms of volume	Ostrya carpinifolia	Hop Hornbeam	2.90	2.70	5.83	6.05	5.99
Remaining native tree species			20.80	27.10	39.87	41.84	42.51
Total volume of native tree species			273.30	332.80	406.13	414.83	414.16
Introduced tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
Remaining introduced tree species							



FRA categories	Scientific name	Common name	Growing stock in forest (million m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
Total volume of introduced tree species			–	–	–	–	–
Total growing stock			273.30	332.80	406.13	414.83	414.16

Comments

Year and data reported for 2020.

## 2c Biomass stock

### National Data

#### Data sources + type of data source eg NFI, etc

The data source is NFI 2000, 2007, 2012, 2018. The methods are described in the reference Kušar et al. 2010.

#### National classification and definitions

The above and below ground biomass was calculated based on the FRA biomass calculator. Input variable was the volume estimate of trees (VOB). VOB was calculated based on the methodology described in the growing stock section (tariff functions). The VOB includes the volume of stems (dbh  $\geq$  10 cm) and the volume of large branches ( $\geq$  7 cm).

The biomass of deadwood was calculated from the VOB of dead trees (standing and lying), stumps, snags, and wooden pieces. The minimum dbh is 10 cm and the length(height) 0.5 m. The VOB of trees is calculated in the same way as for living trees. For all other types of deadwood, the VOB is calculated with Huber's equation. VOB was multiplied with wood density.

#### Original data

In the current table the original data is for 2018. For other years the original data is for 2000, 2007, and 2012.

### Analysis and processing of national data

#### Estimation and forecasting

Estimation and forecasting were done based on the data from 2000, 2007, 2012 and 2018. For biomass (growing stock) the polynomial function (4th order) was used. For C in deadwood and biomass of dead wood also the polynomial function was used (3rd order).

#### Reclassification into FRA 2020 categories

As AGB the volume estimates of trees with dbh 10 cm and higher were used. The volumes were multiplied with BEF and WD. Also for BGB the tree volume estimates were used with a factor to assess the belowground biomass.

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	173.98	204.23	246.35	251.43	251.48	251.65	250.65	252.03	253.10
Below-ground biomass	38.72	45.46	54.83	55.96	55.97	56.01	55.79	56.09	56.33
Dead wood	6.40	7.51	9.54	10.82	11.02	11.38	11.64	12.08	12.44

Comments

## 2d Carbon stock

### National Data

#### Data sources + type of data source eg NFI, etc

References to sources of information	Quality	Category	Year(s)	Type of inventory	Additional comments
GFRA 2015 T1; (Global Forest Report 2015, 2010 –Country report Slovenia)	H	Table T1, Table T6, Table T7, Table T8	years applied: 2005, 2010, 2015	O- report	
Research study, M. Kobal, P. Simoncic. SFI, 2008	H	CILf CISf CILo CISo	2008 Years applied: 1990, 2000, 2005, 2010	O- research study	Data from CVPO (pedological map), BioSoil project plots (n=45), soil profiles for forest (skeleton - 30%), average slope derived from DTM.
2003 IPCC Good Practice Guidance for LULUCF	M	BEF, R, CC	1990, 2000, 2005 2010	O-report	Default carbon convention factor (0.5) - Equation 3.2.7, page 3.27.
2006 IPCC Guidelines for National Greenhouse Gas Inventories	M	WD	1990, 2000, 2005 2010	O- report	
NFI Slovenian Forestry Institute (SFI).	H	Dead wood stock composition (DWD)	2007, 2012, 2018 Applied: 1990, 2000, 2005 2010, 2015, 2020	NFI	

#### National classification and definitions

Category	Comments related to data, definitions, conversion factors used, etc.		Comments on trend(s)
Carbon stock in above-ground living biomass	<p>BEF (biomass expansion factor) and WD (wood density) factors are taken from literature that's why reliability of them is marked as »medium«.</p> <p>GS (growth stock), BEF, WD factors for OWL (other wood land) are constant for all reporting years because no other reliable data is available. For OWL the volume data are from 2018. Due to first measurement the extrapolation is not possible.</p>		<p>Biomass increasing is result of growing stock increasing due to growing stock accumulation and slightly increasing of the area of forests. BEF and WD factors are constant for all reporting years so they don't influence the trend.</p> <p>Biomass decreasing in OWL category is result of decreasing of OWL area and the change of methodology. The OWL was assessed first time in 2018 on 7 NFI plots.</p>
Carbon stock in below-ground living biomass	R, WD factors are taken from literature that's why reliability of them is marked as »medium«.		See »above-ground biomass« in this table.
Carbon stock in deadwood	<p>Dead wood definition includes stumps.</p> <p>Tree species composition in dead wood in OWL category is assumed to be the same as in forest category.</p>		
Carbon stock in litter	<p>ILf - average amount of carbon in litter for forest category (5.6 t/ha). Research study: M. Kobal, P. Simoncic. SFI, 2008; CILo - average amount of carbon in litter for OWL category (3.4 t/ha). Research study, M. Kobal, P. Simoncic. SFI, 2008</p>		
Carbon stock in soil	Soil depth:	<p>Soil depth: 50 cm</p> <p>CISf - average amount of carbon in soil for forest category (98.5 t/ha). Research study: M. Kobal, P. Simoncic. SFI, 2008</p> <p>CISo - average amount of carbon in soil for OWL category (103.3 t/ha). Research study: M. Kobal, P. Simoncic. SFI, 2008</p>	

Original data

National forest inventory data.

Analysis and processing of national data

Estimation and forecasting

The year and data reported for 2020		
How did you generate values for 2020:	- the recent available year	2018
	- extrapolation	based on trend between the NFI 2007 and 2018
	- assessment based on:	forecast

Reclassification into FRA 2020 categories

The C in AGB and BGB was calculated based on the FRA biomass calculator. For the biomass, the volume estimates of trees with dbh 10 cm and higher were used. For Carbon in litter and soil carbon values from the literature were used.

FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	81.77	95.99	115.78	118.17	118.20	118.28	117.80	118.45	118.96
Carbon in below-ground biomass	18.20	21.36	25.77	26.30	26.31	26.32	26.22	26.36	26.48
Carbon in dead wood	3.20	3.76	4.78	5.42	5.51	5.69	5.82	6.04	6.22
Carbon in litter	5.60	5.60	5.60	10.40	10.40	10.40	10.40	10.40	10.40
Soil carbon	98.50	98.50	98.50	103.30	103.30	103.30	103.30	103.30	103.30

Soil depth (cm) used for soil carbon estimates	30.00
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Comments

Extrapolation based on trend between the NFI 2007 and 2018 (recent available year), assessment based on forecast.

Forest land area: 1.237,830 ha.

## 3 Forest designation and management

### 3a Designated management objective

#### National Data

##### Data sources + type of data source eg NFI, etc

Slovenia Forest Service database and reports on forest management plans.

##### National classification and definitions

In Slovenia, there are three groups of forest functions; production, ecological and social functions.

Production function includes wood production, production of other forest products and hunting function. Forests with primary production function (with 1 degree) are forest with more than 5 m<sup>3</sup>/ha longterm wood production.

Ecological functions include protection of soil and water, biodiversity, protective function (and other). Function of protection

Social functions include recreational, touristic, research, natural and cultural heritage protection (and other).

Functions are mapped on three levels: first defines forest management, second influences, while third level functions has no influence on management.

##### Original data

Forest function map and database.

#### Analysis and processing of national data

##### Estimation and forecasting

Data on 2020 are from the year 2018.

##### Reclassification into FRA 2020 categories

No reclassification was done.

**Primary designated management objective**

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)		575.56	586.40	586.40	586.40
Protection of soil and water (b)		164.38	204.71	237.27	237.27
Conservation of biodiversity (c)		13.05	11.18	11.18	11.18
Social Services (d)		23.06	25.40	25.40	25.40
Multiple use (e)		456.95	419.31	387.75	377.58
Other (specify in comments) (f)		0.00	0.00	0.00	0.00
None/unknown (g)	1 188.00	0.00	0.00	0.00	0.00
Total forest area	1 188.00	1 233.00	1 247.00	1 248.00	1 237.83

**Total area with designated management objective**

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production		641.52	727.44	727.44	727.44
Protection of soil and water		181.87	237.27	237.27	237.27
Conservation of biodiversity		59.31	60.52	60.52	60.52
Social Services		113.66	143.02	143.02	143.02
Other (specify in comments)	69.70	135.40	237.20	257.00	244.53

**Comments**

For the table on **primary** designated management objective, function showed are linked to forest land area, exclusively on individual forest function on first degree, that is for example, when production function is covered on 575.56 ha (year 2000), no other function on first degree is present.

Protection function covers land area with defined protective function and hydrological function.

All forest land is defined with at least one function on any degree.

Category "other" represents area of Conservation of biodiversity together with area of MCPFE classes 1.1, 1.2, 1.3, that is including forest reserves, Triglav national park and Natura 2000 areas.

Forest functions area are defined in forest regional management plans, elaborated for the periods: 2001-2010 (data for the year 2000 and 2010), 2011-2020 (data in the table for the years 2015 and 2020).



Area of protection of soil and water is the area of protective forests and hydrological function.

## 3b Forest area within protected areas and forest area with long-term management plans

### National Data

#### Data sources + type of data source eg NFI, etc

References to sources of information	Quality	Category	Year(s)	Type of inventory
<b>Forest functions map</b>	<b>M</b>	<b>all</b>	<b>2011</b>	<b>Mixed</b>
<b>Slovenia forest service database</b>	<b>M</b>	<b>all</b>	<b>2017</b>	<b>Mixed</b>
<b>Regulation on protective forests and forest reserves</b>	<b>H</b>	<b>class 1.1</b>	<b>2015</b>	<b>Mixed</b>

#### National classification and definitions

Category	Comments related to data, definitions, etc.	Comments on trend(s)
General comment	<b>Natura 2000 area is covering large part of Slovenia. In this reporting is not separated from main categories MCPFE.</b>	
Explanation of how are NATURA 2000 areas classified:		
FOWL: MCPFE Class 1.1	<b>Forest reserves</b>	<b>Area Natura 2000 is included in area of forest reserves.</b>
FOWL: MCPFE Class 1.2	<b>First zone of Triglav National park</b>	<b>Area Natura 2000 is included in area of TNP.</b>
FOWL: MCPFE Class 1.3	<b>all areas with 1.st degree of biodiversity function</b>	<b>Area Natura 2000 is separated as 2nd degree of biod.function.</b>
FOWL: MCPFE Class 2	<b>all areas with 1.st degree of social functions</b>	<b>Area Natura 2000 is included in area of soc.functions.</b>

#### Original data

Slovenia forest service database, managerial plans, regulations.

### Analysis and processing of national data

#### Estimation and forecasting

The year and data reported for 2020		
Generated values for 2020:	- the recent available year	<b>2017</b>
	- extrapolation	<b>no</b>
	- assessment based on evidence (e.g. forecast, outlooks, national afforestation programmes, forest policy targets)	

#### Reclassification into FRA 2020 categories

No reclassification was made.

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas	69.70	135.40	237.20	257.00	250.77	244.53	244.53	244.53	244.53
Forest area with long-term forest management plan	1 188.00	1 233.00	1 243.00	1 247.00	1 245.97	1 243.93	1 241.90	1 239.86	1 237.83
...of which in protected areas	69.70	135.40	237.20	257.00	250.77	244.53	244.53	244.53	244.53

## Comments

All forest area is covered by the silvicultural detailed management plan, 10 year forest management unit plans (more than 220 of them) and 10 year regional management plans (14 of them).

## 4 Forest ownership and management rights

### 4a Forest ownership

#### National Data

**Data sources + type of data source eg NFI, etc**

Slovenia Forest Service. Internal data, land use map, cadastral data, 2016.

**National classification and definitions**

Public ownership represent state forests (1 holding, SIDG) and municipality forests, while

private ownership is property of private owners, agrarian communities and church (and their companies).

**Original data**

References to sources of information	Quality	Category	Year(s)	Type of inventory
Land use map	H	all	2016	Mixed
digital cadastral plans	H	all	2016	Mixed

#### Analysis and processing of national data

**Estimation and forecasting**

Decreasing trend in public ownership is due to the denationalization processes, majority of them are solved and final.

**Reclassification into FRA 2020 categories**

No reclassification was done.

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	718.09	835.52	931.59	947.48
...of which owned by individuals				
...of which owned by private business entities and institutions				
...of which owned by local, tribal and indigenous communities				
Public ownership (b)	469.91	397.48	315.41	290.35
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	10.17
Total forest area	1 188.00	1 233.00	1 247.00	1 248.00

## Comments

## 4b Holder of management rights of public forests

### National Data

#### Data sources + type of data source eg NFI, etc

Slovenia Forest Service. Internal data, land use map, cadastral data, 2016.

#### National classification and definitions

-

#### Original data

-

### Analysis and processing of national data

#### Estimation and forecasting

-

#### Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)				
Individuals (b)				
Private business entities and institutions (c)				
Local, tribal and indigenous communities (d)				
Unknown/other (specify in comments) (e)	469.91	397.48	315.41	290.35
Total public ownership	469.91	397.48	315.41	290.35

## Comments

Before 2016, Slovenia had a concession scheme of managing public forest. From 2016 on, state forestry company SiDG was established to manage public forests.

## 5 Forest disturbances

### 5a Disturbances

#### National Data

**Data sources + type of data source eg NFI, etc**

Reports are produced from the annual harvest records according to different agents (in m3 and number of felled trees); conversion to the surface of forests was done according to growing area of cut trees. Exception is forest fire report, where the damaged area is directly recorded and further reported. The annual average for the period 2013-2017 is given.

Reasons for sanitary cut are: insects, disease and fungi attack, wildlife, wind, snow, ice slet, avelange, forest fire, air pollution (local), forest operations, other/unknown. In FRA table, severe weather events include: wind, snow, ice, forest fire.

#	References to sources of information	Variable(s)	Year(s)	Additional comments
1	Natural and other disasters in RS– Annual Bulletin for 2003 in 2004 (Ministry of defence; <b>Administration of the Republic of Slovenia for Civil Protection and Disaster Relief</b> )	ha and numbers of fires for category “Total land area burned”	2003,2004	All fires in nature
2	SPIN - information system for the reporting of interventions of <b>Administration of the Republic of Slovenia for Civil Protection and Disaster Relief</b>	ha and numbers of fires for category “Total land area burned”	2005-2017	All fires in nature
3	Annual report of Slovenian Forest Service 2003-2017	ha and numbers of fires for forest fire (category “... of which forest area burned”)	2003-2017	
4	Annual report of Slovenian Forest service 2003-2017	m <sup>3</sup> of sanitary felling	2003-2012	Calculation of area (ha) from data of sanitary felling (m <sup>3</sup> )

**National classification and definitions**

Values of damaged area and wood from individual categories of disturbances are recognized and defined by Slovenia Forest Service. Each individual damaged tree is recorded with data on tree species, volume and reason for sanitary cut.

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.

**Original data**

Fires:

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

Other disturbances affecting forest health and vitality:

The original data has only number of cut trees and volume of total felling, divided to the cause of sanitary felling.

Sanitary felling in Slovenia for the period 2003 - 2017, by causes of felling in m3 (Annual report of Slovenia Forest Service):

#### Analysis and processing of national data

**Estimation and forecasting**



The figures are calculated from sanitary felling. Reports are produced from the annual harvest data according to different agents (in m<sup>3</sup> of felled trees); conversion to the surface of forests was done according to growing area of cut trees. Exception is forest fire report, where the damaged area is directly recorded and further reported. The annual average for the period 2013-2017 is given.

The damaged area has been significantly increased in the period 2013-2017 due to the 2014 ice storm and spruce bark beetle gradation 2015-2017.

Increased damages due to bark beetle in the period 2015-2017 as a secondary disturbance after ice break (2014).

In 2014, 52% of the forest area has been damaged by extreme ice storm. The sanitary felling was realized in the years 2014-2017. In December 2017, the forests were damaged by windstorm. The sanitary cut was realized mainly in 2018.

Other: Mostly dieback of trees caused by different agents (fir dieback, various diseases at broadleaves).

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

### **Reclassification into FRA 2020 categories**

The damages are dispersed through the forest, so the SFS can just calculate the reduce area from the number of trees and total felling volume. From that data we calculate an average volume tree for conifers and deciduous trees. The area that is adequate to each tree of definite volume and species was calculated from the Table values for the spruce  $SI_{100} = 30$  (site index – dominant height for 100 years old stand), the second production class, and for beech  $SI_{100} = 26$  (site index – dominant height for 100 years old stand), the second production class. If the volume of average tree is between two classes, we did interpolation. The calculated areas are net areas of affected forest.

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Insects (a)	0.46			0.54	0.76	0.98	0.93	0.68	0.42	0.34	0.31	0.32	0.32	0.47	0.56	2.35	3.06	2.38
Diseases (b)				0.22	0.22	0.20	0.22	0.20	0.22	0.25	0.23	0.30	0.31	0.20	0.18	0.18	0.20	0.24
Severe weather events (c)	0.49			0.44	0.31	0.29	0.37	0.53	0.81	0.66	0.33	0.19	0.26	0.68	5.90	3.06	1.92	0.62
Other (specify in comments) (d)				0.22	0.20	0.21	0.22	0.20	0.21	0.22	0.21	0.23	0.24	0.27	0.29	0.31	0.21	0.20
<b>Total (a+b+c+d)</b>	<b>0.95</b>	–	–	<b>1.42</b>	<b>1.49</b>	<b>1.68</b>	<b>1.74</b>	<b>1.61</b>	<b>1.66</b>	<b>1.47</b>	<b>1.08</b>	<b>1.04</b>	<b>1.13</b>	<b>1.62</b>	<b>6.93</b>	<b>5.90</b>	<b>5.39</b>	<b>3.44</b>
Total forest area	<b>1 233.00</b>	–	–	–	–	–	–	–	–	–	<b>1 247.00</b>	–	–	–	–	<b>1 248.00</b>	<b>1 245.97</b>	<b>1 243.93</b>

## Comments

Table values for the spruce SI<sub>100</sub> = 30 (site index – dominant height for 100 years old stand), the second production class, and for beech SI<sub>100</sub> = 26 (site index – dominant height for 100 years old stand), the second production class.

Conifers SI = 30			Deciduous SI = 26		
No. of trees	Volume m3	Average tree volume m3	No. of trees	Volume m3	Average tree volume m3
2140	361	0,17	1645	310	0,19
1850	402	0,22	1425	334	0,23
1623	442	0,27	1253	355	0,28
1442	479	0,33	1115	375	0,34
1295	513	0,40	1002	395	0,39
1173	547	0,47	908	414	0,46
1071	578	0,54	830	431	0,52
984	607	0,62	764	448	0,59
910	634	0,70	706	464	0,66
846	661	0,78	657	479	0,73
790	685	0,87	613	494	0,81
741	709	0,96	575	509	0,89
679	731	1,08	542	522	0,96
659	752	1,14	512	535	1,04
624	772	1,24	485	548	1,13
593	791	1,33	461	560	1,21
565	809	1,43	439	572	1,30

539	826	1,53		516	843	1,63
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## 5b Area affected by fire

### National Data

#### Data sources + type of data source eg NFI, etc

Annual reports on Slovenian forests by Slovenia Forest Service.

#### National classification and definitions

Definitions on forest and other forest land, or non-forest land, as well as spatial data and forest mask are used in forest fire records.

#### Original data

Forest fire area on forest and non-forest land is reported by the Slovenia Forest Service, with data on type of forest, number of forest fires and damaged surface, divided on private and public land. Also is recorded reason for the fire.

### Analysis and processing of national data

#### Estimation and forecasting

No estimations were done.

#### Reclassification into FRA 2020 categories

No reclassifications.

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total land area affected by fire	0.30		0.16	2.10	0.14	0.28	1.40	0.12	0.08	0.20	0.12	0.29	1.01	0.10	0.02	0.10	0.53	0.44
...of which on forest	0.30		0.08	1.59	0.08	0.14	1.02	0.10	0.05	0.11	0.05	0.16	0.61	0.07	0.02	0.06	0.53	0.18

Comments

5c Degraded forest

Does your country monitor area of degraded forest		No
If "yes"	What is the national definition of "Degraded forest"?	
	Describe the monitoring process and results	

Comments

## 6 Forest policy and legislation

### 6a Policies, Legislation and national platform for stakeholder participation in forest policy

#### National Data

##### Data sources + type of data source eg NFI, etc

Official Gazette of Republic of Slovenia for legislations, ministerial web pages on general informations on importance of forestry in the country and information on stakeholder participation in creation of forest management plans, Slovenia Forest Service web page with notifications, informations and warnings regarding forest management.

##### National classification and definitions

National Forest Program, adopted by the Resolution on the National Forest Program (Official Gazette of RS, no. [111/07](#)), is a fundamental strategic document aimed at establishing a **national policy of sustainable development of forests**. National Forest Program ensures the implementation of commitments of sustainable management and environmental importance of forests by the Republic of Slovenia at the global and regional levels. Based primarily on dialogue directed in sustainable forest management with **multiple stakeholders**, its expertise for the national forest program was created by the Slovenia Forest Service, the proposal of a national forest program was drawn up by the ministry responsible for forestry, following the preliminary examination, which included the interested public, and adopted by the National Assembly proposal of the Government of the Republic of Slovenia.

The Law on Forests (Official Gazette of RS, Nos. [30/93](#) , [56/99](#) - ZON, [67/02](#) , [110/02](#) - ZGO-1 [115/06](#) - ORZG40, [110/07](#) , [106/10](#) , [63/13](#) , [101/13](#) - ZDavNepr, [17/14](#) , [24/15](#) , [9/16](#) - ZGGLRS and [77/16](#)) regulates the protection, cultivation, exploitation and use of forests and disposal of forests as a natural resource with the aim to ensure sustainable sustainable and multipurpose management in accordance with the principles of environmental protection and natural values, **permanent** and optimal functioning of forests as ecosystems and the exercise of their functions. Article 14 defines that at the beginning of the preparation of forest management plan, Slovenia Forest Service **informs the forest owners and the public**, which, during the preparation of the draft, make their suggestions.

Law on Forests (article 1a.) also regulates the implementation of Regulation (EU) No. 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place on the **market timber and timber products** (no. 295 dated 12. 11. 2010, p. 23) and Commission Implementing Regulation (EU) No. 607/2012 of 6 July 2012 on detailed rules concerning the diligence system and the frequency and type of inspection monitoring organizations as provided for in Regulation (EU) No. 995/2010 of the European Parliament and of the Council laying down the obligations of operators who place on the market timber and timber products (no. 177 dated 7. 7. 2012, p. 16) .

##### Original data

-

Indicate the existence of	Boolean (Yes/No)	
	National	Sub-national
Policies supporting SFM	Yes	No
Legislations and regulations supporting SFM	Yes	No
Platform that promotes or allows for stakeholder participation in forest policy development	Yes	No
Traceability system(s) for wood products	Yes	No

Comments



6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	No					

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

Statistical Office of the Republic of Slovenia (databases)

National classification and definitions

-

Original data

-

FRA 2020 categories	Full-time equivalents (1000 FTE)											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Employment in forestry and logging	6.10			3.47	0.50	2.97	3.40	0.63	2.77	3.63	0.13	3.50
...of which silviculture and other forestry activities												
...of which logging												
...of which gathering of non wood forest products												
...of which support services to forestry												

Comments

## 7b Graduation of students in forest-related education

### National Data

#### Data sources + type of data source eg NFI, etc

Biotechnical faculty annual reports 2014, 2015 and 2016 (<http://www.bf.uni-lj.si/dekanat/porocila/letna-porocila/>), and their database on students (archive).

#### National classification and definitions

-

#### Original data

Data on number of students; 3 year average for 2015 contains years 2014, 2015 and 2016.

FRA 2020 categories	Number of graduated students											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Doctoral degree				2.00	0.00	2.00	2.00	1.00	1.00	5.00	1.00	4.00
Master's degree				16.00	4.00	12.00	21.00	7.00	14.00	25.00	6.00	19.00
Bachelor's degree				0.00	0.00	0.00	33.00	7.00	26.00	43.00	10.00	33.00
Technician certificate / diploma				40.00	1.00	39.00	0.00	0.00	0.00	0.00	0.00	0.00
Total				58.00	5.00	53.00	56.00	15.00	41.00	73.00	17.00	56.00

### Comments

The total numbers for Master's degree of years 1990, 2000 and 2010 include the 3 year average of graduates of Undergraduate Academic Study Program of Forestry, while for the year 2015 numbers include also the graduates of 2nd level Master Study (the same level of qualification).

The total numbers for Bachelor's degree of years 2010 and 2015 includes the 3 year average of graduates of Undergraduate Professional Study Program of Forestry and graduates of 1st level Bachelor's Study (Academic and Professional)

## 7c Non wood forest products removals and value 2015

### National Data

#### Data sources + type of data source eg NFI, etc

Slovenian Environment Agency-data on purchase of wild mushrooms, and Report on work of Slovenia Forest Service for 2017 and 2018.

#### National classification and definitions

Honey: Data on wild honey is not included anymore as honey produced by wild bees is not represented in statistics in Slovenia. Only domesticated bees in hives are being bred.

Gamemeat: Total harvested quantity refers to harvest by both, local hunting associations and state hunting reserves. Officially data on quantity and value of marketed game meat is available only for state hunting reserves (n LPN=12). The rest of game meat is harvested by local hunting associations (n=408), where some game meat is purchased by hunters themselves, given to hunters as compensation for their work done in hunting areas (e.g. maintenance of grasslands, fields, hunting infrastructure, harvesting hay for winter feeding, remediation works on damaged private agricultural lands), or sold to others. There is no comprehensive synthesis data available as hunting associations are concessionaires and are obliged to report only on overall yearly revenue, which is the basis for setting the yearly concession fee paid to the state.

Trophies: Officially data on value of marketed trophies is available only for state hunting reserves and in addition only for the monetary value and not also for the quantity. Trophies are defined as males of age of 2 y. and more.

Christmastrees: Total harvested quantity refers to the number of permit stickers issued by Slovenia Forest Service. Data on quantity and value of marketed Christmas trees is not available. Wholesalers and retailers selling trees do not report on data separately on imported and domestic trees. Value of Christmas tree is estimated on 10€/piece.

Mushroom picking: An important characteristic of wild mushroom market is a substantial (probably prevailing) share of unrecorded sales and use for self-subsistence. Thus data on total production is not available and we report only on recorded purchase by registered purchasers (processors and end-users).

#### Original data

References to sources of information	Quality	Category	Year	Type of inventory	Additional comments
Slovenian Environment Agency; data on purchase of wild mushrooms	M/L	1	2015	Other	Data on quantity of marketed mushrooms is obtained from the report of purchase of mushrooms by registered purchasers in Slovenia for 2015 (acc. to the Decree on the protection of wild fungi, no. 57/1998). Source: Data on wild fungi purchase ( <a href="http://www.arso.gov.si/narava/rastlinske%20vrste/trgovanje%20z%20glivami/Gobe_odkupi_1994_2013_ARSOcorr.pdf">http://www.arso.gov.si/narava/rastlinske%20vrste/trgovanje%20z%20glivami/Gobe_odkupi_1994_2013_ARSOcorr.pdf</a> ). Only quantity is reported, the average price per kg is an estimate and of low/medium quality (=10EUR/kg). Note that there is a fair share of unreported sales of mushroom.
Report on work of Slovenia Forest Service for 2018	H/M	6	2018	Managerial records	Data on the number of Christmas trees is obtained from Slovenia Forest Service's report ( <a href="http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html">http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html</a> ), where the number of permit stickers (one per tree) is reported. Each tree harvested for ornamental purposes has to be marked with a sticker in order the harvest to be legal. Source: Report on work of Slovenia Forest Service ( <a href="http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html">http://www.zgs.gov.si/slo/zavod/informacije-javnega-znacaja/letna-porocila/index.html</a> ).
Report on work of Slovenia Forest Service for 2017	M	10,12	2017	Managerial records	<a href="http://www.zgs.si/fileadmin/zgs/main/img/PDF/LETNA_POROCILA/2017_Financno_porocilo.pdf">http://www.zgs.si/fileadmin/zgs/main/img/PDF/LETNA_POROCILA/2017_Financno_porocilo.pdf</a>

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	wildhoney					11 Wild honey and bee wax
#2	gamemeat	red, roe and fallow deer, chamois, mouflon, bear, hare, pheasant, wildboar		tons	891	12 Wild meat
#3	Trophies	bear, fallow red deer, chamois, mouflon,wildboar		no.	444	10 Hides skins and trophies
#4	Christmastrees	Norway spruce, Scots pine, white fir	21 495	no.	215	6 Ornamental plants
#5	Mushroom	edible mushrooms	37	tons	370	1 Food
#6						
#7						
#8						
#9						
#10						
All other plant products						
All other animal products						
Total					1 920	

Name of currency	EUR
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Comments



8 Sustainable Development Goal 15

8a Sustainable Development Goal 15

SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

Indicator	Percent							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area as proportion of total land area 2015	61.22	61.92	61.97	61.87	61.76	61.66	61.56	61.46

Name of agency responsible	Slovenia Forest Service and Ministry for Agriculture, Forestry and Food.
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SDG Indicator 15.2.1 Progress towards sustainable forest management

Sub-Indicator 1	Percent						
	2000-2010	2010-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Forest area annual net change rate	0.11	0.02	-0.16	-0.16	-0.16	-0.16	-0.16

Name of agency responsible	Slovenia Forest Service and Ministry for Agriculture, Forestry and Food.
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Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	204.23	246.35	251.43	251.48	251.65	250.65	252.03	253.10

Name of agency responsible	Slovenia Forest Service, Slovenian Forestry Institute
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Sub-Indicator 3	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area located within legally established protected areas	10.85	19.01	20.59	20.09	19.59	19.59	19.59	19.59

Name of agency responsible	Slovenia Forest Service and Ministry for Agriculture, Forestry and Food.
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Sub-Indicator 4	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area under long-term forest management plan	98.80	99.60	99.92	99.84	99.67	99.51	99.35	99.19

Name of agency responsible	Slovenia Forest Service and Ministry for Agriculture, Forestry and Food.
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Sub-Indicator 5	Forest area (1000 ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area under independently verified forest management certification schemes	0.00	212.10	294.01	293.22	297.26	301.08	—	—