



Food and Agriculture
Organization of the
United Nations

Global Forest Resources Assessment 2020

Report

Bulgaria

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

Forested areas in Bulgaria occupy about one third of the country territory or 36% of the territory. Recently broadleaved forests account for 72% of the forest area, and coniferous forests account for 28% of the area. Forests are crucial for the supply of various ecosystem services, such as drinking water supply, erosion control, climate regulation, timber and non-wood resources, conservation of biodiversity and territories for tourism and recreation.

The growing stock of Bulgarian forests has almost tripled from the 1960s and now amounts to about 680 million m3. A significant part of the Bulgarian forest regenerates naturally. Afforestation is applied less and less in state-owned forests due to lack of financing, low wages, absence of sufficient number of workers etc.

Three quarters of the forests are state owned, while the balance is owned by individuals, municipalities, and institutions.

Bulgarian forests are managed in accordance to forest management plans and programmes which provide guidance on management and set the quantity of wood from forests to be used over a period of 10 years ahead. The design of forestry plans and programmes follows the principles of sustainable forest management.

Bulgarian forests have outstanding biodiversity with the vascular flora consisting of 4,102 species. This sets the country as one of the richest in biodiversity in Europe. A large proportion of Bulgarian forests is included in the extensive network of protected areas, which consists of 11 Nature parks, 3 National parks, and 55 strict nature reserves and largely overlaps with the network of NATURA 2000 protected areas, which cover about 34% of the territory of the country. More than 55 % of the forest areas are included in these protected areas, which set specific requirements for their management directed toward protection of the natural environmental conditions and species composition.

The forests of Bulgaria are perceived by the Bulgarian society as part of national wealth and national identity. This perception has its own explanation and lies in the over hundred years old traditions related to the administration and management of forests.

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 fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

National class	Definition
Forest	All the area covered with trees higher than 5m, with canopy cover of more than 10 percent and spanning more than 0.1 hectares
Other wooded land	with trees higher than 5 meters with a combined cover of shrubs, bushes and trees above 10 percent and spanning more than 0.1 hectares
Other land	All the area not covered by forest or water

Original data

FRACategories	Area (1000 hectares)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest	3327.027	3375.117	3737.542	3833.640	3840.947	3853.608	3867	3880	3893
Other wooded land	130.08	104.73	23.757	24.018	24.018	24.018	24.018	24.018	24.018
Other land	7398.89	7376.15	7094.701	6998.342	6991.035	6978.374	6965	6952	6939

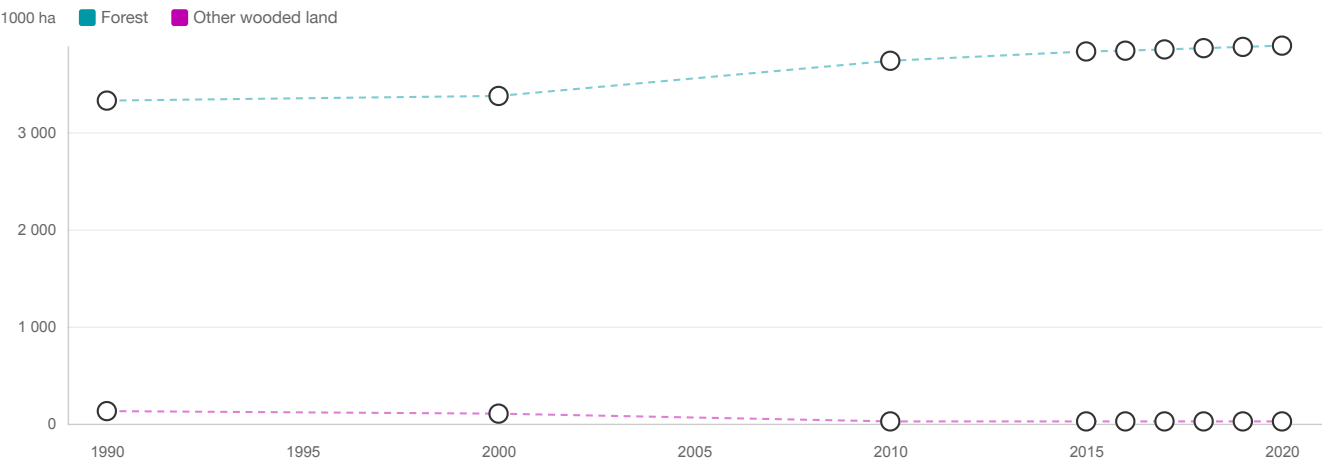
Analysis and processing of national data

Estimation and forecasting

Forecasting using linear interpolation for 2018,2019,2020

Reclassification into FRA 2020 categories

No need for reclassification



FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	3 327.00	3 375.00	3 737.00	3 833.00	3 841.00	3 854.00	3 867.00	3 880.00	3 893.00
Other wooded land (a)	130.00	104.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
Other land (c-a-b)	7 399.00	7 377.00	7 095.00	6 999.00	6 991.00	6 978.00	6 965.00	6 952.00	6 939.00
Total land area (c)	10 856.00	10 856.00	10 856.00	10 856.00	10 856.00	10 856.00	10 856.00	10 856.00	10 856.00

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	98.00	
Sub-tropical	2.00	
Tropical	0.00	

Comments

For 2015 new data are available

1b Forest characteristics

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the **Executive Forest Agency (EFA)** for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

The same as FRA categories

National class	Definition
Naturally regenerated forests	Forest predominantly composed of trees established through natural regeneration.
Planted forests	Forest composed of trees established through planting and/or deliberate seeding.

Original data

	1990	2000	2010	2015	2016	2017
naturally regenerated forests	2295 027	2442 083	2920 555	3009823	3023519	3046573
Planted forests	1032000	933.034	816.987	823.817	817.428	807.035

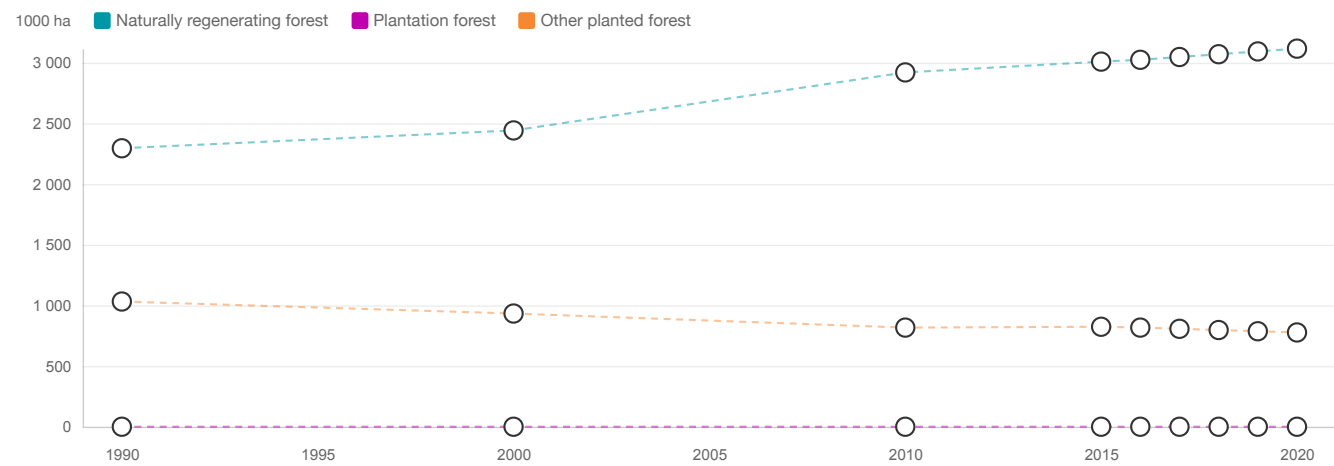
Analysis and processing of national data

Estimation and forecasting

2018, 2019, 2020 - linear extrapolation

Reclassification into FRA 2020 categories

not needed



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	2 295.00	2 442.00	2 920.00	3 009.00	3 024.00	3 047.00	3 070.00	3 093.00	3 116.00
Planted forest (b)	1 032.00	933.00	817.00	824.00	817.00	807.00	797.00	787.00	777.00
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	1 032.00	933.00	817.00	824.00	817.00	807.00	797.00	787.00	777.00
Total (a+b)	3 327.00	3 375.00	3 737.00	3 833.00	3 841.00	3 854.00	3 867.00	3 880.00	3 893.00
Total forest area	3 327.00	3 375.00	3 737.00	3 833.00	3 841.00	3 854.00	3 867.00	3 880.00	3 893.00

Comments

All the plantation forests matching FRA definition belong to agricultural fund, but not to forest fund.

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

The same as FRA definition

Original data

the same as FRA

Analysis and processing of national data

Estimation and forecasting

2020 - an expert prognosis

Reclassification into FRA 2020 categories

not needed

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	157.00	270.00	597.00	704.00	704.00
Temporarily unstocked and/or recently regenerated					
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

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

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National classification and definitions

The same as FRA

Original data

year	afforestation
1990	6.65
1991	3.75
1992	2.27
1993	1.89
1994	2.61
1995	2.58
1996	2.26
1997	3.00
1998	1.93
1999	2.46
2000	2.30
2001	2.51
2002	4.20
2003	4.89
2004	4.07
2005	2.59
2006	1.95
2007	1.95
2008	2.37
2009	2.59
2010	1.12
2011	0.72
2012	0.44
2013	0.55

2014	0.70
2015	0.12
2016	0.82
2017	0.48
2018	
2019	
2020	

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)	4.80	36.20	19.20	12.00
...of which afforestation	2.90	2.94	0.40	0.10
...of which natural expansion	1.90	33.26	18.80	11.90
Deforestation (b)	0.00	0.00	0.00	0.00
Forest area net change (a-b)	4.80	36.20	19.20	12.00

Comments

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

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National classification and definitions

The same as FRA

Original data

year	reforestation
1990	26.71
1991	17.96
1992	14.28
1993	11.85
1994	10.66
1995	9.16
1996	10.50
1997	10.22
1998	7.51
1999	7.74
2000	6.31
2001	5.36
2002	7.13
2003	8.38
2004	7.53
2005	5.40
2006	4.59
2007	3.22
2008	4.04
2009	3.82
2010	1.73
2011	1.50
2012	1.12
2013	1.25

2014	1.51
2015	2.64
2016	2.50
2017	1.80
2018	1.50
2019	1.50
2020	1.50

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation	126.59	55.78	7.11	11.44

Comments

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

official report of the
Ministry of agriculture and food supply
("Agrostatistics - BANSIK - final results
for the employment and land use in
Bulgaria"), Annual agricultural report and National statistics by the National statistical institute

National classification and definitions

Tree orchards on agricultural land

Original data

the same as FRA

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

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)		99.00	73.00	83.00	
Agroforestry (c)					
Trees in urban settings (d)					
Other (specify in comments) (e)					
Total (a+b+c+d+e)	0.00	99.00	73.00	83.00	0.00
Other land area	7 399.00	7 377.00	7 095.00	6 999.00	6 939.00

Comments

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication. Growing stock is estimated every 5 years - 2000/2005/2010, etc.

National classification and definitions

Growing stock definition in the country - Volume over bark of all living trees higher than 3m with branches

Original data

The data according to the category "naturally regenerated forests" are not available. The data for growing stock of coniferous are over bark and for broadleaves are under bark.

Analysis and processing of national data

Estimation and forecasting

The data are available every 5 years. Extrapolation is applied.

Reclassification into FRA 2020 categories

no

FRA categories	Growing stock m³/ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	122.00	155.88	172.69	177.46	180.99	184.99	188.99	192.99	196.99
Planted forest	122.00	156.00	174.00	176.87	181.00	185.53	189.00	193.00	196.99
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	122.00	156.00	174.00	176.87	181.00	185.53	189.00	193.00	196.99
Forest	122.00	156.00	173.00	177.50	181.00	185.00	189.00	193.00	197.00
Other wooded land									

FRA categories	Total growing stock (million m³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	279.99	380.66	504.25	533.98	547.31	563.66	580.20	596.92	613.82
Planted forest	125.90	145.55	142.16	145.74	147.88	149.72	150.63	151.89	153.06
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	125.90	145.55	142.16	145.74	147.88	149.72	150.63	151.89	153.06
Forest	405.89	526.50	646.50	680.36	695.22	712.99	730.86	748.84	766.92
Other wooded land									

Comments

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

ational forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication. Growing stock is estimated every 5 years - 2000/2005/2010, etc.

National classification and definitions

Growing stock definition in the country - Volume over bark of all living trees higher than 3m with branches.

In *Populus sp.* in **introduced tree species** category, *Populus nigra* and *Populus alba*, which are native to Bulgaria are also included. No separate data about their growing stock exists, but the stands are not very big.

Original data

The data for growing stock of coniferous are over bark and for broadleaves are under bark

Analysis and processing of national data

Estimation and forecasting

2020 - extrapolation

Reclassification into FRA 2020 categories

no

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	Beech	107.30	130.10	154.60	164.80	175.00
#2 Ranked in terms of volume	Pinus sylvestris	Scots pine	85.20	114.40	138.00	144.00	150.00
#3 Ranked in terms of volume	Quercus sp.	Oak	63.90	76.90	93.20	95.60	98.00
#4 Ranked in terms of volume	Pinus nigra	Black pine	22.00	53.60	70.20	73.90	77.60
#5 Ranked in terms of volume	Picea abies	Norway spruce	35.10	42.60	55.30	59.80	64.30
#6 Ranked in terms of volume	Quercus cerris	Bitter oak	25.80	32.50	44.80	47.20	49.60
#7 Ranked in terms of volume	Carpinus betulus	Hornbeam	23.90	20.50	24.80	27.10	29.40
#8 Ranked in terms of volume	Abies alba	Silver fir	10.40	10.80	13.20	14.80	16.40
#9 Ranked in terms of volume	Tilia sp.	Lime	6.30	8.20	11.20	14.20	17.20
#10 Ranked in terms of volume	Pinus peuce	Balkan pine	3.70	4.10	4.40	4.50	6.20
Remaining native tree species			19.19	29.36	31.00	27.86	75.00
Total volume of native tree species			402.79	523.06	640.70	673.76	758.70
Introduced tree species							
#1 Ranked in terms of volume	Pseudotsuga douglasii	Douglas fir	1.00	1.50	2.80	3.90	5.00
#2 Ranked in terms of volume	Populus sp.	Poplars	2.00	1.80	2.80	2.70	2.60
#3 Ranked in terms of volume	Larix europaea	Larch	0.10	0.12	0.14	0.14	0.14
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							

FRA categories	Scientific name	Common name	Growing stock in forest (million m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
Remaining introduced tree species							
Total volume of introduced tree species			3.10	3.42	5.74	6.74	7.74
Total growing stock			405.89	526.48	646.44	680.50	766.44

Comments

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

National forest fund
report - Growing stock;

IPCC Guidelines for
National Greenhouse
Gas Inventories

National classification and definitions

The same as FRA Category

Original data

Growing stock

Analysis and processing of national data

Estimation and forecasting

Insert the percentages of Growing stock by IPCC forest type for each of the FRA forest categories									
IPCC forest types	FRA forest categories								
	Naturally regenerating forest	Plantation forest	Other planted forest						
	% of Growing stock								
Broadleaved	74%	0%	5%						
Pine	10%	0%	91%						
Other coniferous	16%	0%	4%						
	100%	0%	100%	Must add up to 100%					
Insert Carbon fraction used by country (IPCC default = 0.47)									
Carbon Fraction	47%								
Biomass conversion and expansion factors (BCEF)									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020

Broadleaved	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Pine	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Other coniferous	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Plantation forest									
Broadleaved	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Pine	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Other coniferous	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Other planted forest									
Broadleaved	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Pine	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Other coniferous	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Weighted BCEF									
Naturally regenerating forest	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Plantation forest									
Other planted forest	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Root-shoot ratios									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved	0.23	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Pine	0.29	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Other coniferous	0.29	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Plantation forest									
Broadleaved	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Pine	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Other coniferous	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Other planted forest									
Broadleaved	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Pine	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Other coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Weighted RS ratio									

Naturally regenerating forest	0.25	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Plantation forest									
Other planted forest	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Above-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	117.79	150.50	166.73	171.34	174.75	178.61	182.47	186.33	190.19
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	87.71	112.15	125.09	127.15	130.12	133.38	135.87	138.75	141.62
Total	108.46	139.90	157.63	161.84	165.25	169.14	172.87	176.68	180.50
Below-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	28.86	34.50	38.22	39.27	40.05	40.94	41.82	42.71	43.59
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	25.10	32.10	35.81	36.40	37.25	38.18	38.89	39.72	40.54
Total	27.70	33.83	37.69	38.65	39.45	40.36	41.22	42.10	42.98

Reclassification into FRA 2020 categories

no

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	108.46	139.90	157.63	161.84	165.25	169.14	172.87	176.68	180.50
Below-ground biomass	27.70	33.83	37.69	38.65	39.45	40.36	41.22	42.10	42.98
Dead wood									

Comments

In the above table million metric tonnes oven-dry weight are reported - no other data are available.

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

National forest fund
report - Growing stock;

IPCC Guidelines for
National Greenhouse
Gas Inventories

National classification and definitions

The same as FRA

Original data

Growing stock

Analysis and processing of national data

Estimation and forecasting

see Table 2c

Reclassification into FRA 2020 categories

see Table 2c

FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	50.98	65.75	74.09	76.06	77.67	79.49	81.25	83.04	84.83
Carbon in below-ground biomass	13.02	15.90	17.71	18.17	18.54	18.97	19.37	19.79	20.20
Carbon in dead wood									
Carbon in litter	6.12	7.89	8.89	9.13	9.32	9.54	9.75	9.96	10.18
Soil carbon									

Soil depth (cm) used for soil carbon estimates	
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Comments

Carbon in litter was calculated as 12% from the Carbon in above ground biomass as suggested by the reviewer.

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

National class	Definition
Wood production forests	Forests with primary function for wood production
Protective forests	Forests with protective functions including water protecting forests; erosion preventing; irrigation (forest belts)
Protected forests	Natural reserves, national parks, protected areas, historical places, protected landscapes, natural sightseeing
Recreational forests	resort forests and areas and forest parks outside settlements (forests with social functions)

Original data

National class	1990	2000	2010	2015
Wood production forests	2364.539	2258.312	2386.927	1495.701
Protective forests	430.253	432.955	438.901	359.556
Protected forests	131.551	245.159	571.744	704.196
Recreational forests	221.615	222.757	219.397	224.965

Analysis and processing of national data

Estimation and forecasting

expert assumption

Reclassification into FRA 2020 categories

	Production	Protection of soil and water	Conservation of biodiversity	Social services
Wood production forests	100%			
Protective forests		100%		
Protected forests			100%	
Recreational forests				100%

The rest of forests are with multiple use.

Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	2 365.00	2 258.00	2 387.00	1 496.00	1 500.00
Protection of soil and water (b)	430.00	433.00	439.00	359.00	365.00
Conservation of biodiversity (c)	132.00	245.00	572.00	704.00	704.00
Social Services (d)	222.00	222.00	219.00	225.00	225.00
Multiple use (e)	178.00	217.00	120.00	1 049.00	1 099.00
Other (specify in comments) (f)	0.00	0.00	0.00	0.00	0.00
None/unknown (g)	0.00	0.00	0.00	0.00	0.00
Total forest area	3 327.00	3 375.00	3 737.00	3 833.00	3 893.00

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production	2 365.00	2 258.00	2 387.00	1 496.00	1 500.00
Protection of soil and water					
Conservation of biodiversity	132.00	245.00	572.00	704.00	704.00
Social Services	7.00				
Other (specify in comments)					

Comments

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

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

The same as FRA

Original data

National class	1990	2000	2010	2015
Protected forests	131.551	245.159	571.744	704.196

Analysis and processing of national data

Estimation and forecasting

expert assumption for 2016, 2017, 2018, 2019 and 2020

Reclassification into FRA 2020 categories

no

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas	132.00	245.00	572.00	704.00	704.00	704.00	704.00	704.00	704.00
Forest area with long-term forest management plan	3 327.00	3 230.00	3 595.00	3 673.00	3 680.00	3 693.00	3 707.00	3 720.00	3 733.00
...of which in protected areas	132.00	100.00	430.00	544.00	544.00	544.00	544.00	544.00	544.00

Comments

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

The same as FRA

Original data

FRA 2010 categories	National categories							
	Public ownership	Community/municipality/ ownership	Forests belonging to Ministry of Environment and Water	“Agricultural” forest fund	Educational and experimental forests	Private individuals	Private legal entities	Religious institutions
Public ownership	100%	100%	100%	100%	100%			
Private ownership						100%	100%	100%
...of which owned by individuals						100%		
...of which owned by private business entities and institutions							100%	100%
...of which owned by local communities								
...of which owned by indigenous / tribal communities								
Other types of ownership								

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	0.00	283.00	451.00	468.00
...of which owned by individuals	0.00	264.00	405.00	411.00
...of which owned by private business entities and institutions	0.00	19.00	46.00	57.00
...of which owned by local, tribal and indigenous communities	0.00	0.00	0.00	0.00
Public ownership (b)	3 327.00	3 092.00	3 286.00	3 365.00
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	0.00
Total forest area	3 327.00	3 375.00	3 737.00	3 833.00

Comments

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

EFA information system

National classification and definitions

FRA definitions

Original data

Contracts with the leased territories /public forests/.

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)	3 327.00	3 092.00	3 042.00	3 016.00
Individuals (b)	0.00	0.00	0.00	0.00
Private business entities and institutions (c)	0.00	0.00	244.00	349.00
Local, tribal and indigenous communities (d)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (e)	0.00	0.00	0.00	0.00
Total public ownership	3 327.00	3 092.00	3 286.00	3 365.00

Comments

The right to manage and use publicly owned forests for a 10-years period may be given to private business entities since 2010.

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

National forest information system. The data are reported by Forest Protective Stations annually in in decars 1 ha is =10 decars based on the professional estimate by local foresters.

National classification and definitions

The same as FRA

Original data

		Forest area damaged, dec																		
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
	Insects	1677780	1308566	795380	924428	1002635	704121	612936	657929	680989,5	1102232	972888	746034	566992	559116	409032	299966,4	458836,2	405 378	
	Diseases	285043	491226	534212	404069	364241	197094	165597	104670	48536	70414	60625	44251	48801	227326	167071	59225	45605	249 683	
	Wethaer events disasters	57056	85472	50444	21247	71794	99779	73924	33712	49478	43342	37784	101388	215021	146069	263852	1057247	364254	270036	
	Other	380926	162721	75677	49086	32818	27873	28438	175458	83590	64670	30656	29281	14474	14416	8234	7145	13620	19 855	
	Total	2400805	2047985	1455713	1398830	1471488	1028867	880895	971769	862594	1280658	1101953	920953,8	845288	946927	848189	1423583	882315	944951	

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

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)	167.78	130.86	79.54	92.44	100.26	70.41	61.29	65.79	68.10	110.22	97.29	74.60	56.70	55.91	40.90	30.00	45.88	40.54
Diseases (b)	0.00	49.12	53.42	40.41	36.42	19.71	16.56	10.47	4.85	7.04	6.06	4.43	4.88	22.73	16.71	5.92	4.56	24.97
Severe weather events (c)	5.71	8.55	5.04	2.12	7.18	9.98	7.39	3.37	4.95	4.33	3.78	10.14	21.50	14.61	26.39	105.72	36.43	27.00
Other (specify in comments) (d)	38.09	16.27	7.57	4.91	3.28	2.79	2.84	17.55	8.36	6.47	3.07	2.93	1.45	1.44	0.82	0.71	1.36	1.99
Total (a+b+c+d)	211.58	204.80	145.57	139.88	147.14	102.89	88.08	97.18	86.26	128.06	110.20	92.10	84.53	94.69	84.82	142.35	88.23	94.50
Total forest area	3 375.00	—	—	—	—	—	—	—	—	—	3 737.00	—	—	—	—	3 833.00	3 841.00	3 854.00

Comments

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

National forest information system in Executive forest agency. The data for forest fires are reported online by every forest unit in the country.

National classification and definitions

The same as FRA

Original data

Year	Number of fires	Burned area ha	Burned forest area ha	Anthropogenic /number/	Natural /number/	Unknown /number/
1988	101	462	462	49	1	51
1989	63	223	223			
1990	208	1041	1012			
1991	73	511	471			
1992	602	5243	4154			
1993	1196	18164	10147			
1994	667	18100	9708			
1995	114	549	549			
1996	246	2150	1933			
1997	200	777	687	57	4	139
1998	578	6967	5913	227	6	345
1999	320	8291	4198	84	9	227
2000	1710	57406	37431	385	18	1307
2001	825	20152	18463	187	19	619
2002	402	6513	5910	150	7	245
2003	452	5000	4284	281	9	162
2004	291	1139	1139	116	2	173
2005	251	1446	1446	114	7	130
2006	392	3537	3537	191	9	192
2007	1479	42999	42999	1163	18	298
2008	582	5289	5289	484	8	90
2009	314	2276	2276	231	5	76
2010	222	6526	6526	191	1	30
2011	635	6882	6882	435	7	193

2012	876	12730	12730	656	42	178
2013	408	3314	3314	330	12	66
2014	151	916	916	128	3	20
2015	439	4313	4313	335	12	82
2016	584	6340	6340	464	22	98
2017	513	4569	4569	433	14	66

Analysis and processing of national data

Estimation and forecasting

no

Reclassification into FRA 2020 categories

no

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	57.40	20.10	6.50	5.00														
...of which on forest	37.40	18.50	5.90	4.30	1.10	1.40	3.50	43.00	5.30	2.30	6.50	6.90	12.70	3.30	0.90	4.30	6.30	4.60

Comments

The data are available only till 2004 for the total land area

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

EFA information system. It is an internal information system of Executive forest agency, which includes different types of data, legislation and other forest related documents.

National classification and definitions

Forest Act and all supporting sub-legislation support SFM.

Original data

Forest Act, National strategy for development of forest sector in Republic of Bulgaria 2013-2020, Action plan for the development of forest sector 2014-2023, etc.

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	No	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 forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

no

Original data

no

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	Yes	3 327.00	3 375.00	3 737.00	3 833.00	3 893.00

Comments

The only change is allowed when it is a project of national importance (e.g. electricity, infrastructure, etc.)

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

[Eurostat](#)

National classification and definitions

No

Original data

the same

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				26.18	6.60	19.58	20.14	4.25	15.89	28.60	4.60	24.00
...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

no

National classification and definitions

no

Original data

no

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												
Master's degree												
Bachelor's degree												
Technician certificate / diploma												
Total												

Comments

No data available.

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

National forest fund report. The annual National Forest Fund report is an official report and database of the Executive Forest Agency for the forest resources in Bulgaria. It is presented in the form of database and is not exact publication.

National classification and definitions

no

Original data

The same as in original data

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	Mushrooms	Boletus edulis; Cantharellus cibarius; Marasmius oreades; Lactarius deliciosus, etc.	13 109	kg	32	1 Food
#2	Forest fruits	Raspberry, blackberry, blueberry, etc.	219 172	kg	15	1 Food
#3	Forest wildlings	broadleaves, coniferous	959 273	number	346	8 Other plant products
#4	Shelled nuts	walnuts, hazelnuts, almonds, etc.	533	t	62	1 Food
#5	Herbs		371 842	kg	24	3 Raw material for medicine and aromatic products
#6	Lime flowers		340 225	kg	33	3 Raw material for medicine and aromatic products
#7	Christmas tree		21 110	number	96	6 Ornamental plants
#8	Rosa canina		17 530	kg	1	3 Raw material for medicine and aromatic products
#9	Bark	broadleaves, coniferous	1 200	kg	0	8 Other plant products
#10	Forest seeds	broadleaves, coniferous	25 657	kg	8	8 Other plant products
All other plant products						
All other animal products						
Total					617	

Name of currency	lev
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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	31.09	34.42	35.31	35.38	35.50	35.62	35.74	35.86

Name of agency responsible	
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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	1.02	0.51	0.21	0.34	0.34	0.34	0.33

Name of agency responsible	
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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	139.90	157.63	161.84	165.25	169.14	172.87	176.68	180.50

Name of agency responsible	
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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	6.39	14.92	18.37	18.37	18.37	18.37	18.37	18.37

Name of agency responsible	
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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	84.27	93.79	95.83	96.01	96.35	96.71	97.05	97.39

Name of agency responsible	
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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	303.58	706.65	561.69	1 290.20	1 483.38	–	–