



Food and Agriculture  
Organization of the  
United Nations

# Global Forest Resources Assessment 2020

Report

**Poland**

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

### Report preparation and contact persons

The present report was prepared by the following person(s)

Name	Role	Email	Tables
Michał Kalinowski	Collaborator	m.kalinowski@ibles.waw.pl	All
Adam Kaliszewski	Alternate national correspondent	A.Kaliszewski@ibles.waw.pl	All
Marek Jabłoński	National correspondent	m.jablonski@ibles.waw.pl	All

### 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

1990	References	Central Statistical Office, yearbook Forestry in 1991
	Methods used	Registers/questionnaires
	Additional comments	

2000	References	Central Statistical Office, yearbook Forestry 2001
	Methods used	Registers/questionnaires
	Additional comments	

2010	References	Central Statistical Office, yearbook Forestry 2011
	Methods used	Registers/questionnaires
	Additional comments	

2015	References	Central Statistical Office, yearbook Forestry 2016
	Methods used	Registers/questionnaires
	Additional comments	

2016	References	Central Statistical Office, yearbook Forestry 2017
	Methods used	Registers/questionnaires
	Additional comments	

2017	References	Central Statistical Office, yearbook Forestry 2018
	Methods used	Registers/questionnaires
	Additional comments	

**Classifications and definitions**

	National class	Definition
1990	forest	Land covered with forest vegetation, of area at least 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

	National class	Definition
2000	forest	Land covered with forest vegetation, of area at least 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

	National class	Definition
2010	forest	Land covered with forest vegetation, of area at least 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

	National class	Definition
2015	forest	Land covered with forest vegetation, of area above 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

	National class	Definition
2016	forest	Land covered with forest vegetation, of area at least 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

	National class	Definition
2017	forest	Land covered with forest vegetation, of area at least 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and lands related to forestry (forest roads, nurseries etc.).
	Other wooded land	

**Original data and reclassification**

1990	Classifications and definitions	FRA classes
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	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	forest	8 882.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%
<b>Total</b>	<b>8 882.00</b>	<b>8 882.00</b>	<b>0.00</b>	<b>0.00</b>	

2000	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	forest	9 059.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%
<b>Total</b>	<b>9 059.00</b>	<b>9 059.00</b>	<b>0.00</b>	<b>0.00</b>	

2010	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	forest	9 329.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%
<b>Total</b>	<b>9 329.00</b>	<b>9 329.00</b>	<b>0.00</b>	<b>0.00</b>	

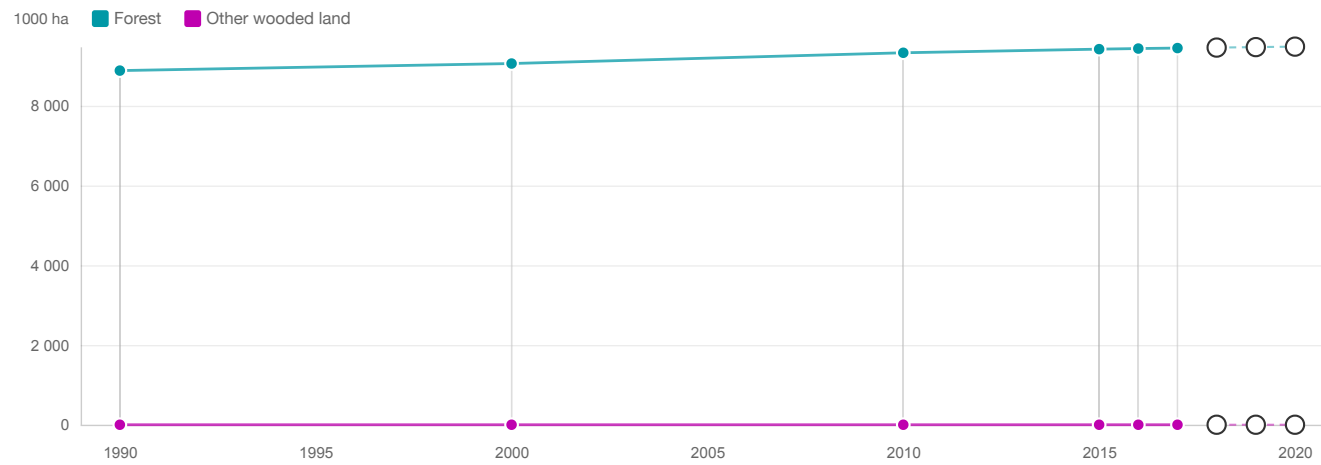
2015	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	forest	9 420.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%
<b>Total</b>	<b>9 420.00</b>	<b>9 420.00</b>	<b>0.00</b>	<b>0.00</b>	

2016	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	forest	9 435.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%

	<b>Total</b>	<b>9 435.00</b>	<b>9 435.00</b>	<b>0.00</b>	<b>0.00</b>
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	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
<b>2017</b>	forest	9 447.00	100.00 %	%	%
	Other wooded land	0.00	%	100.00 %	%
	<b>Total</b>	<b>9 447.00</b>	<b>9 447.00</b>	<b>0.00</b>	<b>0.00</b>





FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	8 882.00	9 059.00	9 329.00	9 420.00	9 435.00	9 447.00	9 459.00	9 471.00	9 483.00
Other wooded land (a)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Other land (c-a-b)</b>	<b>21 737.00</b>	<b>21 560.00</b>	<b>21 290.00</b>	<b>21 199.00</b>	<b>21 184.00</b>	<b>21 172.00</b>	<b>21 160.00</b>	<b>21 148.00</b>	<b>21 136.00</b>
<b>Total land area (c)</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>	<b>30 619.00</b>

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	100.00	
Sub-tropical	0.00	
Tropical	0.00	

## Comments

Forest: only area recorded as a forest in Land and Property Register (cadastre) or planned to to be registered coming years (new afforestations) is reported.

According to the Polish definitions, the minimum area of forest is at least 0.1 ha. Up to now there is no data evaluating the share of forest patches greater than 0.1 ha and less than 0.5 ha. The total number of those forest plots could be big but we are of the opinion that the area occupied by them is not significant therefore this item has not been adjusted.

## 1b Forest characteristics

### National Data

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

NFI 2015-2017: proportion of naturally regenerated and planted forests.

Bureau for Forest Management and Geodesy. Forest Data Bank: area of plantations in State Forests National Forest Holding (77.5% of all forests)

#### National classification and definitions

consistent with FAO definitions

#### Original data

NFI 2015-2017 - preliminary, unpublished data (from 3 years of 5-year NFI cycle): 21.83% - naturally regenerated forests, 78,17% - planted forests.

### Analysis and processing of national data

#### Estimation and forecasting

Using NFI source data origin of forests was identified, however only for land with canopy cover. This data are extended on total forest area, i.e. including lands related to forestry (forest roads, firebreaks and other small open areas) and areas that are temporarily unstocked (with tree cover less than 30-50% depending on stands age).

#### Reclassification into FRA 2020 categories

not applicable



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)				2 054.00					
<b>Planted forest (b)</b>	-	-	-	<b>7 366.00</b>	-	-	-	-	-
Plantation forest				4.00					
...of which introduced species				0.18					
Other planted forest				7 362.00					
<b>Total (a+b)</b>	-	-	-	<b>9 420.00</b>	-	-	-	-	-
<b>Total forest area</b>	<b>8 882.00</b>	<b>9 059.00</b>	<b>9 329.00</b>	<b>9 420.00</b>	<b>9 435.00</b>	<b>9 447.00</b>	<b>9 459.00</b>	<b>9 471.00</b>	<b>9 483.00</b>

## Comments

## 1c Primary forest and special forest categories

### National Data

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

NFI 2007-2011, NFI 2012-2016: temporarily unstocked area of forest in 2010 and 2015, percentage of recently regenerated forest

#### National classification and definitions

##### *temporarily unstocked:*

- as in FAO definition,
- forest stands up to 20 years old with canopy cover up to 40%,
- forest stands 21-30 years old with canopy cover or stocking index up to 30%,
- older stands with stocking index up to 20%

#### Original data

##### *structure of forest land [1000 ha]:*

	temporarily unstocked	area with canopy cover
NFI 2007-2011	337	8784
NFI 2012-2016	330	8885

### Analysis and processing of national data

#### Estimation and forecasting

**recently regenerated forest:** Using NFI source data stands with trees shorter than 1.3 meters was estimated at 2.4% of total forest area with canopy cover for both 2010 and 2015. Estimation was made on NFI plot or subplot level (1-400 square meters). For 2020 data from 2015 was repeated

#### Reclassification into FRA 2020 categories

It is not possible to recalculate temporarily unstocked forest area using FAO definition (10% canopy cover)

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	0.00	0.00	0.00	0.00	0.00
Temporarily unstocked and/or recently regenerated			548.00	543.00	543.00
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 and/or recently regenerated:

- the temporarily unstocked area of forest in a context of FAO forest definition is overestimated,
- the area with young trees (shorter than 1.3 m) should be consider in a context of NFI subplots area,
- figures do not include area of land related to forestry - forest roads, nurseries etc. (208 and 205 thousand hectares in total in 2010 and 2015 respectively).

## 1d Annual forest expansion, deforestation and net change

### National Data

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

Central Statistical Office, yearbooks Forestry: area of forests excluded from forest production and designated for non-forest purposes

Registers/questionnaires

#### National classification and definitions

consistent with FAO definitions

#### Original data

year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
deforestation [thous. ha]	0.359	0.53	0.572	0.674	0.402	0.417	0.58	0.485	0.401	0.718	0.525	0.416	0.689	0.652	0.472	0.587	0.597	0.621	0.642	0.551	0.604	0.494	0.497	0.774	0.738	0.447	1.093

### Analysis and processing of national data

#### Estimation and forecasting

Forest expansion is estimated as a sum of *forest area net change* and *deforestation*.

The last available data (2016-2017) were used for 2015-2020 period.

#### Reclassification into FRA 2020 categories

not applicable



FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)	18.21	27.58	18.82	13.37
...of which afforestation				
...of which natural expansion				
Deforestation (b)	0.51	0.58	0.62	0.77
Forest area net change (a-b)	<b>17.70</b>	<b>27.00</b>	<b>18.20</b>	<b>12.60</b>

### Comments

Because of delays in the updating process of the Land and Property Register (cadastre) it wasn't possible to estimate forest expansion by forest origin

# 1e Annual reforestation

## National Data

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

Central Statistical Office, yearbooks Forestry: area of reforestation

Registers/questionnaires

### National classification and definitions

consistent with FAO definitions

### Original data

year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
reforestation [thous. ha]	56.455	50.318	56.721	56.821	62.269	50.912	40.809	43.314	43.695	45.542	42.408	36.54	39.63	49.023	49.174	48.758	47.469	48.061	44.072	46.08	51.182	52.759	51.416	52.941	56.395	56.095	53.754

## Analysis and processing of national data

### Estimation and forecasting

The last available data (2016-2017) were used for 2015-2020 period

### Reclassification into FRA 2020 categories

not applicable

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation	50.69	45.12	52.94	54.92

**Comments**

## **1f Other land with tree cover**

### **National Data**

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

-

**National classification and definitions**

-

**Original data**

-

### **Analysis and processing of national data**

**Estimation and forecasting**

-

**Reclassification into FRA 2020 categories**

-

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)					
<b>Total (a+b+c+d+e)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Other land area	<b>21 737.00</b>	<b>21 560.00</b>	<b>21 290.00</b>	<b>21 199.00</b>	<b>21 136.00</b>

### Comments

Although especially subcategory d - trees in urban settings exists in Poland, there is no appropriate data about it.

## 2 Forest growing stock, biomass and carbon

### 2a Growing stock

#### National Data

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

##### Total volume of growing stock:

- 1990 - Central Statistical Office, yearbook Forestry 1991,
- 2000 - State Forest National Forest Holding, Forest Report 2001,
- 2010, 2015, 2016 - NFI 2007-2011, NFI 2012-2016, NFI 2013-2017

**Growing stock by origin of forest:** NFI 2015-2017 proportion of growing stock volume in naturally regenerated and planted forests

##### National classification and definitions

Growing stock: volume over bark of all living trees with a minimum diameter of 7 cm at breast height. Volume is estimated from stump level up to a top diameter of 7 cm, including branches (up to 7 cm diameter).

##### Original data

given in final table

#### Analysis and processing of national data

##### Estimation and forecasting

Volume of growing stock for years 2017-2020 was estimated using an average annual changes (36 million m<sup>3</sup>) observed between 2008 (NFI 2005-2009) and 2016 (NFI 2013-2017).

Using NFI 2013-2017 source data proportion of volume of growing stock in naturally regenerated and planted forests was estimated - 21,68% and 78,32% respectively. This figures was extended on total volume of growing stock in 2015

##### Reclassification into FRA 2020 categories

It's not possible to recalculate country data using FAO definition of growing stock (10 cm of dbh, stem with tops but without branches, from ground level instead of stump level)

FRA categories	Growing stock m <sup>3</sup> /ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest				269.09					
Planted forest				271.11					
...of which plantation forest									
...of which other planted forest									
Forest	167.19	191.63	254.23	270.67	274.17	277.65	281.00	284.45	287.88
Other wooded land									

FRA categories	Total growing stock (million m <sup>3</sup> over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest				552.72					
Planted forest				1 997.02					
...of which plantation forest									
...of which other planted forest									
Forest	1 485.00	1 736.00	2 371.73	2 549.74	2 586.84	2 623.00	2 658.00	2 694.00	2 730.00
Other wooded land									

### Comments

Significant difference (increase) between volume of growing stock for 2000 and 2010 comes from changing of assessment methods (different sources of information were used).

## 2b Growing stock composition

### National Data

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

2010, 2015 - NFI 2007-2011, NFI 2012-2016

#### National classification and definitions

consistent with FAO definitions

#### Original data

given in table

### Analysis and processing of national data

#### Estimation and forecasting

linear extrapolation based on data for 2010 (NFI 2007-2011) and 2015 (NFI 2012-2016), for introduced species only for a total volume

#### Reclassification into FRA 2020 categories

not applicable



FRA categories	Scientific name	Common name	Growing stock in forest (million m <sup>3</sup> over bark)				
			1990	2000	2010	2015	2020
<b>Native tree species</b>							
#1 Ranked in terms of volume	Pinus silvestris	Scots Pine			1 351.50	1 438.97	1 524.00
#2 Ranked in terms of volume	Quercus robur, Quercus petraea	Pedunculate Oak, Sessile Oak			173.45	193.69	214.00
#3 Ranked in terms of volume	Fagus sylvatica	European Beech			163.25	177.09	191.00
#4 Ranked in terms of volume	Picea abies	Norway Spruce			168.41	170.54	174.00
#5 Ranked in terms of volume	Betula pendula	Silver Birch			148.08	151.67	156.00
#6 Ranked in terms of volume	Alnus glutinosa	Black Alder			108.28	119.74	132.00
#7 Ranked in terms of volume	Abies alba	European Silver Fir			86.05	101.92	118.00
#8 Ranked in terms of volume	Larix decidua	European Larch			34.68	40.10	45.00
#9 Ranked in terms of volume	Carpinus betulus	Hornbeam			28.59	32.96	37.00
#10 Ranked in terms of volume	Populus tremula	European Aspen			22.48	25.38	28.00
<b>Remaining native tree species</b>					72.14	79.39	86.00
<b>Total volume of native tree species</b>					<b>2 356.91</b>	<b>2 531.45</b>	<b>2 705.00</b>
<b>Introduced tree species</b>							
#1 Ranked in terms of volume	Quercus rubra	Red Oak			5.95	7.52	
#2 Ranked in terms of volume	Robinia pseudoacacia	Black Locust			5.62	6.33	

FRA categories	Scientific name	Common name	Growing stock in forest (million m <sup>3</sup> over bark)				
			1990	2000	2010	2015	2020
<b>Native tree species</b>							
#3 Ranked in terms of volume	<i>Pseudotsuga menziesii</i>	Douglas Fir			1.28	1.72	
#4 Ranked in terms of volume	<i>Prunus serotina</i>	Black Cherry			0.38	0.99	
#5 Ranked in terms of volume	<i>Pinus nigra</i>	Austrian Pine			0.61	0.68	
<b>Remaining introduced tree species</b>					0.98	1.05	25.00
<b>Total volume of introduced tree species</b>			–	–	<b>14.82</b>	<b>18.29</b>	<b>25.00</b>
<b>Total growing stock</b>			–	–	<b>2 371.73</b>	<b>2 549.74</b>	<b>2 730.00</b>

## Comments

## 2c Biomass stock

### National Data

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

1990-2010 - coherent with given in FRA 2015,

2015, 2016 - NFI 2012-2016, NFI2013-2017:

- volume of growing stock by species,
- volume of standing and lying deadwood,
- volume of felled/harvested trees associated with stumps recorded on sample plots (used for estimations of stumps and roots biomass )

#### National classification and definitions

consistent with FAO definitions

#### Original data

**volume of growing stock by species [million m<sup>3</sup>]:**

	2015	2016
Pine, remaining coniferous	1482.2	1505.2
Spruce	170.5	169.2
Fir	101.9	106.1
Oak, remaining broadleaves	281.9	289.5
Beech	177.1	178.7
Birch	151.7	151.6
Alder	122.6	123.4
Hornbeam	33,0	33.7
Aspen, Poplar	28.9	29.4

**volume of deadwood in 2015 [million m<sup>3</sup>] - NFI 2012-2016:**

	standing	lying
<b>Pine, remaining coniferous</b>	10.6	5.3
<b>Spruce</b>	6.6	5.3
Fir	1.6	2.1
<b>Oak, remaining broadleaves</b>	5.3	4.0
<b>Beech</b>	1.3	2.5
<b>Birch</b>	3.3	2.4
<b>Alder</b>	3.4	2.1
<b>Hornbeam</b>	0.1	0.2

Aspen, Poplar	1.0	1.4
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**volume of felled/harvested trees [million m<sup>3</sup>]** estimated basing on stumps recorded on NFI 2012-2016 plots - used for assessment of stumps and roots biomass in 2015.

Pine, remaining coniferous	181.6
Spruce	28.0
Fir	19.2
Oak, remaining broadleaves	46.4
Beech	36.9
Birch	14.6
Alder	11.3
Hornbeam	7.0
Aspen, Poplar	1.4

## Analysis and processing of national data

### Estimation and forecasting

#### **Above ground biomass 2015, 2016:**

- dry mass of wood biomass was calculated under the assumption, that about 15% of growing stock is a bark,
- independent density factors for wood and bark were used (Dietz 1975), for wood coherent with IPCC guidelines

	wood density	bark density
Pine, remaining coniferous	0.42	0.3
Spruce	0.4	0.34
Fir	0.4	0.46
Oak, remaining broadleaves	0.58	0.42
Beech	0.58	0.58
Birch	0.51	0.56
Alder	0.45	0.43
Hornbeam	0.58	0.53
Aspen, Poplar	0.35	0.43

- for all species BEF factor equal 1.3 was used; It was recognized that proposed by IPCC guidelines BEF=1.4 for broadleaves is too high according to Polish circumstances.

**Bellow ground biomass** was assessed as 20% of above ground biomass.

#### **Dead wood biomass:**

##### 1. standing and lying dead wood

- the same BEF, wood density and bark density rates as for growing stock were applied,

- volume of dead standing trees was multiplied by 1.2 for estimation of bellow ground biomass.

## 2. stumps and roots associated with felled/harvested trees

- dry mass of felled trees was estimated using the same set of expansion and conversion factors as was used for assessment of dry mass of growing stock,
- dry mass of stumps and roots was estimated by multiplying the dry mass of felled trees by 0.2 (root to shoot ratio)

### **2017-2020 forecasting:**

- above ground biomass was estimated taking into account average annual changes in volume of growing stock and changes in species composition between 2008 and 2016.
- bellow ground biomass was estimated by using 0.2 root to shoot ratio
- dead wood - last available data for 2015 were used

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

not applicable

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	93.00	107.00	146.00	155.00	157.00	159.00	162.00	164.00	166.00
Below-ground biomass	19.00	21.00	29.00	31.00	31.00	32.00	32.00	33.00	33.00
Dead wood			7.00	8.00	8.00	8.00	8.00	8.00	8.00

## Comments

## 2d Carbon stock

### National Data

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

the same as in table 2c

#### National classification and definitions

consistent with FAO definitions

#### Original data

the same as in table 2c

### Analysis and processing of national data

#### Estimation and forecasting

The default carbon fraction, i.e. 0.47 was used.

1990-2010 - data reported into FRA 2015 were used, only unit - from million tonnes to tonnes per hectare was changed.

#### Reclassification into FRA 2020 categories

not applicable

FRA categories	Forest carbon (tonnes/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020	
Carbon in above-ground biomass	44.00	50.00	69.00	73.00	74.00	75.00	76.00	77.00	78.00	
Carbon in below-ground biomass	9.00	10.00	14.00	15.00	15.00	15.00	15.00	15.00	16.00	
Carbon in dead wood			3.00	4.00	4.00	4.00	4.00	4.00	4.00	
Carbon in litter										
Soil carbon			88.00							

Soil depth (cm) used for soil carbon estimates	40.00
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## Comments



## 3 Forest designation and management

### 3a Designated management objective

#### National Data

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

Central Statistical Office, yearbooks Forestry:

- forests in national parks
- forests in nature reserves in 1990, 2000 and 2009
- protective forests in communal and private forests,
- public forests other than managed by State Forest National Forest Holding (SF NFH), national parks and communal forests.

Bureau for Forest Management and Geodesy:

- protective forests in State Forests National Forest Holding,
- forest within Natura 2000 areas in State Forest National Forest Holding

##### National classification and definitions

Generally, forests in Poland are multifunctional, however using information about protected and protective forests, for the purpose of FAO reporting, they were classified as follow:

Protection of soil and water - consistent with FAO definition.

Conservation of biodiversity:

- forests in national parks, nature reserves,
- some categories of protective forests in State Forests National Forests Holding (SF NFH): forests being refuges for protected animals, forests constituting valuable fragments of native nature, seed forests.

Social services:

- some categories of protective forests in State Forests National Forests Holding (SF NFH): health resort forests, forests located close to cities and within them (urban forests), research forests, defence forests, landscape forests,
- protective forest of private ownership,
- protective forest of communal ownership (most of them in a cities),

Multiple use:

- other forests outside protective forests listed above.

##### Original data

##### Primary designated management objective [1000 ha]:

	1990	2000	2010	2015	2017	2015 - of which in N2000	2017 - of which in N2000
<b>Protection of soil and water:</b>							
soil protection - SF NFH	142.4	282.7	324.2	322.5	327.5	161.2	164.5
water protection - SF NFH	559.6	1231.8	1490.5	1542.3	1543.8	799.5	800.5
<b>Conservation of biodiversity:</b>							
national parks	118.8	190.9	194.7	195.2	194.8		
nature reserves	62	84.2	104.7	104.7	104.7	87.4*	87.4*
forests being refuges for protected animals - SF NFH		67.2	73.8	65.7	64.1	38.5	36.1
forests constituting valuable fragments of native nature - SF NFH		44.7	139.7	517.2	580.9	496.2	558.1

seed forests - SF NFH		12.1	13.4	12.4	12	7.5	7.1
<b>Social Services:</b>							
health resort forests - SF NFH	75.4	64.9	46.1	55.4	50.1	42.6	37.4
forests located close to cities and within them - SF NFH	792	716.3	635.6	632.7	615.6	121.8	103.5
research forests - SF NFH		52.1	47.6	45.9	45.3	21.7	21.4
defence forests - SF NFH		104	129.5	118.7	118.7	75.6	75.2
landscape forests - SF NFH	654.3	66.6	-	-	-		
protective forest of private ownership		80.6	65.8	65.2	65.1		
protective forest of communal ownership		29.4	25.1	22.1	22.5		
Natura 2000 in SF NFH:							
Total area				2866.8	2872.0		
of which outside protective forests				1014.8	980.8		

\* information concern only nature reserves in forests managed by State Forests National Forest Holding

Last available area of forests in nature reserves (on country level) is for 2009.

Areas of Natura 2000 are overlapping with other categories of protective forests in SFH. Whole area of forests in national parks is in Natura 2000 network at the same time. Data about area of private forests within Natura 2000 are not available. For 2010, there is no reliable data on the area of forests in the Natura 2000 network, even in SF NFH. The network setting process has not yet been completed in 2010.

## Analysis and processing of national data

### Estimation and forecasting

Data concerning State Forests National Forest Holding should be multiply by approximately 1.03. Source data about area of protective forests do not take into account land related to forestry (included in total forest area).

For 2020 last available data (2017) were used.

#### Total area with designated management objective:

Production - area of forests available for wood supply, reported to Forest Europe

Conservation of biodiversity - whole area of forests in Natura 2000 network in State Forests National Forest Holding was included.

It is possible to submit reliable data only for 2015 and 2017.

#### Reclassification into FRA 2020 categories

not applicable

**Primary designated management objective**

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	0.00	0.00	0.00	0.00	0.00
Protection of soil and water (b)	721.00	1 556.00	1 866.00	1 917.00	1 924.00
Conservation of biodiversity (c)	181.00	402.00	533.00	912.00	975.00
Social Services (d)	1 787.00	1 269.00	1 070.00	1 045.00	1 021.00
Multiple use (e)	6 193.00	5 832.00	5 860.00	5 546.00	5 563.00
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
<b>Total forest area</b>	<b>8 882.00</b>	<b>9 059.00</b>	<b>9 329.00</b>	<b>9 420.00</b>	<b>9 483.00</b>

**Total area with designated management objective**

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production	8 323.00	8 342.00	8 128.00	8 268.00	8 331.00
Protection of soil and water				2 208.00	2 216.00
Conservation of biodiversity				3 223.00	3 236.00
Social Services				1 434.00	1 438.00
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

Central Statistical Office: yearbooks Forestry and managerial records

#### National classification and definitions

**Forest area within protected areas** - forest area in national parks, IUCN category II and not classified yet.

#### Original data

*protected forest area [1000 ha]:*

IUCN category	Forests in:	1990	2000	2010	2015	2016	2017
I	strict nature reserves	1.0	0.9	1.6	3.0	4.8	10.0
II	national parks	118.8	190.9	194.7	195.2	194.8	194.8
IV	actively protected nature reserves	61.4	85.8	103.1	101.7	99.9	94.7
IV	Natura 2000 network in State Forests National Forest Holding*				2779.4	2792.6	2792.6

\* without area of nature reserves covered by Natura 2000 network. The areas of protected habitats could be much smaller than the total area of Natura 2000 established under the Habitat Directive. However, there is not enough data to calculate only the area of protected habitats at this time. Additionally, conservation plans are not formulated for all Natura 2000 areas yet.

### Analysis and processing of national data

#### Estimation and forecasting

Forest area within protected areas in 2018-2020 - last available data were used (2017)

#### Reclassification into FRA 2020 categories

not applicable

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas	181.20	277.60	299.40	3 079.30	3 092.10	3 092.10	3 092.10	3 092.10	3 092.10
Forest area with long-term forest management plan		8 460.00	8 636.00	8 930.00	9 007.00	9 063.00			
...of which in protected areas	181.20	277.60	299.40	3 079.30	3 092.10	3 092.10			

## Comments

## 4 Forest ownership and management rights

### 4a Forest ownership

#### National Data

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

Central Statistical Office, yearbooks Forestry (Registers/questionnaires)

##### National classification and definitions

consistent with FAO definition

##### Original data

given in final table

#### Analysis and processing of national data

##### Estimation and forecasting

not applicable

##### Reclassification into FRA 2020 categories

not applicable

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	1 475.00	1 524.00	1 686.00	1 765.00
...of which owned by individuals	1 376.00	1 428.00	1 587.00	1 661.00
...of which owned by private business entities and institutions	28.00	27.00	32.00	39.00
...of which owned by local, tribal and indigenous communities	71.00	69.00	67.00	65.00
Public ownership (b)	7 406.00	7 535.00	7 643.00	7 655.00
Unknown/other (specify in comments) (c)	1.00	0.00	0.00	0.00
<b>Total forest area</b>	<b>8 882.00</b>	<b>9 059.00</b>	<b>9 329.00</b>	<b>9 420.00</b>

## Comments

## 4b Holder of management rights of public forests

### National Data

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

not applicable

#### National classification and definitions

consist with FAO definition

#### Original data

given in final table

### Analysis and processing of national data

#### Estimation and forecasting

not applicable

#### Reclassification into FRA 2020 categories

not applicable



FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)	7 406.00	7 535.00	7 643.00	7 655.00
Individuals (b)	0.00	0.00	0.00	0.00
Private business entities and institutions (c)	0.00	0.00	0.00	0.00
Local, tribal and indigenous communities (d)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (e)	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Total public ownership	<b>7 406.00</b>	<b>7 535.00</b>	<b>7 643.00</b>	<b>7 655.00</b>

## Comments

## 5 Forest disturbances

### 5a Disturbances

#### National Data

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

NFI 2007-2011, NFI 2012-2016 for 2010 and 2015 respectively.

##### National classification and definitions

consistent with FAO definition

##### Original data

given in a final table

#### Analysis and processing of national data

##### Estimation and forecasting

not applicable

##### Reclassification into FRA 2020 categories

not applicable

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)											43.00					19.00		
Diseases (b)											27.00					23.00		
Severe weather events (c)											10.00					17.00		
Other (specify in comments) (d)											120.00					305.00		
<b>Total (a+b+c+d)</b>	-	-	-	-	-	-	-	-	-	-	<b>200.00</b>	-	-	-	-	<b>364.00</b>	-	-
Total forest area	<b>9 059.00</b>	-	-	-	-	-	-	-	-	-	<b>9 329.00</b>	-	-	-	-	<b>9 420.00</b>	<b>9 435.00</b>	<b>9 447.00</b>

### Comments

NFI data, averages from 5-year cycles, were used for reporting area affected by harmful factors.

Reported data can be overestimated referring to FAO definitions, as disturbances occurring in the last 5 years are recorded on NFI plots

**other disturbances:** grazing and physical damage by animals, industrial emissions, direct human activity, unspecified or multiple factors

## 5b Area affected by fire

### National Data

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

Central Statistical Office, yearbooks Environment (Registers)

#### National classification and definitions

land affected by fire - fires on agricultural crops, meadows, stubbles, wastelands and forests

#### Original data

given in a final table

### Analysis and processing of national data

#### Estimation and forecasting

not applicable

#### Reclassification into FRA 2020 categories

not applicable

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	35.96	37.39	40.61	131.10	43.10	41.20	34.90	20.20	22.70	17.40	12.00	18.50	46.90	11.93	26.51	38.02	10.49	11.16
...of which on forest	7.01	3.43	5.20	21.50	3.80	5.80	5.90	3.60	3.00	4.40	2.10	2.80	7.20	1.29	2.69	5.51	1.45	1.02

## Comments

## 5c Degraded forest

<b>Does your country monitor area of degraded forest</b>		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

Polices supporting SFM: "National Forest Policy" (1997)

Legislations and regulations supporting SFM: Forest Act of 28 September 1991 with later amendments.

##### National classification and definitions

-

##### Original data

-

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

## Comments



## 6b Area of permanent forest estate

### National Data

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

Central Statistical Office, yearbooks Forestry

#### National classification and definitions

All lands classified as a forest in a Land and Property Register are protected based on Act on Protection of Agricultural and Forest Lands of 3 February 1995. In case the interests of the society requires the conversion, permission of Minister of Environment for state forest or regional authorities for other foorest is needed.

#### Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	Yes	8 882.00	9 059.00	9 329.00	9 420.00	9 483.00

## Comments

## 7 Employment, education and NWFP

### 7a Employment in forestry and logging

#### National Data

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

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, Yearbooks: "Forestry 1990", "Forestry 2005"	Average employment in year	1990, 2000	
2	Labour Force Survey - EUROSTAT	Average employment in year	2010, 2015	

##### National classification and definitions

National class	Definition
Paid employment	Employees hired on the basis of employment contract (labour contract, posting, appointment or election), or service relation.
Self-employment	- employers and self-account workers, i.e. owners and co-owners (including contributing family workers; excluding partners in companies who do not work in them) of entities carrying out economic activity, - agents hired on the basis of an agency contract (including contributing family workers and persons employed by agents)

##### 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	131.00			60.03			63.53	10.03	53.50	75.83	10.73	65.10
...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

Central Statistical Office, yearbooks "Forestry 2017", "Forestry 2016", "Forestry 2015", "Forestry 2002". Variables: doctoral degree, master's degree, bachelor's degree, technician certificate/diploma 2015, 2010, 2000

#### National classification and definitions

Master's degree - second-cycle programmes (supplementary master's studies) studies which enable obtaining the title of Master of Arts/Sciences or its equivalent. These studies can be attended by those people who have already obtained the title of Bachelor of Arts/Sciences, Engineer or their equivalent, as well as the title of Master of Arts/Sciences.

Bachelor's degree - first-cycle programmes (vocational studies): Bachelor or Engineer studies which enable gaining basic knowledge and skills in a given field, and prepare one for working in a given profession, and which end in obtaining the title of Bachelor of Arts/Sciences or Engineer.

Forest-related education - forestry profile and agriculture and forest techniques profile (master's degree and bachelor's degree)

Technician certificate/diploma - GRADUATED STUDENTS OF SPECIALIZED SECONDARY FORESTRY SCHOOLS (for 2015)

Technician certificate/diploma - GRADUATES OF SPECIALIZED SECONDARY SCHOOLS WITH PROFILE OF EDUCATION - FORESTRY AND WOOD TECHNOLOGY (for 2010)

#### Original data

-

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							36.00	13.00	23.00	26.00	10.00	16.00
Master's degree				878.00			1 094.00			490.00		
Bachelor's degree				431.00			1 106.00			770.00		
Technician certificate / diploma							173.00			458.00	108.00	350.00
Total												

## Comments

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

### National Data

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

Quantity of forest mushrooms and bilberry according to the Central Statistical Office, Yearbook "Forestry 2017".

#### National classification and definitions

-

#### Original data

-

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	Forest mushrooms	chanterelle, king boletus, Xerocomus, Leccinum, Suillus, honey fungus (Armillaria), parasol mushroom (Macrolepiota procera), saffron milk cap (Lactarius deliciosus), man on horseback (Tricholoma equestre)	2 599	tonnes	38 810	1 Food
#2	Forest fruits	bilberry, lingonberry, cranberry, rubus. forest raspberry, black elder, europeanrowan, rosa canina, hawthorn, blackthorn.	8 160	tonnes	48 923	1 Food
#3	Game animals meat	deer, roe deer, wild boars	12 689	tonnes	98 193	12 Wild meat
#4	Christmas trees	norway spruce, scots pine	94	1000 pieces		6 Ornamental plants
#5						8 Other plant products
#6						
#7						
#8						
#9						
#10						
<b>All other plant products</b>						
<b>All other animal products</b>						
<b>Total</b>					<b>185 926</b>	



Name of currency	PLN
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**Comments**

Data on quantity and value of forest mushrooms and forest fruits according to the Central Statistical Office. The numbers concern procurement of forest mushrooms and fruits. According to the study done by Gólos and Kaliszewski, in 2013 the overall volume of mushrooms harvested in Poland was estimated to 71.4 thousand tonnes and their value amounted to 763 million PLN. The harvest of bilberries was estimated to 26.2 thousand tonnes and their value amounted to 340.6 million PLN (Gólos P., Kaliszewski A. 2016. Ekonomiczne znaczenie wybranych nieдрzewnych pożytków leśnych w Polsce. Sylwan 160 (4): 336-343.

## 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	29.59	30.47	30.77	30.81	30.85	30.89	30.93	30.97

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	0.29	0.19	0.16	0.13	0.13	0.13	0.13

Name of agency responsible	
----------------------------	--

Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	107.00	146.00	155.00	157.00	159.00	162.00	164.00	166.00

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	2.95	3.18	32.69	32.82	32.82	32.82	32.82	32.82

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	89.81	91.68	94.80	95.62	96.21	–	–	–

Name of agency responsible	
----------------------------	--

Sub-Indicator 5	Forest area (1000 ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area under independently verified forest management certification schemes	1 973.96	6 376.83	7 416.48	7 346.35	7 261.24	7 169.08	–	–