Forestry Department
Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT

COUNTRY REPORTS

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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 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

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

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

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Introduction

The three most important producers of official forestry statistics, in Sweden are the National Board of Forestry (with its Regional Forestry Boards) and the National Forest Inventory at the Swedish University of Agricultural Sciences and Statistics Sweden.

National Board of Forestry

The National Board of Forestry (Skogsstyrelsen) is the Government's expert authority on forests and forest policy. Their mission is to work for a sustainable utilisation of the Swedish forests according to the guidelines given by the Parliament and the Government. The NBF (National Board of Forestry) is as well responsible for producing Official Statistics of Sweden's forest. Annually in June, the NBF, publish a Statistical Yearbook of Forestry. The Statistical Yearbook of Forestry compiles relevant official statistics about Swedish forests, forestry and forest industry.

National Forest Inventory

The Swedish National Forest Inventory (NFI) is an annual inventory covering the entire area of Sweden. It is performed as a sampling survey with low sampling fraction. The objective of the inventory is to provide basic data for planning and control of the forest resource at the national and regional level and to give basic data for forest research. The main task is therefore to give information on the state and change of the forest resource and of land use.

The NFI is carried out by the Department of Forest Resource Management and Geomatics, Swedish University of Agricultural Sciences. The Swedish NFI has been undertaken since 1923. Since 1953, the inventory has covered the entire country every year. Since 1983, the annual sample has consisted of some 17,000 systematically distributed circular plots. Of these, 10,000–11,000 fall on forest land. The inventory consists of permanent plots with a radius of 10 m as well as temporary ones with a radius of 7 m. The permanent plots are re-inventoried after 5-10 years, thus allowing an effective estimation of changes. The main observations on all land are land use category, ownership category, growing stock, growth, tree distribution and recent felling. On forest land: terrain conditions, vegetation cover, maturity class, age, site quality, recent and suggested silvicultural measures, the degree of stocking damage and regeneration status (in young stands).

The results of the NFI are in most cases unbiased, but may have significant sample errors. To secure a good precision for the estimates usually mean values from several years is used, generally a five year period.

Statistics Sweden

Statistics Sweden bears overall responsibility for coordination and supervising official statistics in Sweden. They also have particular responsibility for official statistics in certain broad social fields for example the labour market, the economy, trade and industry, population and welfare, housing and construction.

The forestry sector benefits especially from the statistics on industrial production and consumption of raw materials, foreign trade with forest- and forest industry products and transports of timber and stocks of timber, chips and sawn wood.

Source: **National Board of Forestry.** 2002. *Statistical Yearbook of Forestry 2002*. Jönköping, Sweden. ISBN 91-88462-52-8.

National Data and Transformation/Reclassification

The detailed information from the National Forest Inventory is annually recorded in a database. National reported statistics are extracted according to national definitions and needs. Original data can be extracted from the database according to the defined query put to the database. Depending on definitions and restrictions entered in the query different primary data can be extracted from the database.

In case of Sweden, when reporting for the FRA 2005 update, Sweden will in most cases not need to transform or "Reclassify" national forest data to FRA reporting tables with appurtenant classes and definitions. The main bulk of national information for the FRA 2005 global reporting tables can be extracted as primary data from the detailed NFI database using FRA 2005 variables and definitions.

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2005 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest", spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds *in situ*; 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
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Forest, Other wooded land, Other land, Other land of which with tree cover.	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002 2005: Forecast	The NFI data permit direct calculation of data according to the FRA categories and definitions.

1.2.2 Classification and definitions

Information generated from NFI data base according to match FRA 2005 definitions. Table presented below show definitions used to extract the national data according to FRA 2005 categories.

Class	Definition used
Forest	Information generated from NFI data base. The FRA 2005 definition is "Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use." Sweden will instead use... "...all land with a tree crown cover of more than 20 per cent plus half of the land with a tree crown cover ranging from 1 per cent to 20 percent, and area more than 0.25 ha...".
Other wooded land	Information generated from NFI data base. The FRA 2005 definition is "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 *in situ*; 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." Sweden will instead use "… a quarter of the land with a tree crown cover ranging from 1-20 % …", and will also use areas larger than 0.25 ha and does not consider the width of the area.
Other land with tree cover	Information generated from NFI data base. Land with occurrence of trees and not classified as "Forest or Other wooded land". The lands primarily not under forests, having more than *0.25 hectares** with a canopy cover of more than 10 percent of trees able to reach a height of 5 m at maturity. It includes those trees outside forests that fulfil the crown coverage and height criteria. **Swedish definition*.

Inland water bodies	According to used FRA 2005 definition.

1.2.3 Original data

Original national data for the reference years is extracted according to FRA 2005 categories and definitions.

FRA 2005 Classes	Land area (1000 hectares)	
	1990	2000
Forest	27 308	27 414
Other wooded land	3 217	3 239
Other land	9 178	9 062
... of which with tree cover	1 371	1 357
Total for country	41 074	41 071

1.3 Analysis and processing of national data

1.3.1 Calibration

National classes	1990	2000
Land area -Total of national data	41 074	41 071
Land Area - UN statistical div.	41 162	41 162
Calibration factor	1.002142475	1.002215675

1.3.2 Estimation and forecasting

Estimation is not necessary, national data is available for current reporting years. The forecasting for 2005 was made using linear extrapolation.

1.4 Reclassification into FRA 2005 classes

Not necessary.

1.5 Data for National reporting table T1

FRA 2005 Categories	Total area (1 000 hectares)		
	1990	2000	2005
Forest	27 367	27 474	27 528
Other wooded land	3 223	3 246	3 257
Other land	10 572	10 442	10 377
...of which with tree cover (1)	1 374	1 360	1 353
Total land area	*41 162*	*41162*	*41 162*
Inland water bodies	3 834	3 834	3 834
Total area	**44 996**	**44 996**	**44 996**

Footnote:
1. Area of "Other land with tree cover" is included in the area reported under "Other land" and is therefore be excluded when calculating the total area for the country.

1.6 Comments to National reporting table T1

Comment on the trend

The trend in Sweden over the last 100 years is that the Forest area has grown due to the fact of two reasons: 1) large areas of low fertile farm land has either actively or passively been transferred to Forest due to better productivity in the agriculture sector; and 2) large areas of Other land and Other wooded land has been converted to Forest land by draining swamps and low fertile (due to high groundwater levels) land. The exact areas which have been converted from Other land and Other wooded land to Forest are not possible to give due to lack of records and change in definitions. However, it is probably that more than two million ha and less than four million hectares, within the last 100 years. These are rough estimates of gross figures, however if net figures could be presented they would be significantly lower. The reason is of course that forest areas have also been converted from Forest to farmland, both farmland and Forest has given their share to public roads and other infrastructure development, etc.

The trends since the 1950s until about 1990 were as for the period above. Since 1990 the active transformation from other wooded land to forest (by draining swamps) has stopped due to nature conservation reasons. Still there is a slow trend in planting/afforestation of agricultural land to Forest.

2 Table T2 – Ownership of Forest and Other wooded land

2.1 FRA 2005 Categories and definitions

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

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Private ownership, Public ownership and Other ownership	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions.

2.2.2 Classification and definitions

Information generated from NFI data base according to FRA 2005 definitions.

2.2.3 Original data

Original national data for the reference years is extracted according to FRA 2005 categories and definitions.

Ownership	Area (1000 hectares)			
	1990		2000	
	Forest	OWL	Forest	OWL
1. Under public ownership	8 471	2 144	5 408	1 804
2. Under private ownership	18 837	1 072	22 006	1 434
3. Under other or unspecified ownership	0	0	0	0
Total for country	**27 308**	**3 217**	**27 414**	**3 239**

2.3 Analysis and processing of national data

2.3.1 Calibration

National Classes	1990	2000
Land area -total of national data	41 074	41 071
Land area – UN statistical div.	41 162	41 162
Calibration factor	1.002142475	1.002215675

2.3.2 Estimation and forecasting

Estimation and forecasting not needed.

2.4 Reclassification into FRA 2005 classes

Not needed.

2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	18 877	22 054	1 074	1 438
Public ownership	8 489	5 420	2 149	1 808
Other ownership	0	0	0	0
Total	**27 366**	**27 474**	**3 223**	**3 246**

2.6 Comments to National reporting table T2

In April 1994, more than three million hectares of state owned forests became a part of the company AssiDomän AB. In 1999, 900 000 hectares of AssiDomän was acquired by the state and formed Sveaskog. In December 2001, Sveaskog acquired all shares in AssiDomän.

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

3.1 FRA 2005 Categories and definitions

Types of designation

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

Designation categories

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

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	M	Designated functions	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions. Estimations about conservation of biodiversity and multiple purposes.

3.2.2 Classification and definitions

Class	Definition used
Production forest	Information generated from NFI data base. Sweden use... "...all land with a tree crown cover of more than 20 per cent plus half of the land with a tree crown cover ranging from 1 per cent to 20 percent, and area more than 0.25 ha..." and designated for production and extraction of wood forest products.
Protection forest & OWL	Forest and Other wooded land mainly concerning soil and water conservation.
Conservation Forest & OWL	National parks, nature reserves and habitat protection areas.
Social services Forest & OWL	All Forest and OWL not strictly protected have public access for social services by law; except for certain military areas (1.5 %). No separate data on Forest and Other wooded land within urban areas.
Multiple objective Forest & OWL	For total area with function the common is multiple objectives due to (a) the public has access for social services by law. (b) Considerations to nature conservation and cultural heritage in all forests by law. (c) Native species are used in the forest management.

3.2.3 Original data

National parks and nature reserves (1137, 1587 and 1647 thousands ha for the different reporting years). Since 2000 also habitat protection areas, nature conservation agreements and forest land voluntarily set aside for conservation purposes.
Estimation for 2005 is 40 000 ha habitat protection areas and nature conservation agreements. Estimation for 2000 is 1490 000 ha forest land voluntarily set aside for conservation purposes (frivilliga avsättningar + 3 % hänsynsytor) and estimation for 2005 is 1 680 000 ha.

3.3 Analysis and processing of national data

3.3.1 Calibration

Not needed

3.3.2 Estimation and forecasting

Estimation for conservation of biodiversity and multiple purposes.

3.4 Reclassification into FRA 2005 classes

Not needed

3.5 Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1 000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
Forest						
Production	22 195	20 362	20 126	22 195	20 362	20 126
Protection of soil and water	35	35	35	35	35	35
Conservation of biodiversity	1 137	3 077	3 367	27 367	27 474	27 528
Social services	n.a.	n.a.	n.a.	27 367	27 474	27 528
Multiple purpose	4 000	4 000	4 000	not appl.	not appl.	not appl.
No or unknown function				not appl.	not appl.	not appl.
Total – Forest	27 367	27 474	27 528	**not appl.**	**not appl.**	**not appl.**
Other wooded land						
Production						
Protection of soil and water						
Conservation of biodiversity						
Social services						
Multiple purpose	3 223	3 246	3 258	not appl.	not appl.	not appl.
No or unknown function				not appl.	not appl.	not appl.
Total – Other wooded land	**3 223**	**3 246**	**3 258**	**not appl.**	**not appl.**	**not appl.**

3.6 Comments to National reporting table T3

4 Table T4 – Characteristics of Forest and Other wooded land

4.1 FRA 2005 Categories and definitions

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

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Primary, Modified natural, Semi-natural, Productive plantation, Protective plantation	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions.

4.2.2 Classification and definitions

Class	Definition used
Primary forest & OWL	Land considered as undisturbed by man. The definition includes national parks, nature reserves, all sub-alpine birch forests, the rest of the sub-alpine forest older than 100 years, all low productive forest with a production capacity less than 1 m^3 o.b./ha/year, and all other forest older than the lowest recommended final felling age where no treatments whatsoever have been conducted over the last 25 years. It excludes (a) power lanes, roads, railways, agricultural land and urban land; (b) excludes areas influenced by ditching and (c) excludes areas influenced by fellings during the last 50 years.
Modified-natural forest	Not defined part of Semi-natural forest with more extensive forest management. Modified- and Semi-natural forests are counted together.
Modified-natural OWL	All other not Primary other wooded land.
Semi-natural forest	Other "Forest" which are not plantations according to this enquiry.
Productive plantation	Plantation in productive forest of "introduced species" = *P. contorta*.
Protective plantation	Forest and Other wooded land plantations mainly concerning soil and water conservation.

4.2.3 Original data

FRA 2005 Classes	Area (1 000 hectares)	
	1990	**2000**
Forest		
Primary	4 338	4 590
Modified-natural		
Semi-natural	22 448	22 206
Productive plantation	521	618
Protective plantation	0	0
Total Forest	*27 308*	*27 414*
Other wooded land		
Primary	3 013	3 110
Modified-natural	204	128
Semi-natural	0	0
Protective plantation	0	0
Total Other wooded land	*3 217*	*3 239*
Total for country	**30 525**	**30 652**

4.3 Analysis and processing of national data

4.3.1 Calibration

National classes	**1990**	**2000**
Land area –total of national data	41 074	41 071
Land area - UN statistical div.	41 162	41 162
Calibration factor	1.002142475	1.002215675

4.3.2 Estimation and forecasting

Estimation is not needed. The forecasting for 2005 was made through linear extrapolation.

4.4 Reclassification into FRA 2005 classes

Not needed

4.5 Data for National reporting table T4

FRA 2005 Categories	Area (1 000 hectares)					
	Forest			Other wooded land		
	1990	**2000**	**2005**	**1990**	**2000**	**2005**
Primary	4 348	4 600	4726	3 019	3 117	3 166
Modified natural	-	-	-	205	129	91
Semi-natural	22 496	22 255	22 135	0	0	0
Productive plantation	523	619	667	0	0	0
Protective plantation	0	0	0	0	0	0
Total	**27 366**	**27 474**	**27 528**	**3 223**	**3 246**	**3 257**

4.6 Comments to National reporting table T4

One explanation to why the area of Primary forest is increasing due to the fact that the definition includes "...all other forest older than the lowest recommended final felling age where no treatments whatsoever have been conducted over the last 25 years... "

5 Table T5 – Growing stock

5.7 FRA 2005 Categories and definitions

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

5.8 National data

5.8.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Growing stock and Commercial growing stock	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions.

5.8.2 Classification and definitions

Class	Definition used
Growing stock	All living trees on all Forest areas (see T1) and all living trees on all Other wooded land areas; Growing stock according to terms and definitions FRA 2000. Stem volume above stump of living trees includes bark, excludes branches. Broadleaved: Forests where 75% of basal area consists of broadleaved trees. Coniferous: Forests where 75% of basal area consists of coniferous trees. Mixed: Other forests. For parts of Forest area, 5.9% (1990) and 7.3% (2000), data has been estimated (=Conservation forest and Mountain forest.) For parts of Other wooded land area, 50.3% (1990) and 47.6% (2000), data has been estimated (=Conservation forest and Mountain forest).
Commercial growing stock	Forest available for wood supply. Stem volume above stump of living trees includes bark, excludes branches and tops (minimum diameter at breast height 10 cm).

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

5.8.3 Original data

5.9 Analysis and processing of national data

5.9.1 Calibration

Not needed

5.9.2 Estimation and forecasting

Estimation is not needed data is available for current reference years. The forecasting made using linear extrapolation.

5.10 Reclassification into FRA 2005 classes

Not needed.

5.11 Data for National reporting table T5

FRA 2005 Categories	Volume (million cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	2 791.2	3 033.6	3 154.8	34.4	35.8	36.5
Commercial growing stock	2 155.1	2 332.6	2 421.4	0	0	0

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm	0	
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm	0	
3. Minimum diameter of branches included in Growing stock (W)	cm	Excluded	Appr. value 36% of Stem volume used
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	cm	10	
5. Volume refers to "Above ground" (AG) or "Above stump" (AS)	AG / AS	AS	Average height of stumps appr. 10 cm
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/No	No	
7. If yes, then attach a separate note giving details of the change	Attachment		

Additional appendix to T5

Item	Unit	Information	
Forest		**1990**	**2000**
Growing stock of broadleaved trees	Mill. m^3	134.2	166.0
Growing stock of coniferous trees	Mill. m^3	2,282.3	2,414.5
Growing stock of mixed (con&broadl) species	Mill. m^3	374.7	453.1
Area over which Growing stock has been measured	Mill. ha	27.3	27.4
Area over which Commercial growing stock has been measured	Mill. ha	21.3	21.3
Min. diam. at the top end of stem in Commercial growing stock	Cm	Approximately 5	
Minimum diameter of the branches in Commercial growing stock	Excluded	Approximately 36% of stem volume	
Other wooded land			
Growing Stock of broadleaved trees	Mill. m^3	2.9	2.8
Growing Stock of coniferous trees	Mill. m^3	21.6	23.3
Growing Stock of mixed (con & broadl) species	Mill. m^3	9.9	9.7
Area over which Growing Stock has been measured	Mill. ha	3.22	3.24

5.12 Comments to National reporting table T5

6 Table T6 – Biomass stock

6.1 FRA 2005 Categories and definitions

Category	Definition
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
Below-ground biomass	All living biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood biomass	All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Above-ground biomass, Below-ground biomass and Dead wood biomass	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions.

6.2.2 Classification and definitions used

All trees on all forest areas (See T-1)
Growing stock according terms and definitions FRA 2000. For parts of Forest area, 5.9 % (1990) and 7.3 % (2000), data has been calculated (= Conservation forest and Mountain forest.). Biomass calculated with biomass-functions for living trees according to Marklund 1988. Above and below ground tree biomass of all trees in growing stock.

Dead woody biomass includes all non-living woody biomass of less than 10 cm in diameter and not expressed in other woody biomass.
Litter includes dead woody biomass for trees < 10 cm at breast height and all roots (< 5 cm).
Woody biomass for trees includes tops, bark, branches, stumps and roots; trees living or dead.
Tree biomass includes tops, bark, branches, stumps, roots 5- cm for living trees 0- cm bh-diameter

6.2.3 Original data

Estimation is not needed data is available for current reference years.

6.3 Analysis and processing of national data

6.3.1 Calibration

Not needed

6.3.2 Estimation and forecasting

Not needed

6.4 Reclassification into FRA 2005 classes

Not needed

6.5 Data for National reporting table T6

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight) (1)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	1 621.0	1 746.0	1 810.0	30.6	31.2	31.5
Below-ground biomass	471.5	508.9	530	8.4	9.0	9.3
Dead wood biomass	589.0	644.2	670.0	13.4	14.1	14.4
Total	**2 681.5**	**2 899.1**	**3 010.0**	**52.4**	**54.3**	**55.2**

Footnote:
1. Oven dry = dried 48 hours at 105 ºC

Table: Appendix Forest and OWL

Item	Unit	Information
Area over which woody biomass and tree biomass has been measured	Million ha	Forest 1990: 27.3 2000: 27.4 OWL 1990: 3.22 2000: 3.24
Average height of the stumps	Cm	Appr. 10
Minimum diameter at breast height of standing trees for dead woody biomass measurements	Cm	10
Minimum diameter at the top end of lying logs for dead woody biomass measurements	Cm	10
Minimum diameter at breast height of living standing trees for tree biomass measurements	Cm	0
Minimum diameter of the branches for dead woody biomass and tree biomass measurements	Cm	0
Minimum diameter of the roots for dead woody biomass and tree biomass measurements	Cm	5
Stump biomass is in above/below ground tree biomass	Above/Below	Below
Wether biomass includes or excludes bark	Includes/Excludes	Includes
Have above thresholds changed since 1990	Yes/No	No

6.6 Comments to National reporting table T6

Calculation of biomass of living and dead trees for stem, branches, stumps and roots according to Marklunds functions for living trees (1988). Volume dead wood -1990 was calculated as volume dead wood -2000 minus difference of volume dry and wind felled trees 2000 and 1990; volume soft or very decayed wood is assumed to be unchanged under ten years. When calculating dead wood (woody biomass) for trees > 10 cm d.b.h. the biomass for branches is reduced with -33% for "faster decay".
Biomass dead wood for trees <10 cm d.b.h. is estimated to app. 20% of biomass dead wood ≥10 cm; the biomass is then corrected with -2.5% for "faster decay" for thin trees.
Biomass in organic debris and branch wood is estimated to app. 1% of "Above ground tree biomass" in "Growing Stock".

7 Table T7 – Carbon stock

7.1 FRA 2005 Categories and definitions

Category	Definition
Carbon in above-ground biomass	Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.
Carbon in below-ground biomass	Carbon in all living biomass of live roots. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood biomass	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than a minimum diameter chose by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fumic, and humic layers.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Natinal reporting table T6	H	Used to estimate Forest carbon	1990: 1988 – 1992 2000: 1998 – 2002	

7.2.2 Classification and definitions

No definitions available

7.2.3 Original data

Forest carbon data were estimated using biomass data (as coming from table 6) multiplied by the default conversion factor of 0.5.

7.3 Analysis and processing of national data

7.3.1 Calibration

Not needed

7.3.2 Estimation and forecasting

Not needed

7.4 Reclassification into FRA 2005 classes

7.5 Data for National reporting table T7

FRA 2005 Categories	Carbon (Million metric tonnes)					
	Forest			Other wooded land		
	1990	**2000**	**2005**	**1990**	**2000**	**2005**
Carbon in above-ground biomass	810.5	873.0	905.0	15.3	15.6	15.7
Carbon in below-ground biomass	235.8	254.5	265.0	4.2	4.5	4.7
Sub-total: Carbon in living biomass	**1 046.3**	**1 127.5**	**1 170.0**	**19.5**	**20.1**	**20.4**
Carbon in dead wood	294.5	322.1	335.0	6.7	7.0	7.3
Carbon in litter	n.a	n.a.	n.a.	n.a.	n.a.	n.a.
Sub-total: Carbon in dead wood and litter						
Soil carbon to a depth of _____ cm	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total carbon	**1 340.8**	**1 449.6**	**1 505**	**26.2**	**27.1**	**27.7**

7.6 Comments to National reporting table T7

8 Table T8 – Disturbances affecting health and vitality

8.1 FRA 2005 Categories and definitions

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

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Räddningstjänst i siffror, Swedish Rescue Services Agency	M (1)	Burnt area	1996-2002	
National forest survey data	M (2)	Other (i.e. storm etc.)	1989-92 (3); 1998-2002	

Footnotes:
1. Based on rough estimates by fire officers
2. Estimates based on a systematic grid of sample plots
3. Relevant data from 1988 were not available, thus the average values are based on the 4-year period 1989-1992

8.2.2 Classification and definitions

National class	Definition
FRA 2005 categories applied	Information generated according to FRA 2005 definitions.

8.2.3 Original data

	Average annual Area Affected (1000) hectares			
	Forests		Other wooded land	
Disturbances	1990	2000	1990	2000
Forest Fires	n.a.	0.59	n.a.	0.29
Other				
storm	32	55	n.a.	n.a.
grazing	24	19	n.a.	n.a.
fungi (e.g. Gremmeniella)	9	78	n.a.	n.a.
other	17	14	n.a.	n.a.
Total	*82*	*166*	*n.a.*	*n.a.*

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

Estimation not needed. Forecasting is not needed.

8.4 Reclassification into FRA 2005 classes

	FRA 2005 disturbance classes			
National disturbance classes	**Fire**	**Insects**	**Disease**	**Other**
Forest fire	100%			
Other				
Storm				100%
Browsing				100%
Fungi (e.g. Gremmeniella)			100%	
Other				100%

8.5 Data for National reporting table T8

FRA-2005 Categories	**Average annual area affected (1 000 hectares)**			
	Forests		**Other wooded land** (1)	
	1990	**2000**	**1990**	**2000**
Disturbance by fire	n.a.	.59	n.a.	.29
Disturbance by insects			n.a.	n.a.
Disturbance by diseases	9	78	n.a.	n.a.
Other disturbance	73	88	n.a.	n.a.

Footnotes:
1. Disturbances on Other wooded land is not covered by the NFI

Comment:
Disturbance is defined as a percent loss of growth rate exceeding 10%.

8.6 Comments to National reporting table T8

9 Table T9 – Diversity of tree species

9.1 FRA 2005 Categories and definitions

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

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
http://www.redlist.org	H	Critically, endangered and vulnerable tree species	2000	

9.2.2 Classification and definitions

A tree is defined as a woody perennial with a single main stem or in case of coppice with several stems, having a more or less definite crown.

9.2.3 Original data

Not applicable

9.3 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	32
Critically endangered tree species	0
Endangered tree species	0
Vulnerable tree species	1

9.4 Comments to National reporting table T9

The IUCN vulnerable tree species reported in the table is the *Betula oycoviensis.*

10 Table T10 – Growing stock composition

10.1 FRA 2005 Categories and definitions

List of species names (scientific and common names) of the ten most common species.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Official Statistics of Sweden. Swedish University of Agricultural Sciences. The National Forest Inventory (NFI). Assistant Correspondent: Hans Toet	H	Growing stock composition	NFI-data since 1923. Years applied: 1990: 1988 – 1992 2000: 1998 – 2002	The NFI data permit direct calculation of data according to the FRA categories and definitions.

10.2.2 Original data

10.3 Analysis and processing of national data

10.3.1 Calibration

Not needed

10.3.2 Estimation and forecasting

Not needed.

10.4 Data for National reporting table T10

FRA 2005 Categories / Species name (*Scientific name* and common name)	Growing stock in Forests (million cubic meters)	
	1990	2000
Picea abies - Norway spruce	1,263.6	1,306.1
Pinus sylvestris - Scots pine	1,099.3	1,206.1
Betula pubescens - Downy birch	217.2	261.3
Betula pendula - Silver birch	75.2	90.4
Populus tremula - European aspen	34.6	42.7
Quercus robur - English oak	24.9	26.7
Alnus glutinosa - Black alder	19.9	25.8
Fagus sylvatica - Beech	18.4	17.5
Salix caprea - Goat willow	10.0	15.9
Alnus incana - Grey alder	10.0	11.6
Remainder of species	18.1	29.5
All species	**2,791.2**	**3,033.6**

10.5 Comments to National reporting table T10

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

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

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Board of Forestry. 2003. *Statistical Yearbook of Forestry 2003. Jönköping, Sweden. ISBN 91-88462-54-4.*	**H**	Industrial Roundwood Supply, Wood Supply, Wood Fuel Supply	1990 and 2000	

11.2.2 Classification and definitions

National class	Definition
FRA 2005 categories applied	FRA 2005 definitions used

11.2.3 Original data

Calculated gross fellings by assortments	**Million m^3 f u.b** (1)	
Assortment of stemwood	**1990**	**2000**
Coniferous sawlogs	23.3	32.3
Non-coniferous sawlogs	0.4	0.4
Coniferous and non-coniferous pulp wood	25.3	23.5
Woodfuel of stem wood	3.2	5.9
Other round wood (2)	0.5	0.5
Removals total	**52.7**	**62.6**

Footnote:

1. m^3 f u.b. = cubic metre solid volume excluding bark
2. Includes: wooden poles, pole timber, veneer- and match wood, props and mining timber and wood for agriculture excluding sawn timber.
3.

11.3 Analysis and processing of national data

Conversion factor used to convert m^3 f u b (under bark) to m^3 f p b (over bark) = 1.14

11.3.1 Estimation and forecasting

Estimation not needed. Forecasting was made taking into account trends and rounding off figures.

11.4 Reclassification into FRA 2005 classes

Assortment of stemwood	Industrial roundwood	Woodfuel
	%	%
Coniferous sawlogs	100	
Non-coniferous sawlogs	100	
Coniferous and non-coniferous pulp wood	100	
Woodfuel of stem wood		100
Other round wood	100	

11.5 Data for National reporting table T11

FRA 2005 Categories	Volume in 1 000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	56 430	64 640	68 740	-	-	-
Woodfuel	1 710	5 930	8 040	1 940	800	200
Total for country	**58 140**	**70 570**	**76 780**	**1 940**	**800**	**200**

11.6 Comments to National reporting table T11

12 Table T12 – Value of wood removal

12.1 FRA 2005 Categories and definitions

Category	Definition
Value of industrial wood removal	Value of the wood removed for production of goods and services other than energy production (woodfuel).
Value of woodfuel removal	Value of the wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

12.2 National data

12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Board of Forestry. 2003. *Statistical Yearbook of Forestry 2003. Jönköping, Sweden. ISBN 91-88462-54-4.*	**H**	Industrial Roundwood Supply, Wood Supply, Wood Fuel Supply	1990 and 2000	

12.2.2 Classification and definitions

National class	Definition
FRA 2005 categories applied	FRA 2005 definitions used

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

12.2.3 Original data

	Average prices (SEK/m³ u b)	
Assortment of stemwood	**1990**	**2000**
Coniferous sawlogs	350	401
Non-coniferous sawlogs	350	416
Coniferous and non-coniferous pulp wood	264	228
Woodfuel of stem wood	233	162
Other round wood	512	536

Table: Data imported from T11

Calculated gross fellings by assortments	Million m^3 u b	
Assortment of stemwood	**1990**	**2000**
Coniferous sawlogs	23.3	32.3
Non-coniferous sawlogs	0.4	0.4
Coniferous and non-coniferous pulp wood	25.3	23.5
Woodfuel of stem wood	3.2	5.9
Other round wood	0.5	0.5
Removals total	**52.7**	**62.6**

Assortment of stemwood	Value of roundwood (million SEK)	
	1990	**2000**
Coniferous sawlogs	8 178	12 964
Non-coniferous sawlogs	140	191
Coniferous and non-coniferous pulp wood	6 675	5 357
Woodfuel of stem wood	349	841
Other round wood	256	268
Removals total	**15 598**	**19 622**

12.3 Analysis and processing of national data

The value of roundwood was calculated by multiplying average price / m^3 u b with volume of wood removal m^3 u b.
Exchange rates used (according to Appendix 4 in guidelines) to convert to US dollars.
Exchange rate for 2005 = 2003 exchange rate.

12.3.1 Estimation and forecasting

Estimation is not needed. Forecasting for 2005 figure for Forest was made through linear extra polation, the forecasting for Other wooded land (2005) was made through estimating and rounding off figures.

12.4 Reclassification into FRA 2005 classes

Not needed.

12.5 Data for National reporting table T12

FRA 2005 Categories	Value of roundwood removal (1 000 USD)					
	Forest			Other wooded land		
	1990	**2000**	**2005**	**1990**	**2000**	**2005**
Industrial roundwood	2 676 240	1 969 670	2 824 280			
Woodfuel	61 230	88 230	149 480	69 600	11 880	10 000
Total for country	**2 737 470**	**2 057 900**	**2 973 760**	**69 600**	**11 880**	**10 000**

12.6 Comments to National reporting table T12

The large differences in value between the different reporting years (National reporting table T12) is mainly explained by the fact that all values have been converted to US dollars and the exchange rate over the reporting years has varied.

13 Table T13 – Non-wood forest product removal

13.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
Plant products / raw material
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw material for utensils, handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
Animal products / raw material
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

13.2 National data

13.2.1 Data sources

References to sources of information	**Quality (H/M/L)**	**Variable(s)**	**Year(s)**	**Additional comments**
Paulmann, Linda. 2002. *Julgransodlingar i Sverige - utbud, efterfrågan och lönsamhet*. SLU, Sweden.	M	Christmas trees (Ornamental)	2000	
Hytönen, Marjatta (ed.) 1995. *Multiple-use forestry in the Nordic countries*. METLA, Finland.	L	Christmas trees (Ornamental)	1990	
Eliasson, Peter 1994. *Svenska miljöräkenskaper. Bilaga.* Umeå universitet, Sweden	M	Bush meat	1990, 2000	
National Board of Forestry 2003. *Skogsstatistisk årsbok*. Sweden.	H	Bush meat	1990, 2000	
Hörnsten, Lisa 2002. *Bär och svamp*. In *Statsskogsutredningen. SOU 2002:40.* Sweden	M	Wild berries (Food)	2000	
Lindhagen, A & Hörnsten, L. 1997. Unpublished information about harvesting of wild berries for local consumption. SLU, Sweden.	M	Wild berries (Food)	2000	

13.2.2 Classification and definitions

National class	Definition
FRA 2005 categories applied	FRA 2005 definitions used

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

13.2.3 Original data

NWFP products	Quantity harvested/collected	Total		
12. Bush meat		**1990**	**97/98**	**01/02**
Brown bear *(Ursus arctos)*	1 000 kg	3	2	4
Moose *(Alces alces)*		17 550	12 700	14 187
Roe deer *(Capreolus capreolus)*		3 756	3 700	1 848
Mountain hare		320	320	68
Field hare		253	253	173
Red deer *(Cervus elaphus)*		33	15	99
Fallow deer *(Dama dama)*		90	130	300
Beaver *(Castor fiber)*		48	50	40
Capercaillie *(Tetrao urogallus)*		65	60	36
Black grouse *(Tetrao tetrix)*		24	40	12
Hazel-grouse *(Bonasia bonasia)*		7	7	3
Willow grouse *(Lagopus lagopus)*		8	16	22
Wood pigeon *(Columba palumbus)*		n.a.	25	n.a.
Woodcock *(Scolopax rusticola)*		4	4	0
Sum 12. Bush meat		**22 160**	**17 322**	**16 792**

NWFP products	Quantity harvested/collected	Total		
10. Hides and Skins	**Unit:**	**1990** (1)	**2000** (2)	**2005** (3)
Brown bear *(Ursus arctos)*	Number of skins	43	30	62
Moose *(Alces alces)*		130 000	91 000	105 087
Red fox *(Vulpes vulpes)*		27 000	45 000	58 000
Lynx *(Lynx lynx)*			116	100
Beaver *(Castor fiber)*		6 100	6 000	5 000
Marten *(Martes martes)*		22 000	21 000	9 000
Sum 10. Hides and skins		**185 143**	**163 146**	**177 249**

Footnotes:
1. 1990 it is assumed that hides and skins are collected from all animals killed (values from hunting season 90/91).
2. Same value as reported for FRA 2000.
3. 2005 it is assumed that hides and skins are collected from all animals killed (values from hunting season 01/02).

NWFP products	Quantity harvested/collected	Total		
1. Food	**Unit:**	**1990** (3)	**2000** (4)	**2005**
Bilberry *(Vaccinium myrtillus)* (1)	1 000 kg	4 750	4 800	4 300
Cowberry *(Vaccinium vitis-idaea)* (1)		5 950	6 000	5 850
Raspberry *(Rubus idaeus)* (1)		2 250	2 200	1 700
Cloud berry *(Rubus chamaemorus)* (1)		1 900	1 900	1 325
Other wild berries (2)		n.a.	5 800	13 790
Mushrooms (1)		8 640	8 500	8 910
Sum. 1. Food		**23 490**	**29 200**	**35 875**

Footnotes:
1. Berries and mushrooms picked for local consumption.
2. Berries for sale.
3. Value 1990 = SCBs value 1995
4. Value 2000 = FRA 2000 value

Comments:
1 litre berries = 0.5 kg berries; 1 litre mushrooms = 0.6 kg mushrooms

NWFP product	Quantity harvested/collected	Total		
6. Ornamental plants	**Unit:**	**1990** (1)	**2000** (2)	**2005** (2)
Christmas trees	Kg	12 500	14 000	14 000
Sum. 6. Ornamental plants		**12 500**	**14 000**	**14 000**

Footnotes:
1. Value for 1990 = estimation (see national data sources)
2. Value for 2000 and 2005 = value of 2001

Comments:
Assumption, 1 Christmas tree = 5 kg

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

Estimation not needed. The forecasting for 2005 was made taking into account trends and rounding off figures.

13.4 Reclassification into FRA 2005 classes

Not needed.

13.5 Data for National reporting table T13

FRA 2005 Categories	Scale factor	Unit	NWFP removal		
			1990	**2000**	**2005**
Plant products / raw material					
1. Food	10 000	Kg	2 349	2 920	3 586
2. Fodder					
3. Raw material for medicine and aromatic products					
4. Raw material for colorants and dyes					
5. Raw material for utensils, handicrafts & construction					
6. Ornamental plants	1 000	Kg	12.5	14.0	14.0
7. Exudates					
8. Other plant products					
Animal products / raw material					
9. Living animals					
10. Hides, skins and trophies	1 000	Psc.	185.1	163.1	177.2
11. Wild honey and bee-wax					
12. Bush meat	10 000	Kg	2 216	1 732	1 679
13. Raw material for medicine					
14. Raw material for colorants					
15. Other edible animal products					
16. Other non-edible animal products					

13.6 Comments to National reporting table T13

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

14.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
Plant products / raw material
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw material for utensils, handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
Animal products / raw material
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

14.2 National data

14.2.1 Data sources

References to sources of information	**Quality (H/M/L)**	**Variable(s)**	**Year(s)**	**Additional comments**
See T13				

14.2.2 Classification and definitions

National class	**Definition**
FRA 2005 categories applied	FRA 2005 definitions used

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

14.2.3 Original data

FRA 2005 Class of NWFP	**Value of NWFP Collected (1000 SEK)**		
	1990	**2000**	**2005**
1. Food	432 000	568 000	395 000
8. Ornamental plants	115 000	92 000	112 000
13. Bush meat	749 000	698 000	569 000
14. Other edible animal products	172 000	349 000	397 000
15. Hides and skins	9 000	12 000	10 000

Footnotes: See T13

14.3 Analysis and processing of national data

Conversion factors used (according to Appendix 4 in guidelines) to convert to US dollars.

14.3.1 Estimation and forecasting

See T13

14.4 Reclassification into FRA 2005 classes

Not needed

14.5 Data for National reporting table T14

FRA 2005 Categories	**Value of the of NWFP removed (1 000 USD)**		
	1990	**2000**	**2005 (1)**
Plant products / raw material			
1. Food	75 900	59 500	54 200
2. Fodder			
3. Raw material for medicine and aromatic products			
4. Raw material for colorants and dyes			
5. Raw material for utensils, handicrafts & construction			
6. Ornamental plants	20 200	9 600	15 400
7. Exudates			
8. Other plant products			
Animal products / raw material 9. Living animals			
10. Hides, skins and trophies	1 500	1 300	1 400
11. Wild honey and bee-wax			
12. Bush meat	131 400	73 200	78 200
13. Raw material for medicine			
14. Raw material for colorants			
15. Other edible animal products	30 200	36 600	54 600
16. Other non-edible animal products			
Total	**259 200**	**180 200**	**203 800**

Footnote:
1. 2005 exchange rate = 2003 exchange rate

14.6 Comments to National reporting table T14

15 Table T15 – Employment in forestry

15.1 FRA 2005 Categories and definitions

Category	Definition
Primary production of goods	Employment in activities related to primary production of goods, like industrial roundwood, woodfuel and non-wood forest products.
Provision of services	Employment in activities directly related to services from forests and woodlands.
Unspecified forestry activities	Employment in unspecified forestry activities.

15.2 National data

15.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Board of Forestry. 2003. *Statistical Yearbook of Forestry 2003. Jönköping, Sweden. ISBN 91-88462-54-4.*	H	Number of people employed by forestry.	1990 and 2000	

15.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

15.2.3 Original data

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Unspecified forestry activities	33.7	17.3
Total	**33.7**	**17.3**

15.3 Analysis and processing of national data

15.3.1 Estimation and forecasting

15.4 Reclassification into FRA 2005 classes

15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods		
Provision of services		
Unspecified forestry activities	33.7	17.3
Total	**33.7**	**17.3**

15.6 Comments to National reporting table T15

Statistics Sweden conducts labour force surveys (AKU) from which the number of employees in different branches is extracted. The data is not distributed on category of staff or primary activities.

The large decrease in employment in the forestry sector is due to increased mechanisation and rationalization.

16 Thematic reporting tables

Sweden as a member of the Ministerial Conference for the Protection of Forest in Europe (MCPFE) already reports on Criteria and Indicators issues to this regional process. In order to avoid double reporting, Sweden will not provide an additional report by thematic areas.

Pan European Indicators for Sustainable Forest Management

Criteria	**No.**	**Indicator**
C:1 Maintenance and Appropriate Enhancement of Forest Resources and their Contribution to Global Carbon Cycles	1.1	Forest area
	1.2	Growing stock
	1.3	Age structure and/or diameter distribution
	1.4	Carbon stock
C:2 Maintenance of Forest Ecosystem Health and Vitality	2.1	Deposition of air pollutants
	2.2	Soil condition
	2.3	Defoliation
	2.4	Forest damage
C:3 Maintenance and Encouragement of Productive Functions of Forests (Wood and Non-Wood)	3.1	Increment and fellings
	3.2	Roundwood
	3.3	Non-wood goods
	3.4	Services
	3.5	Forests under management plans
C:4 Maintenance Conservation and Appropriate Enhancement of Biological Diversity in Forest Ecosystems	4.1	Tree species composition
	4.2	Regeneration
	4.3	Naturalness
	4.4	Introduced tree species
	4.5	Deadwood
	4.6	Genetic resources
	4.7	Landscape pattern
	4.8	Threatened forest species
	4.9	Protected forests
C:5 maintenance and Appropriate Enhancement of Protective Functions in Forest Management (notably soil and water)	5.1	Protective forests – soil, water and other ecosystem functions
	5.2	Protective forests – infrastructure and natural resources
C:6 Maintenance of other socio-economic functions and conditions	6.1	Forest holdings
	6.2	Contribution of forest sector to GDP
	6.3	Net revenue
	6.4	Expenditures for services
	6.5	Forest sector workforce
	6.6	Occupational safety and health
	6.7	Wood consumption
	6.8	Trade in wood
	6.9	Energy from wood resources
	6.10	Accessibility for recreation
	6.11	Cultural and spiritual values

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On national level The National Board of Forestry commissioned by the Government has carried out an evaluation of the effects of the national forest policy comparing present situation and development towards environmental-, sector- and forest policy goals (Skogsvårdsorganisationens utvärdering av skogspolitikens effekter SUS 2001).