



**Forestry Department**

**Food and Agriculture Organization of the United Nations**

**GLOBAL FOREST RESOURCES  
ASSESSMENT 2010**

**COUNTRY REPORT**

**AUSTRIA**

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## 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 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site ([www.fao.org/forestry/fra](http://www.fao.org/forestry/fra)).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA 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.

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# 1 Table T1 – Extent of Forest and Other wooded land

## 1.1 FRA 2010 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
Austrian Forest Inventory, Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Vienna, <a href="http://bfw.ac.at/700/700.html">http://bfw.ac.at/700/700.html</a>	H	Forest area, OWL area	1988, 1994, 2001	Assessments 1986/90, 1992/96 and 2000/02

### 1.2.2 Classification and definitions

National class	Definition
Waldfläche (Forest and other wooded land)	Land with tree species according the Austrian Forest Act 1975 or shrub and bushes spanning more than 0,05 hectares (minimum width: 10 meter) and a canopy cover of more than 30 percent.
Strauchfläche (Other wooded land)	Land with shrub and bushes spanning more than 0.05 hectares (minimum width: 10 meter), including areas with <i>pinus mugo</i> and <i>alnus viridis</i> .

### 1.2.3 Original data

FRA Categories	Area (1000 hectares)		
	1988	1994	2001
Forest	3759	3809	3843
Other wooded land	119	115	117
...of which "Strauchfläche" (OWL) in "Ertragswald" (forests in yield)	32	26	26
...of which "Strauchfläche" (OWL) in "Schutzwald außer Ertrag" (protective forest without yield)	linear extrapolated: 87	89	91
<b>TOTAL (Forest + OWL)</b>	<b>3878</b>	<b>3924</b>	<b>3960</b>

Remark:

Other wooded land = "Strauchfläche" in all "Betriebsarten" (silvicultural systems) (including those in "Schutzwald außer Ertrag" (protective forest without yield)).

Forest = "Waldfläche" without "Strauchfläche".

## 1.3 Analysis and processing of national data

### 1.3.1 Calibration

Not needed.

### 1.3.2 Estimation and forecasting

Linear interpolation/extrapolation is used for forest and OWL.

Figures for 1990 and 2000 are interpolated between 1988 (1986/90), 1994 (1992/96) and 2001 (2000/02) with the exception of "Strauchfläche" in "Schutzwald außer Ertrag" (OWL in protective forest without yield). This part of OWL figure is extrapolated for 1990, as there was no assessment in 1986/90 for this category.

Figures for 2005 and 2010 are extrapolated on the basis of 1994 (1992/96) and 2001 (2000/02).

Other land = country area (FAOSTAT) – forest area – other wooded land – inland water bodies.

### 1.3.3 Reclassification into FRA 2010 categories

Not needed.

## 1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	3776	3838	3862	3887
Other wooded land	118	117	118	119
Other land	4351	4290	4265	4239
...of which with tree cover	n. a.	n. a.	n. a.	n. a.
Inland water bodies	142	142	142	142
<b>Total for country</b>	<b>8387</b>	<b>8387</b>	<b>8387</b>	<b>8387</b>

## 1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest		
Other wooded land		
Other land		
Other land with tree cover		
Inland water bodies	FAOSTAT data are used.	

### Other general comments to the table

The Austrian minimum Forest + OLW area is 0.05 hectares. This causes a larger area in comparison with the FRA 2010 definition of 0.5 hectares.

The Austrian minimum Forest + OWL canopy cover is 30 percent. This causes a smaller area in comparison with the FRA 2010 definition of 10 percent.

It is assumed that both differences cancel out each other.

### Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

Field inventory	2009 (results will be available end of 2010)
Remote sensing survey / mapping	In addition to the field inventory several complementary (detail-/pilot-) projects are ongoing.

## 2 Table T2 – Forest ownership and management rights

### 2.1 FRA 2010 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.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (sub-category of Private ownership)	Forest owned by individuals and families.
Private business entities and institutions (sub-category of Private ownership)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (sub-category of Private ownership)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (sub-category of Private ownership)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
<b>Categories related to the holder of management rights of public forest resources</b>	
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 institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit 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.

## 2.2 National data

### 2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official statistics on forestry, Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna, <a href="http://www.lebensministerium.at">www.lebensministerium.at</a>	H	Forest area (incl. OWL) according ownership categories	1990, 2000, 2005	Forest ownership statistics is based on the Austrian land register (Kataster).
Farm structure surveys 1990, 1999 and 2005 (Land- und Forstwirtschaftliche Betriebszählung 1990; Agrarstrukturerhebung 1999; Agrarstrukturerhebung 2005), Statistics Austria	H	Forest area (incl. OWL) according ownership categories	1990, 1999, 2005	
Austrian Forest Inventory		Forest and OWL area		See Table T1.

### 2.2.2 Classification and definitions

National class	Definition

### 2.2.3 Original data

Figures based on Austrian land register:

	Hectares	%
<b>2005</b>		
<b>TOTAL (Forest + OWL)</b>	<b>3.589.106</b>	<b>100,00</b>
Private forests < 200 hectares	1.765.111	49,18
Private forests > 200 hectares	772.848	21,53
Community forests	352.859	9,83
<b>SUM Private ownership</b>	<b>2.890.818</b>	<b>80,54</b>
Municipal forests	68.995	1,92
Provincial forests	50.084	1,40
Austrian Federal Forests and other publicly owned forests	579.210	16,14
<b>SUM Public ownership</b>	<b>698.289</b>	<b>19,46</b>
<b>2000</b>		
<b>TOTAL (Forest + OWL)</b>	<b>3.576.638</b>	<b>100,00</b>
Private forests < 200 hectares	1.770.979	49,52
Private forests > 200 hectares	770.542	21,54
Community forests	333.830	9,33
<b>SUM Private ownership</b>	<b>2.875.351</b>	<b>80,39</b>
Municipal forests	81.629	2,28
Provincial forests	44.082	1,23
Austrian Federal Forests and other publicly owned forests	575.577	16,09
<b>SUM Public ownership</b>	<b>701.288</b>	<b>19,61</b>
<b>1990</b>		
<b>TOTAL (Forest + OWL)</b>	<b>3.492.173</b>	<b>100,00</b>
Private forests < 50 hectares	1.360.481	38,96
Private forests > 50 hectares	911.788	26,11
Church forests	144.782	4,15
Community forests	330.081	9,45
<b>SUM Private ownership</b>	<b>2.747.132</b>	<b>78,67</b>
Municipal forests	88.636	2,54
Provincial forests	46.033	1,32
Austrian Federal Forests	570.137	16,33
Other publicly owned forests	40.235	1,15
<b>SUM Public ownership</b>	<b>745.041</b>	<b>21,33</b>

### **Figures based on farm structure surveys:**

Proportion on forest + OWL area owned by individuals:

1990 (census):	57.45%	
1999 (census):	53.14%	estimation by NC: 55%
2005 (sample survey):	58.27%	

As the surveys differ in methodology and categorisation, the same estimation (55%) is used for all three reference years.

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

### **2.3.1 Calibration**

Not needed.

### **2.3.2 Estimation and forecasting**

The above proportions of ownership from chapter 2.2.3 are used on the Forest and OWL figures from T1. As there are no figures for Forest and OWL separately available, it is assumed, that the ownership distribution is equal in both categories.

The Austrian land register gives information on public ownership, total private ownership and private ownership owned by local communities.

The farm structure surveys give information on private ownership owned by individuals.

Private ownership owned by private business entities and institutions = total private ownership – private ownership owned by individuals – private ownership owned by local communities.

### **2.3.3 Reclassification into FRA 2010 categories**

Not needed.

## 2.4 Data for Table T2

**Table 2a - Forest ownership**

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	805	753	751
Private ownership	2970	3085	3111
...of which owned by individuals	2077	2111	2124
...of which owned by private business entities and institutions	536	616	607
...of which owned by local communities	357	358	380
...of which owned by indigenous / tribal communities	0	0	0
Other types of ownership	0	0	0
<b>TOTAL</b>	<b>3776</b>	<b>3838</b>	<b>3862</b>

Note: If other types of ownership is reported, please specify details in comment to the table.

Does ownership of trees coincide with ownership of the land on which they are situated?	<input checked="" type="checkbox"/>	Yes
	<input type="checkbox"/>	No
If <b>No</b> above, please describe below how the two differ:		

**Table 2b - Holder of management rights of public forests**

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	805	753	751
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
<b>TOTAL</b>	<b>805</b>	<b>753</b>	<b>751</b>

## 2.5 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership		
Private ownership	Figures for individuals and private business entities and institutions are estimations or calculations based on estimations. See 2.2.3 and 2.3.2!	Therefore trends on subcategories individuals and private business entities and institutions are not meaningful.
Other types of ownership		
Management rights		

Other general comments to the table

### 3 Table T3 – Forest designation and management

#### 3.1 FRA 2010 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.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
<b>Categories of primary designated functions</b>	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
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.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
<b>Special designation and management categories</b>	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

#### 3.2 National data

##### 3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Waldentwicklungsplan (Forest Development Plan), Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna.	H	Key forest function areas (economic, protective, beneficial, recreational)	Status 1991, status 2009	No distinction between forests and OWL.
Forests in Protected Areas in Austria. Classification of Protected Forest Areas according to the Criteria of the Ministerial	H	Forest areas in protected areas	2002	No distinction between forests and OWL.

Conference on the Protection of Forests in Europe (MCPFE) (SCHWARZL B. & AUBRECHT P., 2003). Federal Environment Agency Vienna. <a href="http://www.umweltbundesamt.at/news070314">http://www.umweltbundesamt.at/news070314</a>		according to MCPFE classification		
Wald in Schutzgebieten – Update 2009 (Forests in Protected Areas – Update 2009. Classification of Protected Forest Areas according to the Criteria of the Ministerial Conference on the Protection of Forests in Europe (MCPFE)) (SCHWARZL B., 2009). Umweltbundesamt, Vienna.	H	Forest areas in protected areas according to MCPFE classification	2009	No distinction between forests and OWL.

### 3.2.2 Classification and definitions

National class	Definition
Key forest function (The Forest Development Plan displays for the whole forest area the respective key forest function.)	The Austrian Forest Act defines four functions: economic, protective, beneficial and recreational function. The key forest function is those with the prior public benefit.
Economic function	...is equivalent to FRA 2010 category “Production”
Protective function	...is equivalent to FRA 2010 sub-category “Protection of soil”
Beneficial function	...is equivalent to FRA 2010 sub-category “Protection of water”
Recreational function	...is equivalent to FRA 2010 category “Social services”
Forests in Protected Areas MCPFE classes 1.1 + 1.2 + 1.3 (= MCPFE class 1.x)	...is equivalent to FRA 2010 category “Conservation of biodiversity”

### 3.2.3 Original data

1991

Key forest function (Forest Development Plan)	km <sup>2</sup>	%	Equivalent to FRA 2010 category
Economic function	22,172.92	69.42	Production
Protective function	8,351.03	26.14	Protection of soil and water
Beneficial function	1,116.78	3.50	Protection of soil and water
Recreational function	299.68	0.94	Social services
TOTAL Forest area according to Forest Development Plan	31,940.41	100.00	

2002

	km <sup>2</sup>	%	Equivalent to FRA 2010 category
Total Forest Area according to ÖK50 (1:50,000)	38,835	100.00	
Forests in Protected Areas	10,191		
MCPFE class 1.x (1.1 + 1.2 + 1.3)	1,167	3.005	Conservation of biodiversity
MCPFE class 1.1	0		
MCPFE class 1.2	281		
MCPFE class 1.3	885		
MCPFE class 2	9,025		

1991x2002

<b>Intersection</b>	<b>km<sup>2</sup></b>	<b>%</b>	<b>Equivalent to FRA 2010 category</b>
Class (MCPFE) 1.x x Economic key function	247.03	25.49	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	630.87	65.10	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	84.19	8.69	Protection of soil and water
Class (MCPFE) 1.x x Recreational key function	6.94	0.72	Conservation of biodiversity
<b>TOTAL</b>	<b>969.03</b>	<b>100.00</b>	

2009

<b>Key forest function (Forest Development Plan)</b>	<b>km<sup>2</sup></b>	<b>%</b>	<b>Equivalent to FRA 2010 category</b>
Economic function	24,101.97	62.49	Production
Protective function	11,491.10	29.79	Protection of soil and water
Beneficial function	2,604.64	6.75	Protection of soil and water
Recreational function	373.51	0.97	Social services
<b>TOTAL categorised forest area according to Forest Development Plan</b>	<b>38,571.22</b>	<b>100.00</b>	

2009

	<b>km<sup>2</sup></b>	<b>%</b>	<b>Equivalent to FRA 2010 category</b>
Total Forest Area according to ÖK50 (1:50,000)	38,773	100.00	
Forests in Protected Areas – SUM	6,586		
MCPFE class 1.x (1.1 + 1.2 + 1.3)	2,912	7.51	Conservation of biodiversity
MCPFE class 1.1	0		
MCPFE class 1.2	322		
MCPFE class 1.3	2,590		
MCPFE class 2	3,674		

2009x2009

<b>Intersection</b>	<b>km<sup>2</sup></b>	<b>%</b>	<b>Equivalent to FRA 2010 category</b>
Class (MCPFE) 1.x x Economic key function	1,028.65	36.16	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	1,302.01	45.77	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	491.62	17.28	Protection of soil and water
Class (MCPFE) 1.x x Recreational key f.	22.44	0.79	Conservation of biodiversity
<b>TOTAL</b>	<b>2,844.72</b>	<b>100.00</b>	

### 3.3 Analysis and processing of national data

#### 3.3.1 Calibration

##### 1990 (1991)

The percentages from 1991 (Forest Development Plan) have been applied to the forest area for 1990 from Table T1. No protected areas data (conservation of biodiversity) are available.

Key forest function (Forest Development Plan)	%	1000 hectares	Equivalent to FRA 2010 category
Economic function	69.42	2,621.30	Production
Protective function	26.14	987.05	Protection of soil and water
Beneficial function	3.50	132.16	Protection of soil and water
Recreational function	0.94	35.49	Social services
<b>Forest area in 2000 according to Table T1</b>	<b>100.00</b>	<b>3,776.00</b>	

##### 2000 (1991x2002)

The percentages from 1991 (Forest Development Plan) and 2002 (Protected areas) have been applied to the forest area for 2000 from Table T1.

Key forest function (Forest Development Plan)	%	1000 hectares	Equivalent to FRA 2010 category
Economic function	69.42	2,664.34	Production
Protective function	26.14	1,003.25	Protection of soil and water
Beneficial function	3.50	134.33	Protection of soil and water
Recreational function	0.94	36.08	Social services
<b>Forest area in 2000 according to Table T1</b>	<b>100.00</b>	<b>3,838.00</b>	

	%	km <sup>2</sup>	%	Equivalent to FRA 2010 category
<b>Class (MCPFE) 1.x</b>	<b>100.00</b>	<b>1,167</b>	<b>3.005</b>	
Class (MCPFE) 1.x x Economic key function	25.49	297.47	0.766	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	65.10	759.72	1.956	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	8.69	101.41	0.261	Protection of soil and water
Class (MCPFE) 1.x x Recreational key f.	0.72	8.40	0.022	Conservation of biodiversity
<b>Total Forest Area according to ÖK50 (Map of Austria 1:50,000)</b>		<b>38,835</b>	<b>100.00</b>	

	%	1000 hectares	Equivalent to FRA 2010 category
<b>Class (MCPFE) 1.x</b>	<b>3.005</b>	<b>115.33</b>	
Class (MCPFE) 1.x x Economic key function	0.766	29.40	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	1.956	75.07	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	0.261	10.02	Protection of soil and water
Class (MCPFE) 1.x x Recreational key function	0.022	0.84	Conservation of biodiversity
<b>Forest area in 2000 according to Table T1</b>	<b>100.00</b>	<b>3,838.00</b>	

2005 + 2010 (2009x2009)

The percentages from 2009 (Forest Development Plan) and 2009 (Protected areas) have been applied to the forest area for 2005 and 2010 from Table T1.

Key forest function (Forest Development Plan)	%	1000 hectares	Equivalent to FRA 2010 category
Economic function	62.49	2,413.36	Production
Protective function	29.79	1,150.49	Protection of soil and water
Beneficial function	6.75	260.69	Protection of soil and water
Recreational function	0.97	37.46	Social services
<b>Forest area in 2005 according to Table T1</b>	<b>100.00</b>	<b>3,862.00</b>	

Key forest function (Forest Development Plan)	%	1000 hectares	Equivalent to FRA 2010 category
Economic function	62.49	2,428.99	Production
Protective function	29.79	1,157.94	Protection of soil and water
Beneficial function	6.75	262.37	Protection of soil and water
Recreational function	0.97	37.70	Social services
<b>Forest area in 2010 according to Table T1</b>	<b>100.00</b>	<b>3,887.00</b>	

	%	km <sup>2</sup>	%	Equivalent to FRA 2010 category
<b>Class (MCPFE) 1.x</b>	<b>100.00</b>	<b>2,912</b>	<b>7.510</b>	
Class (MCPFE) 1.x x Economic key function	36.16	1,052.98	2.716	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	45.77	1,332.82	3.437	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	17.28	503.19	1.298	Protection of soil and water
Class (MCPFE) 1.x x Recreational key f.	0.79	23.01	0.059	Conservation of biodiversity
<b>Total Forest Area according to ÖK50 (Map of Austria 1:50,000)</b>		<b>38,773</b>	<b>100</b>	

	%	1000 hectares	Equivalent to FRA 2010 category
<b>Class (MCPFE) 1.x</b>	<b>7.510</b>	<b>290.04</b>	
Class (MCPFE) 1.x x Economic key function	2.716	104.89	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	3.437	132.74	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	1.298	50.13	Protection of soil and water
Class (MCPFE) 1.x x Recreational key function	0.059	2.28	Conservation of biodiversity
<b>Forest area in 2005 according to Table T1</b>	<b>100.00</b>	<b>3,862.00</b>	

	%	1000 hectares	Equivalent to FRA 2010 category
<b>Class (MCPFE) 1.x</b>	<b>7.510</b>	<b>291.91</b>	
Class (MCPFE) 1.x x Economic key function	2.716	105.57	Conservation of biodiversity
Class (MCPFE) 1.x x Protective key function	3.437	133.60	Protection of soil and water
Class (MCPFE) 1.x x Beneficial key function	1.298	50.45	Protection of soil and water
Class (MCPFE) 1.x x Recreational key function	0.059	2.29	Conservation of biodiversity
<b>Forest area in 2010 according to Table T1</b>	<b>100.00</b>	<b>3,887.00</b>	

### 3.3.2 Estimation and forecasting

1990, 2000, 2005 and 2010: All available relevant national data refer to the combined area of forest + OWL. FRA 2010 T3 refers only to forest area. Therefore it is assumed that the conditions on forest area are the same as on OWL.

1990: 1991 “Forest Development Plan” data are used without extrapolation.

2000: 1991 “Forest Development Plan” and 2002 “Forests in protected areas” data are used without any extra/interpolation.

2005 and 2010: 2009 “Forest Development Plan” and 2009 “Forests in protected areas” data are used without any extra/interpolation.

### 3.3.3 Reclassification into FRA 2010 categories

The breakdown of forest area was done according to the Forest Development Plan key functions (economic, protective, beneficial and recreational function). Areas dedicated for conservation of biodiversity area were generated (for 2000, 2005 and 2010) by intersection of Forest Development key functions and MCPFE protected forest area class 1.x according to following prioritisation rule:

1. Protective key function and beneficial key function (Protection of soil and water)
2. Class (MCPFE) 1.x (Conservation of biodiversity)
3. Recreation key function (Social services)
4. Economic key function (Production)

1990

Production = **2,621.30**

Protection of soil and water = **1,119.21**

Conservation of biodiversity = **n. a.**

Social services = **35.49**

2000

Production =  $2,664.34 - 29.40 =$  **2,634.94**

Protection of soil and water =  $1,003.25 + 134.33 =$  **1,137.58**

Conservation of biodiversity =  $29.40 + 0.84 =$  **30.24**

Social services =  $36.08 - 0.84 =$  **36.32**

2005

Production =  $2,413.36 - 104.89 =$  **2,308.47**

Protection of soil and water =  $1,150.49 + 260.69 =$  **1,411.18**

Conservation of biodiversity =  $104.89 + 2.28 =$  **107.17**

Social services =  $37.46 - 2.28 =$  **35.18**

2010

Production =  $2,428.99 - 105.57 =$  **2,323.42**

Protection of soil and water =  $1,157.94 + 262.37 =$  **1,420.31**

Conservation of biodiversity =  $105.57 + 2.29 =$  **107.86**

Social services =  $37.70 - 2.29 =$  **35.41**

### 3.4 Data for Table T3

**Table 3a – Primary designated function**

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	2621	2635	2308	2323
Protection of soil and water	1119	1138	1411	1420
Conservation of biodiversity	n. a.	30	107	108
Social services	35	36	35	35
Multiple use	0	0	0	0
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
<b>TOTAL</b>	<b>3776</b>	<b>3838</b>	<b>3862</b>	<b>3887</b>

**Table 3b – Special designation and management categories**

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	3776	3838	3862	3887
Forest area within protected areas	n. a.	1019	659	659
Forest area under sustainable forest management	3776	3838	3862	3887
Forest area with management plan	1888	1919	1931	1944

### 3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		
Protection of soil and water		
Conservation of biodiversity		
Social services		
Multiple use		
Other		
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas		
Forest area under sustainable forest management	The whole forest area is PEFC certified.	
Forest area with management plan	The estimation of experts that 50% of total forest area is managed according to a management plan is based on the assumption, that all community, municipal, provincial and federal forests as well as private forests owners organized in joint forest management ventures have management plan. In addition nearly all forest enterprises >500 ha and a small percentage of private forests <500ha use management plans as well.	

Other general comments to the table

## 4 Table T4 – Forest characteristics

### 4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> 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).
<b>Characteristics categories</b>	
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.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
<b>Special categories</b>	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

### 4.2 National data

#### 4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hemerobie österreichischer Waldökosysteme (Hemeroby of Austrian Forest Ecosystems), Österreichische Akademie der Wissenschaften. G. Grabherr ... - Innsbruck: Wagner, 1998. (Veröffentlichung des Österreichischen MaB-Programms; Bd. 17)	H	Percentage of forest cover referring to each level of naturalness (Hemeroby classes 1-9 or 5 reduced classes: natural, seminatural, moderately altered, altered, artificial)	1995	Hemeroby study was carried out in co-operation with the Austrian Forest Inventory.

## 4.2.2 Classification and definitions

Reduced classes of naturalness	Hemeroby values	Hemeroby classes	BLUME & SUKOPP 1976
Natural	9	Ahemerob	Ahemerob
Seminatural	8	Gamma-oligohemerob	Ahemerob
Seminatural	7	Beta-oligohemerob	Oligohemerob
Moderately altered	6	Alpha-oligohemerob	Oligohemerob
Moderately altered	5	Beta-mesohemerob	Oligohemerob
Altered	4	Alpha-mesohemerob	Mesohemerob
Altered	3	Beta-euhemerob	Mesohemerob
Artificial	2	Alpha-euhemerob	Alpha-, beta-euhemerob
Artificial	1	Polyhemerob	Polyhemerob
			Metahemerob

The naturalness level (hemeroby value) is the result of a logical combination of 11 individual criteria:

- Naturalness of tree composition
- Naturalness of ground flora
- Typ of tree-regeneration
- Clearcut areas
- Recent impact of man
- State of development
- Age structure
- Dead wood
- Stand structure
- Diversity of tree species
- Diversity of the ground layer

## 4.2.3 Original data

National class (forest + OWL)	%	FRA 2010 Categories (only forest)
Natural	3	Primary forest
Seminatural	22	
Moderately altered	41	
Altered	27	
Altered, forest exploitation less intensive (relative utilization intensity 6-9)	8.64 (32% of altered)	
Altered, forest exploitation intensive – moderately intensive (relative utilization intensity 1-5)	18.36 (68% of altered)	
Artificial	7	
Total forest area (forest + OWL)	100	

### 4.3 Analysis and processing of national data

#### 4.3.1 Calibration

Not needed.

#### 4.3.2 Estimation and forecasting

In many older forests stands, retrospectively, it is impossible to identify, whether the regeneration happened naturally or artificially (by planting or deliberate seeding). For this reason the NFI doesn't collect any information about origin of older stands. Due to lack of any other information concerning the origin of older stands it is not possible to form an estimate.

There is one source for information on primary wooded land, the Hemeroby study (see 4.2.1). The national category "natural" corresponds to the FRA 2010 category "primary forest". However, the national data belong to forests and OWL and FRA 2010 only to forests. As it is assumed that a high percentage of natural areas belong to OWL it is not possible to estimate the share for forests alone.

Conclusion: It is not possible to give any information in table 4a.

### 4.4 Data for Table T4

**Table 4a**

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest				
Other naturally regenerated forest				
...of which of introduced species				
Planted forest				
...of which of introduced species				
<b>TOTAL</b>				

**Table 4b**

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	0	0	0	0
Bamboo (Forest and OWL)	0	0	0	0

#### 4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	Available data belong to the whole area of forest and OWL together. A statement on “forest area” is not possible (see 4.3.2).	
Other naturally regenerating forest	No data available (see 4.3.2).	
Planted forest	No data available (see 4.3.2).	
Rubber plantations	Not applicable.	
Mangroves	Not applicable.	
Bamboo	Not applicable.	

Other general comments to the table
Conclusion: It is not possible to give any information in table 4a.

## 5 Table T5 – Forest establishment and reforestation

### 5.1 FRA 2010 Categories and definitions

Term	Definition
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	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).

### 5.2 National data

#### 5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Inventory (BFW)	H	Increase of forest area (incl. OWL) split into planting/seeding (afforestation), natural regeneration and other natural succession	1988 - 1994, 1994 - 2001	Assessment periods 1986/90, 1992/96 and 2000/02
National Forest Inventory (BFW)	H	Reforestation area	1988 - 1994, 1994 - 2001	Assessment periods 1986/90, 1992/96 and 2000/02

#### 5.2.2 Classification and definitions

National class	Definition
Afforestation	Same as FRA 2010 definition.
Reforestation	Same as FRA 2010 definition.
Natural expansion of forest	Same as FRA 2010 definition. Through natural regeneration or other natural succession (increase of canopy cover, movement of the edge of the forest)

### 5.2.3 Original data

#### Afforestation - Reforestation - Natural Expansion of forests (W. Russ, BFW)

in 1000 ha		change 1986/90 - 1992/96 (change 1988 - 1994)	change 1992/96 - 2000/02 (change 1994 - 2001)
<u>observation period</u>		6 years	7 years
1+2+3	<b>Forest area (total, incl. OWL)</b>	88	68
1	.. of which through artificial regeneration	22	12
2	.. of which through natural regeneration	27	20
3	.. of which through other natural succession	40	36
2+3	<b>Natural expansion of forest</b>	66	57
4	<b>Artificial regeneration (total, incl. OWL)</b>	67	41
1	.. of which afforestation	22	12
4-1	.. of which reforestation	45	29
<u>per year</u>			
1+2+3	<b>Forest area (total, incl. OWL)</b>	15	10
1	.. of which through artificial regeneration	4	2
2	.. of which through natural regeneration	4	3
3	.. of which through other natural succession	7	5
2+3	<b>Natural expansion of forest</b>	11	8
4	<b>Artificial regeneration (total, incl. OWL)</b>	11	6
1	.. of which afforestation	4	2
4-1	.. of which reforestation	8	4

### 5.3 Analysis and processing of national data

#### 5.3.1 Calibration

Not needed.

#### 5.3.2 Estimation and forecasting

Not possible. 2005 data can be calculated in 2010 after presentation of NFI 2007/09 results.

#### 5.3.3 Reclassification into FRA 2010 categories

Not needed.

## 5.4 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	4000	2000	n. a.	n. a.	n. a.	n. a.
Reforestation	8000	4000	n. a.	n. a.	n. a.	n. a.
...of which on areas previously planted	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
Natural expansion of forest	11000	8000	n. a.	n. a.	n. a.	n. a.

Note: The figures for the reported years refer to the averages for the periods 1988-1994 and 1994-2001 respectively.

## 5.5 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	Including afforestation of OWL.	
Reforestation	Including reforestation of OWL.	The decline of the reforestation area is due to the fact that natural regeneration is more and more used for re-establishment of stands after final cut. This trend is clearly shown by NFI results but also by forest reproductive material statistics (decrease of forest plant production).
Natural expansion of forest	Including natural expansion of OWL.	

### Other general comments to the table

Due to the fact that no appropriate annual data are available, NFI-data are used. Therefore the figures for the reported years do not refer to the averages for 5-year periods, but to the averages for the periods 1988-1994 and 1994-2001 respectively.

Introduced species are relatively rare in Austria. For that reason the NFI is not able to give significant information about changes in area of introduced species. The standard error would be too high.

## 6 Table T6 – Growing stock

### 6.1 FRA 2010 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.
Growing stock of commercial species	Growing stock (see def. above) of commercial species.

### 6.2 National data

#### 6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Inventory (BFW)	H	Volume growing stock	1994, 2001	Assessments 1992/96 and 2000/02
National Forest Inventory (BFW)	H	Volume growing stock according to tree species	1994, 2001	Assessments 1992/96 and 2000/02
Annual removals statistics (Holzeinschlagsmeldung), Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna, <a href="http://publikationen.lebensministerium.at">http://publikationen.lebensministerium.at</a> (Forst/Holz)	H	Volume removals according to coniferous/broadleaved	2001 to 2007	

#### 6.2.2 Classification and definitions

National class	Definition
Growing stock	Volume of all standing trees (living + dead trees) in forests in yield. Specifications of country threshold values see Table 6c.
Special calculation: Growing stock in protective forest without yield	Volume of all standing trees (living + dead trees).

#### 6.2.3 Original data

Austrian Forest Inventory	1992/96	2000/02
	1000 m <sup>3</sup> o. b.	
Growing stock Forests in yield (Ertragswald))	987 910	1 094 732
Dead wood trees	15 147	20 587
Living trees	972 763	1 074 145
Growing stock Protective forest without yield (Schutzwald außer Ertrag (SaE))	30 511	28 463

### 6.3 Analysis and processing of national data

#### 6.3.1 Calibration

Not needed.

#### 6.3.2 Estimation and forecasting

Table 6a 1990, 2000 and 2005:

Linear interpolation and extrapolation between 1994 (NFI 1992/96) and 2001 (NFI 2000/02) is used.

Austrian Forest Inventory	1990	1994	2000	2001	2005
	1000 m <sup>3</sup> o.b.				
Growing stock Forests in yield (Ertragswald))	926 869	<b>987 910</b>	1 079 472	<b>1 094 732</b>	1 155 773
Dead wood trees	12 038	<b>15 147</b>	19 810	<b>20 587</b>	23 696
Living trees	914 830	<b>972 763</b>	1 059 662	<b>1 074 145</b>	1 132 078
Growing stock Protective forest without yield (Schutzwald außer Ertrag (SaE))	31 681	<b>30 511</b>	28 756	<b>28 463</b>	27 293

Table 6a 2010:

Estimations by NFI experts based on NFI 2000/02, annual removals statistics (2001-2007), annual growth ring analyses and several assumptions.

Table 6b:

Linear interpolation and extrapolation between 1994 (NFI 1992/96) and 2001 (NFI 2000/02) is used for 1990 and 2000. Due to the high uncertainty of the development of individual tree species, no forecasts for 2005 and 2010 are made. NFI 2007/09 results will be available by end of 2010.

#### 6.3.3 Reclassification into FRA 2010 categories

Table 6a:

FRA 2010 Growing stock = NFI Growing stock (forests in yield) - Dead wood trees + Estimated growing stock in protective forest without yield.

Table 6b:

Reclassification into FRA 2010 category is not possible. NFI growing stock definition is used:  
 Growing stock = Growing stock of forests in yield including dead wood trees.  
 Growing stock in protective forest without yield is unaccounted for.

## 6.4 Data for Table T6

### Table 6a – Growing stock

FRA 2010 category	Volume (million cubic meters over bark)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock	947	1088	1159	1135	n. a.	n. a.	n. a.	n. a.
... of which coniferous	777	880	931	905	n. a.	n. a.	n. a.	n. a.
... of which broadleaved	169	208	228	230	n. a.	n. a.	n. a.	n. a.
Growing stock of commercial species	947	1088	1159	1135	n. a.	n. a.	n. a.	n. a.

### Table 6b – Growing stock of the 10 most common species

FRA 2010 category / Species name			Growing stock in forest (million cubic meters)		
Rank	Scientific name	Common name	1990	2000	2005
1 <sup>st</sup>	<i>Picea abies</i>	Fichte	568	664	n. a.
2 <sup>nd</sup>	<i>Fagus sylvatica</i>	Rotbuche	85	100	n. a.
3 <sup>rd</sup>	<i>Pinus sylvestris</i>	Weißkiefer	75	77	n. a.
4 <sup>th</sup>	<i>Larix decidua</i>	Europ Lärche	64	73	n. a.
5 <sup>th</sup>	<i>Abies alba</i>	Weißtanne	44	48	n. a.
6 <sup>th</sup>	<i>Quercus</i> sp.	Eiche unbestimmt	21	26	n. a.
7 <sup>th</sup>	<i>Fraxinus</i> sp.	Esche unbestimmt	13	19	n. a.
8 <sup>th</sup>	<i>Acer</i> sp.	Ahorn unbestimmt	9	13	n. a.
9 <sup>th</sup>	<i>Pinus nigra</i>	Schwarzkiefer	9	10	n. a.
10 <sup>th</sup>	<i>Carpinus betulus</i>	Hainbuche	6	8	n. a.
Remaining			32	43	n. a.
<b>TOTAL</b>			<b>927</b>	<b>1079</b>	<b>1156</b>

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1<sup>st</sup> is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

### Table 6c – Specification of threshold values

Item	Value	Complementary information
Minimum diameter (cm) at breast height <sup>1</sup> of trees included in growing stock (X)	5	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	0	
Minimum diameter (cm) of branches included in growing stock (W)	-1	Branches are not included.
Volume refers to “above ground” (AG) or “above stump” (AS)	AG	

<sup>1</sup> Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m.

## 6.5 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock	Other wooded land areas were not assessed concerning growing stock parameters.	
Growing stock of broadleaved / coniferous		
Growing stock of commercial species		
Growing stock composition	Growing stock = Growing stock of forests in yield including dead wood trees. Growing stock in protective forest without yield is unaccounted for.	

Other general comments to the table

## 7 Table T7 – Biomass stock

### 7.1 FRA 2010 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 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	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.

### 7.2 National data

#### 7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Inventory (BFW)	H	DBH, height, crown ratio, dead wood, other data	1988, 1994, 2001	Inventory periods 1986/90; 1992/96; 2000/02.
Eckmüllner, 2006 Ledermann & Neumann, 2006 Rubatscher et al, 2006 Gschwandtner & Schadauer, 2006 Wirth et al., 2004 Offenthaler & Hochbichler, 2006	H	Biomass functions (BF)	2006	In: Austrian Journal of Forest Science (2006), 123. Jahrgang, Heft 1/2.  Tree compartments: dependent on BF – branches, needles, roots.
Weiss et al., 2000	H	basic wood densities	2000	Weiss et al. 2000: Die Kohlenstoffbilanz des österreichischen Waldes und Betrachtungen zum Kyoto-Protokoll. Umweltbundesamt, Wien M-106.

#### 7.2.2 Classification and definitions

National class	Definition
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds and foliage (only of evergreen trees).
Below-ground biomass	Same definition as FRA 2010.
Dead wood	All non-living woody biomass not contained in the litter or soil, standing on the ground (> 5 cm DBH), without roots, as they are considered as part of the litter or soil.

### 7.2.3 Original data

National Forest Inventory data (BFW) and related information (see 7.2.1.)

## 7.3 Analysis and processing of national data

### 7.3.1 Calibration

Not needed.

### 7.3.2 Estimation and forecasting

Data in table 7 are based on the results of the National Forest Inventory (NFI, see 7.2.1). For estimates on above-ground and below-ground biomass in managed forests national biomass functions (BF) have been applied. The biomass functions were derived from numerous single tree data from Austrian forest sites (literature see in 7.2.1). The estimates are carried out with all single tree data of the individual NFIs at the Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW). Only the evergreen biomass of foliage is estimated (leaves of deciduous trees become part of the soil C pool within one year).

The results for each NFI have been attached to the year in the middle of a NFI period. Data for the years in between were calculated with linear interpolation.

Above-ground and below-ground biomass in unmanaged forests was calculated based on estimates for stem wood volumes over bark in these areas. It is assumed that the ratio between stem wood and total biomass is the same as in managed forest for each NFI. Thus the results of the biomass functions lead to the following ranges of biomass expansion factors (BEF): between 0.65 - 0.68 for coniferous and 0.92 - 0.98 for deciduous trees.

Also the dead wood masses are based on the results of the National Forest Inventory (NFI, see 7.2.1). To avoid any double accounting only standing dead wood is included and the expansion does not include the dead roots and branches.

### 7.3.3 Reclassification into FRA 2010 categories

The calculations and data in table 7 refer to the national definitions (see 7.2.2).

## 7.4 Data for Table T7

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	540	592	629	620	n. a.	n. a.	n. a.	n. a.
Below-ground biomass	155	176	188	185	n. a.	n. a.	n. a.	n. a.
Dead wood	6	8	10	10	n. a.	n. a.	n. a.	n. a.
<b>TOTAL</b>	<b>701</b>	<b>776</b>	<b>827</b>	<b>815</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>

## 7.5 Comments to Table T7

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds and foliage (only of evergreen trees). Data for 2005 and 2010 are estimated values and may change with the forthcoming NFI data.	
Below-ground biomass	Data for 2005 and 2010 are estimated values and may change with the forthcoming NFI data.	
Dead wood	All non-living woody biomass not contained in the litter or soil, standing on the ground (> 5 cm DBH), without roots, as they are considered as part of the litter or soil. Data for 2005 and 2010 are estimated values and may change with the forthcoming NFI data.	

Other general comments to the table

## 8 Table T8 – Carbon stock

### 8.1 FRA 2010 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 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 specified depth chosen by the country and applied consistently through the time series.

### 8.2 National data

#### 8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Inventory (BFW)	H	DBH, height, crown ratio, dead wood, other data	1988, 1994, 2001	Inventory periods 1986/90; 1992/96; 2000/02.
Eckmüllner, 2006 Ledermann & Neumann, 2006 Rubatscher et al, 2006 Gschwandtner & Schadauer, 2006 Wirth et al., 2004 Offenthaler & Hochbichler, 2006	H	Biomass functions (BF)	2006	In: Austrian Journal of Forest Science (2006), 123. Jahrgang, Heft 1/2.  Tree compartments: dependent on BF – branches, needles, roots.
Weiss et al., 2000	H	basic wood densities, carbon conversion factors, soil C stocks	2000	Weiss et al. 2000: Die Kohlenstoffbilanz des österreichischen Waldes und Betrachtungen zum Kyoto-Protokoll. Umweltbundesamt, Wien M-106.
Forest Soil Inventory (FBVA)	H	OC	1988	Inventory period 1987-1989.

## 8.2.2 Classification and definitions

National class	Definition
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem, stump, branches, bark, seeds and foliage (only of evergreen trees).
Carbon in below-ground biomass	Same definition as FRA 2010.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter and soil, standing on the ground, without roots, as they are considered as part of the litter or soil C.
Carbon in litter	Included in Soil Carbon
Soil carbon	Carbon in all non-living biomass lying dead in various states of decomposition above the mineral or organic soil and organic carbon in mineral and organic soils (including peat) to a depth of 50 cm.

## 8.2.3 Original data

Data from the National Forest Inventory (BFW) and the Forest soil inventory (see 7.2.1 and 8.2.1).

## 8.3 Analysis and processing of national data

### 8.3.1 Calibration

Not needed.

### 8.3.2 Estimation and forecasting

Estimations and forecasting in table T8 are based on data in table T7 and results of Forest Soil Inventory (see 8.2.1). Concerning biomass and dead wood national factors have been applied to convert biomass stock into carbon stock.

#### Conversion factors:

Living biomass: 0.49 (above-ground), 0.483 (below-ground)

Dead wood: 0.498 (coniferous), 0.484 (deciduous)

Soil carbon stocks were calculated for the year 1990, only. These data are based on the Forest Soil Inventory carried out in the late 1980ies. At a subsample of the sites soil measurements were repeated within the EU-wide BioSoil project. Results will be available in the near future.

### 8.3.3 Reclassification into FRA 2010 categories

The calculations and data in table 7 refer to the national definitions (see 7.2.2), as they are to a large extent comparable to the FRA categories.

#### 8.4 Data for Table T8

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	264	290	308	304	n. a.	n. a.	n. a.	n. a.
Carbon in below-ground biomass	75	85	91	89	n. a.	n. a.	n. a.	n. a.
<b>Sub-total: Living biomass</b>	<b>339</b>	<b>375</b>	<b>399</b>	<b>393</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>
Carbon in dead wood	3	4	5	5	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.
<b>Sub-total: Dead wood and litter</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>
Soil carbon	463	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
<b>TOTAL</b>	<b>805</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>	<b>n. a.</b>

Soil depth (cm) used for soil carbon estimates	50
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#### 8.5 Comments to Table T8

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem, stump, branches, bark, seeds and foliage (only of evergreen trees). Data for 2005 and 2010 are predictions and may change with the forthcoming NFI data.	
Carbon in below-ground biomass	Data for 2005 and 2010 are predictions and may change with the forthcoming NFI data.	
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter and soil, standing on the ground, without roots, as they are considered as part of the litter or soil C. Data for 2005 and 2010 are predictions and may change with the forthcoming NFI data.	
Carbon in litter	Litter is included in soil.	

Soil carbon	Carbon in all non-living biomass lying dead in various states of decomposition above the mineral or organic soil and organic carbon in mineral and organic soils (including peat) to a depth of 50 cm.	
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<b>Other general comments to the table</b>

## 9 Table T9 – Forest fires

### 9.1 FRA 2010 Categories and definitions

Category	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire (supplementary term)	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any unplanned and/or uncontrolled vegetation fire.
Planned fire	A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.

### 9.2 National data

#### 9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Österreichischer Waldbericht 1996 (Austrian Forest Report 1996), Federal Ministry of Agriculture and Forestry, Vienna, 1998.	M	Area affected by fire, number of fires	1988-1992	Based on enquiries and estimations made by local forest authorities.
Datensammlung zum Waldbericht 2003, Federal Ministry of Agriculture and Forestry, Environment and Water Management, Vienna, 2004, <a href="http://publikationen.lebensministerium.at">http://publikationen.lebensministerium.at</a> (Forst/Waldbericht).	M	Area affected by fire, number of fires	1998-2002	Based on enquiries and estimations made by local forest authorities.
Dokumentation der Waldschädigungsfaktoren, Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Vienna, 2008, <a href="http://bfw.ac.at">http://bfw.ac.at</a> .	M	Area affected by fire, number of fires	2003-2007	Based on enquiries and estimations made by local forest authorities.

#### 9.2.2 Classification and definitions

National class	Definition
Forest Fire	Number and area (forests + OWL) damaged by

### 9.2.3 Original data

Categories	Annual area affected (hectares)					
	Forests + OWL					
	1988	1989	1990	1991	1992	Average 1988-1992
Disturbance by fire	87	52	200	53	95	97
Number of fires	124	89	221	78	165	135

Categories	Annual area affected (hectares)					
	Forests + OWL					
	1998	1999	2000	2001	2002	Average 1998-2002
Disturbance by fire	55	6	38	18	67	37
Number of fires	84	33	39	53	109	64

Categories	Annual area affected (hectares)					
	Forests + OWL					
	2003	2004	2005	2006	2007	Average 2003-2007
Disturbance by fire	115	9	26	28	33	42
Number of fires	99	31	26	35	55	49

## 9.3 Analysis and processing of national data

### 9.3.1 Calibration

Not needed.

### 9.3.2 Estimation and forecasting

Not needed.

### 9.3.3 Reclassification into FRA 2010 categories

Not needed.

## 9.4 Data for Table T9

Table 9a

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
... of which on forest	0.097	135	0.037	64	0.042	49
... of which on other wooded land	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
... of which on other land	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.

**Table 9b**

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100	100	100
Planned fire	0	0	0

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

### 9.5 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire	“Other wooded land” is included in “forest”.	
Number of fires	“Other wooded land” is included in “forest”.	
Wildfire / planned fire		

Other general comments to the table

## 10 Table T10 – Other disturbances affecting forest health and vitality

### 10.1 FRA 2010 Categories and definitions

Term	Definition
Disturbance	Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities.
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.
Category	Definition
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.
Disturbance caused by abiotic factors	Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc.

### 10.2 National data

#### 10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Österreichischer Waldbericht 1996 (Austrian Forest Report 1996), Federal Ministry of Agriculture and Forestry, Vienna, 1998.	M	Annual forest area (incl. OWL) affected by different causes of damage (see 10.2.3)	1988-1992	Based on enquiries and estimations made by local forest authorities.
Datensammlung zum Waldbericht 2003, Federal Ministry of Agriculture and Forestry, Environment and Water Management, Vienna, 2004, <a href="http://publikationen.lebensministerium.at">http://publikationen.lebensministerium.at</a> (Forst/Waldbericht).	M	Annual forest area (incl. OWL) affected by different causes of damage (see 10.2.3)	1998-2002	Based on enquiries and estimations made by local forest authorities.
Dokumentation der Waldschädigungsfaktoren, Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Vienna, 2008 <a href="http://bfw.ac.at">http://bfw.ac.at</a>	M	Annual forest area (incl. OWL) affected by different causes of damage (see 10.2.3)	2003-2007	Based on enquiries and estimations made by local forest authorities.
ESSL, F. & RABITSCH, W. (2002): Neobiota in Österreich, Umweltbundesamt, Wien; STARLINGER, F., BFW, Vienna, 2009: oral information	M	List of most important woody invasive species		
National Forest Inventory (BFW)	H	Forest area of woody invasive species	2001	Inventory period 2000/02

## 10.2.2 Classification and definitions

National class	Definition
Forest damages (without game and grazing)	Reduced damaged areas (= total affected area * damage intensity (percentage of damaged area or trees)).
by beetles	
by other insects	
by fungi	(Since 2003: “Heterobasidion etc.” and “other fungi” are separately reported. “Heterobasidion etc.” is reported in m <sup>3</sup> damaged removed wood.)
by other biotic factors	
by storm, snow, avalanches and hoarfrost	(Since 2000: “storm” and “snow, avalanches and hoarfrost” are separately reported.)
by other abiotic factors	

## 10.2.3 Original data

### Forest damages (without game and grazing) 1988-1992

	Disturbance by ...	Annual area affected (hectares)					
		Forests + OWL					
		1988	1989	1990	1991	1992	Average 1988-1992
1	Beetles	3 814	3 069	2 822	4 252	18 365	6 464
2	Other insects	28 351	26 195	20 120	15 240	8 821	19 745
1+2	<b>FRA 2010: Disturbance by insects</b>						<b>26 210</b>
3	Fungi	53 076	49 364	47 466	57 859	25 775	46 708
4	Other biotic factors	not collected				14 550	14 550
3+4	<b>FRA 2010: Disturbance by diseases</b>						<b>61 258</b>
5	Storm, snow, avalanches and hoarfrost	15 234	13 845	45 361	11 309	6 216	18 393
	Forest fire	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3
6	Other abiotic factors	1 635	1 998	3 071	3 019	7 717	3 488
5+6	<b>FRA 2010: Disturbance caused by abiotic factors</b>						<b>21 881</b>
1-6	<b>FRA 2010: Total area affected by disturbances</b>						<b>109 349</b>

**Forest damages (without game and grazing) 1998-2002**

	Disturbance by ...	Annual area affected (hectares)					
		Forests + OWL					
		1998	1999	2000	2001	2002	Average 1998-2002
1	Beetles	6 801	5 100	3 321	3 769	6 020	5 002
2	Other insects	4 434	5 049	4 993	16 431	10 579	8 297
1+2	<b>FRA 2010: Disturbance by insects</b>						<b>13 299</b>
3	Fungi	16 265	27 889	16 568	13 275	12 253	17 250
4	Other biotic factors	14 167	10 030	4 039	2 313	7 442	7 598
3+4	<b>FRA 2010: Disturbance by diseases</b>						<b>24 848</b>
5	Storm, snow, avalanches and hoarfrost	8 015	7 905	9 366	4 430	17 440	9 431
5a	Storm			6 560	3 339	15 033	
5b	Snow, avalanches and hoarfrost			2 806	1 091	2 407	
	Forest fire	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3
6	Other abiotic factors	19 625	20 129	14 447	8 119	3 009	13 066
5+6	<b>FRA 2010: Disturbance caused by abiotic factors</b>						<b>22 497</b>
1-6	<b>FRA 2010: Total area affected by disturbances</b>						<b>60 644</b>

**Forest damages (without game and grazing) 2003-2007**

	Disturbance by ...	Annual area affected (hectares)					
		Forests + OWL					
		2003	2004	2005	2006	2007	Average 2002-2007
1	Beetles	42 085	34 437	33 199	22 102	23 459	31 056
2	Other insects	29 679	35 528	29 813	9 800	6 588	22 282
1+2	<b>FRA 2010: Disturbance by insects</b>						<b>53 338</b>
3	Fungi	101 238	99 385	97 439	91 626	69 155	91 769
	Heterobasidion etc.: <i>damaged wood (removals) in 1000 m<sup>3</sup></i>	509	538	487	490	491	
3a	Heterobasidion etc.: calculated area	77 852	86 201	78 468	67 593	59 477	73 918
3b	Other fungi	23 385	13 184	18 971	24 033	9 679	
4	Other biotic factors	29 424	23 957	20 475	13 846	14 437	20 428
3+4	<b>FRA 2010: Disturbance by diseases</b>						<b>112 197</b>
5	Storm, snow, avalanches and hoarfrost	14 104	22 049	9 627	19 883	36 654	20 463
5a	Storm	9 943	14 152	5 890	4 665	29 131	
5b	Snow, avalanches and hoarfrost	4 161	7 897	3 737	15 218	7 523	
	Forest fire	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3	See 9.2.3
6	Other abiotic factors	22 886	10 639	4 639	3 590	2 440	8 839
5+6	<b>FRA 2010: Disturbance caused by abiotic factors</b>						<b>29 302</b>
1-6	<b>FRA 2010: Total area affected by disturbances</b>						<b>194 837</b>

### 10.3 Analysis and processing of national data

#### 10.3.1 Calibration

Not needed.

#### 10.3.2 Estimation and forecasting

Not needed.

#### 10.3.3 Reclassification into FRA 2010 categories

Not needed.

### 10.4 Data for Table T10

**Table 10a – Disturbances**

FRA 2010 category	Affected forest area (1000 hectares)		
	1990	2000	2005
Disturbance by insects	26.2	13.3	53.3
Disturbance by diseases	61.3	24.8	112.2
Disturbance by other biotic agents	n. a.	n. a.	n. a.
Disturbance caused by abiotic factors	21.9	22.5	29.3
<b>Total area affected by disturbances</b>	<b>109.3</b>	<b>60.6</b>	<b>194.8</b>

Notes: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

The total area affected by disturbances is not necessarily the sum of the individual disturbances as these may be overlapping.

**Table 10b – Major outbreaks of insects and diseases affecting forest health and vitality**

Description / name	Tree species or genera affected (scientific name)	Year(s) of latest outbreak	Area affected (1000 hectares)	If cyclic, approx. cycle (years)
Ips typographus	Picea	2007	13.1	
Pityogenes chalcographus	Picea	2007	8.1	
Hylobius abietis	Picea, Pinus, Larix, Abies	2007	2.4	
Coleophora laricella	Larix	2007	1.3	
Pristiphora abietina	Picea	2007	1.3	
Heterobasidion sp.	Picea	2007	<sup>1)</sup> 73.9	
Armillaria sp.	Picea, Pinus, Larix, Abies	2007	<sup>2)</sup> 2.0	
Microspheera sp.	Quercus	2007	0.3	
Sphaeropsis sapinea	Pinus	2007	1.0	
Lirula, Lophodermium, Tiarosporella, Rhizosphaera	Picea	2007	4.4	

<sup>1)</sup> Calculated from damaged removed wood. See 10.2.3!

<sup>2)</sup> Reported area refers only to young coniferous stands.

**Table 10c – Area of forest affected by woody invasive species**

Scientific name of woody invasive species	Forest area affected 2005 (1000 hectares)
Robinia (Robinien)	46
Populus sp.(X) (canadensis) (Hybridpappel)	16
Quercus rubra (Roteiche)	15
Acer negundo (Eschenahorn)	9
Ailanthus (Götterbaum)	5
<b>Total forest area affected by woody invasive species</b>	<b>91</b>

Note: The total forest area affected by woody invasive species is not necessary the sum of the values above, as these may be overlapping.

### 10.5 Comments to Table T10

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Disturbance by insects		The increase in affected area 2005 is partially caused by a change in the modalities of the survey in 2002/2003.
Disturbance by diseases		The increase in affected area 2005 is partially caused by a change in the modalities of the survey in 2002/2003.
Disturbance by other biotic agents	Disturbances by game and grazing are not available and therefore not included in “Total area affected by disturbances”.	The increase in affected area 2005 is partially caused by a change in the modalities of the survey in 2002/2003.
Disturbance caused by abiotic factors		The increase in affected area 2005 is partially caused by a change in the modalities of the survey in 2002/2003.
Major outbreaks	Reported “area affected” refers only to the year 2007.	
Invasive species	The five most important woody invasive species are reported. “Total” is the sum of the five reported species, not the sum of all woody invasive species. Reported data refer to the year 2001 (NFI 2000-2002).	

Other general comments to the table
Splitting into “Forest” and “Other wooded land” is not possible.

## 11 Table T11 – Wood removals and value of removals

### 11.1 FRA 2010 Categories and definitions

Category	Definition
Industrial roundwood removals	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removals	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
Annual national survey of wood removals (Holzeinschlagsmeldung), Federal Ministry of Agriculture and Forestry, Environment and Water Management, Vienna, <a href="http://publikationen.lebensministerium.at">http://publikationen.lebensministerium.at</a> (Forst/Holz).	H	Industrial roundwood removals (u.b.), woodfuel removals (u.b.)	1988-1992, 1998-2002, 2003-2007	
Dr. Walter Sekot, University of Natural Resources and Applied Life Sciences, Vienna: Calculations for the Economic Accounts for Forestry, based on the annual national survey of wood removals and the statistics on agricultural product prices (Agrarpreisstatistik), Statistics Austria.	H	Value (average prices for industrial roundwood and woodfuel)	1988-1992, 1998-2002, 2003-2007	

#### 11.2.2 Classification and definitions

National class	Definition
Holzeinschlag (removals)	Nationwide annual survey of harvested wood (determined for vending, own consumption or the fulfilment of rights of use) originating from forest area and OWL.  The primary classification follows raw wood for material use (refers to industrial roundwood) and raw wood for energetical use (refers to woodfuel).

### 11.2.3 Original data

Year	m <sup>3</sup> total removals (u.b.)	m <sup>3</sup> total removals (o.b.)	m <sup>3</sup> industrial roundwood removals (u.b.)	m <sup>3</sup> industrial roundwood removals (o.b.)	m <sup>3</sup> woodfuel removals (u.b.)	m <sup>3</sup> woodfuel removals (o.b.)
2007	21 317 341	23 449 075	16 520 964	18 173 060	4 796 377	5 276 015
2006	19 134 863	21 048 349	14 430 212	15 873 233	4 704 651	5 175 116
2005	16 470 661	18 117 727	12 785 492	14 064 041	3 685 170	4 053 687
2004	16 483 387	18 131 726	12 943 751	14 238 126	3 539 636	3 893 600
2003	17 055 236	18 760 760	13 719 063	15 090 969	3 336 173	3 669 790
2002	14.845.440	16.329.984	11.809.468	12.990.415	3.035.971	3.339.568
2001	13.466.525	14.813.178	10.561.209	11 617 330	2 905 316	3 195 848
2000	13 276 255	14 603 881	10 416 319	11 457 951	2 859 935	3 145 929
1999	14 083 908	15 492 299	10 988 277	12 087 105	3 095 596	3 405 156
1998	14 033 478	15 436 826	10 857 877	11 943 665	3 175 572	3 493 129
1997	14 725 794	16 198 373	11 302 437	12 432 681	3 423 316	3 765 648
1996	15 010 236	16 511 260	11 212 914	12 334 205	3 797 281	4 177 009
1995	13 805 755	15 186 331	10 746 504	11 821 154	3 059 216	3 365 138
1994	14 359 636	15 795 600	11 100 399	12 210 439	3 259 206	3 585 127
1993	12 255 894	13 481 483	9 106 781	10 017 459	3 149 085	3 463 994
1992	12 249 230	13 474 153	9 254 827	10 180 310	2 994 363	3 293 799
1991	11 492 028	12 641 231	9 045 621	9 950 183	2 437 397	2 681 137
1990	15 732 545	17 305 800	12 945 415	14 239 957	2 792 740	3 072 014
1989	13 822 036	15 204 240	11 145 916	12 260 508	2 686 301	2 954 931
1988	12 776 115	14 053 727	10 041 906	11 046 097	2 734 236	3 007 660

## 11.3 Analysis and processing of national data

### 11.3.1 Calibration

Since the Austrian national survey collects the amount of wood removals under bark (u.b.), the original data was multiplied with the factor of 1.1 to produce the required amount over bark (o.b.). The factor is acknowledged nationwide. The survey is only related to forests and OWL.

### 11.3.2 Estimation and forecasting

Not needed.

### 11.3.3 Reclassification into FRA 2010 categories

Not needed.

## 11.4 Data for Table T11

FRA 2010 Category	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m <sup>3</sup> o.b.)	11 535	12 019	15 488	3 002	3 316	4 414
... of which from forest	11 535	12 019	15 488	3 002	3 316	4 414
Unit value (local currency / m <sup>3</sup> o.b.)	70.58	65.06	64.04	53.74	53.05	54.14
Total value (1000 local currency)	814 195	782 025	991 849	161 323	175 908	238 950

Note: The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

	1990	2000	2005
Name of local currency	EURO (value above converted from ATS, 13.7603 ATS = 1 EURO)	EURO (value above converted from ATS, 13.7603 ATS = 1 EURO)	EURO

## 11.5 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial roundwood removals	Due to the lack of removal statistics for "Other land" the data refers only to forest and OWL and match those reported for the JFSQ. Due to the fact that there is little OWL in Austria and most of this OWL refers to pinus mugo and alnus viridis, it is assumed, that removals there are 0.	
Total volume of woodfuel removals	Due to the lack of removal statistics for "Other land" the data refers only to forest and OWL and match those reported for the JFSQ. Due to the fact that there is little OWL in Austria and most of this OWL refers to pinus mugo and alnus viridis, it is assumed, that removals there are 0.	
Unit value		
Total value		

Other general comments to the table

## 12 Table T12 – Non-wood forest products removals and value of removals

### 12.1 FRA 2010 Categories and definitions

Term	Definition
Non-wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Value of NWFP removals	For the purpose of this table, value is defined as the market value at the site of collection or forest border.

### NWFP categories

Category
<p><b><u>Plant products / raw material</u></b></p> <ol style="list-style-type: none"> <li>1. Food</li> <li>2. Fodder</li> <li>3. Raw material for medicine and aromatic products</li> <li>4. Raw material for colorants and dyes</li> <li>5. Raw material for utensils, handicrafts &amp; construction</li> <li>6. Ornamental plants</li> <li>7. Exudates</li> <li>8. Other plant products</li> </ol> <p><b><u>Animal products / raw material</u></b></p> <ol style="list-style-type: none"> <li>9. Living animals</li> <li>10. Hides, skins and trophies</li> <li>11. Wild honey and bee-wax</li> <li>12. Wild meat</li> <li>13. Raw material for medicine</li> <li>14. Raw material for colorants</li> <li>15. Other edible animal products</li> <li>16. Other non-edible animal products</li> </ol>

### 12.2 National data

#### 12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
<b>D1</b> - Austrian Federal Statistics for Agriculture and Forestry, Federal Institute for Statistic Austria, Vienna, annually	H	Game shot, honey production	2005	
<b>D2</b> - Information on Forests Seeds and Plants, Federal Forest Office, annually	H	Annual production of seeds and plants	2005	
<b>D3</b> - Research project on potentials of NTFP in Austria, Institute of Silviculture, BOKU Vienna, ongoing	M	Various, according to products listed in T12	2009	Research project gathering information on NTFP referenced to 2005 whenever possible.
<b>D4</b> – Austrian Distiller Statistics, unpublished	H	Fruit and berries used for distilling	2007	No data for 2005 available.

## 12.3 Analysis and processing of national data

### 12.3.1 Calibration

Not needed.

### 12.3.2 Estimation and forecasting

Expert estimations have been used in case of incomplete data, the definition of shares, or the identification of prices in the following cases (D3):

E1 – Results calculated from game shot numbers multiplied by estimated average amount of meat per animal and game class.

E2 – Estimated share of wild honey on total honey production (50% of total).

E3 – Skins, hides and trophies are calculated by estimated share of total game shot: approx. 10% of hides are further processed in tannery, approx. 10% of total shot game (specific to different classes such as age, sex, etc.) is potentially used for trophies. Total value of trophies is based on numbers for individual shot allowances (90% of total allowances).

E4 – No big variation is expected from Distiller statistics 2007 compared to 2005.

### 12.3.3 Reclassification into FRA 2010 categories

Not needed.

## 12.4 Data for Table T12

Rank	Name of product	Key species	Unit	NWFP removals 2005		NWFP category
				Quantity	Value (1000 local currency)	
1 <sup>st</sup>	Christmas trees	Nordmann Fir	pcs.	2 000 000	52 325	6
2 <sup>nd</sup>	Wild meat	Roe deer	tons	10 733	22 408	12
3 <sup>rd</sup>	Wild honey		tons	3 050	17 416	11
4 <sup>th</sup>	Forest plants	Spruce	pcs.	31 000 000	11 232	8
5 <sup>th</sup>	Skins, hides and trophies	Roe deer	pcs.	287 000	5 800	10
6 <sup>th</sup>	Forest seeds	Spruce	tons	16.0	3 092	8
7 <sup>th</sup>	Mushrooms	Chanterelle	tons	200	2 600	1
8 <sup>th</sup>	Fruits and berries	Mountain ash	tons	123	460	1
9 <sup>th</sup>	Resins	Austrian pine	tons	54.0	196	3; 7
10 <sup>th</sup>	Raw material for aromatic oil	Swiss stone pine	tons	130	25	3
All other plant products					11	
All other animal products						
<b>TOTAL</b>					<b>115 565</b>	

	2005
Name of local currency	Euro

## 12.5 Comments to Table T12

Variable / category	Comments related to data, definitions, etc.
10 most important products	<b>Information on quantities (collected within D3):</b> Christmas trees – data by D3 Wild meat – data by D1; E1 Wild Honey – data by D1; E2 Forest plants and seeds – data by D2 Skins, hides and trophies – data by D1; E3 Mushrooms – data by D3 Fruits and berries – data by D4 Resins – data by D3 Raw material for aromatic oil – data by D3
Other plant products	- Herbs used for distilling (key species: gentian) (D3). - The role of nuts (walnut, chestnut) is still unclear, but tends to be of minor importance. - The amount of decorative foliage is still lacking.
Other animal products	Marmot fat and deer tallow have no significant importance any more.
Value by product	All values are calculated by means of average prices paid to producers in 2005, except expert estimations for ‘trophies’ which are based on shot allowances.
Total value	

Other general comments to the table
Information is provided for marketed NTFP, the subsistence use of NTFP is not covered except for ‘game meat’. All results have been produced by the use of statistics, information from associations and analysis of main traders and producers. Direct marketing initiatives are not covered in the current reporting. An initial query among direct marketers is ongoing within D3.

## 13 Table T13 – Employment

### 13.1 FRA 2010 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment	Includes all persons in paid employment or self-employment.
Paid employment	Persons who during a specified reference period performed some work for <u>wage or salary</u> in cash or in kind.
Self-employment	Persons who during a specified reference period performed some work for <u>profit or family gain</u> in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).

### 13.2 National data

#### 13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Statistics Austria, Calculations in the framework of the Economic Accounts for Agriculture and Forestry. Revision status: January 2009.	M	Volume of forestry labour input (non-salaried and salaried)	1990, 2000, 2005	

#### 13.2.2 Classification and definitions

National class	Definition
Volume of forestry labour input	Definitions follow the specifications of Regulation (EC) No 138/2004 of the European Parliament and of the Council of 5 December 2003 on the economic accounts for agriculture in the Community. Measured in (1000) annual work units (AWU). Annual work units are defined as full-time equivalent employment (corresponding to the number of full-time equivalent jobs), i.e. as total hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory.

### 13.3 Analysis and processing of national data

#### 13.3.1 Calibration

Not needed.

### 13.3.2 Estimation and forecasting

Not needed.

### 13.3.3 Reclassification into FRA 2010 categories

Not needed.

### 13.4 Data for Table T13

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	30.76	18.50	18.34
...of which paid employment	10.88	7.71	7.31
...of which self-employment	19.88	10.79	11.03
Employment in management of protected areas	n. a.	n. a.	n. a.

### 13.5 Comments to Table T13

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Employment in primary production of goods		
Paid employment / self-employment		
Employment in management of protected areas		

Other general comments to the table

## 14 Table T14 – Policy and legal framework

### 14.1 FRA 2010 Categories and definitions

Term	Definition
Forest policy	A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.
Forest policy statement	A document that describes the objectives, priorities and means for implementation of the forest policy.
National forest programme (nfp)	A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies.
Law (Act or Code) on forest	A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

### 14.2 Data for Table T14

Indicate the existence of the following (2008)			
<b>Forest policy statement with national scope</b>	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Year of endorsement	2006	
	Reference to document	Österreichische Waldcharta	
<b>National forest programme (nfp)</b>	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Name of nfp in country	Österreichischer Walddialog (Austrian Forest Dialog)	
	Starting year	2003	
	Current status	<input type="checkbox"/>	In formulation
		<input checked="" type="checkbox"/>	In implementation
		<input type="checkbox"/>	Under revision
Reference to document or web site	The Austrian Forest Programme, BMLFUW, 2007; <a href="http://www.walddialog.at">www.walddialog.at</a>		
<b>Law (Act or Code) on forest with national scope</b>	<input checked="" type="checkbox"/>	Yes, specific forest law exists	
	<input type="checkbox"/>	Yes, but rules on forests are incorporated in other (broader) legislation	
	<input type="checkbox"/>	No, forest issues are not regulated by national legislation	
If Yes above, provide:	Year of enactment	1975	
	Year of latest amendment	2007	
	Reference to document	Forstgesetz 1975, BGBl. Nr. 440/1975, zuletzt geändert BGBl. I Nr. 55/2007 (Forest Act 1975, Fed. Law Gazette No. 440/1975, last amended Fed. Law Gazette I No. 55/2007)	

In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.		
<b>Sub-national forest policy statements</b>	X	Yes
		No
If Yes above, indicate the number of regions/states/provinces with forest policy statements	1	
<b>Sub-national Laws (Acts or Codes) on forest</b>	X	Yes
		No
If Yes above, indicate the number of regions/states/provinces with Laws on forests	9	

### 14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	
National forest programme (nfp)	
Law (Act or Code) on forest with national scope	
Sub-national forest policy statements	Forststrategie 2018 des Landes Vorarlberg, Amt der Vorarlberger Landesregierung, 2009, <a href="http://www.vorarlberg.at/forstwesen">www.vorarlberg.at/forstwesen</a>
Sub-national Laws (Acts or Codes) on forest	In all provinces Provincial Forest Laws are in force. These laws on provincial level are implementing laws which provide detailed rules on the implementation of certain procedures foreseen in the Federal Forest Act.

Other general comments to the table

## 15 Table T15 – Institutional framework

### 15.1 FRA 2010 Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

### 15.2 Data for Table T15

**Table 15a – Institutions**

FRA 2010 Category	2008	
Minister responsible for forest policy formulation : please provide full title	Nikolaus Berlakovich Federal Minister of Agriculture, Forestry, Environment and Water Management	
Level of subordination of Head of Forestry within the Ministry	x	1 <sup>st</sup> level subordination to Minister
		2 <sup>nd</sup> level subordination to Minister
		3 <sup>rd</sup> level subordination to Minister
		4 <sup>th</sup> or lower level subordination to Minister
Other public forest agencies at national level		
Institution(s) responsible for forest law enforcement	District Administrative Authorities (for certain matters the Provincial Governor or the Federal Minister of Agriculture, Forestry, Environment and Water Management)	

**Table 15b – Human resources**

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008 (see comment)	
	Number	%Female	Number	%Female	Number	%Female
Total staff	701	n. a.	492	n. a.	561	1.6
...of which with university degree or equivalent	173	n. a.	152	n. a.	159	1.3

Notes:

1. Includes human resources within public forest institutions at sub-national level.
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

### 15.3 Comments to Table T15

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation	Further information: <a href="http://minister.lebensministerium.at/article/archive/26273">http://minister.lebensministerium.at/article/archive/26273</a>	
Level of subordination of Head of Forestry within the Ministry		
Other public forest agencies at national level		
Institution(s) responsible for forest law enforcement	The implementation of the Forestry Act, which is executed by indirect federal administration, usually falls within the competence of the District Administrative Authorities in the first instance. However, for certain matters the Provincial Governor or the Federal Minister of Agriculture, Forestry, Environment and Water Management is entrusted with the enforcement of the law.	
Human resources within public forest institutions	Data only include staff with forest related education (not included e.g., typists or office employees without forest related education).  Due to the fact, that 2008 data is not available yet, 2007 figures are reported.	The increase in human resources in 2007 is to be explained by a structural reorganisation within one province: former community employees became part of the forestry authority.

#### Other general comments to the table

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## 16 Table T16 – Education and research

### 16.1 FRA 2010 Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

### 16.2 National data

#### 16.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Universität für Bodenkultur Wien, BOKU Lehre – Informationssystem (BLIS++) <a href="https://blis.boku.ac.at">https://blis.boku.ac.at</a>	H	Graduation of students in forest-related education (MSc + BSc)	2000, 2005, 2008	
Federal Ministry of Agriculture, Forestry, Environment and Water Management, Division IV/2, internal statistics	H	Graduation of students in forest-related education (Forest technician certificate / diploma)	1999/2000, 2004/2005, 2007/2008	
Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW), Vienna, internal statistics	H	Professionals working in publicly funded forest research centres	2000, 2005, 2008	

#### 16.2.2 Original data

##### 2008 MSc:

Masterstudium Forstwissenschaften, code 425, male 7, female 2

Masterstudium Mountain Forestry, code 429, male 4, female 6

Masterstudium Mountain Risk Engineering, code, male 2, female 1

Diplomstudium Forstwirtschaft, code 901, male 10, female 2

2008 BSc:

Bachelorstudium Forstwirtschaft, code 225, male 15, female 2

2007/2008 Forest technician certificate / diploma:

Höhere Lehranstalt für Forstwirtschaft Bruck/Mur, male 28, female 3

Forstfachschule Waidhofen/Ybbs, male 28, female 2

2005 MSc:

Masterstudium Forstwissenschaften, code 425, male 1, female 0

Masterstudium Mountain Forestry , code 429, male 7, female 3

Diplomstudium Forstwirtschaft, code 901, male 15+3, female 1

2005 BSc:

Bachelorstudium Forstwirtschaft, code 225, male 6, female 2

2004/2005 Forest technician certificate / diploma:

Höhere Lehranstalt für Forstwirtschaft Bruck/Mur, male 35, female 7

Höhere Lehranstalt für Forstwirtschaft Gainfarn, male 18, female 1

Forstfachschule Waidhofen/Ybbs, male 34, female 1

2000 MSc:

Diplomstudium Forstwirtschaft, code 901, male 27, female 8

Diplomstudium Wildbach- und Lawinenverbauung, code 902, male 12, female 0

2000 BSc:

(BSc-degree did not exist yet.)

1999/2000 Forest technician certificate / diploma:

Höhere Lehranstalt für Forstwirtschaft Bruck/Mur, male 24, female 0

Höhere Lehranstalt für Forstwirtschaft Gainfarn, male 32, female 6

Forstfachschule Waidhofen/Ybbs, male 24, female 2

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

#### **16.3.1 Estimation and forecasting**

No estimation and forecasting are needed.

## 16.4 Data for Table T16

FRA 2010 Category	Graduation <sup>1)</sup> of students in forest-related education					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree (MSc) or equivalent	47	17	30	13	34	32
Bachelor's degree (BSc) or equivalent	0		8	25	17	12
Forest technician certificate / diploma	88	9	96	9	61	8
FRA 2010 Category	Professionals working in publicly funded forest research centres <sup>2)</sup>					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	32	13	36	8	36	6
Master's degree (MSc) or equivalent	43	7	41	15	45	11
Bachelor's degree (BSc) or equivalent	0		0		0	

Notes:

1. Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.
2. Covers degrees in all sciences, not only forestry.

## 16.5 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education (MSc + BSc)	<p>Graduate university studies in forestry are only provided at the University of Natural Resources and Applied Life Sciences, Vienna (Universität für Bodenkultur Wien (BOKU)). The new three-tier modular course system was introduced in the winter semester of 2003/04: Bachelor's degree (6 semesters), Master studies (following on from the bachelor's degree, 4 semesters), Doctorate.</p> <p>The following forestry-related study courses have now evolved from the former graduate engineering study course in forestry and wood industry: bachelor studies in "Forestry", master studies in "Forest Sciences", and the international master studies in "Mountain Forestry" and "Mountain Risk Engineering".</p>	<p>For details see 16.2.2.</p> <p>The Bachelor's degree was introduced in 2003/2004 with the new three-tier modular course system.</p>

<p>Graduation of students in forest-related education (Forest technician certificate / diploma)</p>	<p>Reported data by definition include following schools:                  Senior Secondary School for Forestry in Bruck/Mur (Höhere Lehranstalt für Forstwirtschaft Bruck/Mur, 5 years, after 8<sup>th</sup> grade),                  Senior Secondary School for Forestry in Gainfarn (Höhere Lehranstalt für Forstwirtschaft Gainfarn, 5 years, after 8<sup>th</sup> grade; closed in 2005),                  Forestry School in Waidhofen/Ybbs (Forstfachschule Waidhofen/Ybbs, 1 year, minimum age for applicants: 16 years)</p>	<p>One reason for the decrease of graduation of forest technicians is the close-down of the school in Gainfarn.</p>
<p>Professionals working in public forest research centres</p>	<p>Reported data by definition consider only the Federal Research and Training Centre for Forests, Natural Hazards and Landscape (Bundesforschungs- und Ausbildungszentrum für Wald, Naturgefahren und Landschaft (BFW)), formerly – before the reorganisation in 2002 – known as Forstliche Bundesversuchsanstalt (FBVA). Due to reasons of comparability, data for 2000 also include professionals working in the two Federal Training Centres for Forestry (Forstliche Ausbildungsstätten Ort und Ossiach; 1 PhD + 3 MSc). These training centres are since 2002 part of the BFW.</p>	

<p><b>Other general comments to the table</b></p>
<p> </p>

## 17 Table T17 – Public revenue collection and expenditure

### 17.1 FRA 2010 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, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Public expenditure	All government expenditure on forest related activities (further defined below).
Operational expenditure (sub-category to Public expenditure)	All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.
Transfer payments (sub-category to Public expenditure)	All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).
External funding	Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.

### 17.2 National data

#### 17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Grüner Bericht 2000 (Green Report 2000), Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna 2001, <a href="http://www.gruenerbericht.at">www.gruenerbericht.at</a>	H	Subsidies	2000	
Grüner Bericht 2006 (Green Report 2006), Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna 2006, <a href="http://www.gruenerbericht.at">www.gruenerbericht.at</a>	H	Subsidies	2005	
Cost accounting, Federal Ministry of Agriculture, Forestry, Environment and Water Management, unpublished	H	Operational expenditure: full personnel costs (personnel, materials, operating costs, overhead costs) of the Forestry Department in the ministry	2005	
Federal budget accounting, Federal Ministry of Agriculture, Forestry, Environment and Water Management, unpublished	H	Other operational expenditure (studies, projects, research and training centres, schools) of the Forestry Department in the ministry	2000, 2005	

### **17.2.2 Original data**

#### Operational expenditure:

Full personnel costs (personnel, materials, operating costs, overhead costs) of the Forestry Department in the ministry (without Division IV/5 - Torrent and Avalanche Control) 2005: **4.53 m EUR**.

Average FTE full personnel costs of the Forestry Department in the ministry 2005: 94,000 EUR. The same average costs are assumed for the provincial forest administration personnel.

Employment in forest administration at provincial level 2007: 535 FTE. It is the same level assumed for 2005.

Estimated full personnel cost of provincial forest administration:  $94,000 * 535 = 50.3 \text{ m EUR}$ .

Other operational expenditure (studies, projects, research and training centres, schools) of the Forestry Department in the ministry (without Division IV/5 - Torrent and Avalanche Control): 2000: 22.3 m EUR, 2005: **24.1 m EUR**.

TOTAL 2000: n. a. + n. a. + 22.3 = n. a.

TOTAL 2005:  $4.5 + 50.3 + 24.1 = 78.9 \text{ m EUR}$

#### Transfer payments:

Green Report 2000, table 7.1.3a:

Forest subsidies 2000: EU 108.2 m ATS, federal: 237.3 m ATS, provinces: 137.7 m ATS, total: 483.2 m ATS. (1 EURO = 13.7603 ATS)

Green Report 2006, table 5.1.3b:

Forest subsidies 2005: EU: 8.88 m EUR, federal: 15.23 m EUR, provinces: 12.26 m EUR, total: 36.37 m EUR.

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

### **17.3.1 Calibration**

Not needed.

### **17.3.2 Estimation and forecasting**

Not needed.

### **17.3.3 Reclassification into FRA 2010 categories**

Not needed.

## 17.4 Data for Table T17

**Table 17a - Forest revenues**

FRA 2010 Categories	Revenues (1000 EURO)	
	2000	2005
Forest revenue	n. a.	n. a.

**Table 17b - Public expenditure in forest sector by funding source**

FRA 2010 Categories	Domestic funding (1000 EURO)		External funding (1000 EURO)		Total (1000 EURO)	
	2000	2005	2000	2005	2000	2005
Operational expenditure	n. a.	78900	0	0	n. a.	78900
Transfer payments	27252	27490	7863	8880	35115	36370
<b>Total public expenditure</b>	n. a.	106390	7863	8880	n. a.	115270
If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.	<input checked="" type="checkbox"/>	Reforestation				
	<input checked="" type="checkbox"/>	Afforestation				
	<input checked="" type="checkbox"/>	Forest inventory and/or planning				
	<input checked="" type="checkbox"/>	Conservation of forest biodiversity				
	<input checked="" type="checkbox"/>	Protection of soil and water				
	<input checked="" type="checkbox"/>	Forest stand improvement				
	<input checked="" type="checkbox"/>	Establishment or maintenance of protected areas				
	<input checked="" type="checkbox"/>	Other, specify below				
Cooperation in the forestry sector, public relations, forestry tourism, further training, accession to forest, protection against natural hazards.						

## 17.5 Comments to Table T17

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest revenue		
Operational expenditure	Other operational expenditure (studies, projects, research and training centres, schools) include only federal expenditure.	
Transfer payments	Domestic funding: federal and provincial funds. External funding: solely European Union funds.	

Other general comments to the table