

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Norway

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.

The content and the views expressed in this report are the responsibility of the entity submitting the report to FAO. FAO may not be held responsible for the use which may be made of the information contained in this report.

TABLE OF CONTENTS

Report preparation and contact persons.....	4
1. What is the area of forest and other wooded land and how has it changed over time?	5
2. What is the area of natural and planted forest and how has it changed over time?	11
3. What are the stocks and growth rates of the forests and how have they changed?	15
4. What is the status of forest production and how has it changed over time?	23
5. How much forest area is managed for protection of soil and water and ecosystem services?	30
6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?	35
7. What is the area of forest affected by woody invasive species?	38
8. How much forest area is damaged each year?	41
9. What is the forest area with reduced canopy cover?	45
10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?	46
11. Is there a national platform that promotes stakeholder participation in forest policy development?	48
12. What is the forest area intended to be in permanent forest land use and how has it changed over time?	49
13. How does your country measure and report progress towards SFM at the national level?	52
14. What is the area of forest under a forest management plan and how is this monitored?	55
15. How are stakeholders involved in the management decision making for publicly owned forests?	58
16. What is the area of forest under an independently verified forest certification scheme?	59
17. How much money do governments collect from and spend on forests?	61
18. Who owns and manages the forests and how has this changed?	63
19. How many people are directly employed in forestry?	68
20. What is the contribution of forestry to Gross Domestic Product (GDP)?	72
21. What is forest area likely to be in the future	73

Report preparation and contact persons

Contact persons

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

Name (FAMILY NAME, first name)	Institution/address	Email	Tables
TOMTER, Stein Michael	Norwegian Forest and Landscape Institute, P.O. Box 115, N-1431 Ås, NORWAY	stein.tomter@skogoglandskap.no	N/A
STEINSET, Trond Amund	Statistics Norway, N-2225 Kongsvinger, NORWAY	trond.amund.steinset@ssb.no	N/A
TROLLSTØL, Silje	Ministry of Agriculture and Food, P.O. Box 8007 Dep., N-0030 Oslo, NORWAY	silje.trollstol@lmd.dep.no	N/A
N/A	N/A	N/A	N/A

Introductory Text

Place an introductory text on the content of this report

--

Desk Study?

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

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

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

1.1 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest" spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds ; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as "Forest" or "Other wooded land".
...of which with tree cover (<i>sub-category</i>)	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. It includes both the 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	Norwegian Forest and Landscape Institute: The National Forest Inventory	Forest , other wooded land, deforestation	1990: 1986-1993; 2000: 1998-2002; 2005: 2003-2007; 2010: 2008-2012	The NFI data permit direct calculation of data according to the FRA categories and definitions. Some regions and individual plots were not surveyed until later assessment periods. The situation on these in earlier periods have been estimated by means of photo interpretation or backcasting (extrapolation) of current data.
2	Norwegian Ministry of Agriculture and Food	Annual planted area	1990: 1988-1992	N/A
3	Statistics Norway	Annual planted area	2000: 1998-2002; 2005: 2003-2007; 2010: 2008-2012	N/A
4	Norwegian Agricultural Authority	Annual afforested area	1990: 1991-1992; 2000: 1998-2002; 2005: 2003-2007; 2010: 2008-2012	N/A

1.2.2 Classification and definitions

National class	Definition
Forest	According to FRA 2015 definition
Other wooded land	According to FRA 2015 definition
Other land	According to FRA 2015 definition
Other areas with land use forestry	Will include e.g. forest roads, forest depots, landings, smaller gravel pits, etc. Has been added to forest area to comply with FRA 2015.
Other land with tree cover	No available data
Inland water bodies	According to FRA 2015 definition
Afforestation	According to FRA 2015 definition.
Reforestation	According to FRA 2015 definition.
Natural expansion of forest	According to FRA 2015 definition.
Deforestation	According to FRA 2015 definition

1.2.3 Original data

Forest expansion, reforestation
--

Year	Annual planted area (0.1 ha)	Annual afforested area (0.1 ha)	Annual planted area of introduced species (0.1 ha)	Annual afforested area of introduced species (0.1 ha)
1988	303 683			
1989	319 902			
1990	316 725			
1991	290 863	11 293		
1992	281 107	16 504	6716	2778
1993	226 831	11 634	5265	2217
1994	203 562	10 085	9432	2697
1995	227 437	8 625	7356	2410
1996	218 109	8 635	7637	2035
1997	205 074	5 720	6146	1667
1998	205 019	6 650	6793	2107
1999	190 369	7 188	5852	2052
2000	187 796	6 567	5656	2110
2001	182 521	8 681	5260	1676
2002	158 232	3 726	3675	1279
2003	109 332	2 108	1401	704
2004	114 535	1 653	1528	556
2005	103 468	1 094	945	310
2006	119 390	2 010	1542	570
2007	129 954	1 784	1445	486
2008	138 339	2 111	1802	707
2009	136 649	2 315	1753	495
2010	117 991	1 953	1894	727

2011	131 683	2 024	3115	739
2012	147 039	1 603	2540	458

1.3 Analysis and processing of national data

1.3.1 Adjustment

Not applied

1.3.2 Estimation and forecasting

<p>Forest area</p> <p>The only forecasting that has been carried out is for the year 2015. In that case a linear extrapolation has been applied. No estimation for the other reference years has been necessary, since the average year of the data collection periods are 1990, 2000, 2005 and 2010, respectively.</p> <p>Forest expansion, reforestation</p> <p>Not applied.</p>
--

1.3.3 Reclassification

<p>Forest area</p> <p>Not applied</p> <p>Forest expansion, reforestation</p> <p>Annual reforestation has been derived by subtracting the annual afforested area from the total annual planted area. For planted area of introduced species has been done correspondingly.</p>

1.4 Data

Table 1a

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015













	Forest	12132	12113	12092	12102	12112
	Other wooded land	1868	1869	1870	1941	2012
	Other land	16427	16445	16465	16384	16303
	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
	Inland water bodies	1951	1951	1951	1951	1951
	TOTAL	32378.00	32378.00	32378.00	32378.00	32378.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which afforestation	1.39	0.656	0.173	0.2	0.25	0.185	0.053	0.063
	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deforestation	3	6	6	8	N/A	N/A	N/A	N/A
	... of which human induced	3	6	6	8	N/A	N/A	N/A	N/A
	Reforestation	28.856	17.823	11.361	13.234	N/A	N/A	N/A	N/A
	... of which artificial	28.856	17.823	11.361	13.234	0.349	0.36	0.085	0.16

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 3	Tier 3
Other wooded land	Tier 3	Tier 3
Forest expansion	Tier 2	Tier 2
Deforestation	Tier 3	Tier 3
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	Some regions (mountain forest and forest in Finnmark county) and individual plots were not surveyed until the later assessment periods. The situation on these in earlier periods have been estimated by means of photo interpretation or backcasting (extrapolation) of current data. These new data is also the reason that the forest area is significantly higher than in previous assessments.	Due to the backcasting of data for some plots, there may be some uncertainty in the trend of forest area from 1990-2010. However, this is not expected to be of major importance.
Other wooded land	Same as for "forest".	Same as for "forest".
Other land	Has been calculated as the difference between total country area and the other categories.	N/A
Other land with tree cover	No data available	N/A
Inland water bodies	The FAOSTAT figure is not in accordance with the latest national statistics and has been changed (notification from Norwegian Mapping Authority).	N/A
Forest expansion	The figure on afforestation of introduced species in 1990 is based on the average of 1992-93, for total afforestation on the average of 1991-92.	N/A
Deforestation	Corresponds to area converted from forest to settlements, grassland, wetland, cropland or other land in the reporting to UNFCCC (5 year averages).	N/A
Reforestation	The figure on reforestation of introduced species in 1990 is based on the average of 1992-93, for total reforestation on the average of 1991-92.	N/A

Other general comments to the table

The areas reported in this table do not include the islands of Svalbard and Jan Mayen. The data in table 1a. have been changed compared to previous assessments. A request has been sent from the Norwegian Mapping Authority to FAOSTAT to change the inland water and land area figures, since they are not completely in accordance with official national figures. National figures have been included in table 1a. Also the concept of "introduced species" has been changed in relation to previous assessments.

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 outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Category	Definition
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species (<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	Norwegian Forest and Landscape Institute: The National Forest Inventory	Forest undisturbed by man.	2010: 2008-2012	This variable has only been assessed from 2005, and the estimate based on data from 2008-2012 has been applied for all reference years.
2	Norwegian Forest and Landscape Institute: The National Forest Inventory	Planted forest of introduced species	2000: 1998-2002 2005: 2003-2007 2010: 2008-2012	N/A

3	Questionnaire on Planted Forest: Global planted forest thematic supplement to Forest Resources Assessment 2005 (based on data from Norwegian Ministry of Agriculture and Food)	Planted forest	1990, 2000, 2005	N/A
4	N/A	N/A	N/A	N/A

2.2.2 Classification and definitions

National class	Definition
Forest undisturbed by man (“natural forest”)	Equivalent to “primary forest” according to FRA 2015.
Planted forest	According to FRA 2015 definition.
Planted forests of introduced species	Forest trees not native to Norway.
N/A	N/A

2.2.3 Original data

The NFI data permit direct queries of area of primary forest and planted forest of introduced species. Data reported for the FAO “Questionnaire on Planted Forest” have been corrected, in that the previously reported proportions of semi-natural forest should relate to the area of all forest.

The figures on planted forest of introduced species have been updated in relation to previous assessments.

2.3 Analysis and processing of national data

2.3.1 Adjustment

2.3.2 Estimation and forecasting

The only forecasting that has been carried out is for the year 2015. That would be corresponding to what has been applied for Question 1. In that case a linear extrapolation has been applied. No estimation for the other reference years was necessary, since the average year of the data collection periods are 1990, 2000, 2005 and 2010, respectively.

2.3.3 Reclassification

Not required.

2.4 Data

Table 2a







Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	160	160	160	160	160
	Other naturally regenerated forest	10883	10628	10532	10479	10423
	... of which of introduced species	0	0	0	0	0
	... of which naturalized	0	0	0	0	0
	Planted forest	1089	1325	1400	1463	1529
	... of which of introduced species	N/A	63	69	76	83
TOTAL		12132.00	12113.00	12092.00	12102.00	12112.00

Table 2b

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

Table 2c

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

Tiers

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

Primary forest	Tier 3	Tier 3
Other naturally regenerated forest	Tier 3	Tier 3
Planted forest	Tier 2	Tier 2
Mangroves	Tier 3	Tier 3

Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	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 Tier 2 : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years) 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

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	New data are available compared to previous assessments.	N/A
Other naturally regenerating forest	Calculated as the difference between total forest area and primary+planted forest	N/A
Planted forest	The estimates are based on the accumulated annual statistics of planted forest from the 1930s to the reference years. It is likely that some of this forest will have been harvested later on. In other cases the naturally regenerated trees may dominate over the planted trees in the stand. Thus, it is likely that the area of planted forest has been overestimated. Data reported for "Questionnaire on Planted Forest" have been corrected, in that the previously reported proportions of semi-natural forest should relate to the area of all forest. The 2005 figure on planted forest of introduced species (used to indicate "plantations") has been updated in relation to previous assessments.	N/A
Mangroves	N/A	N/A

Other general comments to the table

The data in table 2a. have been changed due to new estimates of total forest area and a new concept for assessment of introduced species.

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	Norwegian Forest and Landscape Institute: The National Forest Inventory	Growing stock, growing stock composition, gross and net annual increment	1990: 1986-1993; 2000: 1998-2002; 2005: 2003-2007; 2010: 2008-2012	The NFI data permit direct calculation of data according to the FRA categories and definitions. Some regions and individual plots were not surveyed until the later assessment periods. The situation on these in earlier periods have been estimated by means of photo interpretation or backcasting (extrapolation) of current data.

2	Swedish University of Agricultural Sciences: Marklund, L.G. 1988; Biomass functions for pine, spruce and birch in Sweden.	Biomass of different components of living trees	1988	No study is yet available to indicate the quality of estimates when applied for Norwegian forests.
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

3.2.2 Classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees more than 0 cm in diameter at breast height. Includes living trees on all forest areas and other wooded land areas. Stem volume above stump of living trees includes bark, excludes branches.
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage. Only the trees with a dbh of at least 5 cm are included.
Below-ground biomass	All living biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Net annual increment	Average annual volume of gross increment over the given reference period less that of natural losses on all trees with a minimum diameter at breast height of 0 cm.

3.2.3 Original data

Original data on growing stock, growing stock composition, annual increment and biomass have been extracted directly from the database for the years 1990, 2000, 2005 and 2010,

In the following has been presented data for growing stock down to 0 cm dbh. The NFI involves detailed assessment of species and diameter measurement of all trees down to 5 cm dbh, for smaller trees there is a simplified procedure with counting of trees within defined diameter intervals and assignment to the three species classes "spruce", "pine" or "broadleaved".

Biomass has been calculated applying biomass functions for living trees according to Marklund (1988).

Separate sets of functions have been used for spruce, pine and for broadleaved trees. The functions originally developed for birch have been applied for all broadleaved trees. The tree components: dead branches, living branches, stem under bark, bark, stumps, course roots and fine roots have been estimated, using individual functions for each component. For trees with a dbh of at least 10 cm in maturing and mature forest, and at least 5 cm in other productive forest, functions with dbh and height as explanatory variables have been used. For smaller trees, and for other forest and other wooded land, only dbh has been used as explanatory variable.

Carbon stock

Forest carbon data was estimated using biomass data multiplied by the default conversion factor of 0.5.

3.3 Analysis and processing of national data**3.3.1 Adjustment****Growing stock**

Not applied.

Biomass and carbon stock

Not applied.

3.3.2 Estimation and forecasting**Growing stock, biomass and carbon stock**

Estimation is not needed, because data is available for current reference years. Forecasting is made for 2015, using linear extrapolation based on data from 2005 and 2010.

3.3.3 Reclassification

Not applied.

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	788	898	981	1069	1157	4.86	5.87	6.38	7.18	7.98
	... of which coniferous	573	645	705	773	841	2.27	2.68	2.94	3.33	3.72
	... of which broadleaved	215	253	276	296	316	2.59	3.19	3.44	3.85	4.26

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	Picea abies	Norway spruce	323.6	354.4	393.2	439.8
2 nd	Pinus sylvestris	Scots pine	223.2	265.6	287.4	317.8
3 rd	Betula pubescens	Downy birch	105.6	119.5	132.9	181.5
4 th	Populus tremula	European aspen	12.3	14.3	16.2	18.8
5 th	Alnus incana	Grey alder	13.1	13.9	15.2	18.5
6 th	Sorbus aucuparia	European mountain ash	N/A	7.8	8.6	10.1
7 th	Salix caprea	Goat willow	N/A	6.1	7.8	9.8
8 th	Quercus robur	English oak	6.1	7.4	8.7	9.6
9 th	Betula pendula	Silver birch	N/A	5.7	7.7	9.1
10 th	Picea sitchensis	Sitka spruce	N/A	3.1	4.7	6.8
Remaining			104.1	100.2	98.6	47.2
TOTAL			788.00	898.00	981.00	1069.00

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)	5	N/A
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	0	N/A
Minimum diameter (cm) of branches included in growing stock (W)	N/A	not included

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	2.05	2.28	2.41	2.27	2.27
	... of which coniferous	N/A	N/A	N/A	3.15	3.15
	... of which broadleaved	N/A	N/A	N/A	1.09	1.09

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	516	585	638	691	744	3.1	3.7	4.1	4.6	5.1
	Below ground biomass	147	167	181	194	208	1.1	1.3	1.5	1.6	1.8
	Dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		663.00	752.00	819.00	885.00	952.00	4.20	5.00	5.60	6.20	6.90

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	258	293	319	346	372	1.6	1.9	2.1	2.3	2.6

	Carbon in below ground biomass	74	84	90	97	104	0.6	0.7	0.8	0.8	0.9
	<i>Subtotal Living biomass</i>	331	376	410	443	476	2.2	2.6	2.9	3.1	3.5
	Carbon in dead wood	N/A	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		332.00	377.00	409.00	443.00	476.00	2.20	2.60	2.90	3.10	3.50

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 3	Tier 3
Net annual increment	Tier 3	Tier 2
Above ground biomass	Tier 2	Tier 2
Below ground biomass	Tier 2	Tier 2
Dead wood	N/A	N/A
Carbon in above-ground biomass	Tier 2	Tier 2
Carbon in below ground biomass	Tier 2	Tier 2
Carbon in dead wood and litter	N/A	N/A
Soil carbon	N/A	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	Includes volume for all trees down to dbh=0cm. Volume is calculated as volume above stump.	N/A
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	For 1990, Silver birch has not been separated from Downy birch. European mountain ash, Goat willow and Sitka spruce are included in remaining species. In addition, "remaining" volume comprises volume for trees with dbh 0-5 cm and volume that has been estimated by means of extrapolation (backcasting) from later inventories. Growing stock for trees with dbh 0-5 cm cannot be assigned to detailed tree species, although it can be assigned to coniferous or broadleaved.	See comments under 3.2.1.

Net annual increment	Includes increment for all trees down to dbh=0cm. Estimation of gross increment and natural losses are based on repeated measurements on permanent sample plots.	The result for 2010 has been used also as an estimate for 2015. Due to changes in the inventory, data by forest types have not been presented for previous reference years.
Above-ground biomass	N/A	N/A
Below-ground biomass	N/A	N/A
Dead wood	N/A	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	N/A	N/A

Other general comments to the table

Data have been changed compared to previous assessments. That is mainly due to new availability of data for regions that were previously incompletely covered.

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	Norwegian Forest and Landscape Institute / Norwegian Environment Agency	Protected forest areas of various categories	1990, 2000, 2005, 2010	Has been estimated by overlaying sample plots from the NFI with the delineation of protected areas at different years
2	Ministry of Food and Agriculture	Area of protection forest	1993-94	Area of protection forest has in principle been stable over several decades. A survey was made in 1993-94, but the information would be valid for all three reference years.
3	Søgaard et al. 2012: Effekter av ulike miljøhensyn på tilgjengelig skogareal og volum i norske skoger. (Report from Norwegian Forest and Landscape Institute 02/2012)	Area of peri-urban forest	2005-2009	Includes peri-urban forest near Oslo under specific legislation and other peri-urban forest owned by municipalities and with a specific management regime.

4	Statistics Norway: Hunting Statistics	Annual game harvest	1988-2012	There are no official statistics for other non-wood forest products than game from hunting. Information on other products is obtained from companies, sales or marketing organisations, as a basis for subjective assessments.
5	Statistics Norway: Forestry Statistics	Industrial roundwood, removals of woodfuel for sale	1990-2011	N/A
6	Statistics Norway: Census of Agriculture and Forestry	Wood cut for own consumption or ceded on usufruct, fuelwood cut of other than owner or persons with ceded usufruct	1988	N/A
7	Statistics Norway: Sample Survey of Agriculture	Woodfuel for own consumption, other wood cut for own consumption	2003	N/A

4.2.2 Classification and definitions

National class	Definition
Productive forest	Forest with a minimum annual productive capacity of 1 cu.m. per ha.
Protection forest	Forest officially declared as protective forest (near the forest line towards the mountains and near the coast).
Protected forest	Forest in areas officially declared as nature reserve or national park
Forest available for wood supply	Productive forest with no specific restrictions or other dominant use.
Peri-urban forest	Forest with a specific management regime, located close to urban areas.

4.2.3 Original data

			1990	2000	2005	2010
Forest available for wood supply			8510	8448	8393	8351
Productive forest classified as protective			1541	1541	1541	1541
Peri-urban forest			135	135	135	135
Forest in national parks/nature reserves			108	158	277	428

Total forest			12132	12113	12092	12102

4.3 Analysis and processing of national data

4.3.1 Adjustment

Not applied.

4.3.2 Estimation and forecasting

The only forecasting that has been carried out is for the year 2015. In that case a linear extrapolation has been applied. No estimation for the other reference years was necessary, since the average year of the data collection periods are 1990, 2000, 2005 and 2010, respectively.
--

4.3.3 Reclassification

The remaining area of productive forest available for wood supply after subtracting the categories “protection forest” and “peri-urban forest” has been assigned to “production”. Correspondingly, the area of “total forest” minus “production” minus “conservation (national parks and nature reserves)” has been assigned to “multiple use”.					
		1990	2000	2005	2010
Forest available for wood supply		8510	8448	8393	8351
- Productive forest classified as protective		1541	1541	1541	1541
- Peri-urban forest		135	135	135	135
= Production		6834	6772	6717	6675

3 rd	Christmas trees	Picea abies, Pinus silvestris, Abies lasiocarpa, Abies nordmanniana, Picea pungens etc.	100000	6
4 th	Mushrooms	Boletus edulis, Cantharellus cibarius etc.	45000	1
5 th	Decorative foliage	Abies spp. (esp. Abies procera), Picea spp., Chamaecyparis spp	3250	6
6 th	Decorative lichens	Cladonia stellaris	1500	6
7 th	Hides and skins	Alces alces, Vulpes vulpes, Martes martes	1100	10
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			980850.00	

2010

Name of local currency

NOK

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	11747	1014
1991	10666	1023
1992	10112	1024
1993	10278	1036
1994	9294	1050
1995	10119	1050
1996	8988	1044
1997	9322	1081
1998	8950	1081
1999	9202	1297
2000	8934	1258
2001	9174	1291
2002	8830	1368
2003	8477	1488
2004	8960	1408
2005	9845	1357
2006	9590	2108

2007	10478	2067
2008	10361	2092
2009	8991	2161
2010	10891	2370
2011	10703	1998

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 3
Multiple use forest	Tier 3	Tier 3

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	There is no such official designation at the national level, but the above assumptions are expected to provide an approximation of the sought category	N/A
Multiple use forest	There is no such official designation at the national level, but the above assumptions are expected to provide an approximation of the sought category.	N/A
Total wood removals	N/A	N/A
Commercial value of NWFP	The estimated quantities are multiplied by an estimated value per kilo.	N/A

Other general comments to the table

The data in 4a. has been changed due to new availability of data and a changed concept. The data in 4c. have been adjusted, mainly due to estimates of self-consumption by forest owner.

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	Ministry of Agriculture and Food: Note on the area of protection forest	Area of protection forest	1993-1994	An estimate of the area of protection forest was prepared in 1993-94 and has not been updated. A slight correction has been made for the northernmost counties (where all forest is considered protection forest), based on recent NFI.
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

5.2.2 Classification and definitions

National class	Definition
Protection forest	See 5.5 Comments
N/A	N/A
N/A	N/A
N/A	N/A

5.2.3 Original data

Not relevant, as there is no adjustment or recalculation.

5.3 Analysis and processing of national data

5.3.1 Adjustment

Not applied

5.3.2 Estimation and forecasting








Not applied

5.3.3 Reclassification

Not applied.

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	4136	4136	4136	4136	4136
	... 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	N/A	N/A	N/A	N/A	N/A
...of which public recreation	N/A	N/A	N/A	N/A	N/A

...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)	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 1	Tier 2
Ecosystem services, cultural or spiritual values	N/A	N/A

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	There is only one national category of protection forest, having multiple objectives. These are e.g. protection against landslide and erosion, protection of other forests, agricultural land or settlements. Important is protection of the forest itself at climatically exposed positions, as at high elevation, close to the sea or far north. It is not possible to break this area down to various sub-categories.	There are no data to indicate any specific trend, however, this area is not likely to have changed significantly over the reporting period.
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	N/A
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	N/A	N/A

Other general comments to the table

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	Norwegian Environment Agency	Database of protected forest areas	1990, 2000, 2005, 2010	N/A
2	Norwegian Forest and Landscape Institute: The National Forest Inventory	NFI database	1990-2010	Data have been derived by combining the NFI database with the database of protected forest areas
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
Conservation of biodiversity	Productive and non-productive forest officially declared as protected area (nature reserve, national park)
N/A	N/A
N/A	N/A
N/A	N/A

6.2.3 Original data

See 4.2.3.

6.3 Analysis and processing of national data

6.3.1 Adjustment

Not applied.

6.3.2 Estimation and forecasting



A linear extrapolation has been applied for 2015.

6.3.3 Reclassification

Not applied.

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	108	158	277	428	579
	Forest area within protected areas	108	158	277	428	579

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
Conservation of biodiversity	Forest area within nature reserves and national parks. Relevant could also be an additional 49000 ha of key habitats (2010) designated for conservation during forest management planning. These designations have been gradually introduced since 2001, but data are not available for other reference years.	N/A
Forest area within protected areas	Forest area within nature reserves and national parks	N/A

Other general comments to the table

New data have become available compared to previous assessments.

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	N/A	N/A	N/A	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

7.2.2 Classification and definitions

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

7.2.3 Original data

--

7.3 Analysis and processing of national data

7.3.1 Adjustment

--

7.3.2 Estimation and forecasting

--

7.3.3 Reclassification

--

7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
N/A	0	0
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Total	0	0

Tiers

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

Tier Criteria

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

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
------------------	--	---

7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	No woody species considered invasive.	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	Norwegian Directorate for Civil Protection	Number of forest fires, forest area burned	2003-2012	N/A
2	Norwegian Forest and Landscape Institute: Database of forest damages	Forest damage caused by insects and diseases	2000-2013	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
As listed in 8.1	According to FRA 2015 definitions
N/A	N/A
N/A	N/A
N/A	N/A

8.2.3 Original data

Data are taken directly from original source.

8.3 Analysis and processing of national data

8.3.1 Adjustment

Not necessary

8.3.2 Estimation and forecasting

Not applied

8.3.3 Reclassification

Not applied

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which forest area burned	0.942	198	0.117	119	0.346	122	3.883	205	0.128	65
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A


	... of which forest area burned	3.173	174	1.329	109	0.769	62	0.121	48	0.06	24
---	---------------------------------	-------	-----	-------	-----	-------	----	-------	----	------	----

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Neodiprion sertifer (affecting Pinus sylvestris)	2004-2006	20
1	Geometrid moths (In particular E. autumnata, affecting Betula pubescens)	2004-2013	300
2	Gremmeniella abietina (affecting Pinus sylvestris)	2001	10
2	Ash dieback - Chalara fraxinea	2008	N/A
2	Melampsoridium betulinum (affecting Betula spp.)	2010-2013	1000
2	Chrysomyxa abietis (affecting Picea abies)	2011-2013	1000
3	Storm damage "Dagmar"	2011	5
3	Storm damage	2001	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 3	Tier 3
<ul style="list-style-type: none"> Insects Diseases Severe weather events 	Tier 2	Tier 2

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	Damages are normally rather scattered and difficult to quantify in terms of area.	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

It seems unlikely that the pre-filled data give a correct description of the situation, taking into account forest development, management and level of damages.
--

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	Ministry of Agriculture and Food: The Forestry Act	N/A	2005	Under the Forestry Act is a specific regulation on sustainable forest management (of 2006) regarding environmental considerations, regeneration measures after harvest and forest health.
2	White paper No. 9 (2011-2012): Agriculture and Food Policy	N/A	2011-2012	N/A
3	White paper No. 21 (2011-2012): Norwegian Climate Policy	N/A	2011-2012	N/A
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
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			
... of which, in <u>publicly</u> owned forests	yes			
... of which, in <u>privately</u> owned forests	yes			
Legislation and regulations supporting sustainable forest management	yes			
... of which, in <u>publicly</u> owned forests	yes			
... of which, in <u>privately</u> owned forests	yes			

10.4 Comments

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

Other general comments

--

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

Documents for this question:

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

11.1 Categories and definitions

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

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

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

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	Implemented as a general principle for public administration.

Other general comments

A broad range of institutions and stakeholders are normally consulted when major policy documents are elaborated.

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	The Planning and Building Act	N/A	2008	N/A
2	The Land Act	N/A	1995	N/A
3	The Forestry Act	N/A	2005	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

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

12.2.3 Original data

--

12.3 Analysis and processing of national data

12.3.1 Adjustment

Not applied.



12.3.2 Estimation and forecasting

Not applied.

12.3.3 Reclassification

12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	12102
	... of which permanent forest estate	12102

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	Forest land cannot be converted to other land-use classes without approval from competent authority, in accordance with regional plans complying with national legislation.
Permanent forest estate	No such designation at the national level. Forest land cannot be converted to other land-use classes without approval from competent authority, in accordance with regional plans complying with national legislation.

Other general comments

--

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	Granhus et al. 2012: Skogen i Norge. Statistics of Forest Conditions and Resources in Norway	NFI data	2005-2009	The NFI main reports are usually issued every 5 years, i.e. after each complete cycle.
2	Sustainable Forest Management in Norway	Various data related to sustainable forest management	2014	Report is under preparation
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
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	2013	yes	yes	yes	yes	yes	no
Other field assessments	N/A	N/A	no	no	no	no	no	no
Updates to other sources	N/A	N/A	no	no	no	no	no	no
Expert estimate	N/A	N/A						

Table 13b

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

Other type of forest reporting
Reports disseminating results from the NFI

13.4 Comments

Category	Comments
Forest inventory	Continuous NFI assessment based on permanent plots is used for national reporting, while periodic NFI assessment including both permanent and temporary plots are used for regional reporting. Monitoring of land-use classes outside forest and OWL is mainly carried out by aerial photo interpretation.
Other field assessments	Some mapping programmes are covering most of the forests in the country and collecting basic forest information. These are, however, not organised in the national forest monitoring framework. Forest management planning is normally based on full-cover mapping, but does not cover the entire forest area and is not aggregated above the regional level.
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	Norwegian Environment Agency	Delineation of nature reserves and national parks.	2010	N/A
2	Statistics Norway: Survey of Agriculture and Forestry	Forest area with management plan	1989, 1999, 2003	N/A
3	Norwegian Forest and Landscape Institute. Database on the status of forest management planning.	Forest area with management plan, area of key habitats etc.	2010	A new system for forest management planning (including assessment of key habitats etc.) was introduced in 2001. The database only includes information on plans collected under the new system, although there may still exist older plans with relevance to current forest management
4	Norwegian Forest and Landscape Institute. The National Forest Inventory.	Forest area	2010	Sample plots in forest have been combined with the delineation of protected areas in order to estimate the area of forest inside these areas.

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
------------------	---------------------------

Forest area with management plan	3379
... of which for production	2902
... of which for conservation	477

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	0
---	---

Tiers

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

Tier criteria

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

14.4 Comments

Category	Comments
Forest area with management plan	Statistics on the coverage of forest management plans less than 15 years old was collected by Statistics Norway for the years 1989, 1999 and 2003. The forest under management plans was estimated at 3.72, 4.47 and 3.74 million ha, respectively. In addition, we should assume 10-15% that is included in regional plans, but not in plans for individual forest holdings. Management plans for protected areas represented at this time about 0.1-0.15 million ha and come in addition to these figures.

Forest area with management plan, of which for conservation	Comprise forest in protected areas (having specific management plans) and key habitats assessed as an element of normal management plans
Percent of area under forest management plan that is monitored annually	There is no government monitoring of management implementation, but a new plan is, on the average, prepared every 15 years. There are, however, significant local variations.

Other general comments

--

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	no
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
Stakeholder involvement	Public hearings are normally organised when establishing protected areas and for certain projects. However, there are no specific requirements.
N/A	N/A
N/A	N/A

Other general comments

--

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	5.1	5.1	5.1	5.1	0
	PEFC	5600	9100	9352	9149	9232	9232	9232
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	0	0	29.63	29.68	105.57	246.14	
	PEFC	7537	7397	9116	9116	9116	9126	
	Other	0	0	0	0	0	0	

Table 16b

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

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

Tier criteria

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

Tiers

Category	Tier for status
International forest management certification	Tier 2
Domestic forest management certification	Tier 3

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	The figures for FSC certification are considered reasonably correct. The current level of PEFC certification is also assumed to be satisfactory, however, the apparent trend is not correct due to inconsistent reporting. There is probably a gradual increase over the period.
Domestic forest management certification	N/A

Other general comments

--

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	Ministry of Agriculture and Food	Public expenditure on forestry	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

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	N/A	N/A	N/A
Public expenditure on forestry	N/A	203300	295500

	2000	2005	2010
Name of Local Currency	NOK	N/A	N/A

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	N/A
Public expenditure on forestry	N/A
Other general comments	N/A

Other general comments

--

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	Statistics Norway: Forest holdings and productive forest area, by ownership category 2012	Forest area by various ownership categories	2012	N/A
2	Norwegian Forest and Landscape Institute: The National Forest Inventory	Forest area (see Question 1)	2010	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
Individual owner	According to FRA 2015 definition
Other private	Corresponding to private business entities and institutions
Municipality and County Council	Corresponding to the state at the sub-national scale
Common forests not owned by Central government (Bygdeallmenning)	Local, tribal and indigenous communities
State	Corresponding to the state at the national scale
The Finnmark Estate (Finnmarkseiendommen)	The Finnmark Act (Finnmarksloven) transferred about 46,000 km ² in Finnmark County in Northern Norway, which equates to around 95 % of the county's total area, to the residents of Finnmark County. This land is here regarded as owned by local, tribal and indigenous communities

18.2.3 Original data

<p>Common forests not owned by Central government (Bygdeallmenning): 221443 ha</p> <p>+ The Finnmark Estate (Finnmarkseiendommen): 1105889 ha</p> <p>= Forest owned by local, tribal and indigenous communities: 1327332 ha</p> <p>Data for other classes are taken directly from national statistics.</p>
--

18.3 Analysis and processing of national data

18.3.1 Adjustment

Not applied.

18.3.2 Estimation and forecasting









Not required.

18.3.3 Reclassification

Not required.

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	N/A	N/A	N/A	1488
	... of which owned by the state at national scale	N/A	N/A	N/A	1214
	... of which owned by the state at the sub-national government scale	N/A	N/A	N/A	274
	Private ownership	N/A	N/A	N/A	9642
	... of which owned by individuals	N/A	N/A	N/A	7952
	... of which owned by private business entities and institutions	N/A	N/A	N/A	363
	... of which owned by local, tribal and indigenous communities	N/A	N/A	N/A	1327
	Unknown ownership	N/A	N/A	N/A	972

TOTAL	.00	.00	.00	12102.00
-------	-----	-----	-----	----------

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	N/A
Private ownership	Tier 3	N/A
Unknown ownership	Tier 3	N/A

Tier criteria

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

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	N/A	N/A	N/A	1467
Individuals	N/A	N/A	N/A	0
Private companies	N/A	N/A	N/A	0
Communities	N/A	N/A	N/A	21
Other	N/A	N/A	N/A	0
TOTAL	.00	.00	.00	1488.00

Category	Tier for reported trend	Tier for status
Public Administration	N/A	Tier 2
Individuals	N/A	Tier 2
Private companies	N/A	Tier 2
Communities	N/A	Tier 2

Other	N/A	Tier 2
-------	-----	--------

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	Unknown ownership does not necessarily mean that the ownership of a forest holding is undeclared or disputed, but is more often caused by missing data in public registers or a discrepancy between the forest area assessed by the NFI and the public registers.	N/A
Management rights	Management rights of public forests by Communities is a sub-category of Common forests owned by Central government. Data are taken from Arnesen, T. 2005: Statsallmenninger forvaltet som bygdeallmenninger - en modell for reform i allmenningsforvaltning?	N/A

Other general comments to the table

Reporting of total forest area has been considerably changed compared with previous forest assessments. Significant forest areas were not covered by older statistics, used for previous FRA reporting. Thus, ownership distribution before 2010 has not been reported.

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	Statistics Norway: Norwegian National Accounts	1990: 1988-1992 2000: 1998-2002 2005: 2003-2007 2010: 2008-2010	N/A	N/A
2	Statistics Norway: Employment. Register based	2010	N/A	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	According to FRA 2010 definition Persons who during a specified reference period performed some work for wage or salary in cash or in kind.
Self-employment	According to FRA 2010 definition Persons who during a specified reference period performed some work for profit or family gain in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).
N/A	N/A
N/A	N/A

19.2.3 Original data

--

Full time equivalent employment. Employees and self-employed (1000 full-time)						
Forestry and logging.						

	1987	5,9
	1988	5,6
	1989	5,4
	1990	5
	1991	5,1
	1992	5,4
	1993	5
	1994	4,6
	1995	4,6
	1996	4,6
	1997	4,6
	1998	4,6
	1999	4,5
	2000	4,6
	2001	4
	2002	4,1
	2003	4,1
	2004	4,4
	2005	4,4

	2006	4,9
	2007	5,7
	2008	6
	2009	6
	2010	5,9
	2011	6



Source: Statistics Norway. National Accounts

Employees and self employed in forestry and logging by 4th quarter. 1000-full time

	2009	2010	2011	2012
Men	5426	4895	4524	5572
Female	1227	1105	940	1244

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	5.3	4.36	4.7	5.97
	... of which female	N/A	N/A	N/A	1.31

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
----------	--	--------------------------------

Employment in forestry	Activities related to production of non-wood products and Christmas trees, forest inventories, fire fighting etc. are not included.	N/A
------------------------	---	-----

Other general comments to the table

The main original data from 1988 to 2011 shows employment in forestry in full time equivalent employment (Employees and self-employed (1000 full-time)). The figures in the first row in table 19.3 is derived from the first table of original data (5-years average). The second table of original data shows the employment by sex. This is used to derive the female share in table 19.3.

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)	5389	NOK	2011

20.3 Comments

Category	Comments
N/A	N/A

Other general comments

--

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	N/A	N/A	N/A	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

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	N/A	N/A

Table 21b

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

21.4 Comments

Category	Comments
Government target/aspiration for forest area	N/A

Forests earmarked for conversion

N/A

Other general comments

No such targets at the national level.
--