

# ARBEITSBERICHT

**Institute for Economics**

## **Study on Forestry in Germany**

by

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and

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## **Contents**

	Page
<b>0 Introduction</b>	<b>3</b>
<b>1 Forest Characteristics</b>	<b>3</b>
1.1 Forest Area and Forest Cover	3
1.2 Species Composition of the Forests	3
1.3 Total Volume and Current Increment	4
1.4 Logging	4
1.5 Main Directories of Wood Processing and Timber Trade	5
1.6 Categories of Forest Protection	6
<b>2 Legal and Organizational Forms of Forest Holdings</b>	<b>7</b>
2.1 Ownership Structure	7
2.2 Accessibility of Forests to Society	7
2.3 Forest Law	8
2.4 Governmental Help for Forestr	10
2.5 Forest Holdings and Forest Owners	10
2.6 Forms of Public Forests	11
2.7 Structure of National Forest Administrations	11
2.8 Tasks of National Forest Administration	19
2.9 Forms of Private Forest Owner Associations	19
<b>3 Education in Forestry</b>	<b>20</b>
3.1 Forestry Education on University Level	20
3.2 Forestry Education on UAS-Level	20
3.3 Forestry Education on Technical Forest School Level	20
<b>4 Forest Research</b>	<b>21</b>

## **0 Introduction**

The Federal Republic of Germany is a federal state. According to the constitution forestry is mainly a task of the single Bundeslaender (see point 2.3). This is the reason, that in Germany it gives no comprehensive annual survey on forestry data on the federal level. So this study is a compilation of data from different sources. The main sources are the annual Agrarian Report of the Federal Ministry of Consumer Protection, Food and Agriculture (BMVEL), the results of the last Federal Forest Inventory and publications of the Federal Statistical Office of Germany.

## **1 Forest Characteristics**

### **1.1 Forest Area and Forest Cover**

Forests are covering round about 11 Mio. ha or 31 % of the territory of the Federal Republic of Germany. So after agriculture forestry is the second largest land use form and the most important near-natural living space in this country. According to the results of the most recent Federal Forest Inventory from 2001/02, which was the second in Western Germany and the first in Eastern Germany, the Bundesland Bavaria has the largest forest area and Rhineland-Palatinate the highest forest cover value in Germany. A detailed overview on forest area and forest cover gives table 1.

*Table 1: Forest Area and Forest Cover in Germany*

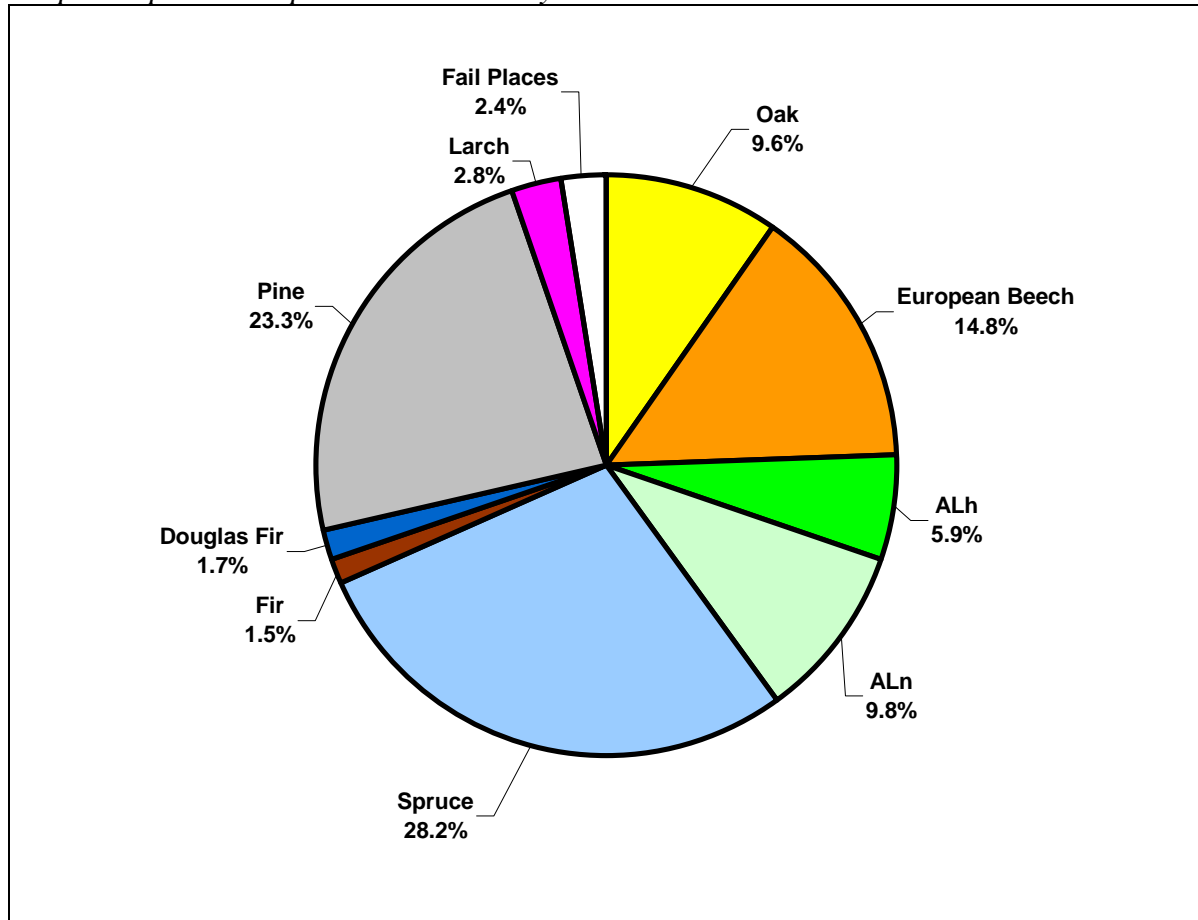
<b>Bundeslaender</b>	<b>Forest Area</b>	<b>Forest Cover (%)</b>
Baden-Wuerttemberg	1,362,299 ha	38.1
Bavaria	2,558,461 ha	36.3
Berlin	16,000 ha	18.0
Brandenburg	1,055,733 ha	35.2
Bremen	0 ha	0.0
Hamburg	3,000 ha	4.0
Hesse	880,251 ha	41.7
Mecklenburg-Western Pomerania	534,962 ha	23.1
Lower Saxony	1,159,522 ha	23.5
North Rhine-Westphalia	887,550 ha	26.0
Rhineland-Palatinate	835,558 ha	42.1
Saarland	98,458 ha	38.3
Saxony	511,578 ha	27.8
Saxony-Anhalt	492,128 ha	24.1
Schleswig-Holstein	162,466 ha	10.3
Thuringia	517,903 ha	32.0
<b>Federal Republic of Germany</b>	<b>11,075,799 ha</b>	<b>31.0</b>

Source: Federal Forest Inventory 2, Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

### **1.2 Species Composition of the Forests**

In Germany coniferous species are still predominant. They are taking in 57.5 % of the forest area, while deciduous forest tree species are covering 42.5 %. Norway Spruce (*Picea abies*) is the most important forest tree species in German forests. The most eminent deciduous forest tree species is the European Beech (*Fagus sylvatica*) (see graph 1).

Graph 1: Species composition in Germany



Source: Federal Forest Inventory 2, Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

ALh = other deciduous wood with long rotation period (e.g. Ash, Maple, Elm, Lime Tree etc.)

ALn= other deciduous wood with low rotation period (e.g. Poplar, Willow, Birch etc.)

### 1.3 Total Volume and Current Increment

The Federal Forest Inventory shows a total volume of standing timber in the amount of 3.381 bio. m<sup>3</sup>. This complies with a volume of 317 m<sup>3</sup>/ha. The current yearly increment of timber amounts nearly 135 mio. m<sup>3</sup>/year = 12 m<sup>3</sup>/ha/year.

### 1.4 Logging

In the year 2002, in Germany were felled nearly 42.4 mio. m<sup>3</sup> timber. Ca. 78 % of the fellings were coniferous timber, only 22 % were deciduous wood (see table 2).

Table 2: Fellings in Germany in 2002

Species	Fellings in 1,000 m <sup>3</sup>
Oak, Red Oak	1,562
European Beech, other deciduous wood	7,641
Spruce, Fir, Douglas Fir	23,976
Pine, Larch,	9,201
<b>Total</b>	<b>42,380</b>

Source: Federal Statistical Office, Wiesbaden

## 1.5 Main Directories of Wood Processing and Timber Trade

The largest consumer of raw timber and very important sector of forest industries in Germany is the saw industry. In the last 3 years the sawmills worked up constantly between 21 and 22 mio. m<sup>3</sup> raw timber, nearly 50 % of the raw timber crop in Germany. Table 3 gives an overview on consumption and production of the most important sectors of forest industries.

The forest industries in Germany are employing more than 550,000 persons and having a transaction volume of 80.9 bio. € in 2002.

Table 3: Timber consumption and production of forest products in Germany 2000 – 2002

Federal Republic of Germany	in 1,000 m <sup>3</sup>		
	2000	2001	2002
<b>Sawmills</b>			
Timber Consumption	21,822	21,482	21,625
Sawnwood Production	16,341	16,131	18,240
thereof:			
Coniferous Timber	15,021	14,889	15,869
Deciduous Timber	1,320	1,242	2,371
<b>Veneer Mills</b>			
Timber Consumption	350	291	217
Veneer Production	305 <sup>1</sup>	241 <sup>2</sup>	217
thereof:			
Coniferous Timber	97	56	61
Deciduous Timber	208	185	156
<b>Plywood Mills</b>			
Timber Consumption	---	213	154
Plywood Production	357	321	270
<b>Fibreboard Mills</b>			
Timber Consumption	2,864	4,481	9,251 <sup>3</sup>
thereof:			
Roundwood	1,784	2,315	3,638
Industrial Waste Wood	1,080	2,166	5,613
Fibreboard Production	2,974	2,899	3,350
<b>Chipboard Mills</b>			
Timber Consumption	8,940	8,798	17,114 <sup>4</sup>
thereof:			
Roundwood	2,522	2,960	4,118
Industrial Waste Wood	6,418	5,838	12,996
Chipboard production	10,341	9,880	9,507
<b>Wood-Pulp, Pulp, Paper, Paperboard</b>			
Timber Consumption	7,249	6,921	6,942
Thereof:			
Roundwood	4,203	4,001	3,948
Industrial Waste Wood	3,046	2,920	2,994
Production	in 1,000 t		
Pulp	873	874	896
Wood-Pulp	1,342	1,229	1,252
Paper, Paperboard	18,182	17,879	18,539

<sup>1</sup> Subject to domestic timber

<sup>2</sup> Subject to domestic timber

<sup>3</sup> 2002 in stacked cubic meter

<sup>4</sup> 2002 in stacked cubic meter

Source: Federal Statistical Office, Wiesbaden and German Pulp and Paper Association, Bonn

The external trade of timber shows no uniform pattern. On the one hand Germany has a large import surplus of pulp, on the other hand it has a large export surplus of fibre- and chipboards. Converted into raw timber equivalents (r) and inclusive recovered paper the external trade balance of all wood based products in 2002 for Germany was negative (Import: 99.3 mio. m<sup>3</sup>(r), Export: 94.1 mio. m<sup>3</sup>(r). An overview on the external trade of a subset of forest and wood based products gives table 4.

Table 4: Import and Export of Forest and Wood Based Products in 2002

Forest and Wood Based Products	Import	Export
	in 1,000 m <sup>3</sup>	
Coniferous Roundwood	2,278	3,454
Coniferous Sawnwood <sup>1</sup>	4,505	4,237
Wood for Fiberize	282	2,113
Deciduous Roundwood	345	1,453
Deciduous Sawnwood <sup>1</sup>	706	611
Railway Sleepers	23	46
Veneer	154	120
Plywood	974	167
Fibreboards	1,239	2,983
Chipboards	1,538	2,246
	in 1,000 t	
Pulp	3,856	475
Wood-Pulp	158	15

Source: Federal Statistical Office, Wiesbaden

<sup>1</sup> incl. Planed Timber

## 1.6 Categories of Forest Protection

According to the guidelines of the Ministerial Conference on the Protection of Forests in Europe (MCPFE) more than 9 mio. ha forest area in Germany are more or less protected or have protective functions. But between the 3 classes it gives many overlappings (not between the classes 1.1 to 1.3). So the real protected or protective forest area in Germany amounted nearly 75 to 80 %. A list of the different protection classes and the respective forest areas shows table 5. For comparison the classes of the World Conservation Union (IUCN) are added.

Table 5: Forests in Protective Areas in Germany according to MCPFE-Guidelines (2002)

Form of Protection	MCPFE class	IUCN class	forest area (ha)	forest area (%) <sup>1</sup>
Conserving Forest Biodiversity	1	I, II, IV	2,138,422	19.9
No active intervention	1.1	I	0	0.0
Minimum intervention	1.2	II	90,831	0.9
Conservation through active management	1.3	IV	2,047,591	19.0
Protection of Landscapes and Special Natural Elements	2	III, V, VI	4,686,038	43.6
Forests with Protective Functions	3	---	2,980,850	27.8

Source: Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

<sup>1</sup> of 10.7 mio. ha., the official forest area of Germany before the results of last Federal Forest Inventory

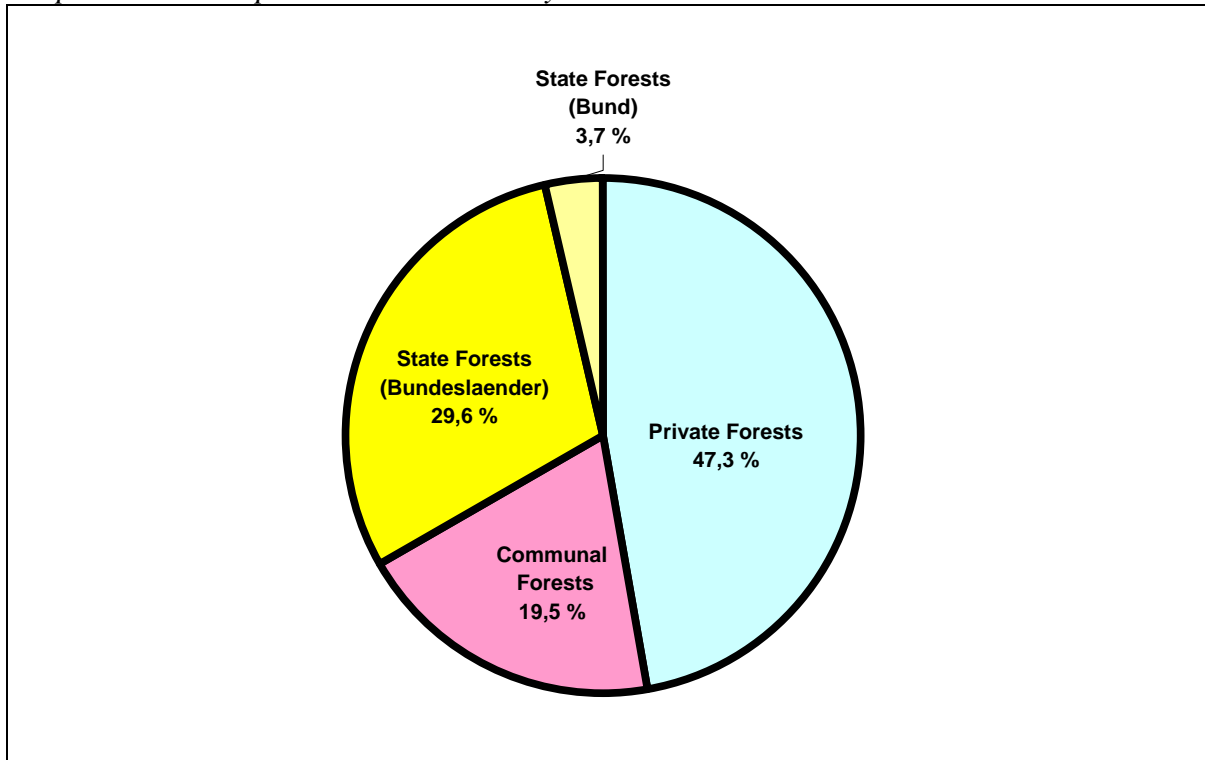


## **2 Legal and Organizational Forms of Forest Holdings**

### **2.1 Ownership Structure**

In Germany it gives state, communal and private forest ownership. According to the results of the Federal Forest Inventory just under 50 % of the German forest area are private forests, one third are in state ownership and nearly 20 % are communal forests (see graph 2).

*Graph 2: Ownership Structure in Germany*



Source: Federal Forest Inventory 2, Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

### **2.2 Accessibility of Forests to Society**

The accessibility of forests to society is regulated by Article 14 Federal Forest Act (Bundeswaldgesetz) as a framework provision. The first paragraph of this Article determines, that for the purpose of recreation the access of forests is allowed. Cycling, driving with wheelchairs and riding in forests is only allowed on roads and forest tracks.

The second paragraph determines, that details are regulated by the Laender. For relevant reasons the Laender can constrain the public access to forests.

So in Schleswig-Holstein, a Bundesland, which has only a small forest cover, the public access to forests is only allowed on roads and forest tracks and riding is only allowed on special declared riding ways.

## 2.3 Forest Law

### **The Federal Structure of Forest Legislation and the Federal Forest Act**

The Federal Republic of Germany is a federal state. That means, in Germany several states have contracted an alliance in a way, that the member states (Bundeslaender) have transferred parts of their sovereignty on the central state; thereby state quality has not only the central state but also the 16 Laender. This federal structure has consequences for the forest sector and therewith for the forest legislation in Germany.

In general the legislative power is shared between the Bund and the Bundeslaender. The respective rules are constituted in the Fundamental Act (Constitution, Grundgesetz) in the Articles 70 to 82. The legislative power is structured as follows:

- 1) the exclusive legislative power of the Federation (Art. 71, 73 Fundamental Act, Ex. q.v. p. 5)
- 2) the concurrent legislative power (Art. 72, 74, 74a Fundamental Act); the competency is located at the Bundeslaender as long as the Federation doesn't make use of its legislation power. General rule: Law of the Bund breaks law of the Bundeslaender (Ex. q.v. p. 6).
- 3) the "framework" legislation of the Federation (Article 75 Fundamental Act); the federal acts provide only a framework, which is filled by the Bundeslaender with their specific laws (Ex. q.v. p.7).
- 4) the legislative power of the Bundeslaender, if not the Bund is responsible according to 1) – 3) (Ex. q.v. p. 8)

For Forestry in Germany it means, that according to Article 75, No. 3+4 Fundamental Act the Federation has the "framework" legislative power for the field of protection and recreation functions of the forests and the concurrent legislative power for all the other fields of forestry (Art. 74 (1), no. 1, 17, 18 Fundamental Act).

Consequently the most important forest act on federal level, the **Federal Forest Act** from 1975, is based on this two different constitutional basics. So it contains both framework provisions to be specified by the Bundeslaender and in the course of concurrent legislation directly applicable provisions. The constitutional basics for the most important regulations of the Federal Forest Act are very complicated. But this complex distribution of legislative power was simplified by Art. 5 of the Federal Forest Act, which rules, that for the Art. 6 to 14 the federation claims only the framework legislative power.

It is the purpose of the Federal Forest Act, as described in Art. 1 Federal Forest Law,

1. to conserve forests due to their economic benefits (productive function) and their importance for the environment and the recreation of the population (protective and recreational functions), to expand them, wherever possible, and to ensure their proper management on a sustainable basis, whilst promoting the forestry sector and reconciling public interests and the concerns of forest owners,
2. to promote forestry and
3. to bring about a balance between the interests of the general public and the interests of the forest owners.

Among others the Federal Forest Act contains the following essential elements:

- The general order for proper and sustainable forest management (Art. 1 and 11 Federal Forest Act).

- The obligation for reforestation (Art. 11 Federal Forest Act); it regulates in conjunction with the forest acts of the Bundeslaender the minimum obligation for the forest owners, to reforest or complete clear cut forest land and lightened forest stands in a adequate time limit, if the natural regeneration remains incomplete. In the forest acts of the Bundeslaender the adequate time limit was appointed different, normally on 2-3 years. Further regulations in the forest acts of the Bundeslaender according forest management are aimed at environmental precautions, clear cutting restrictions, protection of premature stands, duty for tendance of forests, forest opening, and appropriateness and orderliness of forest management.
- The reservation of permitting the conversion of forests (Art. 9 Federal Forest Act); accordingly forests are only cleared and transformed into another land use form after permission by authority responsible by law of the Laender. The rights, duties and interests of the forest owners are weighted against the needs of the general public. The permission will denied, if the conservation of the forests is predominantly in public interest. The regulations of Federal Forest Act can be expanded by the Laender.
- The promotion of forestry (Art. 41 Federal Forest Act); the promotion especially shall improve the efficiency of sustainable forest management and ensure the conservation of forests.
- The overall planning for forestry (Art. 6 Federal Forest Act); it shall order and improve forest structure and conserve the functions of the forests.
- Protective and recreational forests (Art. 12 and 13 Federal Forest Act); for conserving of special forest functions and for averting dangers, disadvantages, and annoyances of the population forests can be declared to protection or recreational forest with special provisions for forest management.

### **Further Forest Provisions**

Special fields are governed by special acts, e.g.

- the Act on Forest Propagation Material from 2003,
- the Forest Damage Compensation Act from 1969,
- the Timber Promotion Fund Act from 1998 and
- the Act on Classification Scales for Raw Timber from 1969.

#### *Act on Forest Propagation Material*

This act regulates the concession of the parent material (the trees, from which forest propagation material is harvested), the certification and marking of the propagation material for the trade and the control of the involved companies.

#### *Forest Damage Compensation Act*

This act regulates the compensation of damages as a result of special natural phenomenonons in forestry. The act provide the opportunity

- to restrict the regular loggings (Art. 1)
- to restict the timber import (Art. 2)
- to take different measures to reduce the tax burden (Art. 3-8)

#### *Timber Promotion Fund Act*

This act regulates the foundation, legal form, the tasks, the organization and the financing of the Timber Promotion Fund.

#### *Act on Classification Scales for Raw Timber*

This act is the legal fundament for an ordinance (Ordinance on Classification Scales for Raw Timber from 1971), which regulates the generation, the marking, the denomination,

the measurement and the quantity calculation of raw timber in accordance with regulations of the European Union.

## **2.4 Governmental Help for Forestry**

The promotion of forestry, especially the promotion of non-state-forests, is within the competence of the Bundeslaender. For the organizational structure of consulting and supporting of the non-state-forests have a look to point 2.7 "Structure of national forest administrations". Regarding the financial support of non-state-forest enterprises it gives many differences between the Laender. This applies for both the supported forest management activities and the financing of the subsidies. The most supported activities are jointly financed by the Bund (60%) and the Laender (40%). The rules of this co-financing system are regulated in the "Act on the joint task 'improvement of the agrarian structure and the coastal protection' ". At time there are 5 fields of supported forest management activities:

- 1) silvicultural measures, i.e.:
  - tending of young forest stands
  - conversion of forests not suited to the site
  - afforestations of farmland (inkl. replanting and tending of plantation)
- 2) new building and expansion of forest roads and tracks
- 3) promotion of forest management associations (forstwirtschaftliche Zusammenschlüsse), i.e.:
  - grants to initial investments (e.g. office facilities, machines etc.)
  - declining grants to administration and consulting costs
- 4) premiums for afforestation of farmland
- 5) activities due to new type forest damages, i.e.:
  - soil protection and melioration fertilization
  - reforestation of damaged forest stands

A part of this subventions are also co-financed from the EU (in the old Bundeslaender: 50 % by EU, 30 % by the Bund, 20 % by the Bundeslaender, in the new Bundeslaender: 75 % by EU, 15 % by the Bund, 10 % by the Bundeslaender).

Beside this subventions it gives different supported management activities which are financed by the Laender and the EU (in the old Laender 50 % by EU, 50 % by the Laender, in the new Laender 75 % by EU, 25 by the Laender) or only by the Laender. The supported activities differ from Bundesland to Bundesland.

## **2.5 Forest Holdings and Forest Owners**

In Germany there are about 1,3 mio. forest owners, among them there are 17 state forest owners and nearly 10,000 communal forest owners; the remaining majority are private holders. More than 90 % of the private forest owners are farmers. Nearly 1 mio. of the private forest owners are holding forests smaller than 1 ha. In Germany the size of private owned forests averaged 7.7 ha, of communal forests ca. 900 ha. An overview on the size structure of forest enterprises gives table 6.

*Table 6 Size structure of forest owners in Germany*

<i>Size range</i>	<i>Number of owners</i>	<i>Forest area in mio. ha</i>
under 10 ha	ca. 1,295.000	2.3
10 – 50 ha	ca. 48,000	1.0
50 – 200 ha	ca. 7,300	0.8
200 – 1.000 ha	ca. 3,300	1.5
1.000 ha and more	ca. 1,400	5.5
<b>Total</b>	<b>ca. 1,300,000</b>	<b>11.1</b>

Source: Agrarian Structure Survey 2001, modified, Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

More than 400,000 forest owners are members of 5,403 forest management associations in Germany. The associations are managing 3.3 mio. ha or nearly one third of the German forests (see table 7).

*Table 7 Forest management associations (Forstwirtschaftliche Zusammenschlüsse)*

Number of forest management associations	5,403
Number of member enterprises	449,102
Forest area of member enterprises in ha	3.3 mio.
Forest area of member enterprises in % from total German forest	30 %
Forest area of member enterprises in % from non-state forest	46 %
Forest area of member enterprises in % from total forest, old Laender	39 %
Forest area of member enterprises in % from non-state forest, old Laender	56 %
Forest area of member enterprises in % from total forest, new Laender	8 %
Forest area of member enterprises in % from non-state forests, new Laender	15 %

Source: Federal Ministry of Consumer Protection, Food and Agriculture, Bonn

## 2.6 Forms of Public Forests

In Germany the official kinds of ownership are defined in the forest acts. There are two forms of public forest ownership: state ownership and communal ownership. State ownership comprise the forests of the Bundeslaender and of the Bund, the communal ownership those of the towns, communes, districts, and public bodies. The remaining rest of the forests owners are private forests owners.

## 2.7 Structure of National Forest Administrations

According to the constitution of the Federal Republic of Germany (see above) forestry administration belongs to the field of activity of the Bundeslaender, implicating 16 different state forest administrations in Germany. Thereto are coming 2 state forest administrations on the federal level; one of it manages the forests in the ownership of the Bund and is under the control of the federal finance ministry, the other is responsible for forest policy and forest legislation on the federal level and is part of the Ministry for Consumer Protection, Food and Agriculture. In general it gives three forms of activities for state forest administrations, in fact:

- 1) the management of the state forests,
- 2) the control and supervision in the non-state-forests and
- 3) the consulting and promotion of non-state-forests

An overview on the structure of the different state administrations gives table 8.

Table 8: Overview on administration structures in Germany (the numbers describe the different levels of administrations)

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Baden-Wuerttemberg (Baden-Württemberg)	English	Ministry for Food and Rural Areas (MELR)	State Forest Administration 1) MELR, Dept. 5 2) 2 Forest Directorates 3) 163 Forest Offices  <i>planned from 2005-01-01</i> 1) MELR, Dept. 5 2) 2 Regional District Offices, Dept. Forests 3) 35 District Offices and 9 mayor's offices, Dept. Forests	State Forest Administration 1) MELR, Dept. 5 2) 2 Forest Directorates 3) 163 Forest Offices  <i>planned from 2005-01-01</i> 1) MELR, Dept. 5 2) 2 Regional District Offices, Dept. Forests 3) 35 District Offices and 9 mayor's offices, Dept. Forests	State Forest Administration 1) MELR, Dept. 5 2) 2 Forest Directorates + 1 Kom- munal Forest Directorate 3) 163 Forest Offices  <i>planned from 2005-01-01</i> 1) MELR, Dept. 5 2) 2 Regional District Offices, Dept. Forests 3) 35 District Offices and 9 mayor's offices, Dept. Forests
	German	Ministerium für Ernährung und Ländlichen Raum (MELR)	Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Forstdirektionen 3) 163 Forstämter  <i>geplant ab 01.01. 2005</i> Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Regierungspräsidien, Abt. Forsten 3) 35 Landsratsämter + 9 Bürger- meisterämter, Abt. Forsten	Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Forstdirektionen 3) 163 Forstämter  <i>geplant ab 01.01. 2005</i> Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Regierungspräsidien, Abt. Forsten 3) 35 Landsratsämter + 9 Bürger- meisterämter, Abt. Forsten	Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Forstdirektionen + 1 Körper- schaftsforstdirektion 3) 163 Forstämter  <i>geplant ab 01.01. 2005</i> Landesforstverwaltung 1) MELR, Abt. 5 2) 2 Regierungspräsidien, Abt. Forsten 3) 35 Landsratsämter + 9 Bürger- meisterämter, Abt. Forsten

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Bavaria (Bayern)	English	State Ministry for Agriculture and Forests (MLF)	State Forest Administration 1) MLF, Dept. V Forest Administra- tion 2) 4 Forest Directorates 3) 127 Forest Offices  <i>planned from 2005-07-01</i> State Enterprise „Bavarian State For- ests“ 1) Head Office 2) ca. 40 regionale enterprises	State Forest Administration 1) MLF, Dept. V Forest Administra- tion 2) 4 Forest Directorates 3) 127 Forest Offices  <i>planned from 2005-07-01</i> 1) MLF, Dept. V 2) unexplained 3) ca. 50 Offices for Agriculture and Forestry	State Forest Administration 1) MLF, Dept. V Forest Administra- tion 2) 4 Forest Directorates 3) 127 Forest Offices  <i>planned from 2005-07-01</i> 1) MLF, Dept. V 2) unexplained 3) ca. 50 Offices for Agriculture and Forestry
	German	Staatsministerium für Landwirtschaft und Forsten (MLF)	Staatsforstverwaltung 1) MLF, Abt. V forstliche Verw. 2) 4 Forstdirektionen 3) 127 Forstämter  <i>geplant ab 01.07. 2005</i> Staatl. Forstbetrieb „Bayerische Staats- forsten“ 1) Betriebszentrale 2) ca. 40 regionale Betriebe	Staatsforstverwaltung 1) MLF, Abt. V forstliche Verw. 2) 4 Forstdirektionen 3) 127 Forstämter  <i>geplant ab 01.07. 2005</i> 1) MLF, Abt. V 2) ungeklärt 3) ca. 50 Ämter für Land- und Forstwirtschaft	Staatsforstverwaltung 1) MLF, Abt. V forstliche Verw. 2) 4 Forstdirektionen 3) 127 Forstämter  <i>geplant ab 01.07. 2005</i> 1) MLF, Abt. V 2) ungeklärt 3) ca. 50 Ämter für Land- und Forstwirtschaft
Berlin	English	Senate for Urban Development	Authority Forests of Berlin 1) State Forest Office 2) 4 Forest Offices	Authority Forests of Berlin 1) State Forest Office 2) 4 Forest Offices	Authority Forests of Berlin 1) State Forest Office 2) 4 Forest Offices
	German	Senat für Stadtentwicklung (SenS)	Behörde Berliner Forsten 1) Landesforstamt 2) 4 Forstämter	Behörde Berliner Forsten 1) Landesforstamt 2) 4 Forstämter	Behörde Berliner Forsten 1) Landesforstamt 2) 4 Forstämter
Brandenburg	English	Ministry for Agriculture, Environ- mental Protection and Land Use Regulation (MLUR)	State Forest Administration 1) MLUR, Dept. Forestry 2) 10 Offices for Forestry 3) 72 Upper Forest Districts	State Forest Administration 1) MLUR, Dept. Forestry 2) 10 Offices for Forestry 3) 72 Upper Forest Districts	State Forest Administration 1) MLUR, Dept. Forestry 2) 10 Offices for Forestry 3) 72 Upper Forest Districts
	German	Ministerium für Landwirtschaft, Umweltschutz und Raumordnung (MLUR)	Landesforstverwaltung 1) MLUR, Abt. Forst 2) 10 Ämter für Forstwirtschaft 3) 72 Oberförstereien	Landesforstverwaltung 1) MLUR, Abt. Forst 2) 10 Ämter für Forstwirtschaft 3) 72 Oberförstereien	Landesforstverwaltung 1) MLUR, Abt. Forst 2) 10 Ämter für Forstwirtschaft 3) 72 Oberförstereien

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Bremen	English	Senate for Construction, Environment and Traffic (SenBUV)	Communal Enterprise "Urban Green" Bremen	SenBUV, Dept. 3, Environmental Protection of Areas	SenBUV, Dept. 3, Environmental Protection of Areas
	German	Senat für Bau, Umwelt und Verkehr (SenBUV)	Kommunalbetrieb „Stadtgrün Bremen“	SenBUV, Abt. 3 Flächenbezogener Umweltschutz	SenBUV, Abt. 3 Flächenbezogener Umweltschutz
Hamburg	English	Authority (Senate) for Economics and Labour (BWA)	BWA, Section Economics and Agriculture, Dept. Agriculture and Forests, Forest Office	BWA, Section Economics and Agriculture, Dept. Agriculture and Forests, Forest Office	BWA, Section Economics and Agriculture, Dept. Agriculture and Forests, Forest Office
	German	Behörde (Senat) für Wirtschaft und Arbeit (BWA)	BWA, Bereich Wirtschaft u. Landwirtschaft, Abt. Landwirtschaft u. Forsten, Forstamt	BWA, Bereich Wirtschaft u. Landwirtschaft, Abt. Landwirtschaft u. Forsten, Forstamt	BWA, Bereich Wirtschaft u. Landwirtschaft, Abt. Landwirtschaft u. Forsten, Forstamt
Hesse (Hessen)	English	Ministry for Environment, Rural Areas and Consumer Protection (MULV)	State Enterprise "Hesse-Forest" Head Office 40 Forest Offices (from 01.01. 05)	State Forest Authority 1) MULV, Dept. VI Forests and Nature Protection 2) 3 Regional District Offices, Dept. Rural Areas, Nature and Consumer Protection 3) 21 District Offices, Dept. Rural Areas, Nature and Consumer Protection	State Enterprise "Hesse-Forest" Head Office 40 Forest Offices (from 01.01.05)
	German	Ministerium für Umwelt, Ländlichen Raum und Verbraucherschutz (MULV)	Landesbetrieb „Hessen-Forst“ 1) Landesbetriebsleitung 2) 85 Forstämter	Forstbehörde 1) MULV, Abt. VI Forsten und Naturschutz 2) 3 Regierungspräsidien, Abt. Ländlicher Raum, Natur- und Verbraucherschutz 3) 21 Landratsämter, Abt. Ländlicher Raum, Natur- und Verbraucherschutz	Landesbetrieb „Hessen-Forst“ 1) Landesbetriebsleitung 2) 85 Forstämter



Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Lower Saxony (Niedersachsen)	English	Ministry for Rural Areas, Food, Agriculture and Consumer Protection (MELV)	State Forest Administration 1) MELV, Dept. 4 Forests and Forest Industries, Forest Ecology 2) 45 Forest Offices	State Forest Authority 1) MLELV, Dept. 4 Forests and Forest Industries, Forest Ecology 2) 4 Regional District Offices, Dept. 510 Forests, Forestry and Hunt- ing 3) 38 District Offices	<u><b>Eastern and Southern Lower Saxony</b></u> 1) Chamber of Agriculture Han- nover, Dept. 5 Forestry 2) 7 Consulting Forest Offices  <u><b>Western Lower Saxony</b></u> 1) Chamber of Agriculture Weser- Ems, Dept. 4 Forestry 2) 3 Consulting Forest Offices
	German	Ministerium für den Ländlichen Raum, Ernährung, Landwirtschaft und Verbraucherschutz (MLELV)	Landesforstverwaltung 1) MLELV, Abt. 4 Forsten u. Holz- wirtschaft, Waldökologie 2) 45 Forstämter	Forstbehörde 1) MLELV, Abt. 4 Forsten u. Holz- wirtschaft, Waldökologie 2) 4 Bezirksregierungen, Dez. 510 Wald, Forst u. Jagd 3) 38 Kreisämter	<u><b>Ost- und Südniedersachsen</b></u> 1) Landwirtschaftskammer Hannover, Abt. 5 Forstwirtschaft 2) 7 Beratungsforstämter  <u><b>Westniedersachsen</b></u> 1) Landwirtschaftskammer Weser- Ems, Abt. 4 Forstwirtschaft 2) 3 Beratungsforstämter
Mecklenburg-Western Pomerania (Mecklenburg-Vorpommern)	English	Ministry for Food, Agriculture, For- estry and Fishery (MELFF)	State Forest Administration 1) MELFF, Dept. 2 Forestry 2) State Office for Forestry and Greater Reserves 3) 33 Forest Offices	State Forest Administration 1) MELFF, Dept. 2 Forestry 2) State Office for Forestry and Greater Reserves 3) 33 Forest Offices	State Forest Administration 1) MELFF, Dept. 2 Forestry 2) State Office for Forestry and Greater Reserves 3) 33 Forest Offices
	German	Ministerium für Ernährung, Landwirt- schaft, Forsten und Fischerei (MELFF)	Landesforstverwaltung 1) MELFF, Abt. 2 Forstwirtschaft 2) Landesamt für Forsten u. Groß- schutzgebiete 3) 33 Forstämter	Landesforstverwaltung 1) MELFF, Abt. 2 Forstwirtschaft 2) Landesamt für Forsten u. Groß- schutzgebiete 3) 33 Forstämter	Landesforstverwaltung 1) MELFF, Abt. 2 Forstwirtschaft 2) Landesamt für Forsten u. Groß- schutzgebiete 3) 33 Forstämter

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Northrhine-Westphalia (Nordrhein-Westfalen)	English	Ministry for Environment and Nature Protection, Agriculture and Consumer Protection (MUNLV)	State Forest Administration 1) MUNLV, Section III Forests, Nature Protection, Agricultural Planning 2) Upper Forest Authority 3) 35 Forest Offices	State Forest Administration 1) MUNLV, Section III Forests, Nature Protection, Agricultural Planning 2) Upper Forest Authority 3) 35 Forest Offices	State Forest Administration 1) MUNLV, Section III Forests, Nature Protection, Agricultural Planning 2) Upper Forest Authority 3) 35 Forest Offices
	German	Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz (MUNLV)	Landesforstverwaltung 1) MUNLV, Arbeitsbereich III Forsten, Naturschutz, Agrarordnung 2) Höhere Forstbehörde 3) 35 Forstämter	Landesforstverwaltung 1) MUNLV, Arbeitsbereich III Forsten, Naturschutz, Agrarordnung 2) Höhere Forstbehörde 3) 35 Forstämter	Landesforstverwaltung 1) MUNLV, Arbeitsbereich III Forsten, Naturschutz, Agrarordnung 2) Höhere Forstbehörde 3) 35 Forstämter
Rhineland-Palatinate (Rheinland-Pfalz)	English	Ministry for Environment and Forests (MUF)	State Forest Administration 1) MUF, Dept. Forests 2) Regional District Office South, Dept. 5 Central Office of Forest Administration 3) 45 Forest Offices	State Forest Administration 1) MUF, Dept. Forests 2) Regional District Office South, Dept. 5 Central Office of Forest Administration 3) 45 Forest Offices	State Forest Administration 1) MUF, Dept. Forests 2) Regional District Office South, Dept. 5 Central Office of Forest Administration 3) 45 Forest Offices
	German	Ministerium für Umwelt und Forsten (MUF)	Landesforstverwaltung 1) MUF, Abt. Forsten 2) Struktur- u. Genehmigungsdirektion Süd, Abt. 5 Zentralstelle der Forstverwaltung 3) 45 Forstämter	Landesforstverwaltung 1) MUF, Abt. Forsten 2) Struktur- und Genehmigungsdirektion Süd, Abt. 5 Zentralstelle der Forstverwaltung 3) 45 Forstämter	Landesforstverwaltung 1) MUF, Abt. Forsten 2) Struktur- und Genehmigungsdirektion Süd, Abt. 5 Zentralstelle der Forstverwaltung 3) 45 Forstämter
Saarland	English	Ministry for Environment (MU)	State Enterprise "Saarforst" 1) Head Office 2) 4 Regional Enterprises	State Forest Authority 1) MU, Dept. B Rural Areas, Agriculture, Forests 2) State Enterprise "Saarforst" (in order)	State Enterprise "Saarforst" Head Office, Dept. L5 Service Center
	German	Ministerium für Umwelt (MU)	Landesbetrieb „Saarforst“ 1) Betriebszentrale 2) 4 Regionalbetriebe	Forstbehörde 1) MU, Abt. B Ländlicher Raum, Landwirtschaft, Forsten 2) Landesbetrieb „Saarforst“ als Auftragsverwaltung	Landesbetrieb „Saarforst“ Betriebszentrale, Abt. L5 Dienstleistungszentrum

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Saxony (Sachsen)	English	State Ministry for Environment and Agriculture (MUL)	State Forest Administration 1) MUL, Dept. 7 Forests 2) State Forest Office 3) 46 Forest Offices + 1 National Park and Forest Office  <i>planned from 2006-01-01</i> State Enterprise "Sachsenforst" Organization unexplained	State Forest Administration 1) MUL, Dept. 7 Forests 2) State Forest Office 3) 46 Forest Offices + 1 National Park and Forest Office  <i>planned from 2006-01-01</i> unexplained	State Forest Administration 1) MUL, Dept. 7 Forests 2) State Forest Office 3) 46 Forest Offices + 1 National Park and Forest Office  <i>planned from 2006-01-01</i> unexplained
	German	Staatsministerium für Umwelt und Landwirtschaft (MUL)	Landesforstverwaltung 1) MUL, Abt. 7 Forsten 2) Landesforstpräsidium 3) 46 Forstämter + 1 Nationalpark- u. Forstamt  <i>geplant ab 01.01.2006</i> Staatsbetrieb „Sachsenforst“ Aufbau noch ungeklärt	Landesforstverwaltung 1) MUL, Abt. 7 Forsten 2) Landesforstpräsidium 3) 46 Forstämter + 1 Nationalpark- u. Forstamt  <i>geplant ab 01.01.2006</i> noch ungeklärt	Landesforstverwaltung 1) MUL, Abt. 7 Forsten 2) Landesforstpräsidium 3) 46 Forstämter + 1 Nationalpark- u. Forstamt  <i>geplant ab 01.01.2006</i> noch ungeklärt
Saxony-Anhalt (Sachsen-Anhalt)	English	Ministry for Agriculture and Envi- ronment (MLU)	State Enterprise "State Forest Enter- prise Saxony-Anhalt" 1) Head Office 2) 24 Forest Offices	State Forest Authority 1) MLU, Dept. 4 Nature Protection and Forests 2) State Administration Office, Dept. 4 Agriculture and Forests 3) 24 Forest Offices of State Enter- prise (in order)	State Enterprise "State Forest Enter- prise Saxony-Anhalt" 1) Head Office 2) 24 Forest Offices
	German	Ministerium für Landwirtschaft und Umwelt (MLU)	Landesbetrieb „Landesforstbetrieb Sachsen-Anhalt“ 1) Betriebsleitung 2) 24 Forstämter	Forstbehörde 1) MLU, Abt. 4 Naturschutz u. Forsten 2) Landesverwaltungsamt, Abt. 4 Landwirtschaft und Umwelt 3) 24 Forstämter des Landesbetrie- bes als Auftragsverwaltung	Landesbetrieb „Landesforstbetrieb Sachsen-Anhalt“ 1) Betriebsleitung 2) 24 Forstämter

Federal State (Bundesland)	Language	Ministry	Management of state forests	Forest supervision, Forest police	Forest consulting and promotion of non-state-forests
Schleswig-Holstein	English	Ministry for Environment, Nature Protection and Agriculture (MUNL)	State Forest Administration 1) MUNL, Dept. For Nature Protection, Forestry and Hunting 2) 7 Forest Offices	State Forest Administration 1) MUNL, Dept. For Nature Protection, Forestry and Hunting 2) 7 Forest Offices	1) Chamber of Agriculture, Dept. for Forestry 2) 3 Project Management Districts
	German	Ministerium für Umwelt, Naturschutz und Landwirtschaft (MUNL)	Landesforstverwaltung 1) MUNL, Abt. f. Naturschutz, Forstwirtschaft und Jagd 2) 7 Forstämter	Landesforstverwaltung 1) MUNL, Abt. f. Naturschutz, Forstwirtschaft und Jagd 2) 7 Forstämter	1) Landwirtschaftskammer, Forstabteilung 2) 3 Projektleiterbezirke
Thuringia (Thüringen)	English	Ministry for Agriculture, Nature Protection and Environment (MLNU)	State Forest Administration 1) MLNU, Dept. 7 Forests 2) 46 Forest Offices	State Forest Administration 1) MLNU, Dept. 7 Forests 2) 46 Forest Offices	State Forest Administration 1) MLNU, Dept. 7 Forests 2) 46 Forest Offices
	German	Ministerium für Landwirtschaft, Naturschutz u. Umwelt (MLNU)	Landesforstverwaltung 1) MLNU, Abt. 7 Forsten 2) 46 Forstämter	Landesforstverwaltung 1) MLNU, Abt. 7 Forsten 2) 46 Forstämter	Landesforstverwaltung 1) MLNU, Abt. 7 Forsten 2) 46 Forstämter
Federal Level	Language	Ministry	Management of Federal state forests	Forest policy and legislation	Forest consulting and promotion of non-state-forests
Federal Republic of Germany Bundesrepublik Deutschland	English	Federal Ministry of Finance (BMF)	Federal Forest Administration 1) BMF, Dept. Federal Real Property 2) 3 Forest Inspections 3) 36 Federal Forest Offices		
		Federal Ministry of Consumer Protection, Food and Agriculture (BMVEL)		BMVEL, Directorate-General 5 Rural Areas, Social Structure, Plant Production, Forestry and Forest Industries, Directorate 53 Forestry, Forest Industries and Hunting	
	German	Bundesministerium der Finanzen (BMF)	Bundeforstverwaltung 1) BMF, Abt. Bundesliegenschaften 2) 3 Forstinspektionen 3) 36 Bundesforstämter		
		Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft (BMVEL)		BMVEL, Abt. 5 Ländlicher Raum, Sozialordnung, Pflanzl. Erzeugung, Forst- und Holzwirtschaft, UAbt. 53 Forstwirtschaft, Holzwirtschaft, Jagd	

Source: Own compilation of informations from the State Forest Administrations

## **2.8 Tasks of National Forest Administration**

The main tasks of the national forest administrations in Germany are defined in the forest acts of the Bund and the Bundeslaender (see above).

For the formulation of fundamental forest political guidelines in the framework of a “National Forest Programme” (NFP) since 1999 the Federal Government has initiated a continuous dialogue process, whose two first rounds are finished (1<sup>st</sup> round 1999 – 2000, 2<sup>nd</sup> round 2001 – 2003). The 1<sup>st</sup> phase has identified and dealt with the following fields:

- 1) Forest and society
- 2) Forest and biological diversity
- 3) The role of forests in the global carbon cycle
- 4) The importance of wood as renewable resource
- 5) The contribution of forestry and forest industries to the development of rural areas

In the 2<sup>nd</sup> phase a guide for all actors of the NFP was developed to make the process more transparent and efficient in the future. Based on the results of the 1<sup>st</sup> phase the following fields of action were either tackled for the first time or dealt with in a differential form:

- 1) Forests and international co-operation/International trade
- 2) Biological diversity; forest management and nature conservation
- 3) Selection of forest policy instruments
- 4) Economic significance of forestry and forest industries
- 5) New role(s) for the forest?

The process shall be continued.

## **2.9 Forms of Private Forest Owners Associations**

In Germany the forest owners have syndicated to forest owner associations on the level of the Bundeslaender summing up to 14 forest owner associations in Germany (16 Bundeslaender, except the 3 city states. Lower Saxony has two associations: one for the western and one for the eastern part of the Land). Except Baden-Wuerttemberg they all have syndicate to a working committee on the federal level, the “Alliance of German Forest Owner Associations” (Arbeitsgemeinschaft Deutscher Waldbesitzerverbände, AGDW). The AGDW is member of the “Confederation of European Forest Owners” (CEPF), the umbrella organisation of national forest owner organisations in the European Union.

### **3 Education in Forestry**

#### **3.1 Forestry Education on University Level**

In Germany there are 4 universities (see table 9) for the education of foresters on the higher level (Höherer Dienst). The length of studies averaged 4-6 years (Diploma, University) and 3-4 years (Bachelor).

*Table 9: Universities for Forest Education in Germany*

<b>Universities</b>	<b>Graduates per year</b>
University of Freiburg, Faculty of Forest and Environmental Sciences	ca. 70 – 90
University of Goettingen, Faculty of Forest Sciences and Forest Ecology	ca. 60 – 80
Technical University of Munich, School of Forest Science and Resource Management	ca. 60 – 70
Technical University of Dresden, Faculty of Forest, Geo, and Hydro Sciences	ca. 70 – 80
<b>Total</b>	<b>ca. 260 – 320</b>

Source: Own compilation

#### **3.2 Forestry Education on UAS-Level**

In Germany there are 5 Universities of Applied Sciences (UAS) (see table 10) for the education of foresters on the engineer level (Gehobener Dienst). The length of studies averaged 4 years (Diploma, FH = Fachhochschule = University of Applied Sciences)

*Table 10: Universities of Applied Sciences for Forest Education in Germany*

<b>Universities of Applied Sciences (UAS)</b>	<b>Graduates per year</b>
UAS Hildesheim/Holzminden, Faculty of Resource Management	ca. 70 – 90
UAS Eberswalde, Department of Forestry	ca. 80 – 100
UAS Weihenstephan (Freising), Department of Forestry	ca. 70 – 90
UAS Rottenburg, School for Forestry	ca. 80 – 100
UAS for Forestry Schwarzburg	ca. 10 – 20
<b>Total</b>	<b>ca. 310 – 400</b>

Source: Own compilation

#### **3.3 Forestry Education on Technical Forest School Level**

In Germany there are only one technical forest school (see table 11) for the education of foresters on the secondary level (Mittlerer Dienst). The length of education averaged 2 years (Forest Technician).

*Table 11: Technical Forest Schools for Forest Education in Germany*

<b>Technical Forest Schools</b>	<b>Graduates per year</b>
Bavarian Technical Forest School in Lohr	ca. 20 – 30
<b>Total</b>	<b>ca. 20 – 30</b>

Source: Bavarian Technical Forest School, Lohr

## 4 Forest Research

In Germany the parallelism of education and research at the universities has a long tradition. So the universities for forest education are also centres of forest research (see above). All universities for forest education and research are financed by the state (Bundeslaender); there are no private financed universities in this field.

Beside the forest research at the universities there are in Germany research centres for forestry with the primary task to assist the governments and the forest administrations. Such centres are existing on the federal level (1) and on the level of the Bundeslaender (11). An overview on the most important of this 12 research centres gives table 12.

*Table 12: Overview on the most important Centres of Forest Research (without Universities)*

Research Centres		Bund/ Bundesland	Staff	Main Research Directions in Forestry	Financed by
English	German				
Federal Research Centre for Forestry and Forest Products, Hamburg	Bundesforschungsanstalt für Forst- und Holzwirtschaft, Hamburg (BFH)	Bund	250	World Forestry, Forest and Forest Products Economics, Forest Policy, Timber Markets, Forest Genetics, Forest Tree Breeding	Government of the Federal Republic of Germany
Forest Research Station of Baden-Wuerttemberg, Freiburg	Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg, Freiburg (FVA)	Baden-Wuerttemberg	207	All fields of practice oriented Forestry	Government of Baden-Wuerttemberg
Bavarian State Institute for Forestry	Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF)	Bavaria	132	All fields of practice oriented Forestry	Government of Bavaria
State Institute for Forestry Eberswalde	Landesanstalt für Forstwirtschaft Eberswalde (LFE)	Brandenburg	144	All fields of practice oriented Forestry	Government of Brandenburg
Service Centre Forest Planning, Information and Research of "Hesse-Forest", Gießen and Hann. Münden	Hessen-Forst Dienstleistungszentrum für Forsteinrichtung, Information und Versuchswesen (FIV)	Hesse	80	All fields of practice oriented Forestry	State Forest Enterprise "Hesse Forest"
Forest Research Station of Lower Saxony, Goettingen	Niedersächsische Forstliche Versuchsanstalt, Göttingen (NFV)	Lower Saxony, Schleswig-Holstein	120	All fields of practice oriented Forestry	Governments of Lower Saxony and Schleswig-Holstein
State Centre for Ecology, Land Regulations and Forests, Dept. Forest Ecology, Forests and Hunting	Landesanstalt für Ökologie, Bodenordnung und Forsten, Abt. Waldökologie, Wald und Jagd (LÖBF)	Northrhine-Westphalia	26	All fields of practice oriented Forestry	Government of Northrhine-Westphalia
Forest Research Institute Rhineland-Palatinate, Trippstadt	Forschungsanstalt für Waldökologie und Forstwirtschaft Rheinland-Pfalz (FAWF)	Rhineland-Palatinate	53	All fields of practice oriented Forestry	Government of Rhineland-Palatinate

Source: Own compilation