



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2005**

GREECE

COUNTRY REPORT



The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site (www.fao.org/forestry/fra2005).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2005 is:

Mette Løyche Wilkie
Senior Forestry Officer
FAO Forestry Department
Viale delle Terme di Caracalla
Rome 00100, Italy

E-mail: Mette.LoycheWilkie@fao.org

Readers can also use the following e-mail address: fra@fao.org

DISCLAIMER

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

Report preparation and contact person

No official report has been received from Greece.

This report is the result of a desk study prepared by the FRA 2005 secretariat in Rome, which summarizes existing available information using the established format for FRA 2005 country reports.

Contents

1	TABLE T1 – EXTENT OF FOREST AND OTHER WOODED LAND	5
1.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
1.2	NATIONAL DATA.....	5
1.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
1.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
1.5	DATA FOR NATIONAL REPORTING TABLE T1	5
1.6	COMMENTS TO NATIONAL REPORTING TABLE T1	5
2	TABLE T2 – OWNERSHIP OF FOREST AND OTHER WOODED LAND	5
2.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
2.2	NATIONAL DATA.....	5
2.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
2.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
2.5	DATA FOR NATIONAL REPORTING TABLE T2	5
3	TABLE T3 – DESIGNATED FUNCTION OF FOREST AND OTHER WOODED LAND	5
3.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
3.2	NATIONAL DATA.....	5
3.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
3.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
3.5	DATA FOR NATIONAL REPORTING TABLE T3	5
4	TABLE T4 – CHARACTERISTICS OF FOREST AND OTHER WOODED LAND	5
4.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
4.2	NATIONAL DATA.....	5
4.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
4.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
4.5	DATA FOR NATIONAL REPORTING TABLE T4	5
5	TABLE T5 – GROWING STOCK	5
5.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
5.2	NATIONAL DATA.....	5
5.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
5.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
5.5	DATA FOR NATIONAL REPORTING TABLE T5	5
6	TABLE T6 – BIOMASS STOCK.....	5
6.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
6.2	NATIONAL DATA.....	5
6.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
6.4	RECLASSIFICATION INTO FRA 2005 CLASSES.....	5
6.5	DATA FOR NATIONAL REPORTING TABLE T6	5
7	TABLE T7 – CARBON STOCK.....	5
7.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
7.2	NATIONAL DATA.....	5
7.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
7.4	DATA FOR NATIONAL REPORTING TABLE T7	5
8	TABLE T8 – DISTURBANCES AFFECTING HEALTH AND VITALITY	5
8.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
8.2	NATIONAL DATA.....	5
8.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
8.4	DATA FOR NATIONAL REPORTING TABLE T8	5
8.5	COMMENT TO NATIONAL REPORTING TABLE T8.....	5
9	TABLE T9 – DIVERSITY OF TREE SPECIES.....	5

9.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
9.2	NATIONAL DATA.....	5
9.3	DATA FOR NATIONAL REPORTING TABLE T9	5
10	TABLE T10 – GROWING STOCK COMPOSITION	5
11	TABLE T11 – WOOD REMOVAL	5
11.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
11.2	NATIONAL DATA.....	5
11.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
11.4	DATA FOR NATIONAL REPORTING TABLE T11	5
12	TABLE T12 – VALUE OF WOOD REMOVAL.....	5
13	TABLE T13 – NON-WOOD FOREST PRODUCT REMOVAL.....	5
14	TABLE T14 – VALUE OF NON-WOOD FOREST PRODUCT REMOVAL	5
15	TABLE T15 – EMPLOYMENT IN FORESTRY.....	5

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2005 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 <i>in situ</i> . 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 <i>in situ</i> ; 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”.
Other land with tree cover (Subordinated to “Other land”)	Land classified as “Other land”, spanning 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.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand		Forest, OWL	1964 and 1992	Secondary data source.
MCPFE, 2003. State of Europe’s Forests 2003				Secondary data source.
FAO, 2001. Global Forest Resources Assessment 2000. FAO Forestry Paper 140.				Secondary data source. Mainly based on UNECE/FAO, 2000.
FAOSTAT data, 2004.		Total area, Land area		

The UNECE/FAO 2000 report states that it is based on Greek forest inventories of 1964 and 1992, but it does not report any clear references of the published information. It also states that the definitions used at these two points in time may not be totally comparable.

1.2.2 Classification and definitions

The classification and definitions used in the UNECE/FAO report are the same as those being used by FRA 2005.

1.2.3 Original data

Source: UNECE/FAO 2000, Reference year: 1964 and 1992

Category	Area (1000 ha)	
	1964	1992
Forest	2 512	3 359
Other wooded land	3 960	3 154
Sub-total Forest and Other wooded land	6 472	6 513

Source: FAOSTAT, 2004

Category	Area (1000 ha)
Total land area	12 890
Inland water (calculated)	306
Total Country area	13 196

1.3 Analysis and processing of national data

1.3.1 Calibration

The area of Other land was calculated by subtracting the areas of Forest and Other wooded land from the total land area reported by FAOSTAT.

1.3.2 Estimation and forecasting

The areas of Forest and Other wooded land for the three reporting years were estimated by applying a linear interpolation and extrapolation of the original data.

1.4 Reclassification into FRA 2005 classes

No further reclassification is needed, as the national data already are presented according to the FRA 2005 categories.

1.5 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	3 299	3 601	3 752
Other wooded land	3 212	2 924	2 780
Other land ¹	6 379	6 365	6 358
...of which with tree cover	NDA	NDA	NDA
Inland water bodies	306	306	306
TOTAL	13 196	13196	13 196

1.6 Comments to National reporting table T1

The estimates for 2000 and 2005 are rough estimates based on an assessment for 1992 and on an average annual change rate for the period 1964 to 1992.

2 Table T2 – Ownership of Forest and Other wooded land

2.1 FRA 2005 Categories and definitions

Category	Definition
Private ownership	Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions.
Public ownership	Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes.
Other ownership	Land that is not classified either as “Public ownership” or as “Private ownership”.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand		Ownership	1992	Secondary data source.
MCPFE, 2003. State of Europe's Forests 2003				Secondary data source.

2.2.2 Classification and definitions

The definitions of public and private ownership according to UNECE/FAO 2000 are the same as those being used by FRA 2005.

2.2.3 Original data

Source: UNECE/FAO 2000, Reference year 1992

Category	Forest		OWL	
	1000 ha	%	1000 ha	%
Public ownership	2 603	77.49%	2 728	86.49%
Private ownership	756	22.51%	426	13.51%

2.3 Analysis and processing of national data

The UNECE reports figures on ownership only for the reference year 1992. No source of information has been found for any other reference year, neither any information indicating any trends as regards ownership. Hence, the same proportions have been applied to the areas as reported in table T1.

2.4 Reclassification into FRA 2005 classes

No further reclassification is needed, as the original data already are presented according to the FRA 2005 categories.

2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	742	810	434	395
Public ownership	2557	2791	2778	2529
Other ownership	0	0	0	0
TOTAL	3299	3601	3212	2924

3 Table T3 – Designated function of Forest and Other wooded land

3.1 FRA 2005 Categories and definitions

Types of designation

Category	Definition
Primary function	A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes.
Total area with function	Total area where a specific function has been designated, regardless whether it is primary or not.

Designation categories

Category / Designated function	Definition
Production	Forest / Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products.
Protection of soil and water	Forest / Other wooded land designated for protection of soil and water.
Conservation of biodiversity	Forest / Other wooded land designated for conservation of biological diversity.
Social services	Forest / Other wooded land designated for the provision of social services.
Multiple purpose	Forest / Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest / Other wooded land for which a specific function has not been designated or where designated function is unknown.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand		Areas available for wood supply, Areas not available for wood supply	1992	Secondary data source.

3.2.2 Original data

Forest area available/not available for wood supply.

UNECE/FAO reports that for 1992, out of the total area of Forest (3 359 000 ha), 3 094 000 hectares were available for wood supply and 265 000 hectares were not available for wood supply. This corresponds to 92.1 percent and 7.9 percent respectively.

Of the area not available for wood supply, 142 000 hectares were unavailable due to conservation/protection purposes, equalling 4.2 percent of the total forest area.

3.3 Analysis and processing of national data

3.3.1 Calibration

No calibration has been made.

3.3.2 Estimation and forecasting

UNECE/FAO reports values for 1992 only. No source of information has been found for any other reference year, neither any information indicating any trends as regards designated functions. Hence, the percentages presented as part of the original data have been applied to the forest areas as reported in table T1.

3.4 Reclassification into FRA 2005 classes

The forest area available for wood supply has been reclassified as 100 percent production.

The forest area unavailable for wood supply for conservation/protection reasons is reclassified into 100% Conservation of Biodiversity.

No or unknown function = Total area of forests - Production - Conservation of Biodiversity.

No information has been identified for the designated functions of other wooded land nor for estimating “Total Area with function”.

3.5 Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
Forest						
Production	3038	3317	3456	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Protection of soil and water	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Conservation of biodiversity	139	152	159	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Social services	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Multiple purpose	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	not appl.	not appl.	not appl.
No or unknown function	120	132	137	not appl.	not appl.	not appl.
Total - Forest	3 299	3 601	3 752	not appl.	not appl.	not appl.
Other wooded land						
Production				<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Protection of soil and water				<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Conservation of biodiversity				<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Social services				<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Multiple purpose				not appl.	not appl.	not appl.
No or unknown function	3 212	2 924	2 780	not appl.	not appl.	not appl.
Total – Other wooded land	3 212	2 924	2 780	not appl.	not appl.	not appl.

4 Table T4 – Characteristics of Forest and Other wooded land

4.1 FRA 2005 Categories and definitions

Category	Definition
Primary	Forest / Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified natural	Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.
Semi-natural	Forest / Other wooded land of native species, established through planting, seeding or assisted natural regeneration.
Productive plantation	Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods.
Protective plantation	Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (TBFRA 2000)		Areas available for wood supply	1992	Secondary data source.

4.2.2 Classification and definitions

National class	Definition
Plantation(s)	<p>Forest stands established by planting or/and seeding in the process of afforestation or reforestation. They are either:</p> <ul style="list-style-type: none"> • Of introduced species (all planted stands), or • Intensively managed stands of indigenous species which meet all the following criteria: one or two species at plantation, even age class, regular spacing.

4.2.3 Original data

UNECE/FAO reports the following figures for reference year 1992:

Category	Area
Forests	
Undisturbed by man	NDA
Semi-natural	NDA
Plantations	120
Other wooded land	
Undisturbed by man	0
Semi-natural	3 154

4.3 Analysis and processing of national data

4.3.1 Calibration

No calibration has been done.

4.3.2 Estimation and forecasting

Due to lack of other information, the area of plantations for 1992 has been used for all three reporting years.

4.4 Reclassification into FRA 2005 classes

In order to reclassify the national data for the category “semi-natural” into the FRA 2005 categories, some knowledge on regeneration methods used are indispensable. As such information is lacking, the area reported by UNECE/FAO as “semi-natural” has been assigned to the “Modified natural” category. Likewise, all areas reported as “Plantations” have been assigned to the “Protective plantation” category. The remaining forest area has been reclassified as “Modified natural”.

4.5 Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary	0	0	0	0	0	0
Modified natural ¹	3 181	3 472	3 618	3 212	2 924	2 780
Semi-natural	0	0	0	0	0	0
Productive plantation ²	0	0	0	0	0	0
Protective plantation	118	129	134	0	0	0
TOTAL	3 299	3 601	3 752	3 212	2 924	2 780

¹ UNECE did not distinguish between Modified natural and Semi-natural. As a result, all values reported as “Semi-natural” has been assigned to the “Modified natural” category.

² UNECE did not distinguish between protective and productive plantations. As a result, all values reported as “plantations” has been assigned to the “Protective plantation” category.

5 Table T5 – Growing stock

5.1 FRA 2005 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.
Commercial growing stock	The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of Z cm or more.

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (TBFRA 2000)			1992	Secondary data source. Growing stock information is a secretariat estimate based on different (unspecified) information sources

5.2.2 Classification and definitions

National class	Definition
Growing stock	The living tree component of the standing volume
Growing stock on forest available for wood supply	GS on forest where legal, economic or specific environmental restrictions do not have any significant impact on the supply of wood

5.2.3 Original data

Source: UNECE/FAO 2000 (secretariat estimate), reference year 1992

	Area	Gr.Stock	Vol/ha
	1000 ha	1000 m3	m3/ha
Total Forest	3 359	158 788	47.27
Forest available for wood supply	3 094	139 800	45.18

5.3 Analysis and processing of national data

5.3.1 Calibration

No calibration was needed.

5.3.2 Estimation and forecasting

UNECE/FAO reports values for 1992 only. The values have been calculated by using the volume per hectare figures for 1992 multiplied by the total forest area estimates for 1990, 2000 and 2005 (as shown in T1). The commercial growing stock has been estimated by multiplying the volume per hectare by the forest area estimates and by 92.1% which is the proportion of the forest area that is available for wood supply (from table T3).

5.4 Reclassification into FRA 2005 classes

The growing stock available for wood supply has been assumed to correspond to Commercial growing stock, although the definitions are not entirely identical. The FRA 2005 category Commercial growing stock is a subset of commercial or potentially commercial species above a certain diameter limit, growing on areas available for wood supply, while the UNECE category is the total growing stock on areas available for wood supply. Therefore, the FRA 2005 category should be somewhat less than the UNECE figures. However, there is no information available for estimating a percentage for reclassification.

5.5 Data for National reporting table T5

FRA 2005 Categories ³	Volume (million cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	156	170	177	0	0	0
Commercial growing stock	137	150	156	0	0	0

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm	NDA	
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm	NDA	
3. Minimum diameter of branches included in Growing stock (W)	cm	NDA	
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	cm	NDA	
5. Volume refers to “Above ground” (AG) or “Above stump” (AS)	AG / AS	NDA	
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/No	NDA	
7. If yes, then attach a separate note giving details of the change	Attachment		

³ The volume per ha for 1992 which has been used for estimates in this table was calculated by dividing the total volume of 1992 by the total area in the same year.

6 Table T6 – Biomass stock

6.1 FRA 2005 Categories and definitions

Category	Definition
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
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.
Dead wood biomass	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.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (TBFRA 2000)			1992	Secondary data source. Growing stock information is a secretariat estimate based on different (unspecified) information sources

6.2.2 Classification and definitions

The UNECE/FAO 2000 report distinguishes two categories of biomass: Above-stump biomass and Stump and root biomass. There is a small difference in the definitions of the biomass fractions as compared to FRA 2005 regarding the stump biomass. In UNECE/FAO 2000 the stump biomass is grouped together with the root biomass, while in FRA 2005 the above-ground portion of the stump belongs to Above-ground biomass.

6.2.3 Original data

No data on biomass is presented in the data source. The data presented in this table has been derived from the available information on carbon for different biomass categories (see chapter 6.2.3) and applying a default carbon content of 50%. The original data will then be as follows:

Category	Tg biomass (Oven dry weight)
Above stump biomass	87.72
Stump and root biomass	17.34

Note that one Teragram (Tg) is 1×10^{12} g and equals one million metric tonne. The above data only refer to Forest. No information on biomass of dead wood has been found.

6.3 Analysis and processing of national data

6.3.1 Calibration

No calibration was needed.

6.3.2 Estimation and forecasting

UNECE/FAO reports values for 1992 only. The values have been calculated by using the biomass per hectare figure for 1992 multiplied by the total forest area for 1990, 2000 and 2005 as estimated in T1.

6.4 Reclassification into FRA 2005 classes

”Above-stump biomass” is considered to correspond to “Above-ground biomass” and “Stump and root biomass” is considered to correspond to “Below-ground biomass”.

6.5 Data for National reporting table T6

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	86.2	94.0	98.0	NDA	NDA	NDA
Below-ground biomass	17.0	18.6	19.4	NDA	NDA	NDA
Dead wood biomass	NDA	NDA	NDA	NDA	NDA	NDA
TOTAL	103.2	112.6	117.4	NDA	NDA	NDA

7 Table T7 – Carbon stock

7.1 FRA 2005 Categories and definitions

Category	Definition
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 living 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 biomass	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 a minimum diameter chose by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

7.2 National data

No national data on carbon stocks are available. Biomass data from table T6 have been used as input.

7.3 Analysis and processing of national data

Biomass data from table T6 were multiplied by the default carbon factor 0.5.

7.4 Data for National reporting table T7

FRA 2005 Categories	Carbon (Million metric tonnes)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Carbon in above-ground biomass	43.1	47.0	49.0	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Carbon in below-ground biomass	8.5	9.3	9.7	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Sub-total: Carbon in living biomass	51.6	56.3	58.7	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Carbon in dead wood	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Carbon in litter	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Sub-total: Carbon in dead wood and litter	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
Soil carbon to a depth of _____ cm	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>
TOTAL CARBON	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>	<i>NDA</i>

8 Table T8 – Disturbances affecting health and vitality

8.1 FRA 2005 Categories and definitions

Category	Definition
Disturbance by fire	Disturbance caused by wildfire, independently whether it broke out inside or outside the forest/OWL.
Disturbance by insects	Disturbance caused by insect pests that are detrimental to tree health.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as a bacteria, fungi, phytoplasma or virus.
Other disturbance	Disturbance caused by other factors than fire, insects or diseases.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UNECE/FAO, 2000. Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (TBFA 2000)		Fire	1990-1997	Secondary data source.

8.2.2 Classification and definitions

National class	Definition
Forest Fire	Fire which breaks out and spreads on forest and other wooded land or which breaks out on other land and spreads to forest and other wooded land. <i>Excludes:</i> Prescribed or controlled burning, usually with the purpose of reducing or eliminating the quantity of accumulated fuel on the ground.

8.2.3 Original data

Source: UNECE/FAO, 2000.

Category	1990	1991	1992	1993	1994	1995	1996	1997
	1000 hectares							
Area of Forest burned	18.49	13.05	49.56	24.20	23.39	9.04	7.59	12.60
Area of Other wooded land burned	NDA	NDA	NDA	23.73	29.25	10.14	11.66	16.92
Total area burned	18.49	13.05	49.56	47.93	52.64	19.18	19.25	29.52

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

Due to lack of complete time series, 5 year averages have not been calculated. Instead, the 1990 value has been used directly and the value for 1997 has been used for year 2000.

8.4 Data for National reporting table T8

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by fire	18.5	12.6	NDA	16.9
Disturbance by insects	NDA	NDA	NDA	NDA
Disturbance by diseases	NDA	NDA	NDA	NDA
Other disturbance	NDA	NDA	NDA	NDA

8.5 Comment to National reporting table T8

Due to lack of complete time series, 5 year averages have not been calculated. Instead, the 1990 value has been used directly and the value for 1997 has been used for year 2000.

9 Table T9 – Diversity of tree species

9.1 FRA 2005 Categories and definitions

Category	Definition
Number of native tree species	The total number of native tree species that have been identified within the country.
Number of critically endangered tree species	The number of native tree species that are classified as “Critically endangered” in the IUCN red list.
Number of endangered tree species	The number of native tree species that are classified as “Endangered” in the IUCN red list.
Number of vulnerable tree species	The number of native tree species that are classified as “Vulnerable” in the IUCN red list.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
IUCN Red List of threatened species			2000	

9.3 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	NDA
Critically endangered tree species	0
Endangered tree species	0
Vulnerable tree species	0

10 Table T10 – Growing stock composition

No information has been found to support estimates of the growing stock composition.

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

Category	Definition
Industrial wood removal	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removal	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
FAOSTAT, 2004		Wood production		

11.2.2 Classification and definitions

FAOSTAT uses the same definition of the categories Industrial roundwood and Woodfuel as FRA 2005. It is assumed that the term “Production” used in FAOSTAT can be used as a good estimate of “Removal”, although these terms are not identical.

FRA 2005 requests information on wood removal as volume over bark while the FAOSTAT figures refer to volume under bark. The figures are converted from volume under bark to volume over bark by application of a bark factor. The bark factor used is the “global” default conversion factor of 1.15.

11.2.3 Original data

FAOSTAT provides the following data on wood production in m³ under bark for the periods 1988-1992 and 1998 – 2002:

	1988	1989	1990	1991	1992	Average
Industrial roundwood	944 000	1 109 000	1 146 000	1 196 000	684 000	1 015 800
Woodfuel	2 158 000	1 382 000	1 346 000	1 350 000	1 637 000	1 574 600

	1998	1999	2000	2001	2002	Average
Industrial roundwood	495 000	811 000	643 528	514 932	498 297	592 551
Woodfuel	1 197 000	1 403 000	1 601 407	1 400 590	1 093 000	1 338 999

11.3 Analysis and processing of national data

The five-year averages representing 1990 and 2000 were converted to volumes over bark by multiplying the volumes by the default bark factor of 1.15. The 2005 figure was forecasted by linear extrapolation.

11.4 Data for National reporting table T11

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	1 168	681	438			
Woodfuel	1 811	1 540	1 404			
TOTAL for Country	2 979	2 221	1 842			

12 Table T12 – Value of wood removal

No information has been found to support estimates of the value of wood removal.

13 Table T13 – Non-wood forest product removal

No information has been found to support estimates on removal of non-wood forest products.

14 Table T14 – Value of non-wood forest product removal

No information has been found to support estimates of the value of non-wood forest products removal.

15 Table T15 – Employment in forestry

No information has been found to support estimates of employment in forestry activities.