

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Poland

Rome, 2014

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

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

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Introductory Text

The main data source for FRA 2015 are official forestry statistics compiled and published by Central Statistical Office of Poland. Data are collected within country statistical programme, from all administrative (community) units, Ministry of Environment, Ministry of Agriculture and Rural Development, The State Forests National Forest Holding, Forest Research Institute, forest industries and other institutions .

Figures about wood resources for 2010 and data used for 2015 projection come from National Forest Inventory (NFI) performed by Bureau for Forest Management and Geodesy based on methodology prepared by Forest Research Institute. NFI was launched in 2005 as a five-year measurement project. In 2010 the second cycle of NFI was started.

Because of inconsistencies occurring between national and FAO reporting necessary recalculations were made, based on experts' knowledge, for the purpose of this report.

Desk Study?

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

Desk Study?	no
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1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

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

1.1 Categories and definitions

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

1.2 National data

1.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office;	Forest area, inland water bodies,	2012	Information achieved from the Central Statistical Office database

2	Central Statistical Office, yearbooks “Environment”	Country area, inland water bodies	2005, 2010, 2012	N/A
3	Central Statistical Office, yearbooks “Forestry”	forest area	1990, 1994, 2000, 2005, 2010	Definition of forest was changed in 1991. For 1990 forest area doesn't contain lands related to forestry.
4	FAOSTAT	Country area, Land area	1990 2000 2005	N/A
5	Central Statistical Office yearbooks “Forestry”	Afforestation, reforestation, natural expansion, deforestation	1988-1992, 1998-2002, 2003-2007, 2008-2012	N/A

1.2.2 Classification and definitions

National class	Definition
Forest	(1) Land covered with forest vegetation, of area above 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation, and (2) Lands related to forestry (forest roads, nurseries etc.). Both of them, when recorded in land-use (cadastral) system.
Other wooded land	Not defined.
Other land with tree cover	Not defined.
Inland water bodies	Inland water bodies include rivers, lakes, water reservoirs and interior sea water. Up to 2001 “inland water” was containing ponds and ditches. Since 2001 ponds and ditches have been removed from this category into land area.

1.2.3 Original data

National Categories	Area (1000 hectares)					
	1990	1994	2000	2005	2010	2012
forest - (1)	8694	8732	8865	9000	9121	9164
forest – (2)	should be estimated	188	194	200	208	206
Other land	21749		21376	21433	21294	21251
Inland water bodies	825		834	636	645	646
TOTAL	31268^{a)}		31269^{a)}	31269^{a)}	31268^{a)}	31268 ^{a)}

^{a)} Difference between total area results from the change of country borders due to Vistula river-bed alteration and rounding of the numbers.

Corected inland water - figures sent to FAO within "FAO Questionnaire 2013 - Land Use and Irrigation "

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS - STATISTICS DIVISION									
AGRICULTURAL RESOURCES - LAND USE AND IRRIGATION (000 ha)									
# Please report Land use data according to the classification listed in the questionnaire. However, if a different classification and land definitions have been used, please explain the differences in the NOTES column (or by adding a supplementary information sheet). # For Land use categories description and other important instructions, please refer to the "Explanatory notes" and "Instructions" sheets.									
FAO CODE	LAND CATEGORIES	FORMULAS	2007	2008	2009	2010	2011	2012	NOTES
			(000 ha)						
	Land use								
6680	Inland waters (27)	(27)=(28)+(29)+(32)+(33)	636	638	640	640	645	646	includes: marine internal waters, surface flowing waters and surface standing waters. Data of the Head Office of Geodesy and Cartography.

Area of afforestation, reforestation, natural expansion of forest and deforestation

Year	hectares
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	afforestation	reforestation	...of wchich artificial	natural expansion of forest	deforestation
1988	7030	62947	60236	N/A	1319
1989	8627	65712	63325	N/A	683
1990	6836	59999	57266	N/A	613
1991	7570	56455	53744	N/A	359
1992	8866	50318	47471	N/A	530
1998	16948	43314	38861	N/A	485
1999	19605	43695	39750	N/A	401
2000	23404	45542	40282	N/A	718
2001	22986	42408	37800	N/A	525
2002	20297	36540	32055	N/A	416
2003	26494	39630	35677	N/A	689
2004	12682	49023	43810	N/A	642
2005	12871	49174	44171	268	472
2006	16932	48758	43570	447	587
2007	13287	47470	43053	359	597
2008	7876	48061	42834	263	621
2009	5612	44072	39842	249	642
2010	5865	46080	41449	207	551
2011	5277	51182	44967	169	604

2012	4903	52759	46909	144	494
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1.3 Analysis and processing of national data

1.3.1 Adjustment

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1.3.2 Estimation and forecasting

<p>The area of lands related to forestry (position “2” in forest definition) for year 1990 (187 thou. hectares) is estimated basing on data for 1994.</p> <p>The area of forest for 2015 is forecasted by extrapolation of data for 2010 and 2012.</p> <p>Inland water bodies for 2015 - last available figure was used.</p>
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1.3.3 Reclassification

<p>Forest area in table 1a consist of both national subcategories - land covered with forest vegetation and land related to forestry .</p>
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1.4 Data

Table 1a

Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	8881	9059	9200	9329	9435
	Other wooded land	0	0	0	0	0
	Other land	21561	21377	21433	21294	21187
	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
	Inland water bodies	827	833	636	645	646

	TOTAL	31269.00	31269.00	31269.00	31268.00	31268.00
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Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	N/A	16.811	6.113	N/A	N/A	N/A	N/A
	... of which afforestation	7.786	20.648	16.453	5.907	N/A	N/A	N/A	N/A
	... of which natural expansion of forest	N/A	N/A	0.358	0.206	N/A	N/A	N/A	N/A
	Deforestation	0.701	0.509	0.597	0.582	N/A	N/A	N/A	N/A
	... of which human induced	0.701	0.509	0.597	0.582	N/A	N/A	N/A	N/A
	Reforestation	59.086	42.3	46.811	48.431	N/A	N/A	N/A	N/A
	... of which artificial	56.408	37.75	42.056	43.2	N/A	N/A	N/A	N/A

Tiers

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

Tier criteria

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

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends

Forest	Definition of forest in Poland is a land use related. Only areas recorded as a forest in the Polish land use register are reported. According to the Polish definitions, the minimum area of forest should be at least 0.1 ha. Up to now there is no data evaluating the share of forest plots greater than 0.1 ha and less than 0.5 ha. The total number of those forest plots is big but we are of the opinion that the area occupied by them is not significant therefore this item has not been adjusted.	N/A
Other wooded land	In the Polish geodesy system exist category like "woodlots" (270 thousand ha in 2011) but there is no other information about the use and features of that grounds. For this purpose this category wasn't included under the other wooded land neither other land with tree cover.	N/A
Other land	N/A	N/A
Other land with tree cover	N/A	N/A
Inland water bodies	N/A	There is no consistency between 1990/2000 and 2005/2010 data because of changes in definition of inland water. Some positions (ponds, ditches) previously reported as inland water are included now to the area of agriculture lands.
Forest expansion	Natural expansion of forest wasn't recorded before 2005.	N/A
Deforestation	N/A	N/A
Reforestation	N/A	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

2.1 Categories and definitions

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

2.2 National data

2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks "Forestry"	Strictly protected area of forests in national parks and reserves	1990, 2000, 2005, 2010, 2012	N/A
2	National Forest Inventory database, expert estimation	share of sample plots dominated by introduced species	2008, 2010, 2012	N/A
3	N/A	N/A	N/A	N/A

4	N/A	N/A	N/A	N/A
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2.2.2 Classification and definitions

National class	Definition
Primary	Strictly protected area of forests in nature reserves and national parks.
Other naturally regenerated forest	not applicable
Planted forest	not applicable
Planted forest of introduced species	Stands of following dominant species: Robinia pseudoacacia, Quercus rubra, Pinus strobus, Pinus nigra, Pinus rigida, Pinus banksiana, Acer negundo, Juglans nigra, Aesculus hippocastanum, Fraxinus pennsylvanica, Picea sitchensis, Picea omorika, Picea pungens

2.2.3 Original data

year	strictly protected areas [1000 ha] of forests in:	
	national parks	nature reserves
1990	29.383	1.012
2000	50.4006	0.927
2005	52.4147	1.273
2010	54.0587	1.623
2012	57.0562	2.014

2.3 Analysis and processing of national data

2.3.1 Adjustment

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2.3.2 Estimation and forecasting

<p>Primary forest</p> <p>For 2015 strictly protected area of national parks and reserves for 2012 was used</p>

Planted forest of introduced species

Number of sample NFI plots dominated by introduced species was estimated basing on basal area of trees with d.b.h. greater or equal 7 cm.

Referring to methodology used in Polish NFI, data from 2007-2011 measurement were calculated with respect to the area of forest for 2010.

For 2015 linear extrapolation was done, basing on data for 2008 (NFI 2005-2009) and 2011 (NFI 2008-2012).

2.3.3 Reclassification

2.4 Data

Table 2a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	30	51	54	56	59
	Other naturally regenerated forest	340	363	379	396	419
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
	... of which naturalized	N/A	N/A	N/A	N/A	N/A
	Planted forest	8511	8645	8767	8877	8957
	... of which of introduced species	N/A	N/A	N/A	45	55
TOTAL		8881.00	9059.00	9200.00	9329.00	9435.00

Table 2b

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

Table 2c

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

Tiers

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

Tier Criteria

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

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	The area of primary forest is not directly monitored. For the purpose of this report relevant values were seized with use of protectiveness status - areas strictly protected were qualified.	N/A
Other naturally regenerating forest	Estimation of this category is not possible according to country data sources. Figure reported for FRA 2010 were consider as too uncertain.	N/A
Planted forest	Estimation of this category is not possible according to country data sources. Figure reported for FRA 2010 were consider as too uncertain.	N/A
Mangroves	Not applicable	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

3.1 Categories and definitions

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

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office. Yearbook "Forestry in 1990"	Growing stock; Species composition by dominant species	1990	N/A
2	State Forest Holding. "Forest Report 2001"	Growing stock	2000	N/A
3	State Forest Holding. "Forest Report 2006"	Growing stock	2005	N/A
4	National Forest Inventory 2005-2009	Growing Stock, standing and lying dead wood	2008	N/A

5	National Forest Inventory 2007-2011	Growing Stock, species composition (from NFI database), net annual increment, standing and lying dead wood	2010	N/A
6	National Forest Inventory 2008-2012	Growing Stock, standing and lying dead wood	2011	N/A

3.2.2 Classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees more than 7 cm in diameter at breast height. Branches to a minimum diameter of 7 cm are included, stumps are excluded.
Above-ground biomass	Coherent with FAO definitions
Below-ground biomass	Coherent with FAO definitions
Dead wood	Minimum diameter equal 7 cm was used. Stumps and dead roots are included.

3.2.3 Original data

tree genera or species	growing stock [million m ³]		
	2008	2010	2011
Norway Spruce	168	168	169
European Silver Fir	80	86	90
Scots Pine and remaining coniferous	1352	1389	1407
European Beech	159	163	165
Silver Birch	146	148	149
Alder	108	112	113
Hornbeam	27	29	29
Aspen, Poplar	25	26	26
Oak and remaining broadleaves	239	251	257

tree genera or species	dead wood [million m ³ overbark] - diameter equal or higher than 7 cm;					
	2008		2010		2011	
	standing	lying	standing	lying	standing	lying
Norway Spruce	4.1	7.1	5.1	6.2	5.3	5.4
European Silver Fir	0.5	4.4	0.7	3.5	0.9	3.0
Scots Pine and remaining coniferous	8.1	5.9	8.7	5.5	9.0	5.2
European Beech	0.4	3.4	0.8	3.3	1.0	3.0
Silver Birch	1.9	2.9	2.2	2.6	2.5	2.4
Alder	1.8	2.8	2.0	2.7	2.4	2.4
Hornbeam	0.1	0.2	0.1	0.2	0.1	0.2
Aspen, Poplar	0.6	1.1	0.6	1.2	0.7	1.1
Oak, remaining broadleaves	4.0	3.1	4.0	3.4	4.0	3.3

Data for stumps and roots biomass estimation comes from NFI. Volume of fellings (during not defined period of time) based on diameter of not decomposed and partly decomposed stumps. Only stumps with diameter equal or higher than 10 cm were inventoried. Data for 2010 (NFI 2007-2011).

tree genera or species	[million m ³]
Norway Spruce	25.2
European Silver Fir	16.9
Scots Pine, remaining coniferous	155.7
European Beech	31.7
Silver Birch	12.3
Alder	9.9
Hornbeam	5.2

Aspen, Poplar	1.5
Oak, remaining broadleaves	32.9

Carbon in soil by forest habitats - Biosoil project and database for 2007. Figures come from 524 sample plots and represent 98.8 of forest sites. Area of forest habitats for 2010 (NFI data).

Carbon

forest site	Mg C per ha - up to 40 cm depth	area of site [ha]
dry coniferous forest	27	22333
fresh coniferous forest	60	1875256
moist coniferous forest	79	74486
boggy coniferous forest	454	10735
fresh mixed coniferous forest	70	2195070
moist mixed coniferous forest	128	379367
boggy mixed coniferous forest	586	35320
fresh mixed broadleaved forest	80	1625672
moist mixed broadleaved forest	102	337340
boggy mixed broadleaved forest	426	64506
fresh broadleaved forest	68	755896
moist broadleaved forest	110	168632
alder forest	308	164836
alder-ash forest	334	60846
riparian forest	89	39260
upland mixed broadleaved forest	57	126234
upland fresh broadleaved forest	83	325363
upland riparian forest	116	3748
mountain moist coniferous forest	87	1583
mountain fresh mixed coniferous forest	210	42026

mountain boggy mixed coniferous forest	198	1425
mountain fresh mixed broadleaved forest	149	201627
mountain fresh broadleaved forest	106	485359
mountain moist broadleaved forest	145	15074
% of total forest area		98,8%

3.3 Analysis and processing of national data

3.3.1 Adjustment

3.3.2 Estimation and forecasting

Growing stock:

For 2010 NFI data were used. Referring to methodology used in Polish NFI, data from 2007-2011 measurements were calculated with respect to the area of forest for 2010.

For 2015 linear extrapolation was done, basing on data for 2008 (NFI 2005-2009) and 2011 (NFI 2008-2012).

Despite of changes of inventory method, old data for 1990, 2000 and 2005, existing in Polish statistics, weren't recalculated.

Growing stock by species

Data for 2010 come from NFI 2007-2011. Data for 1990-2005 (from standwise inventory) are available only by dominant species. Because of huge differences resulting from mentioned system of generalization as well as changes of inventory method data for years 1990-2005 weren't reported.

Above ground biomass

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

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.

Although data for species composition for years 1990-2005 weren't reported, they were used for biomass estimation.

Dominant species	Growing stock [million m ³ over bark]		
	1990	2000	2005
Pine	973	1172	1302
Spruce	130	126	127
Fir	53	57	65
Oak	91	109	120
Beech	86	96	105
Birch	71	83	88
Alder	67	78	86
Hornbeam	6	7	7
Aspen	6	6	6
Poplar	2	2	3

Species composition for 2015 was forecasted basing on NFI data - trends observed between 2008 and 2011 as follows:

tree genera or species	growing stock [million m ³]
Norway Spruce	1480
European Silver Fir	167
Scots Pine and remaining coniferous	101
European Beech	173
Silver Birch	154
Alder	120

Hornbeam	33
Aspen, Poplar	28
Oak and remaining broadleaves	281

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

Dead wood biomass

Data from NFI were used. Final data comes from two datasets.

1. Wood with diameter equal or higher than 7 cm.

The same BEF, wood density and bark density rates as for growing stock were applied. Volume of standing trees was multiplied by 1.2 for estimation of bellow ground biomass. Forecasting of this set of wood for 2015 was done by the same manner as for growing stock, i.e. basing on trends between 2008 and 2012.

2. Biomass of dead stumps and roots.

Volume of felled trees was multiplied by BEF=1.3, appropriate WD rates and R:S (root to shoot) ratio equal 0.2 . The same data were used for 2010 and 2015.

Carbon

The default global carbon fraction recommended by IPCC, i.e. 0.47 (Appendix 5, table 5.2 of Guide to FRA 2015) was used.

Carbon in soil, for not available forest habitats, was estimated using following data and matrix:

forest site	area [ha]	formula for C per ha estimation
upland mixed coniferous forest	48052	fresh mixed coniferous forest +25%
upland moist broadleaved forest	16417	moist broadleaved forest +25%
upland alder-ash forest	3231	alder-ash forest + 25%
mountain fresh coniferous forest	12412	fresh coniferous forest + 25%
mountain boggy coniferous forest	960	mountain boggy mixed coniferous forest

mountain moist mixed coniferous forest	5583	moist mixed coniferous forest + 25%
mountain moist mixed broadleaved forest	8332	moist mixed broadleaved forest +25%
mountain riparian forest	5557	upland riparian forest
mountain alder-ash forest	1174	alder-ash forest + 25%
high-mountain coniferous forest	7641	fresh coniferous forest + 25%
% of total forest area	1,2%	

3.3.3 Reclassification

3.4 Data

Table 3a

Category		Growing stock volume (million m ³ over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Total growing stock	1485	1736	1909	2372	2540	N/A	N/A	N/A	N/A	N/A
	... of which coniferous	1156	1355	1494	1643	1751	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	329	381	415	729	789	N/A	N/A	N/A	N/A	N/A

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	<i>Pinus silvestris</i>	Scots Pine	N/A	N/A	N/A	1352
2 nd	<i>Quercus robur</i> , <i>Quercus petraea</i>	Pedunculate Oak, Sessile Oak	N/A	N/A	N/A	173
3 rd	<i>Picea abies</i>	Norway Spruce	N/A	N/A	N/A	168
4 th	<i>Fagus sylvatica</i>	European Beech	N/A	N/A	N/A	163

5 th	Betula pendula	Silver Birch	N/A	N/A	N/A	148
6 th	Alnus glutinosa	Black Alder	N/A	N/A	N/A	108
7 th	Abies alba	European Silver Fir	N/A	N/A	N/A	86
8 th	Larix decidua	European Larch	N/A	N/A	N/A	35
9 th	Carpinus betulus	Hornbeam	N/A	N/A	N/A	29
10 th	Populus tremula	Aspen	N/A	N/A	N/A	22
Remaining			N/A	N/A	N/A	88
TOTAL			.00	.00	.00	2372.00

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

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	7	N/A
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	7	N/A
Minimum diameter (cm) of branches included in growing stock (W)	7	N/A
Volume refers to above ground (AG) or above stump (AS)	AS	N/A

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

Table 3c

Category		Net annual increment (m ³ per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	N/A	N/A	N/A	8	8
	... of which coniferous	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	N/A	N/A	N/A	N/A	N/A

Table 3d

Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	828	968	1064	1360	1458	N/A	N/A	N/A	N/A	N/A
	Below ground biomass	166	194	213	272	292	N/A	N/A	N/A	N/A	N/A
	Dead wood	N/A	N/A	N/A	68	68	N/A	N/A	N/A	N/A	N/A
TOTAL		994.00	1162.00	1277.00	1700.00	1818.00	.00	.00	.00	.00	.00

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	389	455	500	639	685	N/A	N/A	N/A	N/A	N/A
	Carbon in below ground biomass	78	91	100	128	137	N/A	N/A	N/A	N/A	N/A
	<i>Subtotal Living biomass</i>	467	546	600	767	823	N/A	N/A	N/A	N/A	N/A
	Carbon in dead wood	N/A	N/A	N/A	32	32	N/A	N/A	N/A	N/A	N/A
	Carbon in litter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	<i>Subtotal Dead wood and litter</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Soil carbon	N/A	N/A	N/A	822	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		467.00	546.00	600.00	1621.00	854.00	.00	.00	.00	.00	.00

Tiers

Variable/category	Tier for status	Tier for trend
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Total growing stock	Tier 2	Tier 2
Net annual increment	Tier 1	Tier 1
Above ground biomass	Tier 2	Tier 2
Below ground biomass	Tier 2	Tier 2
Dead wood	Tier 2	Tier 2
Carbon in above-ground biomass	Tier 2	Tier 2
Carbon in below ground biomass	Tier 2	Tier 2
Carbon in dead wood and litter	Tier 2	Tier 1
Soil carbon	Tier 3	N/A

Tier criteria

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

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	Reported value for 1990, 2000 and 2005 consists of high/medium quality data for State Forest Holding and estimation made for remaining forest basing mainly on low quality and out-of-date data for private forests. The differences in FAO and country definitions are insignificant for volume assessment.	Data for 2010 and 2015 are not in consistency with earlier one
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	N/A	N/A
Net annual increment	N/A	N/A
Above-ground biomass	N/A	N/A
Below-ground biomass	N/A	N/A
Dead wood	Biomass of stumps and roots is approximately about 50% of total	N/A
Carbon in above-ground biomass	N/A	N/A
Carbon in below-ground biomass	N/A	N/A
Carbon in dead wood	N/A	N/A
Carbon in litter	N/A	N/A
Soil carbon	Carbon up to 40 cm depth of soil was reported. Additional 250 million metric tones of carbon was estimated (30% of reported value) for 40-80 cm layer of soil.	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

4.1 Categories and definitions

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

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks "Forestry	area of forest designed for production	1990; 2000; 2005; 2010	N/A
2	Central Statistical Office, yearbooks "Forestry	wood removals from forest and trees outside the forest	1990-2011	FAOSTAT data doesn't contain all sources of wood
3	Central Statistical Office, yearbooks "Forestry	amount and value of bilberry marketed	2003-2008	N/A
4	Central Statistical Office, yearbooks "Forestry	amount and value of forest mushrooms marketed	2008-2012	N/A
5	Golos P. 2013. Questionnaires survey, not published.	Forest fruits and mushrooms quantity.	2012	N/A
6	Central Statistical Office, yearbook "Forestry 2011	value of hunted game animals meat	2010	N/A

4.2.2 Classification and definitions

National class	Definition
Production	Forest area designated primarily for production of wood (not protected and not protective) managed by State Forest Holding.
N/A	N/A
N/A	N/A
N/A	N/A

4.2.3 Original data

Table 4a:**State Forests Holding**

	Area (1000 hectares)			
	1990	2000	2005	2010
Area of forests designed for production (without lands related to forestry)	4082	3474	3686	3611
Total area of forests (without lands related to forestry)	6805	6953	7042	7072
Total area of lands related to forestry	187	189	194	201

data origins from expert's estimation (see p. 1)

Table 4b**Amount and price of marketed bilberry**

Year	Amount of purchase (thous. tonnes)	Value of purchase (thous. of PLN)	average price (PLN/kg)
2003	5597	31195	5.6
2004	9965	46867	4.7
2005	11834	86413	7.3
2006	10061	102464	10.2

2007	9147	87022	9.5
2008	4752	31455	6.6
average price			7.3

Amount and price of marketed forest mushrooms

Year	Amount of purchase (thous. tonnes)	Value of purchase (thous. of PLNy)	average price (PLN/kg)
2008	5914	46740.9	7.9
2009	4176	46388.5	11.1
2010	4467	55328.9	12.4
2011	4007	54261.8	13.5
2012	5943	91051.9	15.3
average price			12.1

Average bilberry and forest mushrooms harvest (according to questionnaires survey)

	total harvest [tonnes]
bilberry	26 188.5
forest mushrooms	71 979.4

Table 4c - Wood removals:

Year	Category (1000 m ³ u.b.)
------	-------------------------------------

	Total roundwood and slash removals from forest	...of which woodfuel	Chips for industries purpose from forest (from State Forest Holding)	Total removals from woodlots	...of which woodfuel
1990	18676	2642	692	655	395
1991	18196	3362	640	567	346
1992	22037	3882	741	408	252
1993	21631	3401	558	343	212
1994	21922	3041	621	350	219
1995	22492	2298	446	418	252
1996	22058	2443	353	403	259
1997	23497	2545	713	436	282
1998	24917	2246	440	384	246
1999	26018	2363	317	350	221
2000	27659	2464	222	390	253
2001	26671	2591	190	366	240
2002	28957	3210	204	391	256
2003	30836	3632	227	438	292
2004	32733	3396	260	471	311
2005	31945	3413	228	545	362
2006	32384	3617	180	572	389
2007	35935	3474	149	619	420
2008	34273	3803	125	727	475
2009	34629	4154	80	852	551
2010	35467	4124	120	963	583
2011	37180	4980	202	951	614
2012	37 045	5044	147	971	638

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

Forest designed for production in State Forest Holding:

Original data refers only to forests defined in position “1” in the forest definition. These figures should be expanded by value of lands related to forestry – position “2” in forest definition. Share of protected forests to the total area was used for recalculation.

Data after calibration are as follow:

	Area (1000 hectares)			
	1990	2000	2005	2010
Production	4192	3569	3788	3714

Data for 2010 were also used for 2015 without any recalculations.

4.3.3 Reclassification

4.4 Data

Table 4a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	4192	3569	3788	3714	3714
	Multiple use forest	N/A	N/A	N/A	N/A	N/A

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Forest mushrooms	chanterelle, boletus (Xerocomus), king boletus, Leccinum, Suillus, honey fungus, parasol mushroom, saffron milk cap, man on horseback	867352	1
2 nd	Forest fruits	bilberry	191700	1
3 rd	Game animals meat	deer, roe deer, wild boars	63436	12
4 th	N/A	N/A	N/A	N/A
5 th	N/A	N/A	N/A	N/A
6 th	N/A	N/A	N/A	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			1122488.00	

2010	
Name of local currency	PLN (Polish z#oty)

Category
Plant products / raw material
1 Food
2 Fodder
3 Raw material for medicine and aromatic products
4 Raw material for colorants and dyes
5 Raw material for utensils handicrafts construction
6 Ornamental plants

7 Exudates
8 Other plant products
Animal products / raw material
9 Living animals
10 Hides skins and trophies
11 Wild honey and beeswax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m ³ u.b.)	
	Total wood removals	...of which woodfuel
1990	20023	3037
1991	19403	3708
1992	23186	4134
1993	22532	3613
1994	22893	3260
1995	23356	2550
1996	22814	2702
1997	24646	2827
1998	25741	2492
1999	26685	2584
2000	28271	2717
2001	27227	2831
2002	29552	3466

2003	31501	3924
2004	33464	3707
2005	32718	3775
2006	33136	4006
2007	36703	3894
2008	35126	4278
2009	35561	4705
2010	36550	4708
2011	38333	5594

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 3
Multiple use forest	N/A	N/A

Tier Criteria

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

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	N/A	N/A
Multiple use forest	N/A	N/A
Total wood removals	Because pre-filled data from FAOSTAT were proposed by FAO for table 4c appropriate JFSQ definition of removals was applied in this report. Removals from other than forest felling sites were included. Additionally, volume of chips produced in forest and used for industry purpose is taken into account. These chips are produced from wood not registered in roundwood form earlier.	N/A

Commercial value of NWFP	Total harvest of fruits and mushrooms made by people in age 18-89 (for their own use and commercial purposes). Bilberry is the most important forest fruit in Poland (more than 90% of recreational harvest, 53% of commercial harvest in 2007-2011)	N/A
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Other general comments to the table

N/A

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

Documents for this question:

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

5.1 Categories and definitions

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

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks "Forestry	protective forests in State Forest Holding by dominant function	1990, 2000, 2005, 2010	N/A

2	Central Statistical Office database	protective forests in community and private ownership	2000, 2005, 2010	N/A
3	Bureau for Forest Management and Geodesy. Forest Data Bank	protective forest in State Forest Holding; Total forest area designated or managed for protection of soil and water	2012	N/A
4	N/A	N/A	N/A	N/A

5.2.2 Classification and definitions

National class	Definition
Protection of soil and water	coherent wit FAO definition
Ecosystem services, cultural or spiritual values	Forests around health-resorts, urban forests, national defense forests, experimental forests in State Forest Holding. All protective forests of community and private ownership. Forests of recreational sites and landscape forests in State Forest Holding referring to categories in 1990 and 2000. State forest except managed by State Forest Holding, National Parks and Agricultural Ownership Agency.
N/A	N/A
N/A	N/A

5.2.3 Original data

Protection of soil and water in State Forest Holding - data doesn't contain area of lands related to forestry (position 2 in forest definition)						
		Area (1000 hectares)				
		1990	2000	2005	2010	2012
Dominant function	Soil protection	140	279	326	324	323
	Water protection	561	1232	1430	1490	1526
SUM 1		701	1511	1756	1814	1849
Total area of forest designated or managed for protection of soil and water						2109
RATIO 1 - for estimation of total area designed for protection of soil and water using area with dominant function soil or water protection						1.1406 = (2109/1849)

Ecosystem services in State Forests Holding- data doesn't contain area of lands related to forestry (position 2 in forest definition)

	Area (1000 hectares)					
	1990	2000	2005	2010	2012	
					total	of which Natura 2000 sites
Forests of recreational sites	619	65	-	-	-	-
Landscape forests	656	67	-	-	-	-
Forests around health-resorts	75	65	60	56	56	41
Urban forests	-	641	652	636	631	104
National defence forests	-	104	141	129	131	81
Experimental forests	-	52	46	48	48	22
SUM 2	1350	994	899	869	866	248

Forest area in State Forest Holding (SFH)

	Area (1000 hectares)				
	1990	2000	2005	2010	2012
Lands with tree cover - position 1 in forest definition	6805	6953	7042	7072	7079

lands related to forestry - position 2 in forest definition	187	189	194	201	200
Total area of forest	6992	7142	7236	7273	7279
RATIO 2 - for estimation total area of protective forest in SFH	1.0275 = (6992/6805)	1.0272	1.0275	1.0284	1.0283

data origins from expert's estimation

	Area (1000 hectares)				
	1990	2000	2005	2010	2012
Protective forest of community ownership	-	29	27	25	25
Protective forest of private ownership	-	81	82	66	65
State forest except managed by State Forest Holding, National Parks and Agricultural Ownership Agency	212	70	60	60	60
SUM 3	212	180	169	151	150

5.3 Analysis and processing of national data

5.3.1 Adjustment

5.3.2 Estimation and forecasting

1. Protection of soil and water

Last available data (2012) were used for 2015.

Area for 2012 was calculated as follow: 2109 thousand ha * RATIO2

Area for previous (1990...2010) years was calculated as follow: SUM 1 * RATIO 2 *RATIO 1

2. Ecosystem services, cultural or spiritual values

Area for 1990, 2000, 2005 was estimated as follow: SUM 2 * RATIO 2 +SUM 3

Area for 2010 and 2015 (last available data - for 2012) . It was decided that primary function on Natura 2000 sites is protection of biodiversity. Because of that data about ecosystem services (for 2010 and 2012) were decreased using information about overlapping area with N2000 sites. Formula was as follow: [SUM 2 - SUM 2 (N2000)]*RATIO 2 + SUM 3.

5.3.3 Reclassification

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	822	1770	2058	2128	2169
	... of which production of clean water	N/A	N/A	N/A	N/A	N/A

	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A
	... of which desertification control	N/A	N/A	N/A	N/A	N/A
	... of which avalanche control	N/A	N/A	N/A	N/A	N/A
	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Other

N/A

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	1599	1201	1093	790	785
...of which public recreation	1387	861	732	563	557
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	212	340	361	227	228

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 3	Tier 3
Ecosystem services, cultural or spiritual values	Tier 2	Tier 2

Tier criteria

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

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Protection of soil and water	N/A	N/A
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	Some areas for 2010 and 2015 were excluded referring to previous reporting years because of overlapping with Natura 2000 sites reported under conservation of biodiversity.
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A

Other ecosystem services	Following forest are included: (1) national defense forests, (2) experimental forests in State Forest Holding, (3) protective forests of community and private ownership, (4) State forest except managed by State Forest Holding, National Parks and Agricultural Ownership Agency - huge amount of its are forest managed by Faculties of Forestry .	Some areas for 2010 and 2015 were excluded referring to previous reporting years because of overlapping with Natura 2000 sites reported under conservation of biodiversity.
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Other general comments to the table
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N/A

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

Documents for this question:

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

6.1 Categories and definitions

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

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks	Forest area within National Parks and nature reserves, protective forest in State Forest Holding	1990, 2000, 2005, 2010	N/A
2	Bureau for Forest Management and Geodesy. Forest Data Bank	Forest within Natura 2000 sites in State Forest Holding; protective forest in State Forest Holding	2012	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
Forest area within protected areas	Forest area within National Parks, IUCN category II and not classified yet,
Conservation of biodiversity	Forest area within: National Parks (regardless of IUCN category), Nature Reserves, Natura 2000 sites. Some categories of protective forests: high natural value forest, refuge of game, seed forests
N/A	N/A
N/A	N/A

6.2.3 Original data

1. Forest area within protected areas

	Area (1000 hectares)			
	1990	2000	2005	2010
forest area within National Parks - IUCN Category II	108	136	138.8	139.6
forest area within National Parks not classified yet (established after 1990)	-	44.2	44.0	44.2

2. Conservation of biodiversity - protected forest

	Area (1000 hectares)				
	1990	2000	2005	2010	2012
forest area within National Parks	119	191	194	195	195
forest area within nature reserves	62	84	101	105	105

expert's estimation

data for 2009

Conservation of biodiversity - Natura 2000 sites in State Forest Holding - figure for 2012: 2752 thousand of hectares (without lands related to forestry), 2830 thousand of hectares with land related to forestry

3. Conservation of biodiversity - protective forest in State Forests Holding (without lands related to forestry)

Protective forests	Area (1000 hectares)					
	1990	2000	2005	2010	2012	
					total	of which within Natura 2000 sites
<i>High natural value forest</i>	-	45	52	140	261	191
<i>Refuge of games</i>	-	67	76	74	74	42
<i>Seed forests</i>	-	12	14	13	13	7
SUM - - area of land with tree cover (position 1 in forest definition)	-	124	142	227	348	240
RATIO - for estimation total area of protective forest, i.e. with land related to forestry (position 2 in forest definition)		1.0272	1.0275	1.0284	1.0283	

6.3 Analysis and processing of national data

6.3.1 Adjustment

6.3.2 Estimation and forecasting

For both categories, i.e. conservation of biodiversity and forest area within protected areas last available data (for 2012) were used for 2015

Conservation of biodiversity:

Area of N2000 (2830 thou. ha) was applied for 2010 and 2015.

Because of overlapping of Natura 2000 sites and protective forest categories reported under conservation of biodiversity (high natural value forest, refuge of game and seed forests), only non overlapping area of protective forests for 2010 and 2012 was estimated.

Total area for 2015 was calculated as follow: $195 + 105 + 2830 + (348-240)*1.0283 = 3241$ (thousand of hectares)

6.3.3 Reclassification

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	181	403	452	3209	3241
	Forest area within protected areas	108	180	183	184	184

Tiers

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

Tier criteria

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

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
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Conservation of biodiversity	N/A	Huge difference between 2005 and 2010 resulting from reporting N2000 sites for 2010 (and following years).
Forest area within protected areas	Forest area of five national parks, established after 1992 and haven't classified by IUCN yet, was included.	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

7.1 Categories and definitions

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

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	National Forest Inventory database, expert estimation	share of sample plots dominated by invasive species	2010	only tree layer was analyzed
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
Invasive species	coherent with FAO definition
N/A	N/A
N/A	N/A
N/A	N/A

7.2.3 Original data

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7.3 Analysis and processing of national data

7.3.1 Adjustment

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7.3.2 Estimation and forecasting

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7.3.3 Reclassification

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7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
Robinia pseudoacacia	N/A	N/A
Quercus rubra	N/A	N/A
Acer negundo	N/A	N/A
Prunus serotina	N/A	N/A
N/A	N/A	N/A
Total	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 1	Tier 1

Tier Criteria

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

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	Reported species make natural as well as artificial reforestation difficult. Despite they are considered as invasive from scientific point of view, they aren't included in official list of dangerous, alien species referring to Polish law. It is impossible to estimate area of forest affected by these species. They occur not only in tree layer, but also in understorey, where its negative influence could be higher than it tree layer. Referring to the method used for estimation of stand dominated by introduced species (table 2a), it could be noticed that about 39 thousand of hectares in 2010 are stands dominated by invasive species.	N/A

Other general comments to the table

N/A

8. How much forest area is damaged each year?

Documents for this question:

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

8.1 Categories and definitions

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

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks "Environment"	total land and forest area burned; number of fires	2003-2012	N/A
2	State Forest Holding. "Forest Report"	area of outbreakes	1991-2012	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

8.2.2 Classification and definitions

National class	Definition
N/A	N/A

8.2.3 Original data

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Nun moth / <i>Lymantria monacha</i>	2012 1997-2004 1993-1994 1979-1985	99 363 912 3200
1	Pine beauty moth / <i>Panolis flammea</i>	1997-2002	153
1	Pine lapped moth / <i>Dendrolimus pini</i>	2012 2007-2008 2000-2004	57 89 91
1	Pine looper moth / <i>Bupalus piniarius</i>	1997	52
1	Pine sawflies / <i>Diprionidae</i>	2011 2005 1991-1995	55 50 620
1	Oak tortrix moth / <i>Tortricidae</i>	2004-2006	47
1	Cockchafers – imago / <i>Melolontha melolontha</i>	2011 2007	45 21
1	Spruce engraver beetle / <i>Ips typographus</i>	2002-up to now	n.a.
3	Windstorm (Cyril hurricane)	2007	273
3	Flood	1997	140

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	131.1	79022	43.1	36320	41.2	47795	34.9	38612	20.2	30520
CFRQ	... of which forest area burned	21.5	17088	3.8	7006	5.8	12169	5.9	11828	3.6	7101
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	22.7	36037	17.4	35402	12	24653	18.5	40048	46.9	55785
CFRQ	... of which forest area burned	3	9091	4.4	9161	2.1	4681	2.8	9220	7.2	9266

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Nun moth / <i>Lymantria monacha</i>	2012	99
1	Pine lapped moth / <i>Dendrolimus pini</i>	2012	57
1	Spruce engraver beetle / <i>Ips typographus</i>	2002- up to now	N/A

1	Pine sawflies / Diprionidae	2011	45
1	Cockchafers – imago / Melolontha melolontha	2011	140
1	Oak tortrix moth / Tortricidae	2004-2006	47
1	Pine beauty moth / Panolis flammea	1997-2002	153
1	Pine looper moth / Bupalus piniarius	1997	52
3	Windstorm (Cyril hurricane)	2007	273
3	Flood	1997	140

Outbreak category

1 Insects

2 Diseases

3 Severe weather events

Tiers

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

Tier criteria

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

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area	N/A	N/A

Insects	N/A	N/A
Diseases	N/A	N/A
Severe weather events	N/A	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

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

Table 9

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

Tiers

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

Tier criteria

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

Comments

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

Other general comments

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

Documents for this question:

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

10.1 Categories and definitions

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

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	“National Policy on Forests”	Goals and objectives of forest policy	1997	N/A
2	Act on Forests of 28 September 1991	Definition of forest and SFM, objectives and principles of forest management	1991	The act has been amended several times since 1991.
3	Act on Protection of Agricultural and Forest Lands of 3 February 1995	Objectives and principles of protection of forest	1995	The act has been amended several times since 1995.
4	Act on Nature Conservation of 28 April 2004	Objectives, principles and forms of nature conservation and landscape protection	2004	The act has been amended several times since 2004.

10.2.2 Classification and definitions

National class	Definition
Policies supporting sustainable forest management	coherent with FAO definition
Legislation and regulations supporting sustainable forest management	coherent with FAO definition
N/A	N/A
N/A	N/A

10.2.3 Original data

10.3 Data

Table 10

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

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	“National Policy on Forests” refers to all forests, irrespective of their form of ownership.
Legislation and regulations supporting sustainable forest management	Legislation (the abovementioned acts) refer to all forests, irrespective of their form of ownership.

Other general comments

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

Documents for this question:

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

11.1 Categories and definitions

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

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	http://www.npl.ibles.pl	2013	National Forest Programme web page
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

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

Category	Comments related to data definitions etc
National stakeholder platform	In late 2012, the National Forest Programme process was resumed. Objective of the process is to involve all relevant stakeholders in the process of forest policy development. The stakeholders are invited to take part in discussion panels concerning 7 main topics (climate change, value of forests, economic development, forest protection and conservation, forest sector organisation, national forest heritage, and cross-sectoral co-operation). The seminars are open to everyone and are transmitted on-line. All the documents and informations are available on-line. The NPL web page enables stakeholders to participate in chats and forums and share their opinions and views. The NPL process is co-ordinated by the Forest Research Institute, under supervision of the Ministry of the Environment.

Other general comments

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

Documents for this question:

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

12.1 Categories and definitions

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

12.2 National data

12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Act on Protection of Agricultural and Forest Lands of 3 February 1995	Objectives and principles of protection of forest	1995-2014	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
N/A	N/A

12.2.3 Original data

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12.3 Analysis and processing of national data

12.3.1 Adjustment

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12.3.2 Estimation and forecasting

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12.3.3 Reclassification

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12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	9329
	... of which permanent forest estate	9329

Tiers

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

Tier Criteria

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

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	N/A

Permanent forest estate	According to the binding law, changing of land use from forest to another type is generally forbidden. Some small areas could be deforested because of in justified cases. Annual area of deforestation during last 10 years amounts to 590 ha (in average). For each case of planned deforestation receiving an acceptance from the Minster of Environment is obligatory.
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Other general comments

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

Documents for this question:

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

13.1 Categories and definitions

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

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Report on the state of forests in Poland 2012	forest area ownership structure growing stock forest functions ecosystem services forest threats	2012	Published annually
2	Results of National Forest Inventory 2008-2012	species composition, age structure, health and vitality, dead wood, growing stock, fellings and increment	2011	Published annually
3	Forest Condition in Poland in 2012	health and vitality of trees, forest damages	2012	Published annually
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	100	2012	yes		yes			
Other field assessments	N/A	N/A						
Updates to other sources	N/A	N/A						
Expert estimate	N/A	N/A						

Table 13b

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

Other type of forest reporting
N/A

13.4 Comments

Category	Comments
Forests in Poland	N/A
The State Forests in figures	N/A
N/A	N/A

Other general comments

--

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

Documents for this question:

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

14.1 Categories and definitions

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

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office database	Area of forest with management plans	2010	Plans for National parks are classified as FMP for conservation
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	8663
... of which for production	8468
... of which for conservation	195

Table 14b

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

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

Table 14c

Percent of area under forest management plan that is monitored annually	N/A
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Tiers

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

Tier criteria

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

14.4 Comments

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

Other general comments

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

Documents for this question:

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

15.1 Categories and definitions

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

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	no
3. Review of operations	no

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

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

15.2 Comments

Category	Comments
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Stakeholder inputs in a planning phase	According to the Act on Forests of 1991 (Art. 21.4) a draft of a forest management plan for private forests (simplified forest management plan) shall be made available for public viewing for a period of 60 days at a local authority headquarters. Interested forest owners are to have submitted reservations or motions in respect of a management plan within 30 days of the draft thereof being put on display. According to the „Guidelines for forest management planning”, which is an official regulation for the State Forests Holding, all relevant stakeholders have a possibility to take part in the forest management planning process. It includes: - announcing in local newspapers that forest management process for an individual forest districts is launched; - inviting representatives of local authorities, forest contractors and non-governmental organizations to take part in the process and relevant meetings of the planning team; - enabling stakeholders to give their opinions to a project of a forest management plan.
N/A	N/A
N/A	N/A

Other general comments

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

Documents for this question:

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

16.1 Categories and definitions

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

16.2 Data

Table 16a

International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	0	0	3717.42	6960.86	6973.01	6977.56	6977.56
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	4799.66	4624.19	6990.04	6387.11	6966.89	6948.5	
	PEFC	0	0	0	317.29	4000.74	6691.04	
	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		0	0	0	0	0	0	

Tier criteria

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

Tiers

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

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	Source: PEFC Annual reviews 2010, 2011, 2012 (http://www.pefc.org/resources/organizational-documents/annual-reviews/); FSC Fact & Figures December 2012 (https://ic.fsc.org/facts-figures-2012.509.htm), Global FSC certificates: Global FSC certificates: type and distribution December 2011, December 2010 (http://www.fsc.org.vm-fsc-entw.tops.net/ppt_graphs.html?&no_cache=1&dlpath=facts_figures)
Domestic forest management certification	N/A

Other general comments

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

Documents for this question:

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

17.1 Categories and definitions

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

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office Yearbooks “Forestry 2001”, “Forestry 2006”, “Forestry 2011”	Forest taxes Operational expenditure	2000 2005 2010	Governmental expenditures on forestry, national parks and landscape parks
2	Central Statistical Office Yearbooks “Forestry 2006”,	Transfer payments	2005 2010	Subsidies within a framework of Rural Development Programme and Polish afforestation act
3	State Forest Holding. 2006. Financial and economical report of State Forest Holding for year 2005. State Forest Holding. 2010. Financial and economical report of State Forest Holding for year 2009. State Forest Holding. 2012. Financial and economical report of State Forest Holding for year 2011.	Operational expenditure	2005 2009 2011	Subsidies for inspection in private and municipal forests
4	National Fund of Environment Protection and Water Management. “Economical report for year 2000”, “Economical report for year 2005” “Economical report for year 2010”	Operational expenditure	2000 2005 2010	For forestry, environment and landscape protection

5	Regional Funds of Environment Protection and Water Management. “Economical report for year 2005” “Economical report for year 2010”	Operational expenditure	2005 2010	Expenditures for nature conservation and forestry
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17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	96427	136846	165260
Public expenditure on forestry	242700	295650	490980
	2000	2005	2010
Name of Local Currency	PLN	PLN	PLN

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	Forest taxes based on forest area and average price of wood was reported
Public expenditure on forestry	In many cases, separation of expenditures on forestry from broader categories was not possible. In such cases, estimations were made.
Other general comments	N/A

Other general comments

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

Documents for this question:

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

18.1 Categories and definitions

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

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Central Statistical Office, yearbooks "Forestry"	Forest area by categories of ownership	1990, 2000, 2005, 2010	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

National class	Definition
Public ownership	Coherent with FRA definition
Private ownership	Coherent with FRA definition
N/A	N/A
N/A	N/A

18.2.3 Original data

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18.3 Analysis and processing of national data

18.3.1 Adjustment

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18.3.2 Estimation and forecasting

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18.3.3 Reclassification

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18.4 Data

Table 18a

Categories	Forest area (1000 hectares)
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		1990	2000	2005	2010
	Public ownership	7406	7535	7610	7643
	... of which owned by the state at national scale	N/A	N/A	7480	7504
	... of which owned by the state at the sub-national government scale	N/A	N/A	130	139
	Private ownership	1475	1524	1590	1686
	... of which owned by individuals	1376	1428	1492	1587
	... of which owned by private business entities and institutions	28	27	30	32
	... of which owned by local, tribal and indigenous communities	71	69	68	67
	Unknown ownership	0	0	0	0
TOTAL		8881.00	9059.00	9200.00	9329.00

Tiers

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

Tier criteria

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

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)
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	1990	2000	2005	2010
Public Administration	7406	7535	7610	7643
Individuals	0	0	0	0
Private companies	0	0	0	0
Communities	0	0	0	0
Other	0	0	0	0
TOTAL	7406.00	7535.00	7610.00	7643.00

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

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	N/A	N/A
Private ownership	N/A	N/A
Unknown ownership	N/A	N/A
Management rights	All public forests in Poland are managed by public institutions and authorities on national or local level.	N/A

Other general comments to the table
N/A

19. How many people are directly employed in forestry?

Documents for this question:

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

19.1 Categories and definitions

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

19.2 National data

19.2.1 Data sources

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

19.2.2 Classification and definitions

National class	Definition
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)
N/A	N/A
N/A	N/A

19.2.3 Original data

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19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	131	57.3	58.27	63.73
	... of which female	N/A	9.1	9.71	10.08

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	Data presented without converting part-time paid employees into full-time paid employees, each person being listed once according to the main job. Employment in forestry refers to: - employees hired on the basis of an employment contract (labour contract, posting, appointment or election), or service relation, - employers and own-account workers, i.e. owners and co-owners (including contributing family workers; excluding partners in companies who do not work in them) of entities conducting economic activity, - outworkers, - agents hired on the basis of an agency contract or a contract of mandate (including contributing family workers and persons employed by agents), - other self-employed persons, e.g. self employed professionals.	N/A

Other general comments to the table

N/A

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

Documents for this question:

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

20.1 Categories and definitions

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

20.2 Data

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

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	5410.2	PLN - Polish new zloty	2011

20.3 Comments

Category	Comments
Gross value added from forestry	Data source: Central Statistical Office, Yearbook "Forestry 2013"

Other general comments

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

Documents for this question:

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

21.1 Categories and definitions

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

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	“National Policy on Forests”	Share of forest land area	1997	N/A
2	“National Programme for Expanding of Forest Cover”	Area to be afforested	1995	The programme was amended in 2002.
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	9400	9700

Table 21b

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

21.4 Comments

Category	Comments
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Government target/aspiration for forest area	The explicitly expressed policy goals are shares of forest areas amounted to 30% in 2020 and 33% in 2050. The figure presented in Table 21a for 2030 has been estimated based on the abovementioned figures.
Forests earmarked for conversion	N/A

Other general comments

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