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National Forestry Accounting Plan of the Slovak Republic including a proposed forest reference level

Ministry of Agriculture and Rural Development of the Slovak Republic
National Forest Centre

2018



MINISTRY
OF AGRICULTURE
AND RURAL DEVELOPMENT
OF THE SLOVAK REPUBLIC



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According the Article 8 Para 3 of Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (Text with EEA relevance).

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december 2018

Acknowledgments: The National Forestry Accounting Plan of the Slovak Republic was supported by the Ministry of Agriculture and Rural Development of the Slovak Republic under the contract between the Ministry of Agriculture and Rural Development of the Slovak Republic and National Forest in 2018 No 406/2017-710/MPRV SR.

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GLOSSARY

This glossary covers the terminology used in National Forestry Accounting Plan of Slovakia.

Accounting. Rule-based assessment of the impact on GHG emissions and removals that take place under a compliance period. The impact is accounted through comparison of actual GHG emissions and removals from GHGI categories during a compliance period with the counterfactual value, following the accounting rules set for the given category.

Carbon pool. "The whole or part of a biogeochemical feature or system within the territory of a Member State and within which carbon, any precursor to a greenhouse gas containing carbon or any greenhouse gas containing carbon is stored." (Art 3(1)). Note that in order to avoid double-counting of traded wood, 'production approach' is to be used. This means that the imported HWP shall not be accounted for by the importing Member State. (Annex V).

Carbon stock. "The mass of carbon stored in a carbon pool." (Article 3(1)).

Compliance period (CP). The period 2021–2030, to which the LULUCF Regulation sets out the commitments of the Member States for LULUCF, and the rules for the accounting of emissions and removals from LULUCF and for checking the compliance of Member States with those commitments (Article 1). Note that for accounting purposes, the CP is split in the LULUCF Regulation into two periods: 2021 to 2025, and to 2026 to 2030. While the overall accounting rules set out in the LULUCF Regulation are the same for the whole CP, there are some differences in the requirements of wetlands for the first and second CP. After each 5-year period, the Commission will carry out a comprehensive review of the data (Article 14(2)) and determine compliance with the "no debit" commitment of each Member State as set out in Article 4.

Dynamic age-related forest characteristics. The LULUCF Regulation refers to "dynamic age-related forest characteristics" (Article 8(5)). In this technical guidance document, age-related characteristics are understood to refer to the state of 'maturity' of the forest, which can be characterized e.g. with mean age of a stand, its biomass density, and age or diameter class distribution. "Dynamic" is understood to refer to the development of these characteristics over time, such as the movement of a stand from one age or diameter class to another over time.

Emissions. "Anthropogenic emissions of greenhouse gases into the atmosphere by sources." This is an opposite process to 'Removals'.

Forest. "An area of land defined by minimum values for area size, tree crown cover or an equivalent stocking level, and potential tree height at maturity at the place of growth of the trees as specified for each Member State in Annex II [of the LULUCF Regulation].

It includes areas with trees, including groups of growing, young natural trees, or plantations that have yet to reach the minimum values for tree crown cover or equivalent

stocking level or minimum tree height as specified in Annex II, including any area that normally forms part of the forest area but on which there are temporarily no trees as a result of human intervention, such as harvesting, or as a result of natural causes, but which area can be expected to revert to forest." (Article 3(1)).

Forest management. "Any activity resulting from a system of practices applicable to a forest that influences the ecological, economic or social functions of the forest."

Forest management practice(s) (FMP). FMP refers to a set of management activities being carried out at different phases of the stand development.

Forest reference level (FRL). "An estimate, expressed in tonnes of CO₂ equivalent per year, of the average annual net emissions or removals resulting from managed forest land within the territory of a Member State in the periods from 2021 to 2025 and from 2026 to 2030, based on the criteria set out in this Regulation [2018/841]." (Article 3(1))

In accounting terms, the FRL is the counterfactual value of emissions and removals that would occur in managed forest land in the absence of any future change in management practices compared to the reference period.

Half-life value. "The number of years it takes for the quantity of carbon stored in a category of harvested wood products to decrease to one half of its initial value." (Article 3(1)).

Harvested wood product (HWP). "Any product of wood harvesting that has left a site where wood is harvested." (Article 3(1)). Note that in the accounting for HWP as detailed in Article 9, the emissions and removals resulting from changes in the carbon pool of HWP are to be reflected according to the Annex V approach for the following HWP products: paper, wood panels, sawn wood (see Article 9(1)).

Instantaneous oxidation. "An accounting method that assumes that the release into the atmosphere of the entire quantity of carbon stored in harvested wood products occurs at the time of harvest." (Article 3(1)).

LULUCF Regulation. The full name of the Regulation is "Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (Text with EEA relevance)". The LULUCF Regulation is available online at: <http://europa.eu/!cQ33UG>.

Managed forest land (MFL). "Land use reported as forest land remaining forest land." (Article 2(2)a).

Natural disturbances. "Any non-anthropogenic events or circumstances that cause significant emissions in forests and the occurrence of which is beyond the control of the relevant Member State, and the effects of which the Member State is objectively unable to significantly limit, even after their occurrence, on emissions." (Article 3(1)).

Production approach. In the accounting for HWP, the HWP is accounted for in the producing country, and “the imported [HWP], irrespective of their origin, shall not be accounted for by the importing Member State.” (Annex V).

Reference period (RP). The period from 2000 to 2009.

Removals. “Anthropogenic removals of greenhouse gases from the atmosphere by sinks.” This is an opposite process to ‘Emissions’.

Reporting. In GHG accounting context, reporting refers to emission and removal estimates prepared annually by the countries. The reporting provides the information needed for accounting the impact of human activities on the atmospheric GHG concentration. Note that in this document, we use ‘reporting’ also in a more general sense to refer to documentation and submissions of data or estimates prepared by the countries.

Salvage logging. “Any harvesting activity consisting of recovering timber that can still be used, at least in part, from lands affected by natural disturbances.”

Sink. “Any process, activity or mechanism that removes a greenhouse gas, an aerosol, or a precursor to a greenhouse gas from the atmosphere.” (Article 3.1). This is an opposite process to a ‘source’.

Solid and energy use of forest biomass. The LULUCF Regulation refers to “solid and energy use of forest biomass”, but does not provide a specific definition. In absence of other definitions, it is advisable to consider ‘solid use’ as the use of forest biomass to other than energy purposes. For ‘energy use’, it is advisable to follow FAO definition for ‘wood energy’: “All energy derived from primary and secondary solid, liquid and gaseous biofuels derived from forests, woodlands and trees. Wood energy represents the energy produced after combustion of woodfuels, such as fuelwood, charcoal, pellets, briquettes, etc., corresponding to the net calorific value (NCV) of the fuel.” (FAO term portal 2018) Note, however, that following the ‘production approach’ to avoid double-counting of traded wood, imported HWP shall not be accounted for by the importing Member State. (Annex V)

Source. “Any process, activity or mechanism that releases a greenhouse gas, an aerosol or a precursor to a greenhouse gas into the atmosphere.” (Article 3.1). This is an opposite process to a ‘sink’.

State of the forest. Set of data and information that describe the forest, such as total area of Managed Forest Land; as well as stratum-specific variables, e.g. area, increment, biomass, age-related information.

Stratum, strata. In the context of this technical guidance document, a stratum (in plural: strata) is a part of forest (distinguished geographically or grouped across different geographic locations) homogeneous for all the criteria applied to the stratification process (tree species, forest type, management system, ownership, etc.). Each stratum differs from other strata by at least one of the criteria of stratification.

Sustainable forest management (practice). The preamble of the LULUCF Regulation (recital 16) refers to the principles of sustainable forest management as adopted in the Ministerial Conferences on the Protection of Forests in Europe ('Forest Europe'). The Helsinki Resolution H1 (Forest Europe 1993) of Forest Europe defines "sustainable management" as: "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems". Furthermore, Annex IV A.(f) of the LULUCF Regulation states that "the reference level should be consistent with the objective of contributing to the conservation of biodiversity and the sustainable use of natural resources, as set out in the EU forest strategy, Member States' national forest policies, and the EU biodiversity strategy".

Chapter 1: General Introduction

1.1: General description of the forest reference level for Slovakia

Definition of forest reference level applies by Regulation (EU) 2018/841 (LULUCF Regulation)

The forest reference level means an estimate, expressed in tonnes of CO₂ equivalent per year, of the average annual net emissions or removals resulting from managed forest land within the territory of Slovakia in the periods from 2021 to 2025 and from 2026 to 2030, based on the criteria set out in Regulation;

The Slovak forest reference level has been determined in accordance on the criteria set out in Section A of Annex IV of Regulation:

- (a) the reference level shall be consistent with the goal of achieving a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, including enhancing the potential removals by ageing forest stocks that may otherwise show progressively declining sinks;
- (b) the reference level shall ensure that the mere presence of carbon stocks is excluded from accounting;
- (c) the reference level should ensure a robust and credible accounting system that ensures that emissions and removals resulting from biomass use are properly accounted for;
- (d) the reference level shall include the carbon pool of harvested wood products, thereby providing a comparison between assuming instantaneous oxidation and applying the first-order decay function and half-life values;
- (e) a constant ratio between solid and energy use of forest biomass as documented in the period from 2000 to 2009 shall be assumed;
- (f) the reference level should be consistent with the objective of contributing to the conservation of biodiversity and the sustainable use of natural resources, as set out in the EU forest strategy, Member States' national forest policies, and the EU biodiversity strategy;
- (g) the reference level shall be consistent with the national projections of anthropogenic greenhouse gas emissions by sources and removals by sinks reported under Regulation (EU) No 525/2013;
- (h) the reference level shall be consistent with greenhouse gas inventories and relevant historical data and shall be based on transparent, complete, consistent, comparable and accurate information. In particular, the model used to construct the reference level shall be able to reproduce historical data from the National Greenhouse Gas Inventory.

1.2: Consideration to the criteria as set in Annex IV of the LULUCF Regulation

The chapter 1.2 explicitly reflects on the criteria and guidance for the FRL as detailed in Annex IV A. of the Regulation.

(a) The forest reference level (FRL) have been based on the continuation of sustainable forest management practice, as documented in the period from 2000 to 2009. For whole CP period is characterized that the harvest did not exceed the increment. Both planned and actual timber felling are long-term increasing in Slovakia. The main factor behind the increase is the current age structure of Slovak forests with a normal to abnormally high area of 81 years old and older forests. Most forests of this age are mature. They clearly show an increase in the area and accumulated on of high growing stock in these forests. This is confirmed by the area of mature forest stands - forests intended for regeneration, which reached 448.1 thousand ha in 2017, which was 119,500 ha (36.4%) more than in 2005. Over the last 20 years (compared to 1996), the planned felling increased by 97%. Despite this, the actual felling is still below the level of total current increment (the volume of timber that accrues in forests every year) and has been even lower than planned felling since 2012, except for the year 2014. (Moravčík et al. 2018)

(b) The proposed Slovak FRL supports accounting for net changes in forest carbon stocks. It reflects the objective of enhancing the carbon stocks and the net carbon sinks in the future. 

(c) The proposed reference level ensures that emissions and removals resulting from biomass use were properly accounted for. The FRL estimation includes all emissions and removals from aboveground biomass, belowground biomass harvested and removed from forests as well as biomass burned in the forests by controlled burning and wildfires.

(d) The forest reference level for Slovakia is -6117,24 kt CO₂ eq., in which the HWP pool constitutes of -1166,20 kt CO₂ eq. If instantaneous oxidation of HWP was assumed, the FRL would be -4951,04 kt CO₂ eq.

(e) Slovakia confirms that a constant ratio between solid and energy use of forest biomass as documented in the period from 2000 to 2009 was assumed. (tab. 3x chapter 3.3 NFAP)

(f) Slovakia confirm that the FMPs upon which the FRL has been constructed are consistent with the objective of contributing to the conservation of biodiversity and other criteria for sustainable use of natural resources, as set out in the EU forest strategy, Slovakia's national forest policies, and the EU biodiversity strategy. One of the priorities of Slovak's National Forest Progamme is to support conservation, improvement and enhancement of biodiversity. Slovakia has declared fact that the deadwood carbon stocks increased during the period from 2005 to 2015 (chapter 2.1. of NFAP). The amount of dead wood in the forest is an indicator of biodiversity. It is also an component of the carbon sequestration in the forest ecosystem. According to the NFI, the average DW amount in the Slovak forest is 37.7 m³/ha and the total quantity is 81.9 million m³. This value is significantly higher

than the average of the European countries (Šebeň 2017). There has been a large increase in the proportion of natural regeneration in the total forest regeneration from 8% in 1993 to 37% in 2012. The long-term objective of forest management in Slovakia is to increase the proportion of broad-leaved species to 63%. (Zelená správa 2014). A the long-term trend of decreasing the percentage of clearcutting continues. The clearcut accounted for 25% of the total regenerated area of forest in present. Conversely, the volume of shelterwood regeneration on cuts has risen from 14% to 74% since 1990. This figure genuinely reflects the natural conditionons of Slovak forests which support viable natural regeneration on about 70% of forest land. Achieving the planned proportion on of particular silvicultural systems and their regeneration on cuts is difficult due to persistently high volumes of unplanned incidental felling which often resembles a clear-cut. (Moravčík et al. 2018)

(g) The proposed FRL is consistent by the trend with the national projections of anthropogenic greenhouse gas emissions by sources and removals by sinks reported under Regulation (EU) No 525/2013. The direction of the trend is the same.

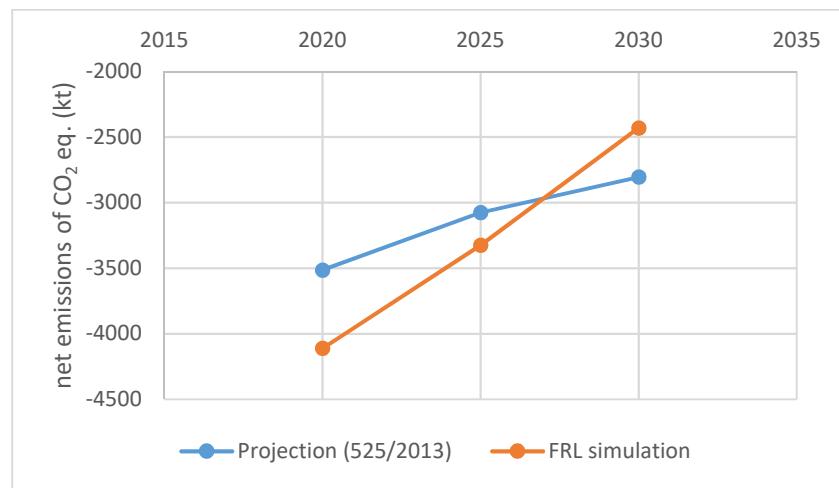


Figure 1.1 The net emissions of FRL and national projections of GHGs

(h) The proposed FRL is consistent with greenhouse gas inventories and relevant historical data and is based on transparent, complete, consistent, comparable and accurate information. In particular, the model used to construct the reference level is able to reproduce historical data from the National Greenhouse Gas Inventory. The implementation of this criterion is addressed in detail under chapter 3.3 of NFAP.

The national forestry accounting plans contains of all key elements of Annex IV B. of the LULUCF Regulation. The elements are documented in following table:

Table 1.1 The Annex IV B. elements documented in the NFAP submission

Annex IV B. paragraph item	Elements of the national forestry accounting plan according to Annex IV.B	Chapter in the NFAP
(a)	A general description of the determination of the forest reference level.	Chapter 1.1
(a)	Description of how the criteria in LULUCF Regulation were taken into account.	Chapter 1.2
(b)	Identification of the carbon pools and greenhouse gases which have been included in the forest reference level.	Chapter 2.1
(b)	Reasons for omitting a carbon pool from the forest reference level determination.	Chapter 2.1
(b)	Demonstration of the consistency between the carbon pools included in the forest reference level.	Chapter 2.2
(c)	A description of approaches, methods and models, including quantitative information, used in the determination of the forest reference level, consistent with the most recently submitted national inventory report.	Chapter 3
(c)	A description of documentary information on sustainable forest management practices and intensity.	Chapter 2.3 and 3.2.2
(c)	A description of adopted national policies.	Chapter 2.3.1
(d)	Information on how harvesting rates are expected to develop under different policy scenarios.	Chapter 2.3.2
(e)	A description of how the following element was considered in the determination of the forest reference level:	
(i)	• The area under forest management	Chapter 3.2.1
(ii)	• Emissions and removals from forests and harvested wood products as shown in greenhouse gas inventories and relevant historical data	Chapter 3.3 and 4.1.2
(iii)	• Forest characteristics, including: - dynamic age-related forest characteristics - increments - rotation length and - other information on forest management activities under 'business as usual'	Chapter 3.2.2 and Annex
(iv)	• Historical and future harvesting rates disaggregated between energy and non-energy uses	Chapter 3

Chapter 2: Preamble for the forest reference level

2.1: Carbon pools and greenhouse gases included in the forest reference level

The forest reference level includes following carbon pools as referred to in Article 5(4): above-ground biomass; below-ground biomass; harvested wood products

The forest reference level omitted following carbon pools as referred to in Article 5(4): dead wood, litter and soil organic carbon.

Reason for omitting these three carbon pools from the forest reference level determination is similar like in the GHG inventory. The changes of forests management that would dramatically change litter properties and litter carbon changes do not occur, i.e. no significant changes of carbon stocks in litter in forests remaining forests were assumed (tier 1). For estimation of carbon stock change for mineral soils carbon pool IPCC tier 1 approach was used and assumed that soil carbon stocks change in category 4.A.1 (FL remaining FL) is considered to equal zero, that means it did not change.

The reasoning which demonstrates that DW carbon pool is not a source of CO₂ emissions is based on the evidence of increasing growing stock in Slovak forests published in the last Slovak Green report in 2016 <http://www.mpsr.sk/en/index.php?navID=17&id=66>. The growing stock in Slovak forests is gradually increasing as indicated by trends and actual age structure of forests. On large temporal and spatial scales, the amount of deadwood is roughly proportional to the growing stock. The statistically representative empirical data from the second Slovak NFI, which confirm this assumption, are in the following table xx.

Table 2.1 The dead wood (DW) stocks (m³/ha) by components and tree species in NFI 1 (2005-2006) and NFI 2 (2015-2016) – bold/cursiva (st.significant/decrease) bold/black (st. significant/increase)

Component	Tree species	NFI 1	NFI 2	Difference
		Stock		
		m3.ha-1	m3.ha-1	m3.ha-1
Standing dead trees	Spruce	2,7 ± 0,5	3,7 ± 0,7	1,0 ±0,4 37 ±16
	Fir	0,7 ± 0,3	0,5 ± 0,2	-0,2 ± 0,2 -29 ±26
	Pine	0,6 ± 0,2	0,8 ± 0,3	0,2 ± 0,2 33 ±31
	Other conifer	0,1 ± 0,1	0,2 ± 0,1	0,1 ± 0,1 100 ±63
	Beech	0,7 ± 0,2	1,2 ± 0,3	0,5 ±0,2 71 ±26
	Oak	0,7 ± 0,2	0,9 ± 0,3	0,2 ± 0,2 29 ±26
	Hornbeam	0,1 ± 0,1	0,1 ± 0,1	0,0 ± 0,1 0 ±63
	Maples, ashes, elms	0,1 ± 0,1	0,4 ± 0,2	0,3 ±0,1 300 ±134
	Other bridleav	0,6 ± 0,2	1,0 ± 0,3	0,4 ±0,2 67 ±31
	Coniferous	4,1 ± 0,7	5,1 ± 0,7	1,0 ±0,4 24 ±11
	Broadleaved	2,2 ± 0,3	3,6 ± 0,6	1,4 ±0,4 64 ±18
	Total	6,3 ± 0,8	8,7 ± 1,0	2,4 ±0,6 38 ±10
Stumps	Spruce	2,3 ± 0,3	3,4 ± 0,4	1,1 ±0,2 48 ±10
	Fir	0,3 ± 0,1	0,3 ± 0,1	0,0 ± 0,1 0 ±21
	Pine	0,2 ± 0,1	0,2 ± 0,0	0,0 ± 0,1 0 ±50
	Other conifer	0,2 ± 0,1	0,1 ± 0,0	-0,1 ± 0,1 -50 ±50

	Beech	1,3 ± 0,2	1,9 ±0,2	0,6 ±0,1	46 ±10
	Oak	0,5 ± 0,1	0,7 ±0,1	0,2 ±0,1	40 ±13
	Hornbeam	0,1 ± 0,0	0,2 ±0,1	0,1 ±0,1	100 ±100
	Maples, ashes, elms	0,1 ± 0,0	0,1 ±0,0	0,0 ±0,0	0 ±0
	Other bridleav	0,3 ± 0,1	0,5 ±0,1	0,2 ±0,1	67 ±21
	Coniferous	2,9 ± 0,3	4,1 ±0,4	1,2 ±0,2	41 ±8
	Broadleaved	2,2 ± 0,2	3,4 ±0,3	1,2 ±0,2	55 ±8
	Total	5,2 ± 0,4	7,5 ±0,6	2,3 ±0,4	44 ±7
Coarse lying DW	Spruce	6,3 ± 0,9	6,8 ±0,9	0,5 ±0,6	8 ±9
	Fir	2,3 ± 0,8	1,7 ±0,5	-0,6 ±0,5	-26 ±22
	Pine	0,7 ± 0,2	0,9 ±0,2	0,2 ±0,1	29 ±18
	Other conifer	0,5 ± 0,2	0,3 ±0,2	-0,2 ±0,1	-40 ±25
	Beech	3,9 ± 0,7	5,2 ±1,0	1,3 ±0,6	33 ±16
	Oak	1,2 ± 0,3	1,4 ±0,3	0,2 ±0,2	17 ±16
	Hornbeam	0,3 ± 0,1	0,4 ±0,1	0,1 ±0,1	33 ±21
	Maples, ashes, elms	0,3 ± 0,1	0,4 ±0,1	0,1 ±0,1	33 ±21
	Other bridleav	2,1 ± 0,4	2,1 ±0,3	0,0 ±0,2	0 ±11
	Coniferous	9,8 ± 1,3	9,8 ±1,1	0,0 ±0,8	0 ±8
	Broadleaved	7,9 ± 0,9	9,5 ±1,1	1,6 ±0,7	20 ±8
	Total	17,7 ± 1,6	19,3 ±1,9	1,6 ±1,1	9 ±6
Small-sized lying DW	Spruce	2,3 ± 0,4	1,5 ±0,2	-0,8 ±0,3	-35 ±12
	Fir	0,3 ± 0,2	0,2 ±0,1	-0,1 ±0,1	-33 ±45
	Pine	0,6 ± 0,2	0,4 ±0,1	-0,2 ±0,1	-33 ±22
	Other conifer	0,1 ± 0,1	0,1 ±0,0	0,0 ±0,1	0 ±100
	Beech	2,8 ± 0,4	2,4 ±0,2	-0,4 ±0,3	-14 ±10
	Oak	0,4 ± 0,1	0,7 ±0,1	0,3 ±0,1	75 ±16
	Hornbeam	0,6 ± 0,2	0,5 ±0,1	-0,1 ±0,1	-17 ±22
	Maples, ashes, elms	0,3 ± 0,2	0,3 ±0,1	0,0 ±0,1	0 ±45
	Other bridleav	1,0 ± 0,3	0,9 ±0,1	-0,1 ±0,2	-10 ±23
	Coniferous	3,2 ± 0,4	2,2 ±0,2	-1,0 ±0,3	-31 ±8
	Broadleaved	5,2 ± 0,5	4,8 ±0,3	-0,4 ±0,3	-8 ±6
	Total	8,5 ± 0,6	6,9 ±0,3	-1,6 ±0,4	-19 ±5
Total DW	Total SR	37,6 ± 2,2	42,4 ±2,5	4,8 ±1,5	13 ±4

Slovakia has assumed that, under the conditions of current forestry practices at the country level, forest soils and litter do not represent a net source of CO₂ emissions. This assumption was confirmed by soil data analysis (Slovak ICP forests data) during which the soil carbon stocks were estimated for two time levels in 1993 and 2006 (tab. 2.2).

Table 2.2 Average litter and mineral soil C stocks on MFL areas

Year	Litter (t C/ha)		Mineral soil (t C/ha)	
	average	st. deviation	average	st. deviation
1993	7.81	6.02	70.40	27.0
2006	7.87	6.53	68.67	28.3

The results of statistical analysis have no confirmed the changes of soil C stocks on MFL areas. A similar conclusion were obtained from comparison of carbon stocks in litter. The litter C stock in 2006 were even found slightly higher compared the first evaluation (1993). In central european conditions, within forest management according to the principles of sustainable forestry, the mineral soils, litter and deadwood are not considered to be a source of net emissions (Pavlenda 2016). The same assumption was made in countries with similar soils and climatic conditions (Hungary, Czech Republic, Austria, Germany) (NIR, 2017).

The forest reference level includes following greenhouse gases as referred to in Article 2: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O).

Those greenhouse gases are expressed in terms of tonnes of CO₂ equivalent and determined pursuant to Regulation (EU) No 525/2013.

2.2: Demonstration of consistency between the carbon pools included in the forest reference level

The forest reference level includes living biomass (above-ground and below-ground biomass) carbon pools and harvested wood products. The consistency between the carbon pools included in the forest reference level are described in chapters 3 and 4 of NFAP.

2.3: Description of the long-term forest strategy

Definitions of sustainable management in forests means such a management in forests, as regards methods and extent, which allows to maintain their biological diversity, resistance, production and regeneration abilities, vitality and ability to fulfil forest functions (Slovak Act. No. 326/2005 Coll. on Forests).

The main long-term objective of the state forestry policy in Slovakia is defined by NFP and it is to ensure the sustainable management of forests based on the appropriate use of their economic, ecological and social functions for the development of the society and especially the rural areas. (Moravčík, et al., 2007).

A framework for support of sustainable forest management in the European Union (EU) was created in 1998 by adopting a Resolution on Forest Strategy for the EU. It takes into account the commitments adopted by the EU and by its Member States within relevant international processes and at Ministerial Conferences on the Protection of Forests in Europe. The Strategy highlights the importance of multi-functional tasks of forests, support of their sustainable management for society development and its implementation via National Forest Programmes. These programmes work out and updates the forestry priorities, provides a framework for impacts of other sectors on forest policy, increasing awareness on importance of forests for the society, involving governmental and non-governmental organisations and groups to deal with problems of forests and forest

management and to solve problematic issues within competence of various state authorities and organisations.

The Slovak long-term forest strategy is defined in the National Forest Programme of the Slovak Republic (NFP). Sustainable forest management is the basic principle of the NFP. It assumes development of an economic system on satisfying the societal requirements for nature-protective and other ecological and social functions of forests and forestry services. The Slovak National Forest Programme consists from following 5 strategic objectives and 18 priorities

Strategic Objective 1: Support of ecological forest management

- Priority 1: To support nature friendly forest management
- Priority 2: To support the development and use of environmentally friendly technologies
- Priority 3: To support conservation, improvement and enhancement of biodiversity

Strategic Objective 2: Improvement and protection of the environment

- Priority 4: To mitigate consequences of climate change and to support adaptation of forests to impacts of climate change
- Priority 5: To strengthen forest protection
- Priority 6: To develop forest monitoring

Strategic Objective 3: Improving quality of life

- Priority 7: To conserve and improve protective functions of forests
- Priority 8: To increase contribution of forests and forestry to development of rural economy

Strategic Objective 4: Increasing long-term competitiveness

- Priority 9: To increase long-term competitiveness and economic viability of multifunctional forestry
- Priority 10: To support research and technological development in order to improve competitiveness of the forestry sector
- Priority 11: Valuation and marketing of forest non-wood products and services
- Priority 12: To support the use of forest biomass to produce energy
- Priority 13: To support cooperation of forest land owners and to improve education in forestry

Strategic Objective 5: Strengthening cooperation, coordination and communication

- Priority 14: To ensure implementation of international commitments related to forests and forestry in pursuing the objectives of the National Forest Programmes
- Priority 15: To strengthen cross-sectoral cooperation and coordination among policies affecting forests and forestry
- Priority 16: To meet justified interests and needs of forest land owners and of the society
- Priority 17: To support the use of wood from forests managed in sustainable way

- Priority 18: To support environmental education and systematic work with the public in order to achieve a positive change in perception of forestry by the public.

Each of the priorities is detailedly described (<http://www.nlcsk.sk/files/1279.pdf>).

The document was approved by the Decision of the Slovak Government No 549 from 27 June 2007. The National Council of SR acknowledged NFP by the Decree No 531 from 20 September 2007 and instructed the Government to develop its Action Plan (AP) to include detailed sources of funding for particular priorities. AP was completed in 2008 for the years 2009–2013 to correspond with the EU programming period. Among other issues, the document also pays attention to the development of NFP framework objectives into particular measures. This AP was published by Moravčík et al. (2008).

The second Action Plan of the National Forestry Program of the Slovak Republic for the period 2015-2020 has been approved by Slovak Government in December 2015. This Action Plan is set for the period 2015-2020 and builds on the content and structure of the National Forestry Program of SR (NLP SR) and its Action Plan prepared for 2007-2013 (approved by the Slovak Government in June 2008). It develops 5 strategic objectives of the NLP SR and 39 updated framework objectives on the level of measures.

The formulation of the individual action plan measures was based on a detailed analysis of the current situation and the development of national political and socio-economic indicators, the state and development of forests and forestry in Slovakia, valid national forestry documents and regulations, as well as an analysis of European principles and global impacts , which will limit the implementation of the NLP SR Action Plan. Its elaboration has taken into account internationally recognized principles of national forest program development adopted at the regional European level on IV. Ministerial Conference on the Protection of Forests in Europe held in Vienna in 2003 (in particular the participation of all stakeholders, the holistic and sectoral approach, compliance with national policy and legislation, integration with national sustainable development strategies, compliance with international commitments, ecosystem approach, capacity building and others). The second Action Plan is available at: <https://enviroportal.sk/lesnictvo/akcny-plan-narodneho-lesnickeho-programu-sr-2015-2020>

An Agriculture Development Policy for 2007– 2013 – Part Forestry has been worked out in Slovakia in relation to the vision and strategy of the EU Forest Action Plan. This document formulates basic strategic objectives, targets and priorities of the agriculture sector in mid-term perspective till 2013. In accordance with the EU Forest Strategy and with the EU Forest Action Plan the Slovak Forest Policy has defined the following strategic objective: Ensuring sustainable forest management based on reasonable use of economic, ecological and social functions of the forests for development of the society and in particular for development of rural areas.

The vision, prognosis and strategy of forestry development in Slovakia have been published by Moravčík et al. (2009), it is available at <http://www.nlcsk.sk/files/2225.pdf>. This study with detailed vision, prognosis and strategy of forestry development in Slovakia represents an official state forestry policy. The strategy of forestry development in Slovakia is based on strategic objectives and priorities, formulated in the National Forestry Programme (NFP) of SR. Quantitative and qualitative predictions by the years 2025 and 2050 elaborated in the Prognosis and vision were used as basic material for the determination and justification of the direction of forestry development.

2.3.1: Overall description of the forests and forest management in Slovakia and the adopted national policies

The forests currently cover 41.2% of the Slovak Republic area. All forests can be considered to be temperate-zone managed forests. Slovak forests have a rather diverse tree species composition. The most abundant tree species include beech (33.2%), spruce (23.4%), and oaks (10.6%). The broadleaved species prevail and comprise 62.2% of Slovak forests. The percentage of conifers has steadily decreased which is most apparent in the case of spruce the presence of which, due to harmful agents, has declined by 2.9% since 2005. Split by main species groups reads as follows: coniferous forests 31%, broadleaved forests 50%, and mixed forests 19%.

To ensure sustainable and balanced timber production, continuous fulfilment of functions and services forests which provide and stability of economic conditions for continual forest production, forests ideally need to have as much of an even-aged structure as possible. At present, the actual age structure of Slovak forests varies considerably from the optimal balanced structure. The above desirable is the area of forests in age classes 1, 8, 9 and 15+. Approximately optimal (normal) is the area of other mature (rotation) forests in the age classes 10 to 14. Below the optimal area are mainly younger forests 11-70 years old which fall into the 2nd to 7th age class. From the 15th age class upwards the majority of forests are either protection or special-purpose forests which are under specific management restrictions and subject to nature conservation interest (Moravčík et al., 2016).

At present, forest management is focused more on close-to-nature silvicultural procedures and establishment of forest stands with better structural and species diversity and higher ecological stability. The growing stock has shown a continual increase in the volume of available timber in forests. The estimated growing stock was 478.12 mil. m³ (merchantable volume, defined as tree stem and branch volume under bark with minimum diameter threshold of 7 cm) in 2015. Average hectare growing stock was 247 m³.

The total volume of harvested timber reached 9 142.7 thousand m³ in 2015, which represented 274.75 thousand m³ (-2.9%) decrease compared to 2014. The volume of incidental felling was 56.4% of the total felling volume. (Moravčík et al., 2016).

The total forest area of Slovakia is managed and forest management is a planned activity (all forests have to have the forest management plan renewed every 10 years) covering regeneration and afforestation, clearing, regular thinning, logging (timber felling, skidding and hauling) and forest protection. The manager of forest is obliged to carry out regeneration of forest on a clearing within two years of its origination and to secure the forest stand originated after regeneration of forest within 2 to 10 years. State authorities regularly inspect all forest management activities. State forestry administration is separated from state management organizations and performs administration and controls forest management. The central unit is the Ministry of Agriculture and Rural Development with the Forestry section and on the lower level are 8 District Forest Offices (DFO) and 38 Local Forest Offices. All their duties and responsibilities are delegated by the Act no. 326/2005 of the Coll. (Sarvašová et al. 2014).

The forestry sector of Slovakia is actually regulated by Act No 326/2005 Coll. on Forests; Act No. 318/2010 Coll. on forest reproductive material in the wording of the pursuant regulationons; Act No. 97/2013 Coll. on land associations in the wording of the Act No. 34/2014 Coll. and by Regulations - No 453/2006 Coll. on Forest Management Planning as well as No 297/2011 Coll. on forestry registers. Act No 326/2005 Coll. on Forests have been issued by the Government since 2005 and implemented by the Ministry of Agriculture and Rural Development. The act provides a basic framework for the conservation of Slovak forests and forest management. It sets up basic conditions for sustainable wood felling and prevents the utilization of forests. The Act also defines basic framework for retaining carbon stocks in forests at current level. It regulates the use of genetic materials in forest management and thus it determines generative ability of future trees from perspective of carbon sequestration taking into account demands for wood.

A very important part of the practical implementation of the state forestry policy is the development of basic forest policy documents such as forestry concepts and strategies, programs, forecasts and visions. In 2006-2008, all basic short and medium-term forestry policy documents were prepared in Slovakia. These are the following:

- Concept of agricultural development for 2007-2013 - part forestry (year of elaboration and approval of 2006),
- Rural Development Program of the Slovak Republic (RDP SR) 2007-2013 (2007),
- Forecasts and visions of the Slovak agriculture, food, forestry and rural development - part of forestry (2007),

- National Forest Programme of the Slovak Republic (NFP) (2007),
http://www.forestportal.sk/lesne-hospodarstvo/politika-legislativa/narodna/Documents/nlp_sr.pdf
- Action Plan of the National Forestry Program of the Slovak Republic (2008),
- Forestry Development Strategy,
- Rural development programme SR 2014-2020.

These are modern forest-policy documents, compatible with European Union (EU) policies. These documents have a different status, mission and validity. Some are short-lived until the end of the EU programming period in 2013 (Concept of Agricultural Development, RDP SR, NLP Action Plan) and other medium-term 2020-2025 (NLP SR, Forestry Development Strategy, Forestry Prognosis and Vision of Slovak Agriculture).

The objectives and priorities of the national forest policy are defined in the National Forest Programme (NFP). The document was approved by the Decision of the Slovak Government No 549 from 27 June 2007. The National Council of SR acknowledged NFP by the Decree No 531 from 20 September 2007 and instructed the Government to develop its Action Plan (AP) to include detailed sources of funding for particular priorities. AP was completed in 2008 for the years 2009–2013 to correspond with the EU programming period. Among other issues, the document also pays attention to the development of NFP framework objectives into particular measures.

The Action Plan of the National Forestry Program of the Slovak Republic for the period 2015-2020 has been approved by Slovak Goverment in December 2015.

The Action Plan is set for the period 2015-2020 and builds on the content and structure of the National Forestry Program of SR (NLP SR) and its Action Plan prepared for 2007-2013 (approved by the Slovak Government in June 2008). It develops 5 strategic objectives of the NLP SR and 39 updated framework objectives on the level of measures.

The formulation of the individual action plan measures was based on a detailed analysis of the current situation and the development of national political and socio-economic indicators, the state and development of forests and forestry in Slovakia, valid national forestry documents and regulations, as well as an analysis of European principles and global impacts , which will limit the implementation of the NLP SR Action Plan.

Its elaboration has taken into account internationally recognized principles of national forest program development adopted at the regional European level on IV. Ministerial Conference on the Protection of Forests in Europe held in Vienna in 2003 (in particular the participation of all stakeholders, the holistic and sectoral approach, compliance with national policy and legislation, integration with national sustainable development strategies, compliance with international commitments, ecosystem approach, capacity building and others).

All information concerning to Rural development programme SR 2014-2020 is published on: https://ec.europa.eu/agriculture/rural-development-2014-2020/country-files/sk_en
The list of legal norms of SR relevant for the LULUCF sector, part forestry for the reference period 2000-2009

Act 100/1977 Coll. on forest management and state forest administration

Act 61/1977 Coll. on forests

Government Regulation 1/1994 on the rates of deductions for the deduction of forest stand from the forest land

Regulation 5/1995 Coll. on the forest management planning

Regulation 31/1999 Coll. on forest economic evidence

Regulation 103/1977 on the procedure for the protection of the forest land

Regulation 244/1997 Coll. on the identification and registration of timber harvesting

Regulation 64/2001 Z.z. o reproduction material of forest trees, its acquisition and registration

Act 217/2004 on Forest Reproductive Material

Regulation 571/2004 Coll. on sources of forest reproductive material, its harvesting, production and use

Act 326/2005 Coll. on forests

Government Regulation 86/2005 on classification of raw wood

Regulation 232/2006 Coll. on the marking of wood harvesting, marking of extracted timber and documents on the origin of the wood

Regulation 441/2006 Coll. laying down the details of the proficiency test for the preparation of the forest management plan and the issue and withdrawal of the certificate of professional competence and technical competence for drawing up the forest management plan

Regulation 451/2006 on a professional forestry manager

Regulation 453/2006 on on the forest management planning

[2.3.2: Description of future harvesting rates under different policy scenarios](#)

The vision, prognosis and strategy of forestry development in Slovakia have been published by Moravčík et al. (2009). This study has character of scientific-research document. It consists of four basic topics that indentify the most important moving forces and factors influencing forestry development. It presents vision of forestry development by 2050, prognosis of its developments by 2025 and the strategy of forestry development. This study with detailed vision, prognosis and strategy of forestry development in Slovakia represents an official state forestry policy. The strategy of forestry development in Slovakia is based on strategic objectives and priorities, formulated in the National Forestry Programme (NFP) of SR. Quantitative and qualitative predictions by the year 2025

elaborated in the Prognosis and vision were used as basic material for the determination and justification of the direction of forestry development.

Future harvesting rates under different policy scenarios is a part of Chapter 5.1.5 Ťažba dreva (harvesting). The development (from 1990 to 2005), prognosis (from 2010 to 2025) and vision (for 2050) of the different harvests (výchovná - thinning, obnovná - final, ihličnatá - conifer, listnatá - broadleaves) is published in table 5 (see page 50 in this document <http://www.nlcsk.sk/files/2225.pdf>)

The different policy scenarios of the future harvesting are presented as R – harvest realistic, O – harvest optimistic, P – harvest pessimistic. The realistic variant assumes that the huge forest calamities has appeared in each 40 – 80 years approximately. For this reason were not included to prognosis 2025 and vision 2050. The optimistic variant represents the situation of „normal harvesting” – includes only planned felling, without incidental felling (salvage logging). Pessimistic variant assumes increasing of incidental felling salvage logging (calamities) similarly than last 10 years.

Chapter 3: Description of the modelling approach

3.1: Description of the general approach as applied for estimating the forest reference level

Methodology proposed by the regulation for estimation of forest reference level (Grassi & Pilli 2017) was respected in modelling approach. The model applied in FRL estimation was developed in consistency with Slovak GHGs Inventory as well.

Input data on forest structure were stratified by tree species in the same way like for the purposes of GHGs Inventory. Information on area, growing stocks, stocking level and yield class was available by tree species and 10 years age classes for the reference period 2000 - 2009. Data on harvests were available stratified by tree species and type of harvest (thinning, planned final harvest and sanitary felling), but not by age classes. The mean increment of volume per hectare was available by tree species. Forest management practices, applied during RP, were identified from historical data and documents, including age of thinning and final harvesting per tree species. The rate of thinning and final harvests (plus sanitary felling) was estimated from historical data using harvest volume available for thinning or final harvesting and the recorded harvested volumes.

Model simulating changes in age structure, increments and harvests was developed using Python scripting language (available at <http://www.nlcsk.sk/cafmooc/fcarbon.html>). The model was able to calculate increments of volumes based on yield tables, which specify increments in m³ for the main tree species (spruce, fir, pine, beech, oak and hybrid poplar), age and yield class. Harvests were calculated by application of harvest ratios to volume available for harvesting. The same approach was utilised for estimation of thinning volumes. Harvested area was transferred to create the new youngest age class.

During each simulation step, the initial growing stock within age class was increased by calculated increment and reduced by harvested (or thinned volume). Results for tree species and age classes (total harvested volumes, mean increments per ha, mean age) were summarized within each year as inputs for the calculations of GHG emissions and removals module used in Slovak GHG Inventory (implemented in MS Excel file).

Harvested wood products were projected using simulated harvested volumes, constant ratios of product categories to harvested volume and constant ratio of harvested volume resulting from deforestation to total harvested volume.

Both controlled burning and wildfires were projected for the estimation of FRL. To be consistent with GHGI, CH₄ and N₂O were included for controlled burning and CO₂, CH₄ and N₂O for wildfires.

3.2: Documentation of data sources as applied for estimating the forest reference level

All actually available information on Slovak forests is based on two sources. The first one is the Forest Management Plans (FMP), which are updated on a regular basis. Investigation is carried out in a 10-years period – i.e. one tenth of the territory is surveyed each year, practically all forest stands are surveyed once in every 10 years. The survey produces detailed maps, as well as description of the forest stands (e.g. species composition, diameter at breast height, mean height, stock volume, number of trees, basal area, crown closure, volume increment etc.). Gathered data are stored in databases and further processed into aggregated files used for reporting and compilation of various documents including the Compendium of Forestry Statistics - Summary information on Slovak forests (SISL). Forest management plans (FMPs) are elaborated by professionally and technically competent non-state experts and companies. The FMPs are prepared according to the existing legislation, procedures and methodologies. All relations concerning the FMPs can be found in the Act No 326/2005 Coll. on Forests and Regulation of the Ministry of Agriculture No 453/2006 Coll. on Forest Management Planning. The FMPs are approved by provincial (governmental) forest authorities and are audited by the National Forest Centre (NFC). The FMPs have been performed for all forests, owners or users within the Slovak territory (Act No 326/2005 Coll.). For the forest management it is mandatory, that activities, including harvest and harvested volume, recorded and reported yearly to the state authority.

Using FMP at practical management is obligatory for all kind of forests in Slovakia. The duty of elaboration of FMP, list of its mandatory components and exact descriptions of steps and terms/dates applied at FMP elaboration process are stated in the Act no. 326/2005 of the Coll on Forests. The elaboration process results in only one FMP proposal, which is considered to be the optimal. Every year new FMPs for approx. 200 000 ha of forest land are being elaborated, which is almost 1/10 of the total forest area of SR. Elaboration of FMPs is administered and organized by the forestry state administration authorities (Sarvašová et al. 2014)

The provider of data sets is National Forest Centre - Institute of forest resources and information (NFC – IFRI Zvolen) as the main administrator of Central forestry databases and forest management plans consists of data on forests and forestry in Slovakia. Summary information on Slovak forests (SISL) is elaborated with the contents of aggregated data on the status and development of SR forests. They are processed from the data of the valid Forest Management Programs (PSLs), which are renewed annually to 1/10 forests of SR (end of life PSL). In addition to the PSL data, data on the economic measures taken in the year are also processed in SISL. The entry document is the records that are produced and submitted for processing by all forest managers in the year. The aggregated data are public

available in Information Bank (IBULH) on forestry, wood industry and hunting since 2010 at <https://gis.nlcsk.org/ibulh>.

The second source of information is data from the two cycles of the statistical (sample based, tree level) forest inventory, performed during 2005/2006 and 2015/2016 by the NFC. The National Forest Inventory and Monitoring (NFIM) is a selective statistical method of forest condition inventory. It has two levels – national and regional, and provides data for all forests regardless of land category (forest, non-forest). The NFIMs provided a comprehensive set of data on forests relevant to December 31, 2005 and December 31, 2015. Accuracy and reliability of provided outcomes meets the quality expected at the beginning of investigation (standard error 2.1% for total standing volume). This source of data is usable for estimation of carbon pools for example of dead organic matter – dead wood.

Table 3.1 Information sources for forest characteristics

Forest characteristics	Data references	Stratum ID where the characteristics and reference are relevant
MFL area	GHG NIR 2016	All
Area of tree species	Central forestry databases and forest management plans	All
Age structure	Central forestry databases and forest management plans, Green Reports 2000-2009	All
Species composition	Central forestry databases and forest management plans, Green Reports 2000-2009	All
Growing stock	Central forestry databases and forest management plans, Green Reports 2000-2009	All
Harvest	Central forestry databases and forest management plans, Green Reports 2000-2009	All
Current annual increment	Central forestry databases and forest management plans, Green Reports 2000-2009	All
Aboveground biomass	GHG NIR 2016, IPCC 2006 GL	All
Belowground biomass	GHG NIR 2016, IPCC 2006 GL	All
HWP	FAO database	

Most of data used for estimating the forest reference level has been already published in relevant Green Reports (GRs) The individual Green Reports are annually issued by Ministry

of Agriculture and rural development of SR. The GRs provide annually updated basic information on the management of forests in Slovakia. The Slovak versions of these reports are available on the website of the Ministry since 2001 and English version since 2006 <http://www.mpsr.sk/en/index.php?navID=17>

3.2.1: Documentation of stratification of the managed forest land

The definitions of Forest for the purposes of Act No 326/2005 on Forest in Slovakia is:

Forest is an ecosystem created by forest land with forest stand and factors of its atmospheric environment, plant species, animal species and soil with its hydrological and atmospheric regime.

The category Forest land for the purpose of UNFCCC reporting includes the land covered by all tree species serving for the fulfilment of forest functions and the lands on which the forest stands were temporarily removed with aim of their regeneration or establishment of forest nurseries or forest seed plantation.

The threshold values for the forest definition are following: forest land includes the land with minimum tree crown cover of 20% for trees capable to reach minimum height of 5 m in situ. The minimum area for forest is 0.3 ha. Temporarily unstocked areas are included (forest regeneration areas). For linear formations, a minimum width of 20 m is applied.

The selected threshold values are consistent for UNFCCC and Kyoto reporting, as well as with the values used in the reporting to the Food and Agriculture Organisation of the United Nations (the GFRA 2005), the National Forest Inventory, and the MCPFE criteria and indicators of sustainable forest management).

Managed forest land (MFL) used for the construction of FRL is equal and consistent with forest land remaining forest land category used in the national GHGI.

Stratification of the managed forest land (MFL) follows tree species composition. Slovakia use the same principles for stratification as those used in GHG Inventory (GHGI) under UNFCCC and Kyoto Protocol. There are 5 main tree species in Slovakia: Norway spruce (*Picea abies L.*), silver fir (*Abies alba Mill.*), Scotch pine (*Pinus sylvestris L.*), beech (*Fagus sylvatica L.*) and oaks (*Quercus robur L.*, *Quercus petraea Liebl.*). Up to 20 groups of tree species were identified (table 3.2).

The criteria used for stratification were remained the same in the modelling of historical and projected emissions and removals. The construction of FRL reflects as close as possible stratification already used in the national GHGI.

Development of Managed forest land (MFL) area, tree species composition, growing stocks, growing stocks per ha and current annual increment per ha per individual strata during the reference period are shown in Tables A.1 - A.5 of the Annex. The Development of growing stock in thinnings and harvested forests, commercial thinning and final harvest (m³) per strata during the reference period are shown Table A.6 of the Annex.

Table 3.2. Stratification of the Managed forest land in Slovakia. In case of more tree species in one strata, the dominant tree species are shown in bold.

ID	Main tree species	Tree species included
SM	Spruce	Norway spruce (<i>Picea abies L.</i>), silver spruce (<i>Picea pungens Engelm.</i>), Serbian spruce (<i>Picea omorika Panc.</i>)
JD	Fir	Silver fir (<i>Abies alba Mill.</i>)
BO	Pine	Scotch pine (<i>Pinus sylvestris L.</i>), Swiss stone pine (<i>Pinus cembra L.</i>), black pine (<i>Pinus nigra Arn.</i>)
SC	Larch	European larch (<i>Larix decidua Mill.</i>)
OI	Other coniferous	Dwarf pine (<i>Pinus mugo Turra</i>), European yew (<i>Taxus baccata L.</i>), White pine (<i>Pinus strobus L.</i>), Douglas fir (<i>Pseudotsuga menziesii Mirb.</i>)
BK	Beech	European beech (<i>Fagus sylvatica L.</i>)
DB	Oaks	Common oak (<i>Quercus robur L.</i>), Sessile oak (<i>Quercus petraea Liebl.</i>)
CR	Turkey oak	Turkey oak (<i>Quercus cerris L.</i>)
HB	Hornbeam	European hornbeam (<i>Carpinus Betulus L.</i>)
JV	Maple	Sycamore maple (<i>Acer pseudoplatanus L.</i>), Norway maple (<i>Acer platanoides L.</i>), field maple (<i>Acer campestre L.</i>)
JS	Ash	Common ash (<i>Fraxinus excelsior L.</i>), narrow-leaved ash (<i>Fraxinus angustifolia Vahl.</i>), manna ash (<i>Fraxinus ornus L.</i>)
BT	Elm	Wych elm (<i>Ulmus glabra Huds.</i>), European white elm (<i>Ulmus leavis Pall.</i>), field elm (<i>Ulmus minor Mill.</i>)
LP	Linden	Small-leaved lime (<i>Tilia cordata Mill.</i>), large-leaved lime (<i>Tilia platyphyllos Scop.</i>)
AG	Locust	Common locust (<i>Robinia pseudoacacia L.</i>)
BR	Birch	Silver birch (<i>Betula pendula Roth</i>), downy birch (<i>Betula pubescens Ehrh.</i>)
JL	Alder	Black alder (<i>Alnus glutinosa L.</i>), grey alder (<i>Alnus incana L.</i>)
TD	Poplar	Black poplar (<i>Populus nigra L.</i>), White poplar (<i>Populus alba L.</i>), grey poplar (<i>Populus x casescens</i>), Aspen (<i>Populus tremula L.</i>)
TS	Hybrid poplars	Hybrid poplars (<i>Populus x euroamericana</i> , <i>Populus x hybr.</i>)
VR	Willows	Crack willow (<i>Salix fragilis L.</i>), white willow (<i>Salix alba L.</i>), <i>Salix sp.</i>
OL	Other broadleaves	Wild cherry (<i>Prunus avium L.</i>), eastern black walnut (<i>Juglans nigra L.</i>), planes (<i>Platanus sp.</i>), European wild pear (<i>Pyrus pyraster L.</i>), horse-chestnut (<i>Aesculus hippocastanum L.</i>), sweet chestnut (<i>Castanea sativa Mill.</i>), wild service tree (<i>Sorbus torminalis L.</i>), rowan (<i>Sorbus aucuparia L.</i>)

The provider of data sets is National Forest Centre - Institute of forest resources and information (NFC – IFRI Zvolen) as the main administrator of data on forests and forestry in Slovakia. Summary information on Slovak forests (SISL) is elaborated with the contents of aggregated data on the status and development of SR forests. They are processed from the data of the valid Forest Management Programs (PSLs), which are renewed annually to 1/10 forests of SR (end of life PSL). All forest data were structured by tree species and 10-years age classes. Following information has to be provided: volume (m^3), area (ha) and yield class. Stocking and volume per ha can be provided as well, but they were calculated from the stocking functions and the age class volume and area.

Development of age related forest characteristics (10 year age class) for tree species strata for the individual years 2000-2009 of reference period are shown in Tables A.7 - A.16 of the Annex.

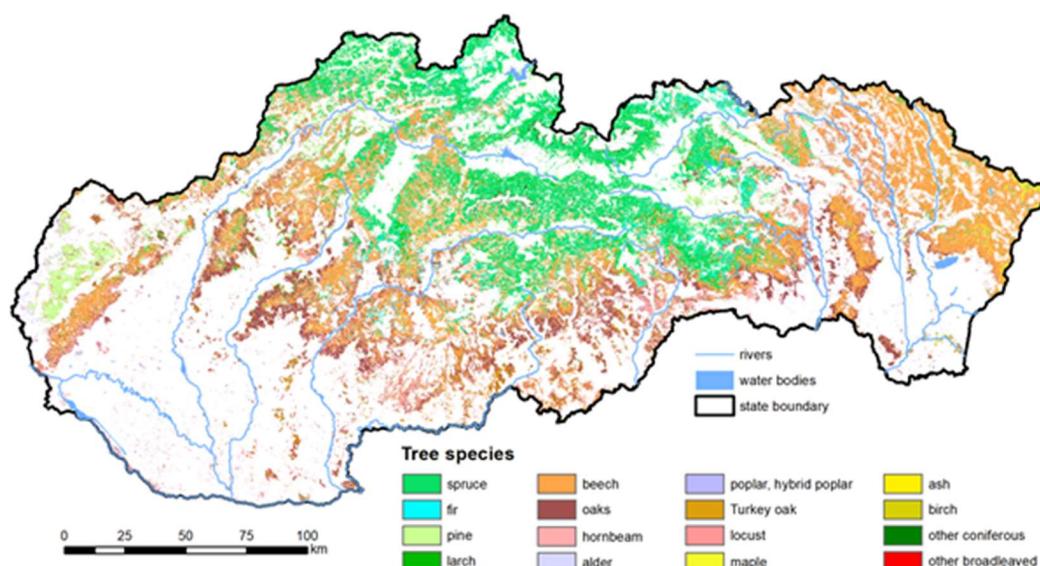


Figure 2.1 Distribution of the strata (main tree species) during reporting period 2000 – 2009. Information based on forest management plans.

3.2.2: Documentation of sustainable forest management practices as applied in the estimation of the forest reference level

The Forest management practice(s) (FMP) refers to a set of management activities (i.e. silvicultural and forestry operations) being carried out at different phases of the stand development (Forsell et al. 2018).

The Forest management practices applied in the period from 2000 to 2009 are described for each stratum through Slovak defined and quantifiable operational criteria. This chapter documents both the qualitative and quantitative aspects of each FMPs in table 3.3 and 3.4. In addition, in chapter 3.3 it is demonstrated how these definitions have been implemented and applied consistently over time for the estimation of the FRL. The justification for this

stems from Article 8(5) of the LULUCF Regulation, which states that the FRL "shall be based on the continuation of sustainable forest management practice, as documented in the period from 2000 to 2009". As the continuation of sustainable management practice forms the basis for the FRL, it is important that Slovakia provides a transparent documentation of the FMPs that were applied in the period from 2000 to 2009. Because all Slovak forests are considered as managed, given FMP has covered all forests. The FMP was identified and specified using the information and data from Central forestry databases and forest management plans. Most of them have been already published in individual Green Reports between the 2000 and 2009. Quantitative parameters of FMP are also included in the tables A.1 – A.7 of the Annex. An average quantitative parameters from 2000 to 2009 were used in projections, therefore no trends in when an management activity is carried as observed during the period were projected to continue during the CP. However, this had an influence on the FRL for Slovakia as the harvest ratios of spruce increased after 2009 significantly.

Table 3.3 Qualitative description of the forest management practice realized during the reference period in the Slovak forests

Forest Management Practice		
Index	Short description of practice	Determination of the actual biomass removals
FMP_Spruce		
FMP_Fir		
FMP_Pine		
FMP_Larch		
FMP_Beech	FMPs consisted of planting of seedlings, several (usually one per 10 year age class) thinnings over the rotation period, and a final harvest realized through clearcutting or shelterwood. The harvest schedule and biomass removals in harvests have been regulated by the Acts 61/1977, 100/1977 and 326/2005 on Forest as well as Regulations 5/1995 and 453/2006 on Forest Management Planning and Forest Protection.	The biomass removals are based on calculation from growing stocks and harvest (thinning and final harvest) in each year of the RP period and individual tree species. The biomass removal represents the % of growing stocks harvested through thinning or final harvest. The growing stock were determined through calculating harvest probability for a given age class using the method described in (chapter 3.3).
FMP_Oak		
FMP_Turkey oak		
FMP_Hornbeam		
FMP_Maple		
FMP_Ash		
FMP_Elm		
FMP_Linden		
FMP_Locust		
FMP_Birch		
FMP_Alder		
FMP_Poplar		
FMP_Hybrid poplars		
FMP_Willows		

Table 3.4 Quantitative description of the forest management practice realized during the reference period in the Slovak forests

Forest Management Practice	Silvicultural operation with final harvesting			
	Commercial thinning		Final cutting	
Name of Practice	Age (yrs.)	% stock harvested	Age (yrs.)	% stock harvested
FMP <i>Spruce</i>	>40	13,02	>90	43,38
FMP <i>Fir</i>	>40	2,72	>90	19,20
FMP <i>Pine</i>	>40	4,28	>90	22,51
FMP <i>Larch</i>	>40	3,81	>90	24,20
FMP <i>Beech</i>	>40	5,19	>100	36,73
FMP <i>Oak</i>	>40	4,49	>100	28,47
FMP <i>Turkey oak</i>	>40	4,02	>90	46,23
FMP <i>Hornbeam</i>	>40	4,64	>90	24,27
FMP <i>Maple</i>	>40	3,76	>110	19,10
FMP <i>Ash</i>	>40	4,56	>110	37,43
FMP <i>Elm</i>	>40	5,64	>110	17,95
FMP <i>Linden</i>	>40	5,98	>110	16,17
FMP <i>Locust</i>	>30	6,47	>50	95,23
FMP <i>Birch</i>	>40	16,11	>80	38,62
FMP <i>Alder</i>	>40	6,14	>80	23,66
FMP <i>Poplar</i>	>30	48,11	>50	49,09
FMP <i>Hybrid poplars</i>	>10	13,62	>40	100
FMP <i>Willows</i>	>40	13,59	>90	100

The implementation of the growing stock estimation methods in the forests of Slovakia between the years 2001 and 2010 have been published by Machanský (2014). Within the concepts of close to nature forestry during the last two decades, silvicultural systems preferred in Slovakia are namely selection and shelterwood system. Namely the shelterwood system is considered preferable with respect to natural regeneration as an intermediate stage to the continuous cover forestry. The rate of stands regenerated by the shelterwood system in Slovakia increased from 14.1% in 1990 to 61.6% in 2005 (Moravčík a kol., 2006). The 2-cut shelterwood silvicultural system is the most reliable and the most used method for regenerating forest stands, especially hardwoods. In Slovak forestry practice it results in the regeneration of one strip within one planning period of 10 years (Marušák, 2007).

[3.3: Detailed description of the modelling framework as applied in the estimation of the forest reference level](#)

The new model for estimation of future development of the forests on managed forest land in Slovakia was developed according to publications "Projecting the EU forest carbon net emissions in line with the 'continuation of forest management': the JRC method" (Grassi & Pilli 2017) and "Guidance on developing and reporting the Forest Reference Levels in accordance with Regulation (EU) 2018/841" (Forsell et al. 2018). The model applied in FRL estimation was developed in consistency with national GHG inventory report (NIR) and with the national projections of GHG emissions reported under Regulation (EU) No 525/2013 as well.

The main reason for model development was the specific requirement to include dynamic age related forest characteristics. Data are derived from the central forestry databases and forest management plans, and updated on yearly base according to yield tables and actual harvests within each forest stand and summarized per tree species and age classes. The simplified model, based on the same principles, was developed and applied to summarized data. It is able to simulate age structure development, growing stock, increment and harvests of merchantable wood volume for each simulation step, which is 1 year. Optionally, model is able to simulate increase of the simulation area per tree species from afforestation or change of the simulation area per tree species. Shelterwood and clearcutting management systems can be simulated.

Required data

Inputs to the model are data on forests, structured by tree species and 10-years age classes. The following information has to be provided: growing stock (m^3), area (ha) and yield class. Stocking and growing stock per ha can be provided as well, but they are calculated during simulation from the stocking functions and the age class growing stock and area. Inputs are read from the specified database. Thinning and harvesting ratios (in %, developed as volume to be thinned divided by total volume and multiplied by 100) for each tree species and age class must be provided as well. Variations of thinning and harvest ratios (both positive and negative, in %) can be specified for each year of simulation, but the sum of the variations within simulation period must be zero. It is possible to specify values (in ha) for the increase of simulation area from afforestation and change of the area of particular tree species (positive or negative, in ha) for replanting after harvesting (the sum of changes within each simulation step should be zero). The ratio of the natural regeneration after final harvesting can be specified, and is applied to area for replanting after final harvesting to simulate shelterwood system.

Age structure module

While initialising simulations, 10-years age classes are converted into 1-year age classes. The area of each age class is split equally (1/10 of age class area) and the growing stock is split using growing stock development function taken from the yield tables (Fig. 3.1).

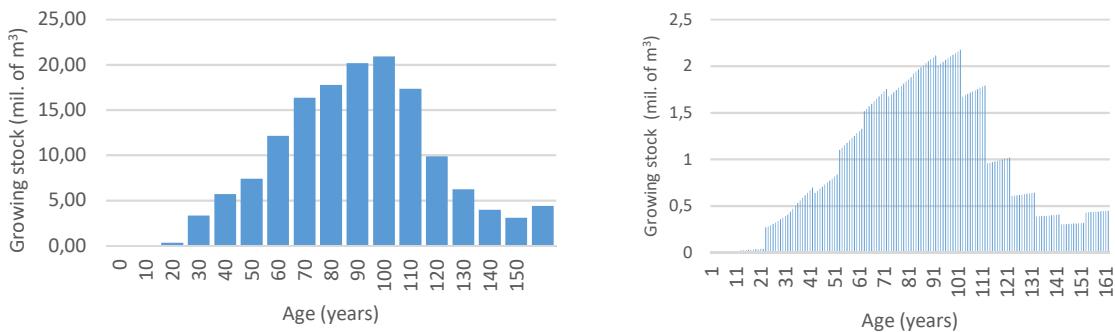


Figure 3.1 An example of growing stock conversion from 10-years age classes (left) to 1-year wide age classes (right). Growing stock of beech in 2009.

Yield tables provide growing stocks and stock increments for particular tree species in given age and yield class. Yield class is the mean height of the stand in the age of 100 years and depends on site conditions. Tables contain information for even whole numbers of yield class with 5-years step. Information for odd or decimal values of yield class and age which is not multiple of 5 has to be derived by interpolation. Yield tables are constructed for the full stocking level – forest stands with the highest achievable tree density with full crown closure. Stocking level express the ratio of the actual growing stock to this theoretical stand volume and its value is usually within a range 0.7 – 0.95. Only in special cases, for very dense young forest stands, it can slightly exceed 1.0 for a short time period before it is reduced by natural mortality or thinning. During forest management plan preparation, actual stocking for each forest stand is derived from crown closure for young and premature stands, for mature stands by callipering. When using yield tables for calculation of increments, the value for full stocking has to be reduced by actual stocking level of the stand (or age class in the simulation). For the modelling purposes, stocking functions were derived for each tree species based on stocking levels from reference period (Fig. 3.2). Stocking functions express reduction of the growing stock by both thinning and natural mortality.

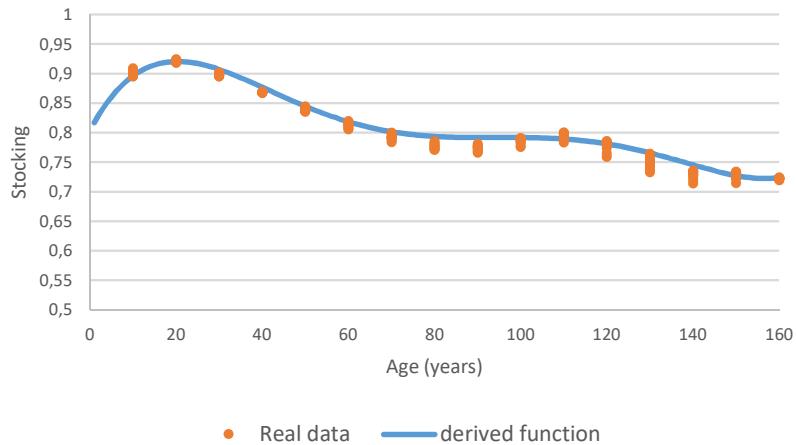


Figure 3.2 An example of derived stocking function (beech), based on period 2000-2009.

Age structure development is simulated in 1-year step. The increment of growing stock, based on yield tables, is calculated in each simulation step using the age and stocking level of the age class. Growth function of the model calculates increment (yield table value reduced by stocking) in each step and adds it to the growing stock from previous step. The age of the age class is increased by one in each step.

Due to high internal variability in historical data for the strata of "other coniferous" and "other broadleaved" tree species, which prevented simulation of age structure development, a constant value of increments was calculated from the input data as an average from the reference period.

The model allows to modify age structure not only by growth and harvesting, but also by area increase for 20-years old age class coming from afforestation, and by changes of replanted area caused by changes in tree species composition during simulation. These abilities were utilised for model calibration (described later), for projection of the FRL no changes in tree species composition were simulated.

Harvest module

Final harvests were simulated by application of harvest ratios to growing stock available for harvesting. For each tree species and year of reference period, harvest ratio was developed based on historical data as a harvested volume divided by the volume available for harvesting. The same procedure was used for calculations of thinning ratios (volume of thinning divided by total volume available for thinning). The final ratios were calculated as an average of the ratios from the years 2000 – 2009 (Tab. 3.5). For the strata of "other coniferous" and "other broadleaved" it was not possible to derive reliable values of harvest and thinning ratios due to the input data heterogeneity, therefore these two strata were excluded from the simulation and constant values of harvested volume was set for each year instead of harvest ratio application.

Thinning and harvest ratios were applied to the growing stock of the corresponding age classes to calculate thinned or harvested volume, and the harvest ratio was applied to the area of mature age classes as well to calculate the harvested area. Harvested area from all age classes within simulation step (year) was transferred to the youngest age classes.

Table 3.5 Harvest and thinning ratios (%) applied for 10-years wide age classes in each simulation step.

Tree species	Thinning		Final harvest	
	Ratio (%)	Age classes	Ratio (%)	Age classes
Spruce	1.30	4 - 8	4.34	9 and above
Fir	0.27	4 - 9	1.92	10 and above
Pine	0.43	4 - 9	2.25	10 and above
Larch	0.38	4 - 9	2.42	10 and above
Beech	0.52	4 - 10	3.67	11 and above
Oaks	0.45	4 - 10	2.85	11 and above
Turkey oak	0.40	4 - 9	4.62	10 and above
Hornbeam	0.46	4 - 9	2.43	10 and above
Maple	0.38	4 - 10	1.91	11 and above
Ash	0.46	4 - 10	3.74	11 and above
Elm	0.56	4 - 10	1.80	11 and above
Linden	0.60	4 - 10	1.62	11 and above
Locust	0.65	3 - 5	9.52	6 and above
Birch	1.61	4 - 8	3.86	9 and above
Alder	0.61	4 - 8	2.37	9 and above
Poplar	4.81	3 - 4	4.91	5 and above
Hybrid poplars	1.36	1 - 3	12.83	4 and above
Willows	1.36	4 - 8	65	9 and above

The model allows to specify variations of both ratios for each year of the simulation (both positive and negative deviations, in %) if the sum of the variations within the whole simulation period is zero. This means that the harvest or thinning can have different intensities in particular years, but the overall harvesting or thinning intensity in the whole simulation period will correspond to the average from reference period. The variations used in simulation are in table A.17 and A.18 (see Annex). After the 2017, variations were set to zero.

The ratio of natural regeneration was specified per tree species (Tab. 3.8). The naturally regenerated area was transferred to the 5-years old age class. The ratio of natural regeneration to artificial planting was summarized from the forest management plans,

where this ratio is estimated for each stand with planned regeneration cutting in the next decade. The rest of the harvested area (or the whole harvested area in case this ratio is set to zero) was used to create new age class with the age -1 to simulate 2 years allowed for planting.

Table 3.8 Ratios of natural regeneration per tree species

Tree species	Ratio of natural regeneration	Tree species	Ratio of natural regeneration
Spruce	0.5917	Ash	0.5419
Fir	0.6111	Elm	0.5532
Pine	0.5428	Linden	0.6617
Larch	0.6448	Locust	0.6568
Beech	0.6659	Birch	0.6499
Oaks	0.6928	Alder	0.5535
Turkey oak	0.7062	Poplar	0.2431
Hornbeam	0.6890	Hybrid poplars	0.2077
Maple	0.6314	Willows	0.3247

C pool variation module

Living biomass

The carbon stock change in living biomass was estimated using a Gain-Loss method according to the equation 2.7 of the IPCC 2006 GL. This method is based on separate estimation of increments, removals and their difference. Calculations of carbon stock changes in living biomass because of annual biomass increment and annual biomass loss was carried out following the equations 2.9 - 2.12 of the IPCC 2006 GL.

Current annual increment (CAI) data expressed as merchantable volume, defined as tree stem and branch volume under bark with a minimum diameter threshold of 7 cm are the key inputs to calculate the carbon increment. The CAI values have been simulated using developed model.

G_{TOTAL} is the expansion of current annual increment of aboveground biomass (G_w) to include its belowground part, involving multiplication by the ratio of belowground biomass to aboveground biomass (often called the root-to-shoot ratio that applies to increments).

The current annual increment (merchantable volume increment - I_v) is converted to the annual biomass increment (G_{TOTAL}) using the biomass conversion expansion factor ($BCEF_I$) and root-to-shoot ratio (R) (equation 2.10 (A) and (B) of the IPCC 2006 GL) as followed:

- $G_{TOTAL} = G_w * (1 + R)$
- $G_w = I_v * BCEF_I$

Root-to-shoot ratio was differentiated according to Table 4.4 of IPCC 2006 GL (0.2 for coniferous, 0.3 for Quercus species and 0.24 for other broadleaved species).

According to present knowledge, about 55-90% (depending on tree species) of the total tree biomass can be assumed stored in the stems (Šebík et al., 1989). The density of wood (at dry weight) varies depending on tree species, from 0.40 to 0.80 t d.m./m³ in the Slovak conditions (Požgaj et al., 1993). The annual biomass increment per hectare and year (resulting from application of annual wood volume increment data and biomass expansion factor) varies from 1.40 to 6.80 t d.m./ha for different tree species.

The BCEF_i values were calculated as a ratio of CAI expressed as tree volume over bark and CAI expressed as merchantable volume (defined as tree stem and branch volume under bark with a minimum diameter threshold of 7 cm) for spruce, fir, pine, beech, oaks and poplar tree species. Then, they were multiplied by the basic wood density of individual tree species. The values of CAI of individual tree species were based on national growth and yield tables (Halaj and Petráš, 1998) using values of age and "bonita" degree (yield class). Estimation of annual increase in carbon stocks due to biomass increment requires inputs of actual stand area (A), annual increment of total biomass (G_{TOTAL}) and carbon fraction of dry matter and was calculated by the equation 2.9 of the IPCC 2006 GL as followed:

- $\Delta C_{FFG} = \sum (A * G_{TOTAL}) * CF$

Values of the carbon content 50% for coniferous and 49% for broadleaved wood were used for calculation of carbon gains in living biomass. These values are within the range provided in the guidelines (2006 IPCC GL vol. 4, chap. 4, tab. 4.3).

The annual decrease in carbon stocks due to biomass loss follows equations 2.12 of the IPCC 2006 GL:

- $L_{felliings} = H * BCEF_R * (1+R) * CF$

Biomass conversion and expansion factors (BCEF_R) were developed based on new NFI data. BCEF_R were developed for Norway spruce (*Picea abies*), Pine (*Pinus sylvestris*), Oak (*Quercus robur*) and Beech (*Fagus sylvatica*). The methodology follows a common procedure described in literature (Lehtonen et al., 2004) and cited in the IPCC 2006 GL. The BCEF is generally defined as:

- $BCEF_i = W_i / V;$

where i indicates a tree biomass component, W_i (Mg) is the dry biomass of component and V (m³) is the tree merchantable volume.

Tree-level data of the new NFI in Slovakia were used to construct age-related BCEFs. Only inventory plots that contained a dominant share (at least 50% of the basal area) of any of the four key tree species (beech, oak, pine and spruce) were used for the analysis. This selected database contained over 22 thousand trees. Tree merchantable volume and tree aboveground biomass were calculated using national methodology (Petras and Pajtik, 1991). The aboveground biomass functions were used from the studies (Wutzler et al.,

2008 for beech trees, Cienciala et al., 2008 for oak trees, Cienciala et al., 2006 for pine trees and Wirth et al., 2004 for spruce). More complete description of the BCEF_R calculation published the report "Different Approaches to Carbon Stock Assessment in Slovakia", Chapter 13, available:

<http://publications.jrc.ec.europa.eu/repository/handle/11111111/14708>

The values of BCEF_R were calculated for each year separately considering actual age structure of forests.

Deadwood

The dead wood carbon pool contains dead trees from standing, stumps, coarse lying dead wood and small-sized lying dead wood not included in litter or soil carbon pools. Estimation of emissions and removals by deadwood followed tier 1 assuming zero change in this carbon pool. This is a safe assumption, if the country did not experience significant changes in forest types, disturbance or management regimes. The same approach Slovakia uses in NIR and *projections of GHG emissions*.

Litter

The litter pool definition used in the inventory includes all non-living biomass with a size less than the minimum diameter defined for dead wood (1 cm). The litter includes the surface organic layer (L, F, H horizons) as usually defined in soil profile description and classification. Live fine roots above the mineral or organic soil (of less than the minimum diameter limit chosen for below-ground biomass) are included in litter because they cannot be distinguished empirically. The changes of forests management that would dramatically change litter properties and litter carbon changes do not occur, i.e. no significant changes of carbon stocks in litter in forests remaining forests were assumed (tier 1).

Soils

For estimation of carbon stock change for mineral soils carbon pool tier 1 approach was used and assumed that soil carbon stocks change is considered to equal zero, that means it did not change. In central European conditions, within Forest Land managed according to the principles of sustainable forestry, the mineral soils, litter and deadwood are not considered a source of net emissions (Pavlenda et al., 2016).

Harvested wood products

The considered carbon pool is defined as the wood products in service life within the country. The carbon pool includes products generated from the wood production in the country in forests remaining forests and land converted to forests. The losses from the pool are to landfill and the atmosphere.

For the carbon balance purposes, the round wood category is split to the industrial round wood and fuelwood subcategories. Contrary to the energetic use of wood (fuelwood) for which an instantaneous oxidation is applied, the long-term used HWP as sawn wood, wood-based panels and paper represent a carbon pool with specific half-lives.

For the assessment, the half-lives were applied according to table 2.8.2 in IPCC 2013 GL for KP: 35 years for sawn wood, 25 years for wood-based panels and 2 years for paper products.

The estimation approach applied for HWP accounting calculates delayed emissions based on the annual stock change of semi-finished wood products using the first order decay function following equation 12.1 in the IPCC 2006 GL, Vol. 4, Ch. 12.

For the purposes of FRL estimation, constant and fixed ratios of sawn wood, wood based panels and paper to final harvest were calculated as an average from the reference period and applied to simulation period 2010-2030, for which harvested volume was simulated. (tab 3.9) This ratio also represents the ratio between solid and energy use of forest biomass.

Table 3.9 The ratio between solid and energy use of forest biomass – historical and future harvesting rates

	Harvesting rates															
	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2015	2020	2025
Sawnwood - Production	0.15	0.12	0.20	0.20	0.20	0.25	0.25	0.26	0.29	0.32	0.30	0.24	0.25	0.25	0.25	0.25
Sawnwood - Export	0.05	0.09	0.15	0.17	0.14	0.13	0.06	0.07	0.14	0.14	0.05	0.04	0.11	0.11	0.11	0.11
Wood-based panels - Production	0.08	0.06	0.06	0.06	0.07	0.07	0.07	0.06	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.08
Wood-based panels - Export	0.00	0.01	0.04	0.05	0.04	0.05	0.05	0.03	0.04	0.05	0.07	0.05	0.05	0.05	0.05	0.05
Paper and paperboard - Production	0.09	0.06	0.15	0.16	0.11	0.10	0.11	0.08	0.11	0.11	0.10	0.10	0.11	0.11	0.11	0.11
Paper and paperboard - Export	0.01	0.04	0.06	0.06	0.08	0.07	0.09	0.07	0.09	0.09	0.06	0.08	0.08	0.08	0.08	0.08

Ratio of harvested volume resulting from deforestation to total harvested volume was based on reference period as well, with the value 0.087. In this way, input data for calculation of emissions were developed.

Biomass burning

The biomass burning activity from managed forest land includes emissions of CO₂, CH₄, and N₂O associated with forest fires and biomass burning on forest areas. The NFC – Forest Protection Service, has summarized activity data from controlled burning and forest fires since 1999.

Slovak harvesting system in forestry partly includes burning of harvesting residues if decided by forest managers and the risk of fire is limited (at cleared plots after processing of trees infested by bark beetle or after clear cuts). The harvesting residues are burned on about 50% of the forest clearing area. The differences are in the quantity of burning biomass. For coniferous 10% and for broadleaved about 25% of above ground tree biomass is burned. Because there is no official estimate of amount of post logging slash the expert judgment was used for calculation. The biomass fraction burned on clearing areas was quantified on the basis of annually reported amount of main felling, separately for coniferous and broadleaved species as well as the BCEFR were applied in calculation of harvest losses in FL remaining FL category. The emissions from burning of biomass

residues were calculated according to the equation 2.27 and default emission factors in table 2.5 in IPCC 2006 GL. Default combustion factor value 0.62 according to the table 2.6 in IPCC 2006 GL was used for post logging slash burn in other temperate forests.

The main information sources on wildfires or forest fires are the internal fires statistics of the Ministry of Interior as well as the "Reports of the occurrence of harmful agents in Slovakia". The forest fires occur mostly in spring. The emissions of greenhouse gases from wildfires were calculated based on eq. 2.27 (IPCC 2006 GL) and mass of fuel available for combustion derived using known areas burnt annually, the average stock per hectare and biomass expansion factor.

The area affected by wildfires for years 2018 – 2030 was set as an average value from period 2000 – 2017, which is 498.2 ha. Ratio of the burnt area on L-FL (land converted to forestland) to FL-FL (forest land remaining forest land) was set in the same way to 0.028.

Natural disturbances

Natural disturbances were addressed in simulation by including sanitary felling into harvest rate. Growing stock harvested by sanitary felling was treated as final cutting. Therefore, the effect of future natural disturbances was estimated at the same level as in the reference period.

Climate change

The model developed for the simulation of dynamic age related forest characteristics was based on the yield tables. Yield tables do not allow to simulate the effect of climate change on growth of tree species. However, the effect of climate change on tree mortality was partially reflected through harvest ratios at the level of reference period.

Technical solution

Technically, model consists of several Python scripts and libraries, which are in fact text files with the source code, and two SQLITE databases, which are single files. SQLITE support is built-in in Python language and databases can be opened in many database managers (e.g. SqliteStudio, <https://sqlitestudio.pl>). Both Python and SQLITE are open source projects and can be easily installed on any personal computer. The version of Python used for development and simulations was 2.7. Technical description and model source code can be downloaded from <http://www.nlcsk.sk/cafmooc/fcarbon.html>. Version of the model used in simulation was able to calculate increments and harvests of merchantable volume and the changes of age structure during simulation period.

Model calibration

The aim of the calibration was to adjust simulation process to reproduce GHG inventory as precisely as possible. After the first run of the model for the reference period, changes in living biomass were calculated using resulting values of harvests and increments. It was found that the resulting average value of the gains (4596.141 kt C) is lower by 3.14% and the average value of simulated losses (-3197.01 kt C) is lower by 0.30% compared to

average values from the NIR (4745.27 and -3206.53). Gains were compared by tree species (Tab. 3.10) and the ratios of simulated values to inventory values were calculated.

Table 3.10 Calibration parameters applied as multiples to increments

Tree species	Mean annual increase in biomass carbon stocks (kt C)		Model/Inventory
	Model	Inventory	
Spruce	1111.73	1117.70	1.005
Fir	159.40	150.30	0.943
Pine	292.87	341.04	1.164
Larch	111.77	114.05	1.020
Other coniferous	15.14	16.31	1.077
Oak	541.70	530.73	0.980
Beech	160.91	166.89	1.037
Hornbeam	320.38	345.27	1.078
Maple	73.45	74.66	1.016
Ash	53.76	71.94	1.338
Elm	1.65	2.04	1.241
Turkey oak	137.36	133.93	0.975
Robinia	56.30	52.15	0.926
Birch	28.74	29.08	1.012
Alder	14.41	16.31	1.132
Linden	13.44	14.04	1.045
Breeding poplars	20.13	25.81	1.282
Poplar	3.43	5.07	1.480
Willow	2.83	3.34	1.179
Other broadleaves	4.74	4.71	0.994

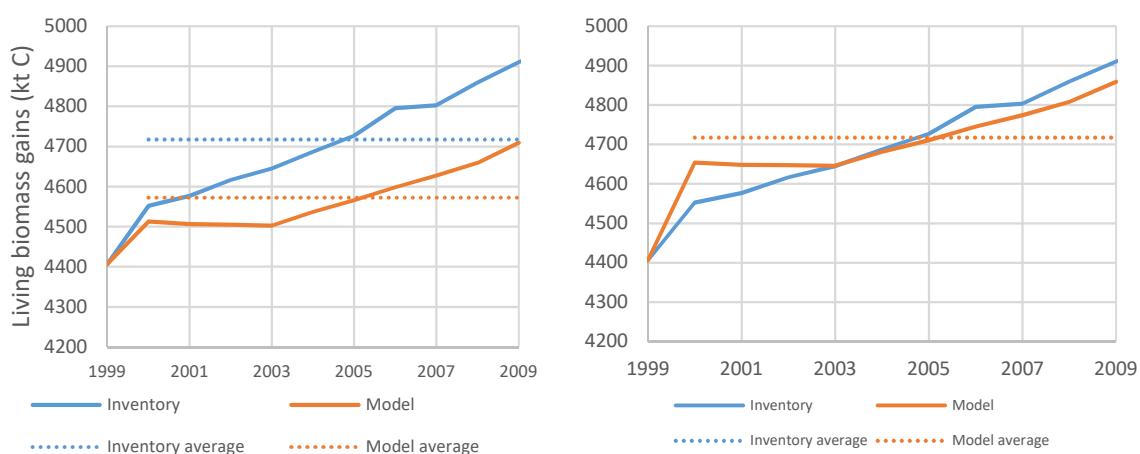


Figure 3.3 Comparison of living biomass gains reported in NIR with the model. Left – model without calibration, right – model after calibration.

These ratios were applied as multiples to growing stock increments calculated during simulation in each step (year). Average annual gain of living biomass calculated by calibrated model were the same as average annual gain of living biomass reported by NIR (Fig. 3.3). The values in particular years differ from -1.09 to 2.27% with the standard deviation 1.16%. In absolute values, the range is from -53.14 to 104.11 kt C with standard deviation 54.42.

Development of growing stock in the forests by non-calibrated and calibrated model, compared with real data, is shown on Fig. 3.4

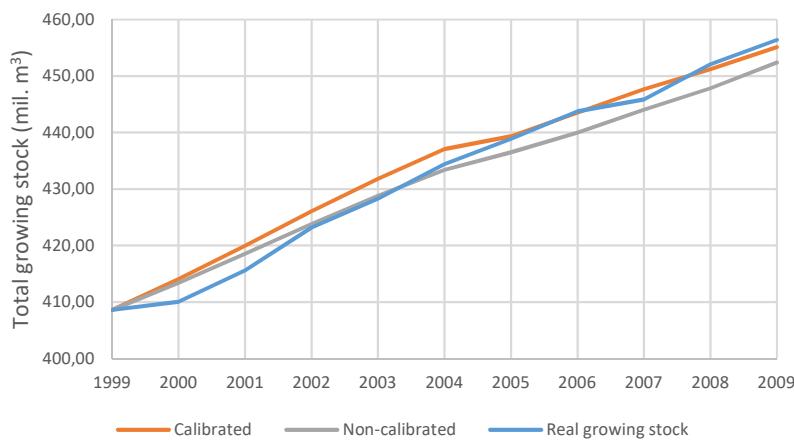


Fig. 3.4 Development of the total growing stock of forests on managed forest land, as simulated by non-calibrated and calibrated model

After calibration of gains, the difference between simulated and reported losses decreased to 1.21%. Harvest and thinning ratios for simulated tree species were not changed for the purposes of model calibration. However, the harvested amount of the "other coniferous" and "other broadleaved" tree species in one year, which was simulated as a constant, was adjusted to achieve the average value of the carbon losses reported in NIR (Fig. 3.5). For "other coniferous" it was set to zero, which is the most frequent value in historical data (8 values from 10) and for "other broadleaved" it was set to 273 378 m³, which is within the range of harvested volumes 82 896 – 359 881 m³. This adjustment respected share of coniferous and broadleaved tree species from the harvested volume in reference period. After calibration the simulated carbon losses in living biomass differ from reported values by -3.28 to 6.21% with standard deviation 3.10%, in absolute values from -159.8 to 121.8 kt C with standard deviation 89.55.



Figure 3.5 Comparison of living biomass losses reported in NIR with the model. Left – model without calibration, right – model after calibration.

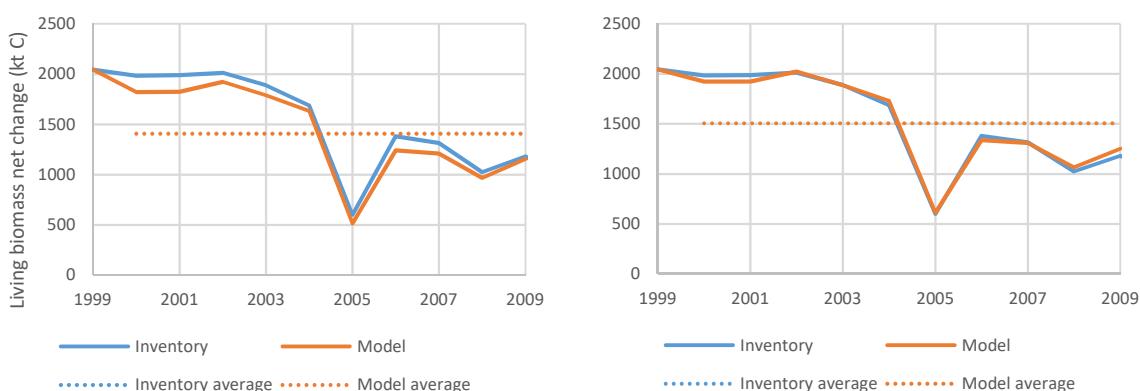


Figure 3.6 Comparison of living biomass net change reported in NIR with the model. Left – model without calibration, right – model after calibration.

Resulting net changes in living biomass carbon stock after model calibration differ from reported values by -3.25 to 5.61% with standard deviation 3.01%, in absolute values from -65.28 to 68.77 kt C with standard deviation 44.48 kt C.

Assumptions applied in projecting FRL

Calibrated model was used in simulation of the development of forest age structure, increments and harvests on MFL. Data from 2009 (valid for the end of the year) were utilized as inputs to the model. Following assumptions were respected in simulation:

- tree species composition remained stable
- total area of MFL increased constantly due to the afforestation

The area of MFL constantly increases in Slovakia for the whole period 2000 – 2017. Therefore, this increase was taken into account in simulations. However, the model allowed to simulate area increase only by constant value. To estimate an average annual increase, projection of MFL area was analysed (Fig. 3.7) and the value was set as an average in the

period 2009-2023 to 1498.57 ha. Total annual increase was split among the particular strata according to the tree species composition in input data.

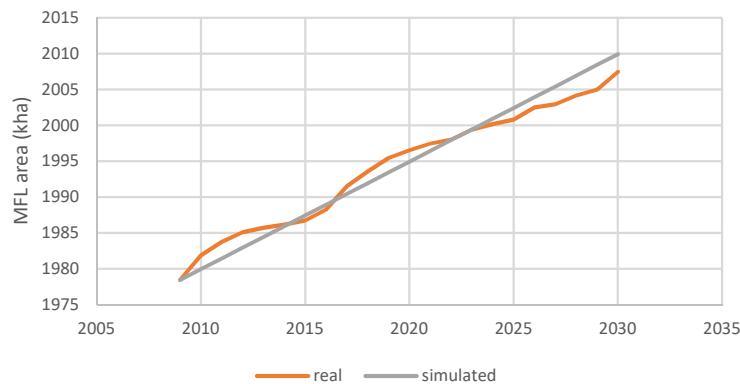


Figure 3.7 Development of simulated area of MFL compared to reported (till 2016) and projected (from 2017 onward) area. Period 2009 – 2023 was chosen as the most suitable for setting the value of constant annual increase

Chapter 4: Forest reference level

4.1: Detailed description of the development of the carbon pools

4.1.1 Living biomass (aboveground and belowground)

Gains, losses and net change in the carbon pool of living biomass was projected using model for prediction of future harvests and increments. Resulting values are shown in Tab. 4.1 and Fig. 4.1.

Table 4.1 Projected changes of living biomass carbon pool for 2009 – 2030.

Year	Gain (kt C)	Loss (kt C)	Net change (kt C)	Net change (kt CO2 eq.)
2009	4941.08	-3714.87	1226.20	-4496.08
2010	4951.55	-4156.20	795.35	-2916.30
2011	4956.13	-4119.73	836.40	-3066.80
2012	4958.59	-3233.70	1724.89	-6324.59
2013	4965.81	-2911.09	2054.72	-7534.00
2014	4968.76	-3303.52	1665.24	-6105.88
2015	4975.71	-3324.90	1650.81	-6052.96
2016	4980.18	-3552.98	1427.20	-5233.07
2017	4985.22	-3627.86	1357.36	-4977.00
2018	4988.12	-3770.35	1217.36	-4465.16
2019	4992.91	-3802.26	1190.65	-4365.72
2020	4997.83	-3840.81	1157.02	-4242.40
2021	5004.61	-3878.54	1126.07	-4128.94
2022	5010.91	-3915.68	1095.23	-4015.85
2023	5015.71	-3952.30	1063.41	-3899.18
2024	4991.80	-3988.41	1003.39	-3679.10
2025	4967.39	-4023.93	943.46	-3459.36
2026	4944.52	-4059.12	885.40	-3246.47
2027	4920.41	-4093.63	826.78	-3031.54
2028	4895.45	-4127.56	767.90	-2815.62
2029	4882.20	-4160.70	721.50	-2645.51
2030	4890.71	-4190.67	700.05	-2566.83

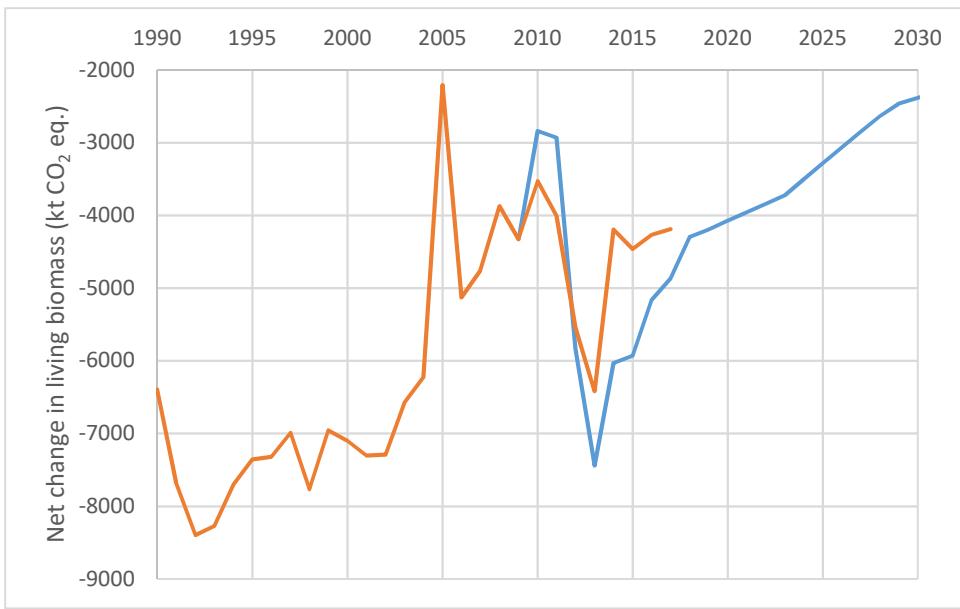


Figure 4.1 Net change of removals by living biomass. GHG Inventory and FRL projection, 1990 – 2030.

Projected net change follows the trend from GHG Inventory, but with higher level of removals. This is the result of the increase of harvest ratio since 2005 due to increasing level of sanitary felling, especially in spruce stands. For the period after 2017, the trend of the removals is decreasing.

4.1.2 Harvested wood products

Harvested wood products were projected using simulated harvested volumes, constant ratios of product categories to harvested volume and constant ratio of harvested volume resulting from deforestation to total harvested volume. Projected values are shown in Tab. 4.B and Fig. 4.2.

Table 4.2 Projected removals by HWP, 2009 – 2030.

Year	CO ₂ (kt)	Year	CO ₂ (kt)
2009	-1459.91	2020	-1181.52
2010	-1929.72	2021	-1175.61
2011	-1738.38	2022	-1170.49
2012	-890.929	2023	-1165.88
2013	-630.185	2024	-1161.58
2014	-1033.69	2025	-1157.43
2015	-995.073	2026	-1153.52
2016	-1080.9	2027	-1149.48
2017	-1141.34	2028	-1145.35
2018	-1204.14	2029	-1141.09
2019	-1188.5	2030	-1133.09

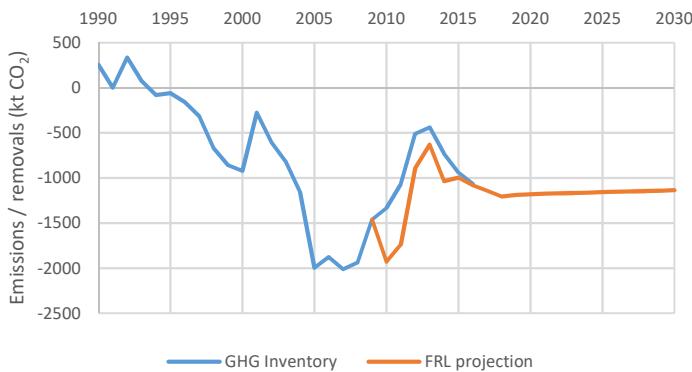


Figure 4.2 GHG removals by HWP (kt CO₂). GHG Inventory and FRL projection, 1990 – 2030.

Projected removals of GHG during commitment period copy the trend of projected harvests due to the constant ratio of the products to harvested volume. After 2018, removals by HWP show slightly decreasing trend due to the decay of the relatively higher harvested volumes from reference period.

4.1.3 Biomass burning

Both controlled burning and wildfires were projected for the estimation of FRL. For biomass burning, CH₄ and N₂O were included, for wildfires CO₂, CH₄ and N₂O in consistency with GHGI. The projected values area listed in Tab. 4.3 and shown on Fig. 4.3 and 4.4.

Table 4.3 Projected emissions from biomass burning, 2017 – 2030.

Year	Controlled burning			Wildfires				Biomass burning
	CH4 (kt)	N2O (kt)	CO2 eq.	CO2	CH4	N2O	CO2 eq	CO2 eq
2016	0.53	0.03	22.11	45.08	0.14	0.01	50.68	72.78
2017	0.53	0.03	22.04	77.22	0.23	0.01	86.82	108.86
2018	0.56	0.03	23.31	130.01	0.39	0.02	146.17	169.48
2019	0.57	0.03	23.58	130.75	0.39	0.02	147.00	170.59
2020	0.58	0.03	23.95	131.47	0.39	0.02	147.80	171.75
2021	0.59	0.03	24.30	132.16	0.40	0.02	148.58	172.88
2022	0.59	0.03	24.65	132.84	0.40	0.02	149.34	174.00
2023	0.60	0.03	25.00	133.50	0.40	0.02	150.09	175.08
2024	0.61	0.03	25.34	134.14	0.40	0.02	150.81	176.15
2025	0.62	0.03	25.68	134.74	0.40	0.02	151.49	177.17
2026	0.63	0.03	26.01	135.30	0.41	0.02	152.12	178.13
2027	0.64	0.04	26.35	135.83	0.41	0.02	152.71	179.05
2028	0.64	0.04	26.67	136.31	0.41	0.02	153.25	179.92
2029	0.65	0.04	27.00	136.75	0.41	0.02	153.74	180.74
2030	0.66	0.04	27.33	137.16	0.41	0.02	154.20	181.53

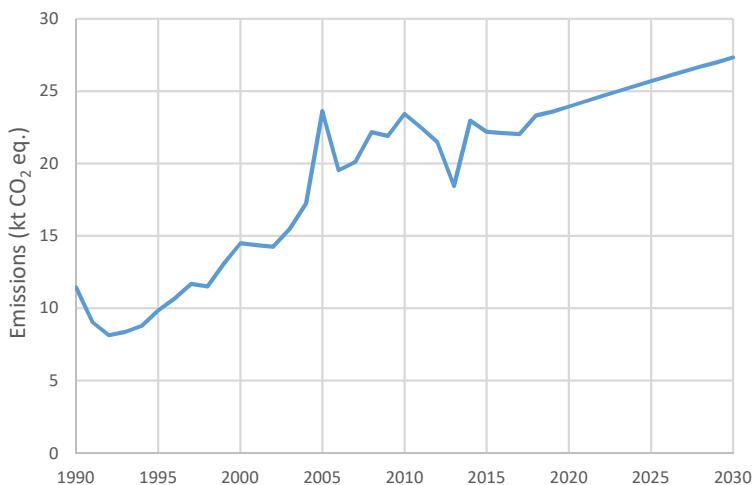


Figure 4.3 Development of the emissions from the controlled burning on MFL. CH₄ and N₂O summarized in CO₂ eq.

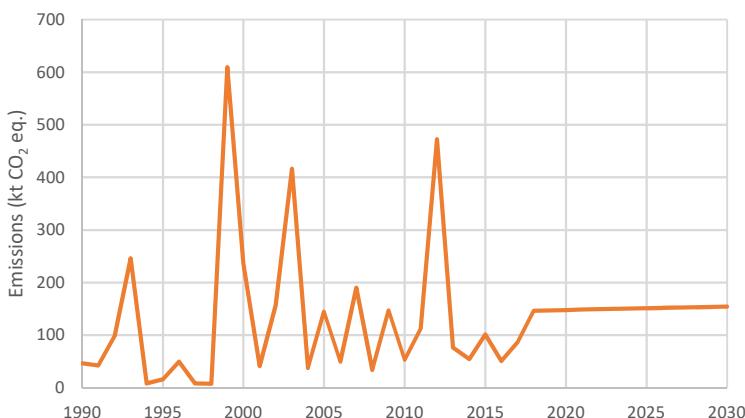


Fig. 4.4 Development of the emissions from the wildfires on MFL. CO₂, CH₄ and N₂O summarized in CO₂ eq.

Emissions from controlled burning show increasing trend after 2017 due to the increase of harvested volumes, especially volumes of broadleaves (from 3.1 mil. m³ in 2018 to almost 4 mil. m³ in 2030). Increased harvested volumes resulted in the increase of emissions from 23.3 in 2018 to 27.3 kt CO₂ in 2030.

Emissions from wildfires show increasing trend as well. The reason is the increasing mean value of growing stock, which was projected to increase due to age structure by cca 15 m³/ha to 260 m³/ha. The area of the wildfires was kept constant as an average from 2000-2017.

4.2: Consistency between the carbon pools and the latest national inventory report

Model used to construct the FRL was able to reproduce historical data from the GHGI. This ability was demonstrated in the chapter 3.3, part Model calibration. Trends in the data from GHGI were clearly followed by the model. No inconsistency was found between the last historical year and the first projected year (Fig. 4.1).

4.3 Calculated carbon pools and greenhouse gases for the forest reference level

The values of emissions and removals for the period 2021-2025 are listed in Tab. 4.4 by carbon pools. Averages were used to calculate FRL for Slovakia for the years 2021-2025.

Table 4.4 Emissions and removals by carbon pools included in forest reference level, 2021-2025

Carbon pool	2021	2022	2023	2024	2025	Average
Living biomass	-4128.94	-4015.85	-3899.18	-3679.10	-3459.36	-3836.48
Biomass burning	172.88	174.00	175.08	176.15	177.17	178.13
HWP	-1175.61	-1170.49	-1165.88	-1161.58	-1157.43	-1166.20
Total	-5131.66	-5012.34	-4889.98	-4664.53	-4439.63	-4827.63
Total without HWP	-3956.05	-3841.85	-3724.10	-3502.95	-3282.20	-3661.43

4.4 Forest reference level

Forest reference level including harvested wood products for Slovakia in the period 2021 – 2025 is -4827.63 kt CO₂ (Fig. 4.5). Forest reference level excluding harvested wood products is -3661.43 kt CO₂ (Fig. 4.6).

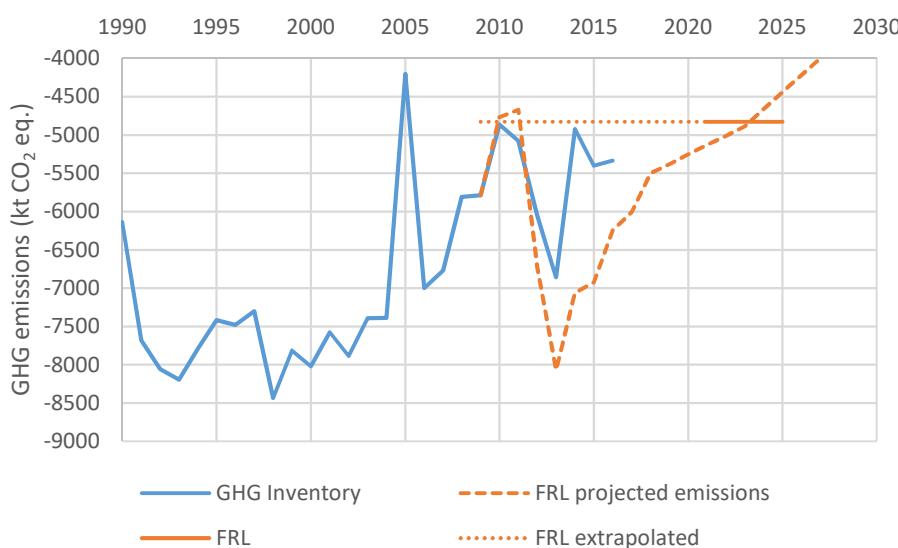


Fig. 4.5 Emissions from managed forest land (net change in living biomass and biomass burning) including HWP as reported in GHG Inventory, compared with FRL and emissions projected in construction of FRL.

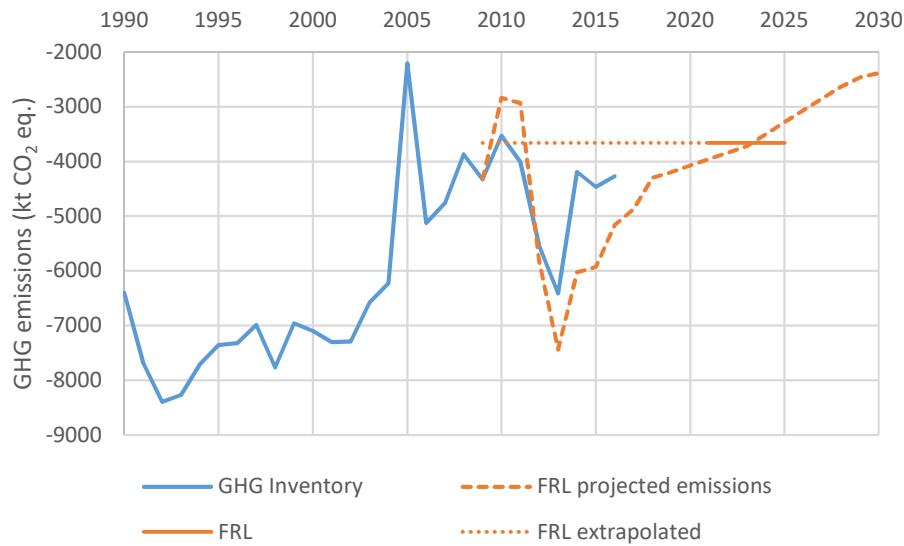


Fig. 4.6 Emissions from managed forest land (net change in living biomass and biomass burning) as reported in GHG Inventory, compared with FRL without HWP and emissions projected in construction of FRL.

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ANNEX

The Annex consists of Tables A.1 to A.18, which contain all the data used to describe the state of forests in Slovakia, a description of forest practice during the reference period as well as input data for the calculation of the forest reference level for the 2021-2025 compliance period. All data was obtained from the central forest database and from forest management plans.

Table A.1 Development of Managed forest land (MFL) area (ha) per strata during the reference period

Tree species	Area (ha)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Spruce	516877	517657	516629	513557	512616	511206	512739	507975	506801	504501	512056
Fir	81989	81284	81130	80510	79096	79036	79189	79428	79209	79502	80037
Pine	144805	144119	143007	141597	140892	140303	140924	139992	139287	139270	141420
Larch	44558	44865	45013	45284	45363	45482	46123	46505	46606	47097	45690
Other coniferous	20660	20660	20674	20680	20762	20786	20915	22167	22077	22096	21148
Beech	584256	588043	591098	595452	599669	603532	611443	613511	617502	624714	602922
Oaks	214896	214077	213538	212766	212331	212202	213695	213031	212928	212594	213206
Turkey oak	46720	47230	47480	47628	47798	47910	48369	48478	48720	49754	48009
Hornbeam	109240	109673	110403	110911	111117	111553	112423	113291	113739	114213	111656
Maple	34343	35156	35760	36362	37193	37745	38795	39626	40610	41989	37758
Ash	24802	25401	25749	26437	26923	27597	28233	28445	29061	29676	27232
Elm	776	761	768	746	745	739	734	748	735	698	745
Linden	6873	6976	7024	7114	7194	7276	7415	7508	7629	7733	7274
Locust	33741	33775	33613	33560	33495	33579	33730	33883	34018	34144	33754
Birch	26932	27218	27413	27445	27637	27469	27927	28299	28256	28720	27732
Alder	13863	14107	14270	14388	14421	14499	14748	14914	14979	15022	14521
Poplar	7017	7290	7285	7234	7374	7313	7361	7314	7310	7589	7308
Hybrid poplars	10762	10725	10694	10665	10171	9810	9791	9745	9647	9522	10153
Willows	2228	2234	2248	2264	2269	2097	2075	2107	2073	2053	2165
Other broadleaves	4422	4456	4587	4651	4912	5000	5316	6929	7078	7561	5491
Total MFL	1929759	1935707	1938383	1939252	1941977	1945133	1961945	1963896	1968266	1978447	

Table A.2 Development of tree species composition (%) per strata during the reference period

	Species composition (%)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Spruce	26,78	26,74	26,65	26,48	26,40	26,28	26,13	25,87	25,75	25,50	26,26
Fir	4,25	4,20	4,19	4,15	4,07	4,06	4,04	4,04	4,02	4,02	4,10
Pine	7,50	7,45	7,38	7,30	7,26	7,21	7,18	7,13	7,08	7,04	7,25
Larch	2,31	2,32	2,32	2,34	2,34	2,34	2,35	2,37	2,37	2,38	2,34
Other coniferous	1,07	1,07	1,07	1,07	1,07	1,07	1,07	1,13	1,12	1,12	1,08
Beech	30,28	30,38	30,49	30,71	30,88	31,03	31,17	31,24	31,37	31,58	30,91
Oak	11,14	11,06	11,02	10,97	10,93	10,91	10,89	10,85	10,82	10,75	10,93
Turkey oak	2,42	2,44	2,45	2,46	2,46	2,46	2,47	2,47	2,48	2,51	2,46
Hornbeam	5,66	5,67	5,70	5,72	5,72	5,73	5,73	5,77	5,78	5,77	5,72
Maple	1,78	1,82	1,84	1,88	1,92	1,94	1,98	2,02	2,06	2,12	1,94
Ash	1,29	1,31	1,33	1,36	1,39	1,42	1,44	1,45	1,48	1,50	1,40
Elm	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04
Linden	0,36	0,36	0,36	0,37	0,37	0,37	0,38	0,38	0,39	0,39	0,37
Locust	1,75	1,74	1,73	1,73	1,72	1,73	1,72	1,73	1,73	1,73	1,73
Birch	1,40	1,41	1,41	1,42	1,42	1,41	1,42	1,44	1,44	1,45	1,42
Alder	0,72	0,73	0,74	0,74	0,74	0,75	0,75	0,76	0,76	0,76	0,74
Poplar	0,36	0,38	0,38	0,37	0,38	0,38	0,38	0,37	0,37	0,38	0,37
Hybrid poplars	0,56	0,55	0,55	0,55	0,52	0,50	0,50	0,50	0,49	0,48	0,52
Willows	0,12	0,12	0,12	0,12	0,12	0,11	0,11	0,11	0,11	0,10	0,11
Other broadleaves	0,23	0,23	0,24	0,24	0,25	0,26	0,27	0,35	0,36	0,38	0,28

Table A.3 Development of growing stocks (m³) per strata during the reference period

	Growing stock (m3)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Spruce	141712490	143359734	144507459	144039490	146345326	147597645	149096308	148283240	149421093	149038552	146340134
Fir	24790543	24303988	24083740	24113955	24057483	24156856	24321984	24384308	24588102	24677083	24347804
Pine	26161089	26413799	26868112	27346064	27775520	27986168	28576592	28641880	29082162	29374297	27822568
Larch	6375949	6607459	6856591	7077393	7393902	7562913	7753454	7822570	8080227	8343733	7387419
Other coniferous	60781	60797	60819	60819	51126	50639	50729	59337	59357	61701	57611
Beech	126692586	129471527	133719058	136480877	138806069	140521939	142303859	143519702	146114680	148887220	138651752
Oak	38798189	38499688	38358219	39089176	39454810	39888332	40122284	40647663	41127508	41354033	39733990
Turkey oak	8404849	8571314	8609457	8748037	8932033	9175284	9183134	9551150	9638175	9899697	9071313
Hornbeam	16473389	17197498	18424677	19222424	19418408	19688214	19773265	20060742	20378597	20527591	19116481
Maple	4545208	4729143	4944114	5086383	5304814	5409189	5595960	5695225	5989261	6213823	5351312
Ash	4508643	4635094	4817404	4979604	5077111	5245433	5388351	5476275	5696340	5912310	5173657
Elm	163032	159408	163798	159686	160976	159995	159464	163106	158701	150170	159834
Linden	991192	1051066	1118291	1163334	1211469	1250418	1295642	1333895	1419879	1468076	1230326
Locust	3489840	3556283	3549929	3562621	3310137	3254885	3171537	3179686	3213162	3224452	3351253
Birch	1964111	2010453	2065689	2076623	2139431	2166609	2180632	2174190	2206882	2268433	2125305
Alder	1475882	1513609	1557461	1596003	1642291	1696081	1718491	1761468	1799409	1832718	1659341
Poplar	960210	994985	1000106	995852	1020365	1034660	1034640	1033269	1050280	1102726	1022709
Hybrid poplars	2006954	2000921	1995849	1982814	1774118	1524306	1506806	1503433	1481092	1460475	1723677
Willows	199349	199891	201296	203154	210189	213853	209034	210900	207363	207230	206226
Other broadleaves	253797	258819	283080	296678	314007	321657	338266	361674	376893	383366	318824
Total	410028083	415595476	423185149	428280987	434399585	438905076	443780432	445863713	452089163	456387686	

Table A.4 Development of growing stocks per ha (m³/ha) and per strata during the reference period

	Growing stock per ha (m ³)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Spruce	274,17	276,94	279,71	280,47	285,49	288,72	290,78	291,91	294,83	295,42	285,85
Fir	302,37	299,00	296,86	299,51	304,16	305,64	307,14	307,00	310,42	310,39	304,25
Pine	180,66	183,28	187,88	193,13	197,14	199,47	202,78	204,60	208,79	210,92	196,86
Larch	143,09	147,27	152,33	156,29	162,99	166,28	168,10	168,21	173,37	177,16	161,51
Other coniferous	2,94	2,94	2,94	2,94	2,46	2,44	2,43	2,68	2,69	2,79	2,72
Beech	216,84	220,17	226,22	229,21	231,47	232,83	232,73	233,93	236,62	238,33	229,84
Oak	180,54	179,84	179,63	183,72	185,82	187,97	187,76	190,81	193,15	194,52	186,38
Turkey oak	179,90	181,48	181,33	183,68	186,87	191,51	189,86	197,02	197,83	198,97	188,84
Hornbeam	150,80	156,81	166,89	173,31	174,76	176,49	175,88	177,07	179,17	179,73	171,09
Maple	132,35	134,52	138,26	139,88	142,63	143,31	144,24	143,73	147,48	147,99	141,44
Ash	181,78	182,48	187,09	188,36	188,58	190,07	190,85	192,52	196,02	199,23	189,70
Elm	210,19	209,36	213,17	213,97	216,01	216,45	217,11	217,96	215,85	215,26	214,53
Linden	144,21	150,66	159,20	163,54	168,39	171,86	174,73	177,66	186,11	189,85	168,62
Locust	103,43	105,29	105,61	106,16	98,83	96,93	94,03	93,84	94,45	94,44	99,30
Birch	72,93	73,86	75,35	75,67	77,41	78,88	78,08	76,83	78,10	78,98	76,61
Alder	106,46	107,30	109,14	110,93	113,88	116,98	116,53	118,11	120,13	122,00	114,15
Poplar	136,85	136,49	137,29	137,67	138,38	141,48	140,55	141,28	143,68	145,31	139,90
Hybrid poplars	186,49	186,56	186,63	185,92	174,43	155,38	153,89	154,27	153,53	153,38	169,05
Willows	89,46	89,50	89,55	89,72	92,63	101,97	100,75	100,12	100,01	100,96	95,47
Other broadleaves	57,39	58,08	61,72	63,79	63,93	64,34	63,63	52,20	53,25	50,70	58,90

Table A.5 Development of current annual increment per ha (m³/ha) and per strata during the reference period

	Current annual increment (m ³ /ha)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Spruce	7,73	7,76	7,79	7,83	7,92	8,02	8,10	8,11	8,17	8,22	7,97
Fir	6,65	6,66	6,68	6,67	6,74	6,83	6,91	6,91	6,98	7,00	6,80
Pine	5,60	5,58	5,63	5,71	5,77	5,89	5,92	5,97	6,05	6,13	5,83
Larch	4,62	4,70	4,79	4,87	5,01	5,11	5,17	5,12	5,31	5,47	5,02
Other coniferous	2,28	2,32	2,30	2,30	2,30	2,29	2,31	2,47	2,52	2,45	2,35
Beech	4,48	4,51	4,52	4,50	4,54	4,52	4,55	4,56	4,58	4,57	4,53
Oak	5,78	5,79	5,84	5,87	5,91	5,93	5,96	5,97	6,03	6,07	5,92
Turkey oak	5,39	5,41	5,50	5,63	5,66	5,69	5,67	5,69	5,75	5,78	5,62
Hornbeam	4,18	4,26	4,36	4,42	4,53	4,58	4,69	4,67	4,89	4,89	4,55
Maple	5,94	5,96	6,01	5,97	5,93	6,05	6,16	6,19	6,31	6,31	6,08
Ash	5,73	5,72	5,77	5,78	5,91	5,84	5,85	5,90	5,91	5,95	5,84
Elm	4,65	4,66	4,71	4,70	4,69	4,72	4,73	4,76	4,77	4,77	4,72
Linden	2,92	2,89	2,97	2,96	2,81	2,78	2,70	2,68	2,68	2,68	2,81
Locust	2,50	2,44	2,48	2,46	2,54	2,62	2,57	2,54	2,57	2,67	2,54
Birch	2,63	2,68	2,68	2,67	2,80	2,79	2,79	2,75	2,72	2,68	2,72
Alder	5,41	5,68	5,86	6,02	6,18	6,27	6,47	6,59	6,83	6,87	6,22
Poplar	8,38	8,38	8,38	8,38	8,38	8,38	8,38	8,38	8,38	8,38	8,38
Hybrid poplars	2,56	2,54	2,57	2,57	2,58	2,64	2,65	2,66	2,69	2,70	2,62
Willows	3,49	3,43	3,43	3,41	3,34	3,21	3,23	3,17	3,16	3,14	3,30
Other broadleaves	2,15	2,15	2,20	2,23	2,28	2,29	2,28	1,86	1,88	1,80	2,11

Table A.6 Development of growing stock, commercial thinning and final harvest (m³) per strata during the reference period

Tree species/year		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Spruce	Growing stock (m3) forest stands 40-90 yr.	97977282	97727639	97774744	96170089	96124904	95293251	94756593	93156537	92245897	90724204
	Growing stock (m3) forest stands >90 yr.	39603812	41181605	42041522	42974786	45228227	47039337	49010343	49701644	51642158	52628769
	Commercial thinning (m3)	932955	771313	794976	830062	915595	1116892	1189200	1018739	977497	794656
	Final harvest (m3)	1923344	1573737	1696394	1988083	2233462	4859015	3180105	3708557	4724003	4716100
	% of stock removals commercial thinning	1,27	1,05	1,09	1,16	1,26	1,56	1,66	1,44	1,39	1,14
	% of stock removals final harvest	3,01	2,39	2,53	2,95	3,24	6,88	4,41	5,14	6,44	6,38
Fir	Growing stock (m3) forest stands 40-90 yr.	12813430	12120022	11902547	11438451	10732509	10500159	10363959	10334202	9984008	9741213
	Growing stock (m3) forest stands >90 yr.	11649054	11824930	11800247	12282901	12923100	13234515	13539571	13624975	14159754	14473469
	Commercial thinning (m3)	48058	33822	33360	26584	27159	34146	24355	25016	25050	24317
	Final harvest (m3)	249435	260479	205616	176786	239594	283090	303116	254187	260260	252287
	% of stock removals commercial thinning	0,38	0,28	0,28	0,23	0,25	0,33	0,23	0,24	0,25	0,25
	% of stock removals final harvest	2,14	2,20	1,74	1,44	1,85	2,14	2,24	1,87	1,84	1,74
Pine	Growing stock (m3) forest stands 40-90 yr.	18013179	18091675	18241298	18186530	18321353	18368469	18646103	18512220	18544303	18658506
	Growing stock (m3) forest stands >90 yr.	6831855	7017103	7368773	7933907	8271388	8415931	8707256	8876861	9287217	9448425
	Commercial thinning (m3)	83257	75192	82405	68310	87022	77978	103717	76659	70803	60763
	Final harvest (m3)	141596	152382	148592	139967	165386	224988	220524	213582	179976	277054
	% of stock removals commercial thinning	0,46	0,42	0,45	0,38	0,47	0,42	0,56	0,41	0,38	0,33
	% of stock removals final harvest	2,07	2,17	2,02	1,76	2,00	2,67	2,53	2,41	1,94	2,93

Continuing of Table A.6

Larch	Growing stock (m3) forest stands 40-90 yr.	4239599	4385440	4548275	4644184	4824129	4911236	5049737	5062077	5160251	5317699
	Growing stock (m3) forest stands >90 yr.	1427430	1507359	1589965	1677863	1761739	1807855	1871091	1924088	2028960	2089550
	Commercial thinning (m3)	16237	24753	19240	18191	17352	20074	18796	17809	14977	14232
	Final harvest (m3)	24110	31737	34120	32139	37639	102173	53353	35110	42699	37180
	% of stock removals commercial thinning	0,38	0,56	0,42	0,39	0,36	0,41	0,37	0,35	0,29	0,27
	% of stock removals final harvest	1,69	2,11	2,15	1,92	2,14	5,65	2,85	1,82	2,10	1,78
Other coniferous	Growing stock (m3) forest stands 40-90 yr.	50666	50666	50688	50688	50954	50467	50558	59103	59123	61447
	Growing stock (m3) forest stands >90 yr.										
	Commercial thinning (m3)	3321	3660	80985	90653	88804	80646	9996	10553	9068	2468
	Final harvest (m3)	12673	4167	116504	146177	155301	226863	19105	28094	26162	10124
	% of stock removals commercial thinning	6,55	7,22	159,77	178,85	174,28	159,80	19,77	17,86	15,34	4,02
	% of stock removals final harvest										
Beech	Growing stock (m3) forest stands 40-90 yr.	91452607	92850181	95106830	95801152	96787700	96960320	97778609	98251289	99020883	100434335
	Growing stock (m3) forest stands >90 yr.	32742384	33867979	35688656	37628185	38893505	40372382	41239050	41967978	43606285	44832868
	Commercial thinning (m3)	422416	628967	551688	546642	518907	463845	458787	486137	454108	467999
	Final harvest (m3)	1261186	1424286	1240758	1288113	1495426	1481809	1562695	1524305	1543355	1477487
	% of stock removals commercial thinning	0,46	0,68	0,58	0,57	0,54	0,48	0,47	0,49	0,46	0,47
	% of stock removals final harvest	3,85	4,21	3,48	3,42	3,84	3,67	3,79	3,63	3,54	3,30

Continuing of Table A.6

Oak	Growing stock (m3) forest stands 40-90 yr.	31967191	31214184	30695186	30570337	30486425	30538236	30604740	30767424	30865655	30631935
	Growing stock (m3) forest stands >90 yr.	6402404	6821133	7169483	8025973	8459492	8822980	8991226	9332543	9699898	10148966
	Commercial thinning (m3)	132002	173502	161171	143835	132283	120175	133010	132735	131329	124651
	Final harvest (m3)	256351	243944	208617	206035	215437	228575	237878	243062	259380	238881
	% of stock removals commercial thinning	0,41	0,56	0,53	0,47	0,43	0,39	0,43	0,43	0,43	0,41
	% of stock removals final harvest	4,00	3,58	2,91	2,57	2,55	2,59	2,65	2,60	2,67	2,35
Turkey oak	Growing stock (m3) forest stands 40-90 yr.	7012807	7064759	7029264	7087892	7162387	7247317	7237278	7347415	7387319	7518659
	Growing stock (m3) forest stands >90 yr.	1329073	1436657	1496162	1575370	1684977	1832268	1850141	2086773	2136762	2264803
	Commercial thinning (m3)	36899	26956	28422	35907	26846	23637	28129	28223	24259	29762
	Final harvest (m3)	46294	46121	53658	89103	85502	98497	94425	107099	98731	112866
	% of stock removals commercial thinning	0,53	0,38	0,40	0,51	0,37	0,33	0,39	0,38	0,33	0,40
	% of stock removals final harvest	3,48	3,21	3,59	5,66	5,07	5,38	5,10	5,13	4,62	4,98
Hornbeam	Growing stock (m3) forest stands 40-90 yr.	13738382	14168742	15021136	15519730	15563624	15581843	15566877	15554486	15620283	15589045
	Growing stock (m3) forest stands >90 yr.	2384777	2636594	2946057	3210180	3343437	3567278	3648097	3855707	4039899	4168413
	Commercial thinning (m3)	58372	80507	83632	87141	76009	69239	67313	60760	55698	64246
	Final harvest (m3)	44888	66313	70566	83297	82528	96363	101007	95618	85318	98178
	% of stock removals commercial thinning	0,42	0,57	0,56	0,56	0,49	0,44	0,43	0,39	0,36	0,41
	% of stock removals final harvest	1,88	2,52	2,40	2,59	2,47	2,70	2,77	2,48	2,11	2,36

Continuing of Table A.6

Maple	Growing stock (m3) forest stands 40-90 yr.	2855641	2980639	3105271	3191019	3348805	3408392	3543904	3614257	3827017	3970901
	Growing stock (m3) forest stands >90 yr.	1378225	1401965	1461864	1497806	1543760	1572215	1601400	1621010	1663852	1720844
	Commercial thinning (m3)	11533	15224	13302	14155	11780	12491	12549	12012	11830	10192
	Final harvest (m3)	23193	30499	28543	28926	34250	28978	36229	31626	28320	23776
	% of stock removals commercial thinning	0,40	0,51	0,43	0,44	0,35	0,37	0,35	0,33	0,31	0,26
	% of stock removals final harvest	1,68	2,18	1,95	1,93	2,22	1,84	2,26	1,95	1,70	1,38
Ash	Growing stock (m3) forest stands 40-90 yr.	3714259	3812954	3939530	4046302	4117998	4215651	4305241	4373554	4513313	4665500
	Growing stock (m3) forest stands >90 yr.	568456	578856	612526	659024	672293	695649	722514	738685	790196	837783
	Commercial thinning (m3)	19662	21416	21768	20583	20325	16182	17127	16254	18683	16153
	Final harvest (m3)	25926	29922	27873	22232	26481	21429	23994	24748	29169	20027
	% of stock removals commercial thinning	0,53	0,56	0,55	0,51	0,49	0,38	0,40	0,37	0,41	0,35
	% of stock removals final harvest	4,56	5,17	4,55	3,37	3,94	3,08	3,32	3,35	3,69	2,39
Elm	Growing stock (m3) forest stands 40-90 yr.	97902	94248	97243	95362	97786	97014	97623	99981	99996	94797
	Growing stock (m3) forest stands >90 yr.	59136	59153	60273	58187	57079	57439	56886	57911	53557	50211
	Commercial thinning (m3)	1224	804	516	512	352	315	540	423	449	336
	Final harvest (m3)	1884	1123	714	992	1399	649	712	1067	996	726
	% of stock removals commercial thinning	1,25	0,85	0,53	0,54	0,36	0,32	0,55	0,42	0,45	0,35
	% of stock removals final harvest	3,19	1,90	1,18	1,70	2,45	1,13	1,25	1,84	1,86	1,45

Continuing of Table A.6

Linden	Growing stock (m3) forest stands 40-90 yr.	715055	752004	799407	833202	871093	891277	926414	956965	1032993	1074543
	Growing stock (m3) forest stands >90 yr.	168246	175997	188552	199031	214055	231690	242337	247645	260612	270228
	Commercial thinning (m3)	4557	5770	6702	4599	5149	4600	5059	5945	4582	4993
	Final harvest (m3)	2446	3002	3499	4300	2971	2431	4319	4925	3986	3401
	% of stock removals commercial thinning	0,64	0,77	0,84	0,55	0,59	0,52	0,55	0,62	0,44	0,46
	% of stock removals final harvest	1,45	1,71	1,86	2,16	1,39	1,05	1,78	1,99	1,53	1,26
Locust	Growing stock (m3) forest stands 40-90 yr.	2235845	2141039	2024691	1987687	1630580	1561961	1415226	1410224	1358470	1344824
	Growing stock (m3) forest stands >90 yr.	1116425	1265074	1361617	1412153	1494562	1506000	1555782	1567644	1646670	1670603
	Commercial thinning (m3)	13527	10794	10627	10841	11594	10947	11528	9059	9177	10083
	Final harvest (m3)	98996	144885	160848	182291	163362	134673	131434	118596	127702	109322
	% of stock removals commercial thinning	0,61	0,50	0,52	0,55	0,71	0,70	0,81	0,64	0,68	0,75
	% of stock removals final harvest	8,87	11,45	11,81	12,91	10,93	8,94	8,45	7,57	7,76	6,54
Birch	Growing stock (m3) forest stands 40-90 yr.	1590844	1617564	1653142	1662585	1694195	1697270	1703753	1685086	1687700	1720339
	Growing stock (m3) forest stands >90 yr.	185619	191987	200393	205588	220191	235400	237972	243592	261678	273896
	Commercial thinning (m3)	32660	33977	38753	32740	30096	22244	19250	20033	19694	18445
	Final harvest (m3)	6248	8734	8409	6560	6921	10370	14106	7878	9271	8386
	% of stock removals commercial thinning	2,05	2,10	2,34	1,97	1,78	1,31	1,13	1,19	1,17	1,07
	% of stock removals final harvest	3,37	4,55	4,20	3,19	3,14	4,41	5,93	3,23	3,54	3,06

Continuing of Table A.6

Alder	Growing stock (m3) forest stands 40-90 yr.	1040397	1066137	1094018	1130408	1169897	1211377	1231230	1276553	1304092	1330759
	Growing stock (m3) forest stands >90 yr.	192193	192477	197211	203439	207036	225827	230794	237244	252807	268398
	Commercial thinning (m3)	6150	7879	8343	7173	6725	7197	8030	8115	6652	5995
	Final harvest (m3)	2334	4564	4100	3576	5398	10260	8457	5864	3558	4156
	% of stock removals commercial thinning	0,59	0,74	0,76	0,63	0,57	0,59	0,65	0,64	0,51	0,45
	% of stock removals final harvest	1,21	2,37	2,08	1,76	2,61	4,54	3,66	2,47	1,41	1,55
Poplar	Growing stock (m3) forest stands <40 yr.	925507	959590	963314	959446	980787	988961	989138	979965	993727	1037327
	Growing stock (m3) forest stands >40 yr.	34703	35395	36792	36406	39578	45699	45502	53304	56553	65399
	Commercial thinning (m3)	7829	8787	9561	10722	9332	13702	8651	10415	8147	4861
	Final harvest (m3)	11852	34604	25390	19899	24206	80679	60768	80827	18331	35893
	% of stock removals commercial thinning	4,36	4,79	5,07	5,75	4,97	6,94	4,37	5,30	4,08	2,50
	% of stock removals final harvest	1,59	4,46	3,27	2,57	3,04	10,08	7,61	10,11	2,25	4,11
Hybrid poplars	Growing stock (m3) forest stands <40 yr.	1151670	1137922	1130142	1104930	891473	708964	689170	674308	673406	668767
	Growing stock (m3) forest stands >40 yr.	855284	862999	865707	877884	882645	815342	817636	829125	807686	791708
	Commercial thinning (m3)	11685	10854	16100	17787	8719	6400	4258	3769	19442	17891
	Final harvest (m3)	148207	133606	128634	126871	137505	101500	100896	51397	83159	74105
	% of stock removals commercial thinning	1,01	0,95	1,42	1,61	0,98	0,9	0,62	0,56	2,89	2,68
	% of stock removals final harvest	17,33	15,48	14,86	14,45	15,58	12,45	12,34	6,2	10,3	9,36

Continuing of Table A.6

Willows	Growing stock (m3) forest stands <40 yr.	196881	197482	198932	200741	207640	211252	206114	206904	203025	202669
	Growing stock (m3) forest stands >90 yr.	2468	2409	2364	2413	2549	2601	2920	3996	4338	4561
	Commercial thinning (m3)	1816	1447	1180	2193	1467	315	1735	1911	1324	2844
	Final harvest (m3)	2704	2829	5291	6397	3219	5018	2576	2370	2934	2796
	% of stock removals commercial thinning	1,69	1,34	1,08	1,98	1,21	0,24	1,35	1,46	1,03	2,21
	% of stock removals final harvest	109,56	117,43	223,82	265,11	126,28	192,93	88,22	59,31	67,63	61,3
Other broadleaves	Growing stock (m3) forest stands 40-90 yr.	180846	185625	204365	218019	232355	235993	247572	263669	276355	283191
	Growing stock (m3) forest stands >90 yr.	47199	47345	52377	54052	55209	57127	58445	64444	66748	66434
	Commercial thinning (m3)	31592	29628	62952	61827	58517	37289	33638	39670	34612	33884
	Final harvest (m3)	21404	13846	92992	85744	97750	50913	44377	35610	41092	32226
	% of stock removals commercial thinning	17,47	15,96	30,80	28,36	25,18	15,80	13,59	15,05	12,52	11,97
	% of stock removals final harvest	45,35	29,24	177,54	158,63	177,05	89,12	75,93	55,26	61,56	48,51

Table A.7 Development of age related forest characteristics for tree species strata in year 2000

species/year	2000	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3640	721824	3405932	5545471	9998522	16626229	18913264	22659320	24234476	16481904	8710587	5049129	2955159	2146320	1733917	2526796
	area (ha)	3315.50	40786.56	47148.50	38659.01	32456.46	39253.59	52629.33	51773.68	56064.71	55738.49	37227.68	20454.79	12458.29	8324.88	6686.49	5453.32	8446.10
	stocking	0.00	0.89	0.90	0.88	0.84	0.81	0.78	0.76	0.75	0.75	0.74	0.72	0.71	0.68	0.66	0.65	
	yield class	28.5	23.4	32.3	31.5	30.6	30.5	30.3	30.1	29.4	28.6	27.2	25.7	23.4	20.5	18.5	17.1	15.6
	stock per ha (m ³ /ha)	0.00	0.09	15.31	88.10	170.86	254.72	315.91	365.31	404.16	434.79	442.73	425.85	405.28	354.98	320.99	317.96	299.17
Fir	growing stock (m ³)	0	165	42779	285115	365394	676503	1285074	2251060	3343435	4891964	4250867	2740622	1819498	1034960	698808	549343	554956
	area (ha)	525.91	7253.65	6218.75	4584.86	2492.49	2855.16	4137.58	6412.83	8628.72	12012.18	10066.80	6240.51	3967.29	2408.52	1664.63	1252.79	1265.91
	stocking	0.00	0.89	0.91	0.88	0.85	0.80	0.76	0.73	0.72	0.71	0.70	0.69	0.70	0.68	0.67	0.68	0.68
	yield class	27.3	22.6	31.6	30.1	29.6	29.9	30.4	29.7	28.7	27.6	26.6	26.0	25.1	23.0	21.7	21.1	20.2
	stock per ha (m ³ /ha)	0.00	0.02	6.88	62.19	146.60	236.94	310.59	351.02	387.48	407.25	422.27	439.17	458.63	429.71	419.80	438.50	438.38
Pine	growing stock (m ³)	0	623	191419	1124013	1795931	2215859	2513406	3400018	3894790	4193175	3554637	1630606	783660	383019	202122	143754	134057
	area (ha)	928.85	12095.57	14301.76	14520.92	13170.99	12132.63	11381.14	13581.72	14580.98	14637.03	11864.55	5464.64	2731.25	1404.95	803.74	645.44	558.61
	stocking	0.00	0.87	0.88	0.85	0.83	0.79	0.77	0.77	0.75	0.75	0.76	0.74	0.70	0.69	0.66	0.65	0.68
	yield class	25.0	21.4	27.8	27.8	27.2	26.4	25.9	25.3	24.3	23.7	22.9	21.2	21.2	19.8	18.8	16.6	17.0
	stock per ha (m ³ /ha)	0.00	0.05	13.38	77.41	136.36	182.64	220.84	250.34	267.11	286.48	299.60	298.39	286.92	272.62	251.48	222.72	239.99
Larch	growing stock (m ³)	0	1480	129719	577721	800310	600944	760395	645324	636731	795895	606598	307754	176341	126999	75493	44584	89661
	area (ha)	285.81	8322.53	7994.42	6091.37	5140.51	2905.51	2977.10	2240.60	2005.75	2395.58	1699.15	888.70	511.80	385.60	230.60	161.03	321.53
	stocking	0.00	0.85	0.88	0.86	0.82	0.80	0.78	0.76	0.75	0.72	0.73	0.71	0.71	0.68	0.67	0.62	0.65
	yield class	25.8	21.1	25.0	28.1	28.1	27.9	27.8	27.4	27.7	27.3	26.8	25.9	24.4	23.6	22.8	21.7	20.5
	stock per ha (m ³ /ha)	0.00	0.18	16.23	94.84	155.69	206.83	255.41	288.01	317.45	332.23	357.00	346.30	344.55	329.36	327.38	276.87	278.86
Other coniferous	growing stock (m ³)	0	0	9	253	1148	1767	1459	4195	3410	4508	6657	4014	1324	5928	4916	8295	12898
	area (ha)	132.52	223.54	1540.44	1445.48	933.18	420.77	392.32	391.78	1023.78	1277.61	1930.97	1630.49	2259.88	1346.72	2077.52	1603.74	2028.79
	stocking	0.00	0.46	0.53	0.58	0.61	0.55	0.57	0.67	0.70	0.74	0.78	0.76	0.77	0.76	0.74	0.76	0.73
	yield class	19.8	18.1	20.0	19.9	19.8	19.7	19.8	19.8	19.4	19.9	19.7	19.4	20.1	19.8	19.9	19.8	19.8
	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.18	1.23	4.20	3.72	10.71	3.33	3.53	3.45	2.46	0.59	4.40	2.37	5.17	6.36
Beech	growing stock (m ³)	0	4706	261922	2230967	4557753	8093121	12459247	14211026	16615637	19048439	16467384	11430303	7622192	4830697	3500974	2567819	2790399
	area (ha)	3747.69	38960.16	47248.83	38692.36	35353.09	45537.42	56462.45	56299.91	58413.77	60810.64	48453.09	31600.29	21536.43	14220.46	10772.49	7867.94	8278.47
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.78	0.77	0.77	0.78	0.78	0.76	0.73	0.71	0.71	0.72
	yield class	24.9	20.9	27.8	27.2	27.2	26.6	26.2	25.5	25.3	24.9	24.2	23.6	21.9	20.5	19.0	17.9	16.9
	stock per ha (m ³ /ha)	0.00	0.12	5.54	57.66	128.92	177.72	220.66	252.42	284.45	313.24	339.86	361.72	353.92	339.70	324.99	326.36	337.07
Oak	growing stock (m ³)	0	442	65539	362613	682361	2766695	5457498	6247056	6261530	5676180	4875871	3248446	1420982	691861	410791	275147	355177
	area (ha)	1378.45	9917.34	10086.12	7713.83	6684.37	18520.58	31520.92	31869.33	28373.67	24347.23	19479.99	12597.40	5319.94	2666.85	1624.20	1153.48	1642.38
	stocking	0.00	0.88	0.90	0.88	0.84	0.81	0.79	0.78	0.77	0.76	0.77	0.76	0.73	0.72	0.71	0.71	0.67
	yield class	23.1	20.1	25.9	24.9	25.0	24.7	23.9	23.2	23.2	22.7	22.3	21.7	21.1	19.8	18.9	17.5	16.00
	stock per ha (m ³ /ha)	0.00	0.04	6.50	47.01	102.08	149.38	173.14	196.02	220.68	233.13	250.30	257.87	267.11	259.43	252.92	238.54	216.26
Turkey oak	growing stock (m ³)	0	71	10835	52063	210216	878395	1567347	1843847	1582582	930420	618045	371165	155645	83278	41690	25022	34228
	area (ha)	299.69	1360.86	1555.26	1035.27	1842.87	5806.78	9127.80	9462.26	7106.68	3982.43	2395.01	1440.58	553.70	300.27	164.73	110.17	175.97
	stocking	0.00	0.91	0.92	0.85	0.81	0.80	0.78	0.78	0.79	0.78	0.78	0.76	0.76	0.75	0.71	0.69	0.67
	yield class	23.2	19.6	24.1	25.0	25.3	24.8	23.6	23.0	23.2	22.2	22.5	21.5	21.7	19.9	18.6	16.7	14.7
	stock per ha (m ³ /ha)	0.00	0.05	6.97	50.29	114.07	151.27	171.71	194.86	222.69	233.63	258.06	257.65	281.10	277.35	253.08	227.13	194.51
Hornbeam	growing stock (m ³)	0	376	50145	299709	745465	1864537	3042695	3177410	2801481	2106794	1197924	566375	287208	148373	80022	48142	56733
	area (ha)	700.72	4143.65	7811.10	5890.22	7496.49	14203.43	19031.63	16988.43	13858.59	9290.49	4943.31	2323.19	1166.09	622.10	327.96	201.69	240.59
	stocking	0.00	0.91	0.91	0.88	0.83	0.79	0.78	0.78	0.77	0.75	0.75	0.76	0.75	0.72	0.70	0.69	0.70
	yield class	21.8	19.9	27.7	26.0	24.4	22.7	21.7	21.3	20.2	19.9	18.7	17.5	16.6	15.4	14.8	13.0	12.4
	stock per ha (m ³ /ha)	0.00	0.09	6.42	50.88	99.44	131.27	159.88	187.03	202.15	226.77	242.33	243.79	246.30	238.50	244.00	238.69	235.81

Continuing of Table A.7

Maple	growing stock (m ³)	0	1092	48839	261411	315418	375449	496622	443913	378893	417880	427466	374613	307817	205113	161911	151266	177505
	area (ha)	220.29	6425.37	6076.39	3995.25	2444.96	2176.13	2321.44	1900.83	1450.70	1450.87	1420.80	1186.45	955.05	671.59	545.61	514.23	587.15
	stocking	0.00	0.88	0.90	0.87	0.83	0.80	0.79	0.77	0.76	0.75	0.75	0.75	0.75	0.72	0.69	0.68	0.69
	yield class	24.6	21.0	28.5	28.5	27.9	26.7	25.8	24.3	23.8	23.5	22.3	21.5	20.5	18.8	17.8	16.9	15.7
	stock per ha (m ³ /ha)	0.00	0.17	8.04	65.43	129.01	172.53	213.93	233.54	261.18	288.02	300.86	315.74	322.30	305.41	296.75	294.16	302.32
Ash	growing stock (m ³)	0	1778	53151	170999	251733	638779	871339	746527	519490	373921	312470	214502	149777	78614	56548	36025	32990
	area (ha)	159.09	3477.44	3438.93	2168.80	1563.15	2881.23	3251.60	2632.62	1709.08	1113.61	880.04	567.66	376.47	200.04	155.68	118.36	108.64
	stocking	0.00	0.88	0.89	0.86	0.84	0.81	0.80	0.79	0.77	0.76	0.77	0.78	0.78	0.73	0.64	0.64	0.64
	yield class	27.9	21.6	30.8	30.3	31.0	31.0	30.2	28.0	26.7	26.5	25.3	24.4	24.1	22.0	20.7	18.4	17.1
	stock per ha (m ³ /ha)	0.00	0.51	15.46	78.85	161.04	221.70	267.97	283.57	303.96	335.78	355.07	377.87	397.85	393.00	363.22	304.36	303.66
Elm	growing stock (m ³)	0	0	747	5247	5144	15238	21615	19831	13618	9898	12558	16003	10986	7410	8030	9599	7108
	area (ha)	4.98	45.30	54.78	67.25	41.07	87.39	97.18	81.04	47.40	33.13	45.25	48.22	32.39	22.15	21.75	25.73	20.64
	stocking	0.00	0.87	0.90	0.87	0.79	0.72	0.79	0.77	0.77	0.74	0.72	0.75	0.74	0.72	0.75	0.71	0.71
	yield class	25.1	20.5	30.2	29.3	27.5	28.6	26.4	25.0	24.9	23.9	21.8	22.8	21.9	20.4	19.8	17.4	
	stock per ha (m ³ /ha)	0.00	0.00	13.64	78.02	125.26	174.37	222.42	244.70	287.27	298.73	277.55	331.88	339.18	334.60	369.13	373.05	344.39
Linden	growing stock (m ³)	0	285	16638	90968	84559	84474	118537	110776	121916	110745	84048	57959	40698	28683	17571	12038	11297
	area (ha)	44.09	535.42	1002.92	1195.05	627.21	454.14	555.35	569.87	525.45	416.13	310.95	211.87	161.73	107.20	68.82	46.73	40.42
	stocking	0.00	0.88	0.89	0.87	0.84	0.80	0.79	0.75	0.73	0.73	0.74	0.73	0.70	0.72	0.65	0.65	0.67
	yield class	25.4	21.0	29.8	29.8	28.2	27.7	25.9	22.5	22.8	22.6	20.6	19.5	17.0	16.9	15.8	15.2	15.0
	stock per ha (m ³ /ha)	0.00	0.53	16.59	76.12	134.82	186.01	213.44	194.39	232.02	266.13	270.29	273.56	251.64	267.56	255.33	257.60	279.46
Locust	growing stock (m ³)	0	14295	123275	247115	807813	1180917	684808	228374	119867	37621	28766	9292	5857	1339	212	16	273
	area (ha)	0	14295	123275	247115	807813	1180917	684808	228374	119867	37621	28766	9292	5857	1339	212	16	273
	stocking	0.00	0.89	0.89	0.79	0.78	0.78	0.75	0.75	0.73	0.73	0.76	0.72	0.79	0.71	0.76	0.67	0.81
	yield class	19.3	19.9	17.7	18.7	19.7	19.4	19.3	19.1	18.5	18.0	18.5	18.9	18.6	19.3	17.9	16.1	18.0
	stock per ha (m ³ /ha)	0.00	4.26	45.75	83.78	116.88	125.48	130.36	133.26	218.12	113.94	127.51	125.43	134.53	154.13	119.93	88.50	140.84
Birch	growing stock (m ³)	0	799	45719	141130	249634	394150	466112	305563	175385	89497	42203	24026	14327	7779	4884	1531	1372
	area (ha)	172.76	2230.75	4080.39	3334.03	3555.62	4142.45	4102.46	2452.51	1374.46	689.30	322.82	194.15	132.14	69.94	48.94	13.73	15.76
	stocking	0.00	0.84	0.83	0.77	0.74	0.75	0.72	0.74	0.73	0.72	0.71	0.71	0.67	0.65	0.63	0.68	0.63
	yield class	16.9	19.5	17.2	17.3	17.0	16.7	16.5	16.0	15.6	15.6	15.9	15.8	14.9	15.6	15.1	15.7	13.4
	stock per ha (m ³ /ha)	0.00	0.36	11.20	42.33	70.21	95.15	113.62	124.59	127.60	129.84	130.73	123.75	108.42	111.22	99.79	111.51	87.07
Alder	growing stock (m ³)	0	3118	48434	191740	302365	245236	216623	152339	123834	83799	50999	28359	17011	7363	2713	1214	735
	area (ha)	88.92	726.32	1640.02	2413.87	2925.19	2023.68	1500.50	891.55	679.70	417.67	261.09	150.50	83.36	34.87	15.78	5.65	4.05
	stocking	0.00	0.82	0.79	0.77	0.75	0.73	0.74	0.77	0.77	0.80	0.80	0.75	0.79	0.82	0.73	0.75	0.65
	yield class	17.9	19.2	17.6	17.0	16.8	17.3	18.3	19.4	19.7	20.6	20.3	20.5	20.9	20.9	19.6	21.1	20.9
	stock per ha (m ³ /ha)	0.00	4.29	29.53	79.43	103.37	121.18	144.37	170.87	182.19	200.64	195.33	188.43	204.07	211.15	171.95	214.70	181.59
Poplar	growing stock (m ³)	0	2661	32442	70376	109329	196393	256258	139416	79390	39242	18490	10071	3873	1277	741	167	84
	area (ha)	45.01	257.83	532.76	653.43	879.21	1267.62	1569.67	890.50	484.35	249.46	96.06	51.50	23.90	7.49	6.01	0.80	0.93
	stocking	0.00	0.80	0.77	0.74	0.68	0.74	0.74	0.74	0.74	0.70	0.72	0.69	0.71	0.63	0.59	0.71	0.65
	yield class	18.9	18.8	18.3	19.0	18.8	18.9	19.0	18.7	19.4	19.3	20.5	21.0	18.4	17.9	17.8	18.8	18.0
	stock per ha (m ³ /ha)	0.00	10.32	60.89	107.70	124.35	154.93	163.26	156.56	163.91	157.31	192.49	195.54	162.03	170.44	123.38	207.85	89.93
Hybrid poplars	growing stock (m ³)	0	21525	298760	831385	725873	79460	33114	10248	3363	1925	473	609	178	41	0	0	0
	area (ha)	69.03	1645.26	1973.00	3641.32	2981.64	270.12	122.84	35.33	11.82	6.74	1.53	2.51	0.68	0.16	0.00	0.00	0.00
	stocking	0.00	0.84	0.84	0.80	0.78	0.78	0.74	0.74	0.74	0.69	0.69	0.68	0.56	0.00	0.00	0.00	0.00
	yield class	25.5	21.3	26.4	27.0	25.4	25.5	24.4	26.0	24.9	26.4	24.4	23.7	17.5	26.6	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	13.08	151.42	228.32	243.45	294.17	269.57	290.04	284.49	285.64	309.84	242.55	260.63	255.14	0.00	0.00	0.00

Continuing of Table A.7

	growing stock (m ³)	0	2378	32598	54253	47298	29622	18336	10357	2039	1168	779	206	203	89	22	0	1	
Willows	area (ha)	14.29	265.39	513.62	534.84	484.97	209.31	115.27	56.60	14.18	11.02	4.70	1.27	1.65	0.79	0.44	0.00	0.00	
	stocking	0.00	0.79	0.76	0.71	0.65	0.66	0.67	0.70	0.66	0.63	0.69	0.67	0.55	0.48	0.25	0.00	0.00	
	yield class	18.8	18.2	18.8	19.1	17.7	19.3	20.0	21.1	19.7	18.8	18.6	20.3	19.3	18.2	18.2	0.0	0.0	
	stock per ha (m ³ /ha)	0.00	8.96	63.47	101.44	97.53	141.53	159.07	182.97	143.78	106.01	165.73	162.79	123.25	112.17	49.78	0.00	0.00	
	growing stock (m ³)	0	232	6413	19107	29161	41302	37006	18772	22864	16546	15195	16065	12533	5077	4821	3819	4884	
Other broadleaves	area (ha)	28.37	744.46	699.10	562.30	517.26	473.40	324.79	151.22	162.04	137.83	110.46	139.02	112.85	57.93	64.86	62.31	73.91	
	stocking	0	0.87	0.88	0.79	0.75	0.73	0.71	0.72	0.72	0.66	0.69	0.74	0.71	0.74	0.66	0.75	0.69	
	yield class	17.2	18.8	18.4	19.2	17.2	17.8	18.2	16.9	16.5	15.3	14.7	12.7	12.2	11.0	10.9	10.1	10.5	
	stock per ha (m ³ /ha)	0.00	0.31	9.17	33.98	56.38	87.25	113.94	124.13	141.10	120.05	137.56	115.56	111.06	87.64	74.33	61.29	66.08	
	growing stock (m ³)	0	5908	1085750	5393034	8508254	13493595	21186563	25213861	30537686	34120018	24900663	13393583	7829952	4506065	3127659	2479893	3318368	
Coniferous	Broadleaves	area (ha)	0	32233	796697	4197698	8398249	16804308	25714043	27655207	28818526	28942150	24152198	16367385	10049109	6096953	4290930	3131805	3472786
Total		stock per ha (m ³ /ha)	0	38141	1882447	9590732	16906503	30297903	46900606	52869068	59356212	63062168	49052861	29760968	17879061	10603018	7418589	5611698	6791154
Coniferous		growing stock (m ³)	5189	68682	77204	65302	54194	57568	71517	74401	82304	86061	62789	34679	21929	13871	11463	9116	12621
Broadleaves	area (ha)	7190	74091	89408	74847	74309	107465	135357	125996	114761	103287	78951	50589	30500	18991	13819	10121	11191	
Total		stock per ha (m ³ /ha)	12378	142773	166612	140149	128502	165033	206875	200396	197065	189348	141740	85268	52428	32861	25282	19237	23812
Coniferous	Broadleaves	0.00	0.09	14.06	82.59	157.00	234.40	296.24	338.89	371.04	396.46	396.58	386.21	357.07	324.86	272.85	272.03	262.93	
Broadleaves		0.00	0.73	12.25	67.19	122.79	157.11	190.22	219.57	251.15	280.23	305.92	323.55	329.49	321.05	310.51	309.44	310.32	
Total		0.00	0.42	13.09	74.36	137.21	184.07	226.87	263.87	301.22	333.06	346.08	349.04	341.02	322.66	293.43	291.71	285.20	

Table A.8 Development of age related forest characteristics for tree species strata in year 2001

species/year	2001	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3189	784697	3662604	5691879	9687256	16741626	18986315	22081216	24539347	17604856	8853305	5182299	3045378	2152755	1650316	2692696
	area (ha)	3235.07	39181.04	47875.75	39838.29	33098.36	37916.08	52561.85	51693.34	54447.21	56138.53	39162.73	20638.95	12714.53	8467.16	6681.52	5128.90	8877.53
	stocking	0.00	0.89	0.90	0.88	0.84	0.81	0.78	0.76	0.75	0.75	0.74	0.72	0.71	0.68	0.66	0.67	0.65
	yield class	28.7	24.5	32.7	31.7	30.6	30.5	30.4	30.0	29.4	28.6	27.5	25.8	23.5	20.7	18.5	17.1	15.7
	stock per ha (m ³ /ha)	0.00	0.08	16.39	91.94	171.97	255.49	318.51	367.29	405.55	437.12	449.53	428.96	407.59	359.67	322.20	321.77	303.32
Fir	growing stock (m ³)	0	197	45801	313038	395790	654915	1231808	2097470	3068589	4671450	4312093	2790459	1914463	1004389	699915	521234	582377
	area (ha)	507.98	6937.46	6303.31	4710.41	2664.96	2780.17	3996.31	6055.99	8095.57	11678.54	10323.50	6432.63	4190.17	2365.74	1680.45	1206.80	1354.33
	stocking	0.00	0.89	0.91	0.88	0.85	0.80	0.76	0.73	0.72	0.71	0.71	0.69	0.70	0.68	0.68	0.69	0.69
	yield class	27.6	23.4	32.3	30.4	29.9	29.9	30.6	29.9	28.8	27.7	26.7	26.2	25.2	23.1	21.8	21.3	20.3
	stock per ha (m ³ /ha)	0.00	0.03	7.27	66.46	148.52	235.57	308.24	346.35	379.05	400.00	417.70	433.80	456.89	424.56	416.50	431.92	430.01
Pine	growing stock (m ³)	0	509	183874	1120638	1824441	2209749	2571866	3377450	3850193	4257976	3659023	1680104	790490	392846	191418	161866	141356
	area (ha)	900.66	11080.08	14464.42	14467.88	13301.90	12025.27	11565.93	13440.76	14314.42	14692.70	12119.58	5566.53	2731.72	1418.27	742.91	700.95	584.68
	stocking	0.00	0.88	0.87	0.85	0.83	0.79	0.77	0.77	0.75	0.76	0.76	0.74	0.71	0.70	0.66	0.66	0.68
	yield class	25.0	21.7	27.8	27.8	27.2	26.5	25.8	25.4	24.3	23.7	23.0	22.5	21.2	19.8	18.9	16.8	17.0
	stock per ha (m ³ /ha)	0.00	0.05	12.71	77.46	137.16	183.76	222.37	251.28	268.97	289.80	301.91	301.82	289.37	276.99	257.66	230.92	241.77
Larch	growing stock (m ³)	0	1345	132605	580710	866423	624579	808024	678577	614188	793649	633246	350431	183272	127442	74908	45142	92918
	area (ha)	280.38	7721.99	8332.04	6057.20	5457.86	2965.56	3085.68	2335.45	1910.31	2372.33	1751.74	970.00	525.89	383.77	228.03	157.35	329.66
	stocking	0.00	0.85	0.88	0.86	0.82	0.80	0.78	0.76	0.74	0.72	0.73	0.72	0.72	0.68	0.67	0.62	0.66
	yield class	26.0	21.7	24.9	28.1	28.1	27.9	28.0	27.4	27.7	27.1	26.9	26.3	24.5	23.5	22.7	21.8	20.6
	stock per ha (m ³ /ha)	0.00	0.17	15.92	95.87	158.75	210.61	261.86	290.56	321.51	334.54	361.50	361.27	348.50	332.08	328.50	286.90	281.86
Other coniferous	growing stock (m ³)	0	0	9	269	1148	1767	1459	4195	3410	4508	6657	4014	1324	5928	4916	8295	12898
	area (ha)	129.11	223.12	1528.01	1451.09	944.64	420.76	392.31	391.77	1023.75	1277.58	1930.92	1630.45	2259.82	1346.69	2077.47	1599.15	2033.48
	stocking	0.00	0.46	0.53	0.58	0.62	0.55	0.57	0.67	0.70	0.74	0.78	0.76	0.77	0.76	0.74	0.76	0.73
	yield class	19.8	18.1	20.0	19.9	19.8	19.7	19.8	19.8	19.4	19.9	19.7	19.4	20.1	19.8	19.9	19.8	19.8
	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.19	1.22	4.20	3.72	10.71	3.33	3.53	3.45	2.46	0.59	4.40	2.37	5.19	6.34
Beech	growing stock (m ³)	0	4511	285415	2463441	4829263	8110204	12602223	14444179	16573300	19343138	16947874	11996922	7971458	4801970	3465449	2572211	3059969
	area (ha)	3674.94	39349.00	48133.90	39168.96	35974.77	44513.78	56303.58	56555.42	58123.36	61193.96	49428.85	32614.27	22175.25	13936.11	10402.46	7586.50	8907.74
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.77	0.78	0.79	0.76	0.74	0.72	0.72	0.72	0.72
	yield class	25.0	21.5	27.9	27.4	27.3	26.7	26.4	25.7	25.4	25.1	24.4	23.8	22.1	20.5	19.1	18.1	17.0
	stock per ha (m ³ /ha)	0.00	0.11	5.93	62.89	134.24	182.20	223.83	255.40	285.14	316.10	342.87	367.84	359.48	344.57	333.14	339.05	343.52
Oak	growing stock (m ³)	0	436	68822	395113	686743	2458018	5180635	5896240	6263803	5715743	5013002	3465175	1564996	682340	446521	290618	371483
	area (ha)	1337.86	9823.80	10178.54	7762.08	6676.62	16684.90	30363.66	30933.66	28927.62	24839.83	20221.06	13360.86	5706.27	2664.20	1703.36	1196.78	1695.54
	stocking	0.00	0.88	0.90	0.88	0.85	0.81	0.79	0.78	0.77	0.76	0.77	0.76	0.74	0.74	0.73	0.73	0.68
	yield class	23.2	20.6	26.0	25.2	25.2	24.9	24.1	23.4	23.5	22.8	22.2	21.8	21.5	19.8	19.4	17.6	16.2
	stock per ha (m ³ /ha)	0.00	0.04	6.76	50.90	102.86	147.32	170.62	190.61	216.53	230.10	247.91	259.35	274.26	256.11	262.14	242.83	219.09
Turkey oak	growing stock (m ³)	0	87	12552	57259	146667	770119	1564814	1834511	1731700	1016948	678739	401074	158681	82437	52156	27615	35955
	area (ha)	295.16	1403.11	1573.29	1066.70	1333.44	4947.97	9110.28	9543.69	7907.71	4472.80	2682.32	1522.57	565.35	303.69	192.90	123.36	185.31
	stocking	0.00	0.92	0.92	0.85	0.81	0.80	0.79	0.79	0.78	0.79	0.78	0.78	0.76	0.74	0.69	0.67	0.67
	yield class	23.4	20.3	24.3	25.2	25.2	24.1	24.1	23.3	23.5	22.2	22.2	21.7	21.4	19.7	19.6	16.7	14.7
	stock per ha (m ³ /ha)	0.00	0.06	7.98	53.68	109.99	155.64	171.76	192.22	218.99	227.36	253.04	263.42	280.68	271.46	270.38	223.86	194.03
Hornbeam	growing stock (m ³)	0	357	54774	337031	793366	1813573	3123437	3274956	2936636	2226774	1319230	647065	302164	164162	89421	51908	62644
	area (ha)	685.39	4278.71	7975.25	5898.81	7440.64	13344.88	18854.79	17056.32	14146.97	9543.66	5275.33	2534.27	1157.56	665.74	345.90	209.14	259.21
	stocking	0.00	0.91	0.91	0.88	0.83	0.83	0.79	0.78	0.77	0.75	0.75	0.72	0.76	0.74	0.71	0.71	0.70
	yield class	22.0	20.1	27.7	26.2	24.6	22.8	21.9	21.5	20.4	20.1	18.8	17.7	16.8	15.4	14.9	13.2	12.4
	stock per ha (m ³ /ha)	0.00	0.08	6.87	57.14	106.63	135.90	165.66	192.01	207.58	233.33	250.08	255.33	261.03	246.59	258.52	248.20	241.67

Continuing of Table A.8

Maple	growing stock (m ³)	0	686	52190	293663	351527	396336	512513	464350	379849	430271	445793	373880	318436	205967	157280	146344	200058
	area (ha)	219.70	6470.28	6212.84	4145.26	2649.37	2252.84	2386.39	1981.16	1454.98	1480.86	1460.53	1162.97	981.81	665.60	518.08	475.11	638.14
	stocking	0.00	0.88	0.89	0.87	0.83	0.80	0.79	0.77	0.76	0.75	0.75	0.75	0.75	0.72	0.70	0.69	0.70
	yield class	24.8	21.5	28.5	28.6	28.0	26.9	25.9	24.4	23.9	23.6	22.5	21.7	20.5	18.9	17.8	17.1	16.0
	stock per ha (m ³ /ha)	0.00	0.11	8.40	70.84	132.68	175.93	214.77	234.38	261.07	290.55	305.23	321.49	324.34	309.45	303.58	308.02	313.50
Ash	growing stock (m ³)	0	1710	55687	185887	274692	643895	881210	761803	525480	388778	337096	216960	152525	81428	56091	37685	34167
	area (ha)	158.74	3614.07	3565.95	2209.63	1668.55	2863.98	3280.96	2677.21	1732.72	1150.25	931.86	570.39	386.37	205.18	153.62	121.46	109.64
	stocking	0.00	0.88	0.89	0.86	0.84	0.81	0.80	0.79	0.77	0.77	0.77	0.78	0.78	0.78	0.73	0.64	0.64
	yield class	28.1	22.2	30.8	30.5	31.1	31.1	30.3	28.1	26.7	26.5	25.7	24.4	24.0	22.1	20.6	18.4	17.2
	stock per ha (m ³ /ha)	0.00	0.47	15.62	84.13	164.63	224.83	268.58	284.55	303.27	337.99	361.74	380.37	394.76	396.86	365.13	310.26	311.63
Elm	growing stock (m ³)	0	0	743	5264	5583	14986	18004	20867	12363	10584	11861	16475	10570	7334	8003	9526	7245
	area (ha)	4.76	40.99	56.94	66.50	43.49	85.45	84.43	87.03	44.91	35.18	39.40	51.69	31.47	21.60	21.35	25.26	20.97
	stocking	0.00	0.88	0.90	0.87	0.79	0.71	0.77	0.77	0.76	0.75	0.73	0.75	0.74	0.73	0.75	0.72	0.71
	yield class	25.2	20.9	30.3	29.3	27.8	28.7	26.7	24.9	24.6	24.4	22.8	22.3	21.8	20.4	20.5	19.8	17.5
	stock per ha (m ³ /ha)	0.00	0.00	13.05	79.16	128.38	175.38	213.23	239.76	275.27	300.84	301.05	318.71	335.93	339.49	374.82	377.14	345.49
Linden	growing stock (m ³)	0	202	17092	105771	102229	87537	122417	114648	121596	105632	97945	62080	41144	30887	17497	12475	11914
	area (ha)	43.60	455.50	987.10	1241.89	725.97	465.45	570.30	583.70	515.14	396.88	344.10	217.65	158.29	115.37	66.15	46.86	42.49
	stocking	0.00	0.89	0.89	0.87	0.84	0.80	0.79	0.75	0.74	0.73	0.75	0.74	0.73	0.75	0.72	0.67	0.67
	yield class	25.6	21.4	29.5	29.9	28.7	27.8	26.0	22.6	23.0	22.5	21.2	19.8	17.3	16.7	15.8	15.3	15.1
	stock per ha (m ³ /ha)	0.00	0.44	17.32	85.17	140.82	188.07	214.65	196.42	236.04	266.16	284.64	285.23	259.93	267.73	264.49	266.21	280.38
Locust	growing stock (m ³)	0	12520	137650	226810	739964	1174265	780209	264892	131388	41602	29354	9334	6298	1483	163	78	273
	area (ha)	211.08	3326.20	2926.08	2663.51	6231.34	9239.42	5828.49	1985.65	639.80	359.22	230.31	73.03	47.39	9.99	1.25	0.75	1.94
	stocking	0.00	0.90	0.89	0.80	0.78	0.78	0.76	0.75	0.74	0.73	0.76	0.73	0.78	0.70	0.77	0.68	0.81
	yield class	19.3	20.1	18.0	18.6	19.7	19.4	19.5	19.0	18.4	18.1	18.5	19.0	18.4	19.0	18.3	17.6	18.0
	stock per ha (m ³ /ha)	0.00	3.76	47.04	85.15	118.75	127.09	133.86	133.40	205.36	115.81	127.45	127.80	132.89	148.40	130.89	103.55	140.84
Birch	growing stock (m ³)	0	1012	50569	149321	258847	384536	467434	316608	190139	92612	44015	25084	15189	7558	4713	1377	1439
	area (ha)	170.10	2176.38	4269.87	3469.02	3595.56	4017.99	4060.94	2509.54	1456.81	702.16	325.61	192.97	131.01	66.95	45.26	11.78	16.22
	stocking	0.00	0.84	0.83	0.77	0.74	0.75	0.72	0.74	0.73	0.72	0.71	0.71	0.69	0.65	0.62	0.70	0.63
	yield class	16.9	19.6	17.1	17.4	17.0	16.7	16.6	16.1	15.7	15.5	15.9	15.8	15.0	15.6	15.4	14.9	13.5
	stock per ha (m ³ /ha)	0.00	0.46	11.84	43.04	71.99	95.70	115.10	126.16	130.52	131.90	135.18	129.99	115.94	112.89	104.12	116.89	88.72
Alder	growing stock (m ³)	0	3166	50215	201614	312537	249546	224535	155077	124442	83888	51342	27942	17112	7081	3161	1219	732
	area (ha)	88.16	690.19	1613.97	2541.16	3009.67	2052.97	1552.99	910.57	679.10	418.00	261.18	145.79	83.02	33.06	17.37	5.74	4.01
	stocking	0.00	0.84	0.79	0.76	0.75	0.73	0.74	0.74	0.77	0.79	0.80	0.75	0.79	0.83	0.75	0.75	0.65
	yield class	17.8	19.1	17.6	16.9	16.8	18.7	18.8	19.0	19.1	18.8	19.3	19.3	20.5	21.1	18.5	17.9	18.0
	stock per ha (m ³ /ha)	0.00	4.59	31.11	79.34	103.84	121.55	144.58	170.31	183.25	200.69	196.58	191.66	206.13	214.17	181.93	212.20	182.67
Poplar	growing stock (m ³)	0	2696	32956	73268	110359	193761	261521	149764	94173	41092	18747	10450	3842	1352	753	167	84
	area (ha)	45.56	251.03	538.14	704.39	881.76	1243.39	1618.98	963.73	588.82	264.40	97.79	52.63	23.43	7.95	6.00	0.80	0.93
	stocking	0.00	0.80	0.77	0.74	0.69	0.74	0.74	0.73	0.73	0.70	0.72	0.69	0.71	0.63	0.59	0.71	0.65
	yield class	18.9	18.8	18.2	18.7	18.8	19.0	19.1	18.8	19.3	19.3	20.5	21.1	18.5	17.9	18.0	18.8	18.0
	stock per ha (m ³ /ha)	0.00	10.74	61.24	104.02	125.16	155.83	161.53	155.40	159.93	155.42	191.71	198.57	163.97	169.97	125.59	207.85	89.93
Hybrid poplars	growing stock (m ³)	0	21775	297804	818343	731327	83251	32446	9920	3264	1777	398	442	174	0	0	0	0
	area (ha)	67.03	1647.60	1970.58	3576.16	3007.41	282.51	118.25	34.21	11.49	6.22	1.30	1.80	0.68	0.00	0.00	0.00	0.00
	stocking	0.00	0.84	0.84	0.80	0.78	0.78	0.75	0.74	0.78	0.68	0.69	0.68	0.00	0.00	0.00	0.00	0.00
	yield class	25.5	21.3	26.5	27.1	25.4	25.6	24.5	26.1	24.9	26.8	24.4	23.4	17.5	0.0	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	13.22	151.13	228.83	243.17	294.68	274.39	290.00	284.09	285.84	307.20	245.87	254.78	0.00	0.00	0.00	0.00

Continuing of Table A.8

	growing stock (m ³)	0	2377	32830	54462	47102	29272	18693	10704	2042	1109	779	206	203	89	22	0	1
Willows	area (ha)	13.96	265.82	515.41	534.97	484.70	207.94	117.44	59.83	14.19	10.41	4.70	1.27	1.65	0.79	0.44	0.00	0.00
	stocking	0.00	0.78	0.76	0.71	0.65	0.67	0.67	0.69	0.66	0.65	0.69	0.67	0.55	0.48	0.25	0.00	0.00
	yield class	18.7	18.1	18.8	19.2	17.6	19.2	20.0	21.0	19.7	18.5	18.6	20.3	19.3	18.2	18.2	0.0	0.0
	stock per ha (m ³ /ha)	0.00	8.94	63.70	101.80	97.18	140.77	159.16	178.92	143.89	106.48	165.74	162.79	123.25	112.17	49.79	0.00	0.00
	growing stock (m ³)	0	245	6408	19196	28454	42186	38613	19763	23914	17224	15471	16072	12612	5211	4843	3790	4817
Other broadleaves	area (ha)	27.85	754.91	699.85	564.28	518.92	477.76	333.52	153.16	164.81	140.23	110.87	138.93	112.43	58.53	64.52	61.78	73.90
	stocking	0.00	0.87	0.88	0.80	0.75	0.73	0.71	0.72	0.73	0.66	0.69	0.74	0.71	0.74	0.66	0.75	0.69
	yield class	17.3	18.8	18.4	19.1	17.0	17.9	18.4	17.4	16.6	15.5	14.8	12.7	12.3	11.1	10.9	10.1	10.5
	stock per ha (m ³ /ha)	0.00	0.32	9.16	34.02	54.83	88.30	115.77	129.04	145.10	122.82	139.55	115.69	112.17	89.03	75.07	61.35	65.18
	growing stock (m ³)	0	5240	1146986	5677259	8779681	13178266	21354783	25144007	29617596	34266930	26215875	13678313	8071848	4575983	3123912	2386853	3522245
Coniferous	Broadleaves	0	30005	857903	4568100	8687333	16368234	25796258	27728362	29110825	29515395	25011248	17268719	10575230	6079299	4306073	3155013	3790781
Total		0	35245	2004889	10245359	17467014	29546500	47151041	52872369	58728421	63782325	51227123	30947032	18647078	10655282	7429985	5541866	7313026
Coniferous		5053	65144	78504	66525	55468	56108	71602	73917	79791	86160	65288	35239	22422	13982	11410	8793	13180
Broadleaves	Total	7044	74548	91218	75613	74242	102681	134585	126035	116408	105014	81415	52641	31562	18755	13539	9865	11956
Total		12097	139691	169721	142138	129710	158789	206187	199952	196200	191174	146704	87880	53984	32736	24949	18658	25136
Coniferous		0	0.08	14.45	84.38	156.56	232.11	294.80	335.86	366.36	392.28	395.95	382.86	355.82	323.69	271.81	269.51	265.47
Broadleaves	stock per ha (m ³ /ha)	0	0.41	9.53	61.10	118.23	160.97	193.26	221.64	251.72	282.81	309.04	329.98	337.74	327.05	321.04	322.96	320.05
Total		0	0.25	11.84	72.13	134.82	186.46	228.98	264.40	298.88	332.69	348.14	351.43	345.34	325.60	298.32	297.54	291.21

Table A.9 Development of age related forest characteristics for tree species strata in year 2002

species/year	2002	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3402	852350	3835441	5906692	9341569	16520353	19075039	21945146	24985945	18129850	9040222	5241117	3089142	2186763	1647387	2707041
	area (ha)	2921.51	36858.77	48055.25	40644.02	34069.22	36534.85	51763.56	51801.48	53767.62	56915.16	40118.63	20986.75	12771.22	8525.20	6849.52	5131.60	8914.34
	stocking	0.00	0.88	0.89	0.88	0.84	0.80	0.78	0.76	0.75	0.75	0.74	0.72	0.71	0.68	0.66	0.67	0.65
	yield class	28.8	25.6	33.3	31.8	30.6	30.5	30.4	30.1	29.4	28.7	27.6	25.8	23.6	20.7	18.3	17.1	15.7
	stock per ha (m ³ /ha)	0.00	0.09	17.74	94.37	173.37	255.69	319.15	368.23	408.15	439.00	451.91	430.76	410.39	362.35	319.26	321.03	303.67
Fir	growing stock (m ³)	0	213	49678	331055	415941	645346	1208873	2052952	2995624	4583811	4313463	2767579	1828230	1093660	688593	531986	576736
	area (ha)	458.78	6809.97	6415.29	4795.69	2799.45	2750.66	3942.57	5962.59	7961.70	11534.67	10381.82	6458.21	4080.26	2532.39	1674.95	1227.03	1343.49
	stocking	0.00	0.89	0.91	0.88	0.85	0.80	0.76	0.73	0.72	0.71	0.71	0.69	0.70	0.69	0.68	0.69	0.69
	yield class	27.7	24.2	32.9	30.6	29.9	29.9	30.5	30.0	28.8	27.8	26.8	26.1	25.1	23.4	21.7	21.4	20.3
	stock per ha (m ³ /ha)	0.00	0.03	7.74	69.03	148.58	234.62	306.62	344.31	376.25	397.39	415.48	428.54	448.07	431.87	411.11	433.55	429.28
Pine	growing stock (m ³)	0	473	167059	1090509	1957905	2205462	2611466	3387526	3778213	4300726	3844831	1776244	818458	417445	197962	164447	149386
	area (ha)	808.70	9934.04	13868.61	13807.25	14356.39	11905.27	11634.94	13317.54	13833.31	14757.10	12611.08	5824.17	2795.95	1475.14	745.82	702.26	629.62
	stocking	0.00	0.87	0.87	0.84	0.82	0.79	0.77	0.76	0.75	0.75	0.75	0.73	0.70	0.69	0.66	0.66	0.67
	yield class	25.2	22.1	28.0	28.1	27.2	26.5	25.9	25.4	24.4	23.8	23.1	22.5	21.2	20.0	19.0	16.8	16.8
	stock per ha (m ³ /ha)	0.00	0.05	12.05	78.98	136.38	185.25	224.45	254.37	273.12	291.43	304.88	304.98	292.73	282.99	265.43	234.17	237.26
Larch	growing stock (m ³)	0	1610	145324	571417	952444	659908	832364	698491	600758	804310	675260	376624	195407	128658	75368	45279	93369
	area (ha)	254.55	6876.32	8735.34	5955.17	5869.22	3099.34	3154.72	2376.33	1823.94	2366.37	1823.50	1023.87	546.69	388.81	229.18	157.76	331.77
	stocking	0.00	0.86	0.88	0.85	0.82	0.79	0.78	0.76	0.75	0.72	0.74	0.71	0.72	0.68	0.67	0.62	0.66
	yield class	26.3	22.6	24.9	27.9	28.3	28.0	28.1	27.5	27.7	27.3	27.0	26.5	24.9	23.5	22.6	21.8	20.6
	stock per ha (m ³ /ha)	0.00	0.23	16.64	95.95	162.28	212.92	263.85	293.94	329.37	339.89	370.31	367.84	357.44	330.90	328.85	287.02	281.43
Other coniferous	growing stock (m ³)	0	0	9	269	1148	1767	1459	3892	3735	4508	6657	4014	1324	5928	4916	8295	12898
	area (ha)	116.91	217.85	1540.51	1437.84	956.09	424.50	376.60	344.40	1085.89	1263.31	1948.29	1620.53	2255.86	1366.36	2076.83	1600.27	2042.21
	stocking	0.00	0.49	0.53	0.58	0.62	0.55	0.57	0.65	0.70	0.74	0.78	0.75	0.77	0.76	0.74	0.76	0.72
	yield class	19.8	18.3	20.0	19.9	19.8	19.7	19.8	19.8	19.5	19.9	19.7	19.4	20.1	19.8	19.9	19.8	19.8
	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.19	1.20	4.16	3.87	11.30	3.44	3.57	3.42	2.48	0.59	4.34	2.37	5.18	6.32
Beech	growing stock (m ³)	0	1001	300079	2622492	5114266	7939012	12823625	14777721	16434509	20034748	17983219	12808241	8303984	5049344	3604272	2695294	3227521
	area (ha)	3342.64	39310.40	48477.71	39131.14	36425.67	42216.23	56045.95	56667.71	56681.60	62350.68	51470.59	34380.94	22569.18	14244.09	10585.72	7793.32	9404.53
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.77	0.78	0.79	0.77	0.74	0.72	0.72	0.72	0.72
	yield class	25.2	22.2	28.1	27.5	27.6	26.9	26.6	26.0	25.5	25.3	24.6	24.0	22.2	20.8	19.2	18.2	16.9
	stock per ha (m ³ /ha)	0.00	0.03	6.19	67.02	140.40	188.06	228.81	260.78	289.94	321.32	349.39	372.54	367.93	354.49	340.48	345.85	343.19
Oak	growing stock (m ³)	0	422	74263	418865	685666	2160647	4905721	5832467	6024012	5848978	5237695	3590538	1730988	724240	448670	293010	382037
	area (ha)	1207.55	9400.01	10214.61	7853.85	6692.13	14678.04	29248.90	31058.87	28136.43	26066.42	21293.15	13567.60	6634.14	2811.11	1717.89	1192.57	1764.25
	stocking	0.00	0.89	0.90	0.88	0.85	0.82	0.80	0.79	0.78	0.76	0.78	0.76	0.75	0.74	0.73	0.73	0.68
	yield class	23.3	21.1	26.1	25.3	25.3	25.1	24.2	23.5	23.6	22.8	22.4	22.1	20.9	19.9	19.4	17.8	16.0
	stock per ha (m ³ /ha)	0.00	0.04	7.27	53.33	102.46	147.20	167.72	187.79	214.10	224.39	245.98	264.64	260.92	257.63	261.17	245.70	216.54
Turkey oak	growing stock (m ³)	0	131	15242	68658	137678	689647	1501754	1818428	1822390	1059367	698870	404302	185167	87369	55096	29192	36166
	area (ha)	268.50	1438.94	1557.20	1156.14	1309.89	4440.36	8868.12	9553.24	8363.13	4707.57	2787.69	1506.26	665.06	341.16	201.11	129.71	186.28
	stocking	0.00	0.93	0.92	0.87	0.81	0.81	0.79	0.79	0.80	0.79	0.80	0.80	0.79	0.76	0.76	0.69	0.67
	yield class	23.5	20.6	24.7	25.3	25.5	25.6	24.3	23.5	23.5	22.3	21.9	21.4	19.2	19.6	16.7	14.7	14.7
	stock per ha (m ³ /ha)	0.00	0.09	9.79	59.39	105.11	155.31	169.34	190.35	217.91	225.03	250.70	268.41	278.42	256.09	273.95	225.06	194.15
Hornbeam	growing stock (m ³)	0	448	62168	394868	837182	1769463	3248299	3478794	3153970	2533428	1518229	689023	344367	181852	94659	53182	64745
	area (ha)	624.33	4279.63	8231.28	6169.80	7172.84	11697.70	18588.61	17242.75	14399.01	10603.94	5909.25	2602.09	1314.59	726.81	363.56	211.95	264.99
	stocking	0.00	0.92	0.92	0.88	0.84	0.81	0.79	0.78	0.77	0.75	0.77	0.75	0.72	0.72	0.72	0.70	0.70
	yield class	22.1	20.3	27.7	26.5	24.9	23.2	22.2	21.7	20.6	20.1	18.9	17.8	16.6	15.5	14.9	13.2	12.4
	stock per ha (m ³ /ha)	0.00	0.10	7.55	64.00	116.72	151.27	174.75	201.75	219.04	238.91	256.92	264.80	261.96	250.21	260.36	250.92	244.33

Continuing of Table A.9

Maple	growing stock (m ³)	0	655	55367	320957	386067	406574	526613	483394	399348	452052	451223	391465	333336	215292	162777	150975	208019
	area (ha)	202.22	6377.12	6311.57	4270.87	2828.69	2239.57	2436.25	2040.66	1506.33	1542.28	1438.83	1212.25	1002.57	676.09	528.99	485.39	660.49
	stocking	0.00	0.89	0.89	0.87	0.83	0.80	0.79	0.78	0.76	0.75	0.76	0.75	0.75	0.72	0.70	0.69	0.70
	yield class	25.1	22.0	28.5	28.8	28.1	27.3	26.0	24.6	24.1	23.6	22.7	21.7	20.6	19.1	17.7	17.1	15.9
	stock per ha (m ³ /ha)	0.00	0.10	8.77	75.15	136.48	181.54	216.16	236.88	265.11	293.11	313.60	322.92	332.48	318.43	307.71	311.04	314.95
Ash	growing stock (m ³)	0	1684	59120	204544	295681	632533	898412	765658	554668	432113	360465	231263	167697	82008	55764	40521	35273
	area (ha)	145.61	3571.83	3529.58	2302.25	1800.48	2689.84	3326.09	2660.20	1799.54	1289.84	996.83	607.40	431.24	205.09	150.46	129.87	112.76
	stocking	0.00	0.88	0.90	0.86	0.83	0.81	0.79	0.79	0.77	0.77	0.78	0.78	0.78	0.73	0.64	0.64	0.64
	yield class	28.2	22.5	31.0	30.4	30.7	31.7	30.4	28.2	26.8	26.2	25.7	24.4	23.5	22.3	20.8	18.4	17.2
	stock per ha (m ³ /ha)	0.00	0.47	16.75	88.85	164.22	235.16	270.11	287.82	308.23	335.01	361.61	380.74	388.87	399.86	370.62	312.02	312.81
Elm	growing stock (m ³)	0	0	747	5535	5679	14767	17508	19611	16864	11385	11429	17097	10007	8514	7751	9659	7245
	area (ha)	4.35	42.39	54.22	68.96	43.83	84.21	81.87	80.26	58.13	37.66	37.51	54.34	29.58	24.40	20.00	25.72	20.98
	stocking	0.00	0.88	0.91	0.87	0.78	0.71	0.77	0.78	0.77	0.75	0.74	0.73	0.74	0.74	0.71	0.71	0.71
	yield class	25.3	21.0	30.3	29.3	27.9	28.7	26.7	25.3	25.5	24.3	22.9	22.4	21.8	20.9	20.8	19.8	17.5
	stock per ha (m ³ /ha)	0.00	0.00	13.78	80.26	129.57	175.36	213.85	244.34	290.11	302.33	304.71	314.62	338.33	348.91	387.55	375.57	345.25
Linden	growing stock (m ³)	0	193	17553	112586	114940	83196	126819	104298	146111	120467	103576	67418	46907	30880	18329	12698	12320
	area (ha)	39.72	422.41	928.84	1242.45	823.21	415.59	565.19	455.51	620.71	463.49	360.62	227.32	186.70	113.58	68.73	47.67	42.61
	stocking	0.00	0.89	0.89	0.87	0.84	0.81	0.79	0.76	0.74	0.73	0.74	0.74	0.70	0.72	0.65	0.67	0.67
	yield class	25.7	21.6	29.7	30.2	28.5	28.5	26.6	24.1	22.2	21.9	21.2	20.3	16.7	16.8	16.0	15.3	15.0
	stock per ha (m ³ /ha)	0.00	0.46	18.90	90.62	139.62	200.19	224.38	228.97	235.39	259.91	287.22	296.57	251.24	271.89	266.67	266.38	289.12
Locust	growing stock (m ³)	0	10412	153209	251761	578649	1194281	870193	309508	81786	48374	31517	11132	6952	1665	140	78	272
	area (ha)	190.08	2784.56	3133.47	2949.87	5000.54	9360.24	6415.89	2315.81	665.26	405.46	236.96	88.01	51.49	11.75	1.13	0.75	1.91
	stocking	0.00	0.88	0.89	0.82	0.79	0.78	0.77	0.76	0.75	0.74	0.77	0.72	0.79	0.71	0.75	0.68	0.77
	yield class	19.3	19.9	18.5	18.7	19.6	19.4	19.5	19.0	18.4	18.2	18.6	18.6	18.5	18.7	17.5	17.6	18.3
	stock per ha (m ³ /ha)	0.00	3.74	48.89	85.35	115.72	127.59	135.63	133.65	122.94	119.31	133.00	126.49	135.02	141.72	124.38	103.48	142.44
Birch	growing stock (m ³)	0	1010	54308	156836	273437	376255	475456	330448	197546	100534	44984	25353	14572	6883	5104	1526	1437
	area (ha)	155.02	2169.84	4389.85	3541.70	3700.14	3856.74	4038.87	2553.22	1488.57	742.23	325.06	193.26	122.06	58.66	48.10	13.35	16.20
	stocking	0.00	0.85	0.83	0.77	0.74	0.75	0.74	0.74	0.73	0.72	0.71	0.71	0.70	0.64	0.60	0.68	0.63
	yield class	17.0	19.5	17.1	17.4	17.1	16.8	16.7	16.2	15.7	15.6	15.9	15.8	15.0	15.5	15.5	14.9	13.5
	stock per ha (m ³ /ha)	0.00	0.47	12.37	44.28	73.90	97.56	117.72	129.42	132.71	135.45	138.39	131.18	119.38	117.33	106.11	114.34	88.70
Alder	growing stock (m ³)	0	3100	51728	211404	321878	250808	232682	160101	128549	87778	50830	27856	18552	7010	3137	1316	732
	area (ha)	80.70	660.73	1589.64	2605.47	3065.17	2004.43	1635.27	944.51	702.72	433.36	255.10	143.52	89.39	32.77	16.90	6.40	4.01
	stocking	0.00	0.83	0.79	0.75	0.75	0.74	0.74	0.76	0.76	0.79	0.79	0.75	0.79	0.82	0.75	0.74	0.64
	yield class	17.8	18.9	17.6	17.0	16.8	17.5	18.2	19.3	19.7	20.6	20.4	20.5	20.9	20.8	19.9	20.5	21.0
	stock per ha (m ³ /ha)	0.00	4.69	32.54	81.14	105.01	125.13	142.29	169.51	182.93	202.55	199.25	194.10	207.55	213.89	185.57	205.56	182.54
Poplar	growing stock (m ³)	0	2597	33480	75735	112889	186281	262722	150712	97306	41592	19349	11315	3788	1431	558	267	84
	area (ha)	41.19	246.72	538.47	731.35	871.47	1178.88	1631.38	970.61	613.81	264.30	97.59	60.01	22.81	9.50	3.42	2.07	0.93
	stocking	0.00	0.80	0.77	0.75	0.69	0.74	0.74	0.74	0.73	0.70	0.73	0.66	0.72	0.55	0.65	0.62	0.65
	yield class	19.0	18.7	18.1	18.6	19.1	19.1	19.1	18.8	19.2	19.4	20.8	20.9	18.3	18.0	18.7	17.9	18.0
	stock per ha (m ³ /ha)	0.00	10.53	62.18	103.56	129.54	158.01	161.04	155.27	158.53	157.37	198.27	188.55	166.04	150.67	163.30	128.96	89.87
Hybrid poplars	growing stock (m ³)	0	21737	298051	810354	732561	84382	31594	11067	3307	1777	379	459	174	7	0	0	0
	area (ha)	60.48	1644.13	1976.14	3539.27	3008.04	291.30	115.61	37.51	11.70	6.22	1.21	1.89	0.68	0.02	0.00	0.00	0.00
	stocking	0.00	0.84	0.84	0.80	0.78	0.78	0.75	0.74	0.78	0.68	0.69	0.68	1.00	0.00	0.00	0.00	0.00
	yield class	25.5	21.3	26.4	27.0	25.4	25.4	24.5	26.1	24.8	26.8	24.6	23.4	17.5	30.0	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	13.22	150.82	228.96	243.53	289.67	273.29	295.06	282.69	285.64	314.26	242.93	254.61	348.25	0.00	0.00	0.00

Continuing of table A.9

	growing stock (m ³)	0	2428	33158	54548	47302	29630	17817	11830	2219	1154	688	206	209	84	22	0	1
Willows	area (ha)	12.71	268.37	516.78	535.92	489.30	208.18	116.53	65.25	15.44	10.77	4.39	1.27	1.70	0.79	0.44	0.00	0.00
	stocking	0.00	0.78	0.76	0.71	0.65	0.67	0.67	0.70	0.65	0.65	0.69	0.66	0.54	0.48	0.25	0.00	0.00
	yield class	18.7	18.1	18.8	19.1	17.6	19.2	19.8	21.0	19.6	18.5	18.6	20.1	19.2	18.2	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	9.05	64.16	101.78	96.67	142.33	152.89	181.31	143.75	107.11	156.65	162.68	123.05	105.80	49.75	0.00	0.00
	growing stock (m ³)	0	240	6004	20094	29504	42045	46002	22907	28239	18011	17657	17801	14019	6581	5088	4050	4838
Other broadleaves	area (ha)	25.94	798.18	710.04	548.10	544.81	462.90	371.66	161.27	185.32	131.30	116.81	146.89	112.59	71.73	61.61	63.65	74.00
	stocking	0.00	0.87	0.87	0.81	0.76	0.74	0.70	0.73	0.73	0.66	0.69	0.73	0.71	0.71	0.67	0.74	0.69
	yield class	17.3	18.6	18.2	19.2	16.7	17.9	19.1	18.0	16.9	16.0	15.3	12.9	12.7	11.1	11.0	10.1	10.5
	stock per ha (m ³ /ha)	0.00	0.30	8.46	36.66	54.15	90.83	123.77	142.04	152.38	137.18	151.16	121.18	124.51	91.75	82.59	63.63	65.38
	growing stock (m ³)	0	5698	1214420	5828691	9234130	12854052	21174515	25217900	29323476	34679300	26970061	13964683	8084536	4734833	3153602	2397394	3539430
Coniferous	Broadleaves	0	24321	916426	4918883	8940818	15775139	25953623	28265877	29087517	30789711	26529731	18293010	11180545	6403153	4461367	3291768	3980690
Total		0	30019	2130846	10747574	18174948	28629191	47128138	53483777	58410993	65469011	53499792	32257693	19265081	11137986	7614969	5689162	7520120
Coniferous		4560	60697	78615	66640	58050	54715	70872	73802	78472	86837	66883	35914	22450	14288	11576	8819	13261
Broadleaves	area (ha)	6401	73415	92159	76647	73776	95824	133486	126807	115248	109056	85332	54793	33234	19328	13768	10102	12554
Total		10961	134112	170774	143287	131827	150539	204359	200610	193720	195892	152215	90707	55684	33615	25344	18921	25815
Coniferous		0.00	0.09	15.45	87.47	159.07	234.93	298.77	341.70	373.68	399.36	403.24	388.84	360.11	331.39	272.42	271.85	266.90
Broadleaves	stock per ha (m ³ /ha)	0.00	0.63	13.18	74.75	131.12	165.51	194.67	222.99	252.42	282.35	310.91	333.86	336.43	331.30	324.04	325.84	317.09
Total		0.00	0.39	14.22	80.66	143.43	190.74	230.77	266.66	301.54	334.22	351.48	355.63	345.98	331.34	300.46	300.67	291.30

Table A.10 Development of age related forest characteristics for tree species strata in year 2003

species/year	2003	age class																	
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Spruce	growing stock (m ³)	0	3521	845465	4045629	6070927	8923578	16330804	18996438	21445441	24402901	18449898	9476811	5389311	3122327	2179151	1620584	2736704	
	area (ha)	2863.00	35579.77	475871.10	41748.78	34845.73	35227.32	51120.96	51573.70	52546.10	55613.74	40663.36	21673.00	13067.08	8554.47	6838.19	5082.79	8972.31	
	stocking	0.00	0.89	0.89	0.88	0.84	0.80	0.78	0.76	0.75	0.75	0.74	0.72	0.71	0.68	0.66	0.67	0.65	
	yield class	28.9	26.1	33.5	32.0	30.7	30.4	30.1	29.4	28.7	27.6	26.0	23.7	20.9	18.3	17.1	15.8		
	stock per ha (m ³ /ha)	0.00	0.10	17.77	96.90	174.22	253.31	319.45	368.34	408.13	438.79	453.72	437.26	412.43	364.99	318.67	318.84	305.02	
Fir	growing stock (m ³)	0	168	49112	343323	425979	588398	1181572	1925633	2928399	4388470	4499522	2915755	1884044	1149260	662028	498531	673761	
	area (ha)	448.83	6878.59	6417.80	4814.25	2851.60	2519.59	3865.45	5609.18	7681.18	11076.61	10623.29	6697.98	4147.19	2624.10	1597.59	1161.24	1495.82	
	stocking	0.00	0.89	0.91	0.88	0.85	0.80	0.76	0.73	0.73	0.71	0.71	0.70	0.71	0.69	0.69	0.70		
	yield class	27.8	24.8	33.3	30.9	30.0	29.9	30.5	29.9	29.0	27.8	27.0	26.2	25.2	23.5	21.8	21.1	20.9	
	stock per ha (m ³ /ha)	0.00	0.02	7.65	71.31	149.38	233.53	305.68	343.30	381.24	396.19	423.55	435.32	454.29	437.96	414.39	429.31	450.43	
Pine	growing stock (m ³)	0	418	165771	1059438	1990683	2229439	2629697	3340668	3714270	4281773	4105268	1963375	881679	454780	205374	169695	153736	
	area (ha)	789.38	8988.68	13329.12	13096.55	14501.12	12051.06	11551.85	12915.22	13417.25	14615.88	13346.28	6271.86	2990.14	1597.50	764.05	726.45	644.93	
	stocking	0.00	0.88	0.87	0.84	0.82	0.79	0.77	0.77	0.75	0.75	0.75	0.74	0.71	0.70	0.66	0.66	0.67	
	yield class	25.3	22.2	28.4	28.4	27.2	26.5	26.2	25.6	24.6	23.8	23.1	22.8	21.3	19.9	19.1	16.7	16.8	
	stock per ha (m ³ /ha)	0.00	0.05	12.44	80.89	137.28	185.00	227.64	258.66	276.83	292.95	307.60	313.05	294.86	284.68	268.80	233.59	238.38	
Larch	growing stock (m ³)	0	2146	158057	595143	982247	690713	860786	708093	605605	796740	718532	407789	202227	128674	80543	46429	93669	
	area (ha)	252.45	6440.19	8836.63	6027.68	5996.95	3219.23	3243.13	2398.60	1831.77	2349.25	1921.89	1084.20	560.91	391.04	237.10	160.06	332.92	
	stocking	0.00	0.86	0.88	0.85	0.82	0.79	0.78	0.76	0.74	0.72	0.74	0.72	0.72	0.69	0.68	0.62	0.66	
	yield class	26.4	22.9	24.7	28.0	28.3	28.1	28.0	27.5	27.8	27.2	27.1	26.7	25.0	23.4	23.0	21.9	20.6	
	stock per ha (m ³ /ha)	0.00	0.33	17.89	98.74	163.79	214.56	265.42	295.21	330.61	339.15	373.87	376.12	360.54	329.05	339.71	290.07	281.36	
Other coniferous	growing stock (m ³)	0	0	11	161	1166	1685	1302	1440	2083	2391	6549	4067	1324	2838	4916	8295	12898	
	area (ha)	115.29	217.40	1539.10	1445.43	955.03	425.44	376.65	344.45	1086.04	1263.49	1948.56	1620.75	2256.17	1366.55	2077.12	1600.49	2042.49	
	stocking	0.00	0.47	0.50	0.59	0.62	0.57	0.60	0.58	0.70	0.73	0.78	0.75	0.77	0.75	0.74	0.76	0.72	
	yield class	19.8	18.1	20.0	19.8	19.8	19.7	19.8	19.8	19.4	19.9	19.7	19.5	20.1	19.8	19.9	19.8	19.8	
	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.19	1.20	4.15	3.87	11.30	3.44	3.57	3.42	2.48	0.59	4.34	2.37	5.18	6.31	
Beech	growing stock (m ³)	0	411	303355	2821098	5284081	7429742	12828903	15341864	16504106	20164471	19234533	14343946	8994602	5484767	3747727	2812513	3509950	
	area (ha)	3319.55	40349.73	48187.21	40038.45	36739.96	39712.25	56075.11	57746.35	55436.66	61939.76	52943.48	35805.29	23254.10	15109.24	10862.88	8016.88	9915.35	
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.78	0.77	0.79	0.80	0.78	0.75	0.73	0.73	0.72	
	yield class	25.6	23.3	28.6	27.8	27.7	27.2	26.9	26.3	25.8	25.6	24.9	24.5	22.6	21.0	19.3	18.3	17.2	
	stock per ha (m ³ /ha)	0.00	0.02	6.27	68.65	140.15	189.62	231.41	262.64	292.29	324.43	352.82	380.14	374.17	357.57	342.33	348.37	343.11	
Oak	growing stock (m ³)	0	279	67291	441323	733666	1654409	4742229	5970477	6021192	6057556	5306896	4091130	2317513	2317513	868515	465642	300798	415894
	area (ha)	1186.14	9104.47	10160.43	7734.46	6584.81	11960.33	28212.70	31541.08	28044.12	26223.74	21654.87	14704.44	7709.78	3074.24	1822.84	1185.08	1862.93	
	stocking	0.00	0.89	0.90	0.88	0.85	0.81	0.80	0.79	0.78	0.77	0.78	0.79	0.78	0.76	0.74	0.72	0.69	
	yield class	23.5	21.6	26.6	25.6	25.4	25.2	24.4	23.6	23.8	23.0	22.4	22.3	21.7	20.2	19.4	17.7	16.2	
	stock per ha (m ³ /ha)	0.00	0.03	7.45	53.91	100.53	147.87	169.46	188.86	215.41	228.76	247.60	268.71	272.40	263.63	256.36	241.77	220.25	
Turkey oak	growing stock (m ³)	0	172	15526	68971	124132	528146	1473747	1833318	1884866	1318178	745618	491515	231590	89933	59300	26622	40399	
	area (ha)	265.52	1475.44	1553.30	1152.78	1291.20	4040.73	8748.65	9588.23	8442.63	5022.03	2752.71	1651.74	772.31	340.30	217.00	123.37	189.70	
	stocking	0.00	0.93	0.92	0.87	0.81	0.80	0.79	0.80	0.79	0.80	0.80	0.81	0.79	0.77	0.77	0.69	0.70	
	yield class	23.6	20.9	24.9	25.4	25.3	25.6	24.5	23.6	23.8	22.9	22.3	22.4	21.7	19.4	19.7	16.5	14.9	
	stock per ha (m ³ /ha)	0.00	0.09	9.88	60.12	103.48	155.12	170.44	190.65	219.10	230.71	250.56	274.91	283.97	256.00	275.96	210.73	206.92	
Hornbeam	growing stock (m ³)	0	381	64435	446531	871556	1637253	3295479	3652102	3312427	2794807	1674988	842151	400811	198249	104260	50854	72124	
	area (ha)	618.31	4372.82	8449.44	6511.96	7124.80	10625.46	18017.05	17546.02	14602.05	10947.92	6142.39	2891.29	1430.80	757.31	390.49	204.80	278.08	
	stocking	0.00	0.92	0.92	0.89	0.84	0.81	0.79	0.78	0.77	0.76	0.77	0.78	0.76	0.73	0.72	0.70	0.70	
	yield class	22.8	21.0	28.5	27.3	25.9	24.5	23.2	22.3	21.2	20.5	19.2	18.2	16.9	15.6	15.0	13.1	12.5	
	stock per ha (m ³ /ha)	0.00	0.09	7.52	65.81	121.18	158.97	182.99	208.60	226.75	246.53	262.90	274.06	269.05	256.69	262.47	249.69	251.53	

Continuing of Table A.10

Maple	growing stock (m ³)	0	391	58956	352902	437874	442714	551267	513012	447507	473663	482768	424921	337877	224594	168278	147430	240660
	area (ha)	202.71	6457.50	6300.85	4460.98	2894.16	2236.82	2498.43	2097.54	1549.74	1559.11	1465.90	1246.26	999.36	681.52	536.07	455.64	719.58
	stocking	0.00	0.90	0.89	0.87	0.83	0.80	0.79	0.78	0.76	0.76	0.77	0.76	0.76	0.73	0.71	0.70	0.70
	yield class	25.6	23.0	29.0	29.1	28.5	27.7	26.3	24.9	24.5	23.9	23.2	22.3	20.8	19.3	17.9	17.3	16.5
	stock per ha (m ³ /ha)	0.00	0.10	8.89	76.42	136.92	184.11	217.76	238.84	267.17	294.15	317.39	327.35	333.75	321.76	309.56	314.47	316.55
Ash	growing stock (m ³)	0	1619	62723	222478	284602	547132	967178	832567	632626	469023	384870	256709	175954	96288	57917	44977	40448
	area (ha)	147.38	3663.07	3651.89	2361.59	1822.57	2475.40	3499.27	2824.75	1868.40	1355.93	1011.77	668.36	445.09	230.57	150.63	138.21	122.27
	stocking	0.00	0.89	0.90	0.86	0.83	0.81	0.80	0.79	0.78	0.77	0.77	0.79	0.78	0.78	0.73	0.65	0.66
	yield class	28.3	23.3	31.4	30.7	30.4	31.9	30.4	28.3	27.0	26.4	25.9	24.9	23.6	22.7	20.7	18.7	17.5
	stock per ha (m ³ /ha)	0.00	0.46	16.44	90.02	160.09	237.45	270.81	288.04	308.70	337.58	366.64	385.76	384.18	399.08	365.06	317.01	322.12
Elm	growing stock (m ³)	0	0	679	5432	7803	13009	16602	19109	20427	10707	10129	13104	11277	8641	6183	9726	8148
	area (ha)	4.16	43.10	52.67	66.08	45.73	77.18	77.24	80.64	61.62	35.96	34.71	49.33	28.39	23.38	19.01	25.14	21.96
	stocking	0.00	0.89	0.91	0.87	0.79	0.70	0.77	0.78	0.77	0.76	0.74	0.74	0.75	0.76	0.73	0.71	
	yield class	25.6	21.5	30.7	29.7	28.5	29.1	27.0	25.4	25.7	24.4	23.0	22.6	22.1	21.2	21.3	20.1	17.4
	stock per ha (m ³ /ha)	0.00	0.00	14.16	81.58	131.96	173.98	216.00	241.56	290.75	307.97	309.61	310.24	349.16	365.78	387.11	379.33	342.63
Linden	growing stock (m ³)	0	104	14940	111277	146294	99873	133219	104494	141070	135648	110495	79362	49418	35848	21629	12979	14819
	area (ha)	39.66	402.17	878.03	1217.37	912.99	444.94	590.54	460.81	601.15	466.99	384.53	246.52	186.63	102.87	78.23	50.21	49.94
	stocking	0.00	0.89	0.89	0.87	0.84	0.82	0.79	0.76	0.75	0.73	0.75	0.74	0.71	0.74	0.66	0.64	0.67
	yield class	26.0	22.1	30.3	30.5	29.0	28.6	26.7	24.2	22.3	22.3	22.0	21.0	17.5	18.1	16.4	15.0	15.0
	stock per ha (m ³ /ha)	0.00	0.33	19.70	93.38	140.70	200.26	224.46	230.06	234.73	260.71	297.04	301.11	252.32	283.53	272.64	254.15	289.49
Locust	growing stock (m ³)	0	16821	168174	256865	439855	933860	942608	341732	101298	52013	34475	11946	8238	1705	197	78	272
	area (ha)	187.09	2822.61	3123.65	2895.89	4953.79	9063.63	6504.67	2447.12	734.47	410.85	255.53	85.50	59.24	12.22	1.50	0.75	1.91
	stocking	0.00	0.91	0.88	0.83	0.78	0.78	0.78	0.76	0.76	0.75	0.77	0.72	0.78	0.71	0.72	0.68	0.77
	yield class	19.4	21.5	18.6	18.8	19.1	19.0	19.6	19.1	18.5	18.5	18.8	18.6	18.7	17.7	17.6	17.4	
	stock per ha (m ³ /ha)	0.00	3.59	48.87	85.90	115.65	128.65	136.72	133.80	123.19	121.05	132.49	127.57	138.02	140.64	118.85	103.47	142.42
Birch	growing stock (m ³)	0	913	55986	168146	291084	356707	465909	357097	223398	109290	54419	25314	15034	7866	5460	1242	1566
	area (ha)	153.00	2280.25	4451.56	3527.20	3630.27	3618.29	4017.17	2592.60	1632.10	745.26	357.63	178.79	121.54	62.25	47.30	11.75	17.59
	stocking	0.00	0.85	0.84	0.79	0.75	0.75	0.74	0.74	0.74	0.73	0.73	0.72	0.71	0.72	0.66	0.61	0.64
	yield class	17.1	19.5	17.2	17.4	17.3	16.9	16.8	16.3	15.8	15.8	16.0	15.8	15.2	15.6	15.7	15.1	13.5
	stock per ha (m ³ /ha)	0.00	0.40	12.18	43.47	75.66	97.85	119.45	130.07	132.86	136.44	139.84	127.87	126.14	123.09	107.92	109.87	93.18
Alder	growing stock (m ³)	0	2957	52096	210305	345229	255112	262250	170897	136409	93051	53635	27738	19438	7648	3381	1310	835
	area (ha)	80.21	637.86	1567.67	2556.22	3078.22	1959.46	1774.57	992.89	730.51	449.47	267.44	139.22	90.79	35.46	17.00	6.56	4.29
	stocking	0.00	0.84	0.82	0.77	0.75	0.74	0.74	0.76	0.77	0.79	0.76	0.79	0.76	0.76	0.76	0.68	0.68
	yield class	17.9	19.0	17.8	17.3	16.8	17.2	18.4	19.2	19.9	20.5	20.6	20.4	21.1	20.7	20.4	20.1	21.0
	stock per ha (m ³ /ha)	0.00	5.65	32.58	81.17	106.42	123.38	145.29	168.82	185.64	200.67	201.38	195.36	211.05	213.05	196.56	204.61	184.06
Poplar	growing stock (m ³)	0	2697	34155	80372	107407	189132	260534	159937	100448	46105	22140	10573	4507	1450	549	280	79
	area (ha)	40.33	257.01	536.11	727.82	851.32	1172.58	1580.83	976.89	624.15	271.18	97.95	55.00	25.56	10.14	3.81	2.12	0.93
	stocking	0.00	0.80	0.77	0.75	0.70	0.73	0.74	0.74	0.74	0.73	0.73	0.65	0.72	0.59	0.63	0.62	0.67
	yield class	19.1	18.7	18.1	18.7	19.0	19.2	19.3	18.9	19.3	19.7	20.5	20.6	19.5	18.6	18.2	17.8	18.0
	stock per ha (m ³ /ha)	0.00	10.24	62.66	102.92	131.07	158.51	163.15	153.93	159.40	158.91	198.06	183.68	182.97	131.83	143.32	122.12	89.86
Hybrid poplars	growing stock (m ³)	0	23669	255887	611917	665862	163086	32738	13102	5105	1360	379	514	424	75	0	0	0
	area (ha)	59.45	1653.64	1972.58	3453.29	3038.50	308.85	117.08	37.84	13.41	4.71	1.21	2.05	1.55	0.57	0.00	0.00	0.00
	stocking	0.00	0.78	0.80	0.78	0.76	0.79	0.74	0.76	0.81	0.70	0.69	0.60	0.75	0.00	0.00	0.00	
	yield class	25.6	22.5	26.7	27.5	25.7	24.3	25.3	25.6	24.2	26.4	24.6	23.7	27.7	18.4	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	13.30	150.78	227.46	243.74	284.22	271.90	294.21	282.50	288.49	314.21	250.67	273.91	130.90	0.00	0.00	0.00

Continuing of table A.10

	growing stock (m ³)	0	2255	31345	52924	52621	34640	18987	12874	1994	1372	665	224	174	86	27	0	1
Willows	area (ha)	12.62	270.57	519.40	530.77	492.41	204.24	130.68	68.55	15.27	10.99	4.69	1.27	1.70	0.79	0.44	0.00	0.00
	stocking	0.00	0.77	0.78	0.72	0.67	0.67	0.65	0.70	0.64	0.65	0.71	0.66	0.54	0.51	0.27	0.00	0.00
	yield class	18.6	17.9	19.0	19.2	17.6	18.6	19.7	20.8	19.7	18.9	18.0	20.2	19.1	18.9	18.2	0.0	0.0
	stock per ha (m ³ /ha)	0.00	9.10	64.32	102.15	96.93	142.82	148.38	177.43	144.16	107.41	151.47	162.65	123.03	105.78	49.74	0.00	0.00
	growing stock (m ³)	0	268	5126	21049	38954	46959	45114	32372	31368	20822	16766	16606	15822	6112	7346	4511	4812
Other broadleaves	area (ha)	25.93	844.85	690.31	506.45	590.01	463.98	356.03	194.29	185.39	145.41	112.17	153.72	103.32	68.17	69.95	67.17	73.56
	stocking	0.00	0.88	0.88	0.81	0.77	0.74	0.72	0.73	0.73	0.67	0.66	0.70	0.74	0.64	0.70	0.72	0.69
	yield class	17.6	18.7	17.7	18.4	18.0	18.8	19.5	19.2	17.7	16.6	15.6	14.3	11.9	12.0	10.9	10.1	10.6
	stock per ha (m ³ /ha)	0.00	0.26	8.48	36.60	58.67	90.34	124.93	158.69	157.30	139.27	149.50	123.48	125.44	89.75	95.43	66.33	66.10
	growing stock (m ³)	0	6253	1218416	6043694	9471002	12433813	21004161	24972272	28695798	33872275	27779769	14767797	8358585	4857879	3132012	2343534	3670768
Coniferous	Broadleaves	0	29268	934787	5259673	9165158	14168688	26004026	29341852	29559136	31746706	28132397	20635239	12582255	7031702	4647896	3413320	4350007
Total		0	35521	2153203	11303367	18636160	26602501	47008187	54314124	58254934	65618981	55912166	35403036	20940840	11889581	7779908	5756854	8020775
Coniferous		4469	58105	77710	67133	59150	53443	70158	72841	76562	84919	68503	37348	23021	14534	11514	8731	13488
Broadleaves	area (ha)	6342	74635	92095	77741	74051	88364	132200	129196	114542	109589	87487	57879	35230	20509	14217	10288	13258
Total		10811	132740	169805	144874	133201	141807	202358	202037	191104	194508	155990	95227	58252	35043	25731	19019	26747
Coniferous		0.00	0.11	15.68	90.03	160.12	232.66	299.39	342.87	374.82	398.90	405.53	395.41	363.08	334.46	272.02	268.41	272.14
Broadleaves	stock per ha (m ³ /ha)	0.00	0.61	13.24	75.62	131.54	167.76	197.93	225.15	254.34	285.69	314.13	339.58	341.41	334.89	324.53	327.90	318.17
Total		0.00	0.39	14.36	82.30	144.23	192.22	233.11	267.59	302.61	335.12	354.27	361.48	349.97	334.71	301.03	300.59	294.96

Table A.11 Development of age related forest characteristics for tree species strata in year 2004

species/year	2004	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3568	865840	4122787	6411101	8906740	15406904	20170860	21544404	23684895	18974120	10125528	5769712	3312395	2191493	1885446	2969533
	area (ha)	2900.83	33427.26	47194.33	41789.39	36302.82	35119.56	47793.42	54196.07	52263.47	53476.69	41038.21	22492.10	13684.88	8845.17	6775.69	5736.37	9579.24
	stocking	0.00	0.89	0.89	0.88	0.84	0.80	0.78	0.76	0.75	0.75	0.75	0.73	0.72	0.68	0.66	0.67	0.65
	yield class	29.1	26.8	33.8	32.2	30.8	30.4	30.5	30.2	29.6	28.8	27.8	26.4	23.9	21.2	18.5	17.5	16.0
Fir	stock per ha (m ³ /ha)	0.00	0.11	18.35	98.66	176.60	253.61	322.36	372.18	412.23	442.90	462.35	450.18	421.61	374.49	323.43	328.68	310.00
	growing stock (m ³)	0	184	50152	351538	474534	625164	1135197	1759575	2724527	4013512	4483671	3261317	1986346	1228779	720097	523239	719651
	area (ha)	447.59	6594.84	6389.58	4817.73	3094.73	2630.03	3689.71	5119.02	7070.13	9961.86	10430.00	7390.83	4300.14	2718.62	1676.21	1200.16	1564.77
	stocking	0.00	0.89	0.91	0.88	0.85	0.81	0.77	0.73	0.73	0.72	0.72	0.70	0.71	0.71	0.69	0.70	0.71
Pine	yield class	28.1	25.6	33.6	31.0	30.3	30.1	30.6	29.9	29.2	28.0	27.2	26.5	25.5	23.8	22.2	21.3	21.1
	stock per ha (m ³ /ha)	0.00	0.03	7.85	72.97	153.34	237.70	307.67	343.73	385.36	402.89	429.88	441.27	461.93	451.99	429.60	435.97	459.91
	growing stock (m ³)	0	473	157640	1024666	2069328	2269385	2635167	3356184	3694229	4297060	4151176	2149849	961398	438408	235398	171081	164078
	area (ha)	797.29	8559.80	12759.39	12639.41	14864.45	12104.80	11432.20	12797.95	13247.27	14537.20	13314.39	6802.24	3242.71	1519.22	872.09	732.21	669.09
Larch	stocking	0.00	0.88	0.87	0.84	0.82	0.79	0.77	0.77	0.75	0.75	0.76	0.74	0.71	0.70	0.67	0.66	0.67
	yield class	25.3	22.4	28.4	28.4	27.3	26.6	26.3	25.7	24.7	23.9	23.3	22.8	21.4	20.0	19.1	16.7	17.2
	stock per ha (m ³ /ha)	0.00	0.06	12.35	81.07	139.21	187.48	230.50	262.24	278.87	295.59	311.78	316.05	296.48	288.57	269.92	233.65	245.23
	growing stock (m ³)	0	2379	173756	631899	1028587	722200	748085	865732	652977	806548	748867	440044	210464	128200	83175	44970	106019
Other coniferous	area (ha)	256.71	5896.74	8717.16	6165.61	6177.42	3340.00	2787.19	2867.00	1937.48	2338.21	1999.22	1167.56	579.03	388.08	240.13	149.43	356.26
	stocking	0.00	0.87	0.88	0.85	0.82	0.79	0.78	0.77	0.75	0.73	0.74	0.72	0.73	0.68	0.69	0.64	0.67
	yield class	26.5	23.5	24.1	28.2	28.4	28.1	28.1	27.6	27.9	27.3	27.2	26.8	25.2	23.7	22.2	21.8	21.8
	stock per ha (m ³ /ha)	0.00	0.40	19.93	102.49	166.51	216.23	268.40	301.96	337.02	344.94	374.58	376.89	363.47	330.35	346.38	300.95	297.59
Beech	growing stock (m ³)	0	0	11	161	1166	1685	1302	1440	2083	2391	6549	4067	1324	2838	4916	8295	12898
	area (ha)	117.49	183.53	1328.16	1508.54	1041.57	382.03	357.50	428.28	1008.71	1186.13	1904.16	1744.56	2505.47	1211.02	2183.72	1624.23	2046.60
	stocking	0.00	0.47	0.50	0.59	0.62	0.57	0.60	0.58	0.70	0.73	0.78	0.75	0.77	0.75	0.74	0.76	0.72
	yield class	19.8	18.1	20.0	19.8	19.8	19.7	19.8	19.8	19.4	19.9	19.7	19.5	20.1	19.8	19.9	19.8	19.8
Oak	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.11	1.12	4.41	3.64	3.36	2.07	2.02	3.44	2.33	0.53	2.34	2.25	5.11	6.30
	growing stock (m ³)	0	411	303355	2821098	5284081	7429742	12828903	15341864	16504106	20164471	19234533	14343946	8994602	5484767	3747227	2812513	3509950
	area (ha)	3393.46	40411.64	48578.97	40608.34	37607.44	38942.90	55020.34	58011.18	55853.76	61776.94	54061.42	37436.61	23744.22	15199.13	10842.36	8043.75	10136.38
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.78	0.77	0.79	0.80	0.78	0.75	0.73	0.73	0.72
Turkey oak	yield class	25.6	23.3	28.6	27.8	27.7	27.2	26.9	26.3	25.8	25.6	24.9	24.5	22.6	21.0	19.3	18.3	17.2
	stock per ha (m ³ /ha)	0.00	0.01	6.24	69.47	140.51	190.79	233.17	264.46	295.49	326.41	355.79	383.15	378.81	360.86	345.66	349.65	346.27
	growing stock (m ³)	0	279	67291	441323	733666	1654409	4742229	5970477	6021192	6057556	5306896	4091130	2317513	868515	465642	300798	415894
	area (ha)	1201.56	8661.94	9718.36	7900.83	7106.52	11202.32	27902.54	31475.90	27828.82	26369.37	21371.18	15079.99	8341.87	3252.42	1789.63	1248.99	1878.99
Hornbeam	stocking	0.00	0.89	0.90	0.88	0.85	0.81	0.80	0.79	0.78	0.77	0.78	0.79	0.78	0.76	0.74	0.72	0.69
	yield class	23.5	21.6	26.6	25.6	25.4	25.2	24.4	23.6	23.8	23.0	22.4	22.3	21.7	20.2	19.4	17.7	16.2
	stock per ha (m ³ /ha)	0.00	0.03	6.92	55.86	103.24	147.68	169.96	189.68	216.37	229.72	248.32	271.30	277.82	267.04	260.19	240.83	221.34
	growing stock (m ³)	0	172	15526	68971	124132	528146	1473747	1833318	1884866	1318178	745618	491515	231590	89933	59300	26622	40399
Birch	area (ha)	270.48	1505.27	1566.19	1151.06	1227.44	3438.32	8586.63	9563.93	8468.37	5607.43	2954.12	1765.57	816.13	343.65	214.73	124.38	194.14
	stocking	0.00	0.93	0.92	0.87	0.81	0.80	0.80	0.79	0.80	0.80	0.80	0.81	0.79	0.77	0.77	0.69	0.70
	yield class	23.6	20.9	24.9	25.4	25.3	25.6	24.5	23.6	23.8	22.9	22.3	22.4	21.7	19.4	19.7	16.5	14.9
	stock per ha (m ³ /ha)	0.00	0.11	9.91	59.92	101.13	153.61	171.63	191.69	222.58	235.08	252.40	278.39	283.77	261.70	276.16	214.03	208.09
Ash	growing stock (m ³)	0	381	64435	446531	871556	1637253	3295479	3652102	3312427	2794807	1674988	842151	400811	198249	104260	50854	72124
	area (ha)	628.80	4401.36	8527.05	6684.17	7123.91	10228.88	17851.61	17423.38	14468.71	11266.39	6342.89	3047.81	1468.86	765.61	395.89	205.34	286.27
	stocking	0.00	0.92	0.92	0.89	0.84	0.81	0.79	0.78	0.77	0.76	0.77	0.78	0.76	0.73	0.72	0.70	0.70
	yield class	22.8	21.0	28.5	27.3	25.9	24.5	23.2	22.3	21.2	20.5	19.2	18.2	16.9	15.6	15.0	13.1	12.5
Maple	stock per ha (m ³ /ha)	0.00	0.09	7.56	66.80	122.34	160.06	184.60	209.61	228.94	248.07	264.07	276.31	272.87	258.94	263.36	247.65	251.94

Continuing of Table A.11

Maple	growing stock (m ³)	0	391	58956	352902	437874	442714	551267	513012	447507	473663	482768	424921	337877	224594	168278	147430	240660
	area (ha)	210.47	6378.15	6489.13	4558.93	3141.54	2364.12	2509.45	2114.61	1638.82	1596.59	1488.05	1271.91	996.83	694.16	535.18	459.73	744.96
	stocking	0.00	0.90	0.89	0.87	0.83	0.80	0.79	0.78	0.76	0.76	0.77	0.76	0.76	0.73	0.71	0.70	0.70
	yield class	25.6	23.0	29.0	29.1	28.5	27.7	26.3	24.9	24.5	23.9	23.2	22.3	20.8	19.3	17.9	17.3	16.5
	stock per ha (m ³ /ha)	0.00	0.06	9.09	77.41	139.38	187.26	219.68	242.60	273.07	296.67	324.43	334.08	338.95	323.55	314.43	320.69	323.05
Ash	growing stock (m ³)	0	1619	62723	222478	284602	547132	967178	832567	632626	469023	384870	256709	175954	96288	57917	44977	40448
	area (ha)	152.35	3754.99	3806.72	2433.82	1792.76	2313.74	3553.91	2874.35	2026.02	1390.64	1050.28	660.30	452.35	239.30	157.27	139.88	124.45
	stocking	0.00	0.89	0.90	0.86	0.83	0.81	0.80	0.79	0.78	0.77	0.77	0.79	0.78	0.78	0.73	0.65	0.66
	yield class	28.3	23.3	31.4	30.7	30.4	31.9	30.4	28.3	27.0	26.4	25.9	24.9	23.6	22.7	20.7	18.7	17.5
	stock per ha (m ³ /ha)	0.00	0.43	16.48	91.41	158.75	236.47	272.14	289.65	312.25	337.27	366.44	388.78	388.98	402.37	368.26	321.53	325.01
Elm	growing stock (m ³)	0	0	679	5432	7803	13009	16602	19109	20427	10707	10129	13104	11277	8641	6183	9726	8148
	area (ha)	4.22	45.03	49.15	64.82	56.50	73.94	76.29	78.77	69.55	34.80	32.38	40.26	31.69	23.40	15.78	24.78	23.87
	stocking	0.00	0.89	0.91	0.87	0.79	0.70	0.77	0.78	0.77	0.76	0.74	0.74	0.75	0.76	0.76	0.73	0.71
	yield class	25.6	21.5	30.7	29.7	28.5	29.1	27.0	25.4	25.7	24.4	23.0	22.6	22.1	21.2	21.3	20.1	17.4
	stock per ha (m ³ /ha)	0.00	0.00	13.82	83.81	138.11	175.94	217.61	242.60	293.68	307.65	312.83	325.45	355.81	369.34	391.78	392.43	341.37
Linden	growing stock (m ³)	0	104	14940	111277	146294	99873	133219	104494	141070	135648	110495	79362	49418	35848	21629	12979	14819
	area (ha)	40.71	394.42	816.31	1176.58	1006.86	501.04	590.80	453.42	592.91	510.55	368.25	256.36	186.50	118.21	79.26	51.13	51.11
	stocking	0.00	0.89	0.89	0.87	0.84	0.82	0.79	0.76	0.75	0.73	0.75	0.74	0.74	0.75	0.76	0.73	0.67
	yield class	26.0	22.1	30.3	30.5	29.0	28.6	26.7	24.2	22.3	22.0	21.0	17.5	18.1	16.4	15.0	15.0	15.0
	stock per ha (m ³ /ha)	0.00	0.26	18.30	94.58	145.30	199.33	225.49	230.45	237.93	265.69	300.05	309.57	264.97	303.26	272.88	253.86	289.96
Locust	growing stock (m ³)	0	16821	168174	256865	439855	933860	942608	341732	101298	52013	34475	11946	8238	1705	197	78	272
	area (ha)	189.54	4328.65	3431.07	2966.25	3985.28	7547.93	6828.73	2549.50	812.80	422.90	262.20	93.77	59.73	12.17	1.72	0.75	1.91
	stocking	0.00	0.91	0.88	0.83	0.78	0.78	0.78	0.76	0.76	0.75	0.77	0.72	0.78	0.71	0.72	0.68	0.77
	yield class	19.4	21.5	18.6	18.8	19.1	19.0	19.6	19.1	18.5	18.5	18.8	18.6	18.7	17.7	17.6	17.4	17.4
	stock per ha (m ³ /ha)	0.00	3.89	49.02	86.60	110.37	123.72	138.04	134.04	124.63	122.99	131.48	127.39	137.93	140.09	114.54	103.40	142.33
Birch	growing stock (m ³)	0	913	55986	168146	291084	356707	465909	357097	223398	109290	54419	25314	15034	7866	5460	1242	1566
	area (ha)	156.40	2149.00	4331.64	3698.78	3791.78	3632.35	3894.85	2711.42	1660.01	778.39	379.49	192.32	119.80	63.37	49.36	11.46	17.09
	stocking	0.00	0.85	0.84	0.79	0.75	0.75	0.74	0.74	0.73	0.73	0.72	0.71	0.72	0.66	0.61	0.64	0.65
	yield class	17.1	19.5	17.2	17.4	17.3	16.9	16.8	16.3	15.8	15.8	16.0	15.8	15.2	15.6	15.7	15.1	13.5
	stock per ha (m ³ /ha)	0.00	0.42	12.92	45.46	76.77	98.20	119.62	131.70	134.58	140.40	143.40	131.63	125.50	124.13	110.62	108.41	91.64
Alder	growing stock (m ³)	0	2957	52096	210305	345229	255112	262250	170897	136409	93051	53635	27738	19438	7648	3381	1310	835
	area (ha)	81.61	550.46	1406.42	2418.80	3303.67	2070.10	1812.85	1017.45	731.93	464.99	266.17	141.49	91.29	35.93	17.22	6.35	4.40
	stocking	0.00	0.84	0.82	0.77	0.75	0.74	0.74	0.74	0.76	0.77	0.79	0.76	0.79	0.82	0.76	0.68	0.68
	yield class	17.9	19.0	17.8	17.3	16.8	17.2	18.4	19.2	19.9	20.5	20.6	20.4	21.1	20.7	20.4	20.1	21.0
	stock per ha (m ³ /ha)	0.00	5.37	37.04	86.95	104.50	123.24	144.66	167.97	186.37	200.11	201.51	196.04	212.92	212.87	196.34	206.40	189.97
Poplar	growing stock (m ³)	0	2697	34155	80372	107407	189132	260534	159937	100448	46105	22140	10573	4507	1450	549	280	79
	area (ha)	41.73	268.62	545.35	766.70	830.90	1184.11	1593.18	1020.70	625.61	278.23	116.91	59.39	24.86	10.63	3.81	2.30	0.85
	stocking	0.00	0.80	0.77	0.75	0.70	0.73	0.74	0.74	0.73	0.71	0.73	0.65	0.72	0.59	0.63	0.62	0.67
	yield class	19.1	18.7	18.1	18.7	19.0	19.2	19.3	18.9	19.3	19.7	20.5	20.6	19.5	18.6	18.2	17.8	18.0
	stock per ha (m ³ /ha)	0.00	10.04	62.63	104.83	129.27	159.72	163.53	156.69	160.56	165.71	189.38	178.04	181.26	136.38	144.01	121.56	92.40
Hybrid poplars	growing stock (m ³)	0	23669	255887	611917	665862	163086	32738	13102	5105	1360	379	514	424	75	0	0	0
	area (ha)	57.56	2125.50	1821.75	2657.92	2710.75	610.09	113.60	45.19	18.33	4.72	1.21	2.05	1.55	0.57	0.00	0.00	0.00
	stocking	0.00	0.78	0.80	0.78	0.76	0.79	0.74	0.76	0.81	0.70	0.69	0.60	0.75	0.00	0.00	0.00	0.00
	yield class	25.6	22.5	26.7	27.5	25.7	24.3	25.3	25.6	24.2	26.4	24.6	23.7	27.7	18.4	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	11.14	140.46	230.22	245.64	267.32	288.19	289.91	278.56	288.29	314.00	250.50	273.72	130.81	0.00	0.00	0.00

Continuing of table A.11

	growing stock (m ³)	0	2255	31345	52924	52621	34640	18987	12874	1994	1372	665	224	174	86	27	0	1
Willows	area (ha)	12.84	266.69	461.26	506.58	525.30	260.76	128.41	72.00	14.42	10.85	5.95	1.37	1.47	0.79	0.48	0.00	0.00
	stocking	0.00	0.77	0.78	0.72	0.67	0.67	0.65	0.70	0.64	0.65	0.71	0.66	0.54	0.51	0.27	0.00	0.00
	yield class	18.6	17.9	19.0	19.2	17.6	18.6	19.7	20.8	19.7	18.9	18.0	20.2	19.1	18.9	18.2	0.0	0.0
	stock per ha (m ³ /ha)	0.00	8.46	67.96	104.47	100.17	132.84	147.87	178.81	138.24	126.42	111.68	163.75	118.49	108.23	55.92	0.00	8.46
	growing stock (m ³)	0	268	5126	21049	38954	46959	45114	32372	31368	20822	16766	16606	15822	6112	7346	4511	4812
Other broadleaves	area (ha)	27.79	967.55	712.03	550.06	639.66	480.81	350.17	207.62	190.43	140.53	107.80	111.96	152.66	52.08	79.68	67.56	73.11
	stocking	0.00	0.88	0.88	0.81	0.77	0.74	0.72	0.73	0.73	0.67	0.66	0.70	0.74	0.64	0.70	0.72	0.69
	yield class	17.6	18.7	17.7	18.4	18.0	18.8	19.5	19.2	17.7	16.6	15.6	14.3	11.9	12.0	10.9	10.1	10.6
	stock per ha (m ³ /ha)	0.00	0.28	7.20	38.27	60.90	97.67	128.83	155.92	164.72	148.17	155.53	148.32	103.64	117.35	92.19	66.77	65.81
	growing stock (m ³)	0	6604	1247399	6131051	9984716	12525174	19926655	26153791	28618220	32804406	28364383	15980805	8929244	5110620	3235079	2633031	3972179
Coniferous	Broadleaves	0	29268	934787	5259673	9165158	14168688	26004026	29341852	29559136	31746706	28132397	20635239	12582255	7031702	4647896	3413320	4350007
Total		0	35872	2182186	11390724	19149874	26693862	45930681	55495643	58177356	64551112	56496780	36616044	21511499	12142322	7882975	6046351	8322186
Coniferous		4520	54662	76389	66921	61481	53576	66060	75408	75527	81500	68686	39597	24312	14682	11748	9442	14216
Broadleaves	Total	6470	76209	92261	78144	74850	84851	130813	129619	115000	110653	88808	60161	36490	20811	14182	10386	13538
Total		10989	130871	168650	145064	136331	138428	196873	205028	190528	192153	157494	99758	60802	35494	25930	19829	27753
Coniferous		0.00	0.12	16.33	91.62	162.40	233.78	301.64	346.83	378.91	402.51	412.96	403.58	367.27	348.09	275.38	278.85	279.42
Broadleaves	stock per ha (m ³ /ha)	0.00	0.69	12.91	75.14	131.34	168.90	199.04	226.47	257.08	286.91	316.78	343.01	344.83	337.88	327.72	328.63	321.33
Total		0.00	0.45	14.46	82.74	145.35	194.01	233.47	270.74	305.38	335.94	358.73	367.05	353.80	342.10	304.01	304.93	299.86

Table A.12 Development of age related forest characteristics for tree species strata in year 2005

species/year	2005	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3674	830871	4430512	6769195	8554936	15135132	19873323	21402635	23558030	19924930	10813765	5742660	3335810	2249221	1944771	3028180
	area (ha)	3087.28	32695.47	44738.77	43469.85	37779.28	33690.44	46439.39	52917.01	51766.64	52881.84	43057.61	23650.24	13704.77	8894.87	6829.51	5889.32	9714.03
	stocking	0.00	0.88	0.89	0.88	0.84	0.81	0.78	0.76	0.75	0.75	0.75	0.73	0.72	0.68	0.66	0.67	0.66
	yield class	29.2	27.5	33.7	32.4	31.0	30.4	30.6	30.3	29.7	28.9	27.9	26.6	23.8	21.3	18.7	17.6	16.1
Fir	stock per ha (m ³ /ha)	0.00	0.11	18.57	101.92	179.18	253.93	325.91	375.56	413.44	445.48	462.75	457.24	419.03	375.03	329.34	330.22	311.73
	growing stock (m ³)	0	209	51394	370579	517457	610921	1123111	1677568	2737293	3833809	4652636	3316425	1988200	1265876	730772	552237	728369
	area (ha)	477.32	6624.33	6336.74	4969.03	3315.12	2552.28	3639.21	4799.36	7006.10	9468.27	1075.42	7470.58	4300.71	2782.78	1675.20	1263.12	1580.82
	stocking	0.00	0.89	0.91	0.88	0.85	0.81	0.77	0.74	0.73	0.72	0.72	0.71	0.71	0.70	0.70	0.70	0.71
Pine	yield class	28.2	26.4	33.7	31.1	30.6	30.2	30.5	30.0	29.4	28.0	27.3	26.6	25.5	23.9	22.4	21.3	21.1
	stock per ha (m ³ /ha)	0.00	0.03	7.58	69.66	145.80	223.59	288.27	326.50	364.95	378.22	403.32	414.67	431.83	424.91	407.48	408.38	430.38
	growing stock (m ³)	0.00	0.03	8.11	74.58	156.09	239.36	308.61	349.54	390.70	404.91	431.78	443.93	462.30	454.90	436.23	437.20	460.75
	area (ha)	847.32	8342.57	12070.74	12831.41	14576.65	12289.49	11686.41	12408.26	13205.28	14514.91	13450.94	6905.22	3280.31	1607.09	849.05	759.82	677.38
Larch	stocking	0.00	0.89	0.87	0.85	0.82	0.80	0.78	0.77	0.75	0.75	0.76	0.74	0.70	0.70	0.68	0.66	0.67
	yield class	25.4	22.6	28.4	28.5	27.3	26.7	26.4	25.7	24.7	24.0	23.3	22.9	21.7	19.9	19.2	16.8	17.1
	stock per ha (m ³ /ha)	0.00	0.06	12.79	81.59	140.12	188.92	232.00	262.13	280.71	298.56	313.20	315.39	301.57	284.75	277.53	235.46	242.00
	growing stock (m ³)	0	2501	183490	657831	1043484	766632	753327	863022	686094	798677	772986	454811	209099	126793	82678	51801	109687
Other coniferous	area (ha)	274.67	5601.81	8606.19	6290.29	6189.32	3538.54	2790.70	2861.14	2029.48	2308.94	2061.42	1198.87	575.29	381.55	240.73	169.06	363.91
	stocking	0.00	0.87	0.88	0.85	0.82	0.79	0.78	0.77	0.75	0.73	0.74	0.73	0.73	0.68	0.68	0.64	0.67
	yield class	26.5	23.8	23.8	28.2	28.5	28.1	28.1	27.6	27.9	27.3	27.3	26.9	25.2	23.9	23.6	22.5	22.1
	stock per ha (m ³ /ha)	0.00	0.45	21.32	104.58	168.59	216.65	269.94	301.64	338.06	345.91	374.98	379.37	363.47	332.31	343.45	306.40	301.41
Beech	growing stock (m ³)	0	0	11	161	1138	1707	1302	1440	2083	2326	6638	3890	1521	2838	4916	8295	12373
	area (ha)	125.53	159.30	1340.90	1477.46	1085.45	341.13	378.27	424.62	960.85	1241.16	1860.76	1727.82	2515.83	1186.63	2217.33	1703.70	2039.66
	stocking	0.00	0.41	0.50	0.59	0.62	0.55	0.60	0.58	0.70	0.73	0.78	0.75	0.77	0.76	0.74	0.75	0.72
	yield class	19.8	20.0	19.7	19.9	19.8	19.6	19.8	19.8	19.9	19.4	19.9	19.8	19.6	19.8	19.9	19.8	19.8
Oak	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.11	1.05	5.00	3.44	3.39	2.17	1.87	3.57	2.25	0.60	2.39	2.22	4.87	6.07
	growing stock (m ³)	0	358	316400	2872479	5381528	7396472	12695376	15293467	16627343	19479875	20086259	15206468	9307747	5622625	3713877	2876122	3645543
	area (ha)	3644.85	40974.56	48862.84	41128.82	38291.41	38560.54	54271.21	57537.18	56006.18	59441.32	55904.10	39445.90	24542.17	15474.20	10758.15	8188.97	10499.85
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.78	0.78	0.79	0.80	0.78	0.75	0.73	0.73	0.72
Turkey oak	yield class	25.7	23.8	28.7	27.8	27.7	27.3	27.0	26.4	25.9	25.6	25.2	24.6	22.8	21.0	19.3	18.4	17.3
	stock per ha (m ³ /ha)	0.00	0.01	6.48	69.84	140.54	191.81	233.92	265.80	296.88	327.72	359.30	385.50	379.26	363.35	345.22	351.22	347.20
	growing stock (m ³)	0	255	68943	457918	747662	1492970	4460356	6006581	6368178	6050873	5411616	4327919	2414677	899193	455281	299709	426201
	area (ha)	1281.53	8841.38	9665.44	8073.60	7230.94	10032.16	25958.77	31296.45	29036.44	26182.75	21734.37	15843.18	8722.28	3378.39	1749.89	1235.37	1938.87
Hornbeam	stocking	0.00	0.89	0.90	0.88	0.85	0.81	0.80	0.79	0.78	0.77	0.78	0.79	0.78	0.76	0.73	0.72	0.69
	yield class	23.6	22.0	26.8	25.7	25.4	25.4	24.5	23.8	23.9	23.1	22.5	22.4	21.7	20.2	19.4	17.8	16.1
	stock per ha (m ³ /ha)	0.00	0.03	7.13	56.72	103.40	148.82	171.82	191.93	219.32	231.10	248.99	273.17	276.84	266.16	260.18	242.61	219.82
	growing stock (m ³)	0	172	17377	78150	132156	474206	1313500	1934340	2022015	1371100	833722	529368	247565	88943	58204	31106	43360
	area (ha)	289.34	1646.11	1533.38	1273.98	1288.19	3034.87	7514.56	9826.13	8896.95	5697.25	3260.92	1881.51	876.46	342.94	196.60	134.71	215.77
	stocking	0.00	0.93	0.92	0.88	0.81	0.80	0.79	0.80	0.80	0.81	0.81	0.80	0.77	0.79	0.72	0.70	0.68
	yield class	23.9	22.6	26.3	25.8	25.5	25.8	24.7	24.0	24.1	23.1	22.4	22.6	21.6	19.5	20.6	17.1	14.9
	stock per ha (m ³ /ha)	0.00	0.10	11.33	61.34	102.59	156.25	174.79	196.86	227.27	240.66	255.67	281.35	282.46	259.36	296.05	230.90	200.96
	growing stock (m ³)	0	369	66905	471819	87088	1564955	3179505	3744285	3421811	2797799	1798138	916692	418674	204205	103582	52878	73109
	area (ha)	673.69	4484.92	8711.03	6990.45	7124.51	9655.24	16899.08	17711.92	14781.48	11252.62	6749.62	3301.59	1537.46	780.66	396.70	211.51	290.56
	stocking	0.00	0.92	0.92	0.89	0.85	0.81	0.79	0.78	0.77	0.76	0.78	0.76	0.74	0.72	0.70	0.70	0.70
	yield class	23.0	21.3	28.7	27.4	26.1	24.7	23.5	22.4	21.4	20.6	19.3	18.3	16.9	15.7	15.0	13.2	12.5
	stock per ha (m ³ /ha)	0.00	0.08	7.68	67.49	123.11	162.08	187.93	211.40	231.49	248.64	266.41	277.65	272.32	261.58	261.11	250.01	251.61

Continuing of table A.12

Maple	growing stock (m ³)	0	398	61834	366350	461506	450756	548011	533347	449524	484383	480865	435155	334514	228067	176088	153461	244930
	area (ha)	227.95	6330.62	6608.54	4678.08	3298.87	2405.80	2495.31	2185.71	1642.79	1630.37	1475.07	1301.15	977.03	696.88	558.43	474.31	757.74
	stocking	0.00	0.90	0.89	0.86	0.83	0.80	0.79	0.78	0.76	0.76	0.77	0.76	0.76	0.73	0.71	0.71	0.70
	yield class	25.7	23.4	29.1	29.2	28.5	27.7	26.4	25.0	24.7	23.9	23.2	22.3	21.0	19.4	17.9	17.5	16.5
	stock per ha (m ³ /ha)	0.00	0.06	9.36	78.31	139.90	187.36	219.62	244.02	273.63	297.10	326.00	334.44	342.38	327.27	315.33	323.55	323.24
Ash	growing stock (m ³)	0	1033	67085	266015	325538	503581	991613	879226	656180	477016	382497	274816	168401	95689	62910	49887	43946
	area (ha)	166.66	3604.53	3806.41	2797.36	2032.36	2141.93	3651.44	3005.62	2098.72	1414.49	1030.60	717.45	435.27	240.17	167.96	148.53	137.44
	stocking	0.00	0.89	0.89	0.86	0.82	0.81	0.80	0.79	0.78	0.77	0.78	0.78	0.78	0.78	0.74	0.66	0.66
	yield class	28.6	24.4	31.4	31.1	30.8	31.8	30.4	28.6	27.1	26.4	26.1	24.6	23.5	22.3	21.0	19.2	17.3
	stock per ha (m ³ /ha)	0.00	0.29	17.62	95.10	160.18	235.11	271.57	292.53	312.66	337.24	371.14	383.04	386.89	398.43	374.54	335.87	319.74
Elm	growing stock (m ³)	0	0	733	4809	8243	10233	18014	18973	20113	11580	9858	13501	11018	8838	6215	9675	8192
	area (ha)	4.46	45.46	52.66	61.05	59.38	54.55	84.47	77.68	68.10	37.29	31.99	42.49	31.24	23.84	15.86	24.67	24.01
	stocking	0.00	0.90	0.91	0.87	0.80	0.77	0.75	0.78	0.77	0.76	0.73	0.75	0.75	0.76	0.73	0.71	0.71
	yield class	25.5	22.1	30.9	29.2	28.3	28.8	26.9	25.5	25.9	24.6	22.9	22.2	22.1	21.2	21.3	20.1	17.4
	stock per ha (m ³ /ha)	0.00	0.00	13.92	78.77	138.81	187.60	213.27	244.25	295.34	310.55	308.14	317.71	352.73	370.79	391.87	392.16	341.24
Linden	growing stock (m ³)	0	105	14805	112541	153531	102410	133846	109802	133655	139460	118573	87112	52496	33874	25842	14879	17487
	area (ha)	43.94	379.86	788.20	1173.65	1049.66	520.17	587.61	472.42	561.60	518.60	383.65	278.68	179.75	119.44	100.27	56.14	62.02
	stocking	0.00	0.90	0.89	0.87	0.84	0.81	0.79	0.76	0.75	0.73	0.75	0.75	0.73	0.72	0.66	0.65	0.66
	yield class	26.1	22.4	30.7	30.6	29.2	28.4	26.8	24.4	22.3	22.6	22.5	21.1	18.6	17.3	15.5	15.4	14.8
	stock per ha (m ³ /ha)	0.00	0.28	18.78	95.89	146.27	196.88	227.78	232.43	237.99	268.92	309.07	312.59	292.06	283.61	257.74	265.04	281.96
Locust	growing stock (m ³)	0	17431	169493	271904	440773	849284	917554	355000	116900	57166	36478	12408	8436	1476	195	74	313
	area (ha)	202.79	4876.08	3427.84	3165.35	3985.66	6844.56	6610.89	2652.59	906.99	458.38	275.60	96.27	60.74	10.48	1.64	0.74	1.94
	stocking	0.00	0.92	0.88	0.84	0.78	0.78	0.78	0.76	0.77	0.75	0.77	0.73	0.78	0.71	0.74	0.67	0.78
	yield class	19.4	21.4	18.5	18.8	19.2	19.0	19.7	19.1	18.8	18.6	18.6	18.8	18.7	19.0	17.9	17.6	19.6
	stock per ha (m ³ /ha)	0.00	3.57	49.45	85.90	110.59	124.08	138.79	133.83	128.89	124.71	132.36	128.89	138.88	140.80	118.80	100.67	161.05
Birch	growing stock (m ³)	0	828	53704	179407	289328	350945	453899	369278	233820	117592	58421	27299	16258	7966	5161	1402	1301
	area (ha)	165.89	2063.71	4203.61	3819.74	3732.02	3551.30	3772.41	2751.90	1718.76	822.59	398.27	203.95	124.51	65.80	46.88	12.70	14.54
	stocking	0.00	0.85	0.84	0.80	0.76	0.74	0.75	0.74	0.73	0.73	0.73	0.71	0.72	0.65	0.62	0.65	0.61
	yield class	17.1	19.5	17.1	17.6	17.4	17.0	16.8	16.5	15.9	16.0	16.3	15.9	15.5	15.4	15.7	15.1	14.5
	stock per ha (m ³ /ha)	0.00	0.40	12.78	46.97	77.53	98.82	120.32	134.19	136.04	142.95	146.69	133.85	130.57	121.07	110.10	110.41	89.47
Alder	growing stock (m ³)	0	2769	48840	207268	347597	287616	267779	174392	133993	97794	62698	32435	19408	7965	3411	1281	835
	area (ha)	87.56	483.86	1306.28	2367.49	3208.76	2366.06	1839.21	1032.65	707.25	479.07	301.87	162.42	90.79	37.60	17.50	6.11	4.40
	stocking	0.00	0.84	0.82	0.77	0.75	0.73	0.74	0.74	0.76	0.78	0.80	0.77	0.79	0.81	0.75	0.76	0.68
	yield class	18.1	19.5	17.8	17.4	17.1	17.2	18.4	19.4	20.3	20.6	20.9	20.6	21.2	20.9	20.5	20.3	21.0
	stock per ha (m ³ /ha)	0.00	5.72	37.39	87.55	108.33	121.56	145.59	168.88	189.46	204.13	207.70	199.70	213.77	211.83	194.90	209.57	189.75
Poplar	growing stock (m ³)	0	1798	34713	78669	118906	161155	261198	176879	103686	51957	27100	11497	4791	1390	592	308	21
	area (ha)	44.16	265.31	517.14	747.03	875.17	1038.91	1536.36	1074.89	650.25	311.00	145.04	65.68	26.14	9.33	4.04	2.43	0.15
	stocking	0.00	0.76	0.77	0.74	0.70	0.72	0.73	0.74	0.73	0.72	0.74	0.66	0.72	0.60	0.63	0.64	0.53
	yield class	19.3	19.1	18.2	18.6	19.5	19.2	19.7	19.4	19.2	19.7	20.4	20.4	19.8	19.3	18.2	18.1	22.5
	stock per ha (m ³ /ha)	0.00	6.78	67.13	105.31	135.87	155.12	170.01	164.55	159.46	167.07	186.85	175.06	183.27	148.91	146.61	126.91	139.03
Hybrid poplars	growing stock (m ³)	0	57342	179188	472434	541439	211663	40488	11858	7015	1487	379	514	424	75	0	0	0
	area (ha)	59.25	3043.52	1456.12	2012.79	2223.25	796.55	141.49	44.38	21.99	5.36	1.21	2.05	1.55	0.57	0.00	0.00	0.00
	stocking	0.00	0.80	0.78	0.71	0.72	0.78	0.76	0.72	0.84	0.71	0.69	0.69	0.60	0.75	0.00	0.00	0.00
	yield class	26.8	26.1	27.6	29.2	26.2	24.4	25.1	25.1	25.5	25.9	24.6	23.7	27.7	18.4	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	18.84	123.06	234.72	243.54	265.72	286.15	267.21	318.97	277.57	313.64	250.21	273.42	130.67	0.00	0.00	0.00

Continuing of table A.12

	growing stock (m ³)	0	1997	21028	54935	52700	40759	23027	14221	2585	1413	665	224	143	121	34	0	1
Willows	area (ha)	12.67	191.81	290.81	523.99	465.80	341.50	151.87	82.73	15.31	10.62	5.96	1.37	1.16	1.15	0.54	0.00	0.00
	stocking	0.00	0.74	0.80	0.70	0.66	0.65	0.65	0.67	0.68	0.69	0.71	0.66	0.53	0.56	0.33	0.00	0.00
	yield class	18.9	18.0	19.3	19.3	18.5	18.0	20.0	20.8	20.9	18.6	18.0	20.3	19.8	17.9	18.2	0.0	0.0
	stock per ha (m ³ /ha)	0.00	10.41	72.31	104.84	113.14	119.35	151.62	171.89	168.89	133.00	111.55	163.56	123.49	105.40	62.53	0.00	0.00
	growing stock (m ³)	0	223	6475	21839	38778	44584	47549	34052	31233	21731	18066	17265	16227	6631	7252	4722	5030
Other broadleaves	area (ha)	30.19	960.20	786.11	544.15	621.81	462.96	374.57	218.54	186.06	143.35	122.61	112.02	155.72	56.95	80.38	70.03	30.19
	stocking	0.00	0.88	0.89	0.83	0.76	0.76	0.71	0.73	0.72	0.68	0.67	0.69	0.75	0.63	0.70	0.72	0.69
	yield class	17.7	18.9	18.2	18.4	18.5	18.3	19.4	19.2	18.1	16.8	15.2	14.4	12.0	11.9	10.8	10.1	10.6
	stock per ha (m ³ /ha)	0.00	0.23	8.24	40.13	62.36	96.30	126.94	155.82	167.87	151.59	147.34	154.13	104.21	116.43	90.22	67.43	0.00
	growing stock (m ³)	0	6856	1220093	6506052	10373807	12255890	19724091	25667947	28534937	32526439	29569960	16766708	8930737	5188942	3303219	2736011	4042532
Coniferous	Broadleaves	0	27736	948335	5444103	9375334	13729926	25307627	29643843	30321036	31159739	29324956	21892159	13020355	7206983	4618644	3495504	4510269
		0	34592	2168428	11950155	19749141	25985816	45031718	55311790	58855973	63686178	58894916	38658867	21951092	12395925	7921863	6231515	8552801
		0	4812	53423	73093	69038	62946	52412	64934	73410	74968	80415	71206	40953	24377	14853	11812	9785
Broadleaves	area (ha)	6935	78192	92016	79358	75488	81807	125889	129971	117299	108405	91821	63456	37762	21238	14095	10566	14021
		11747	131615	165110	148396	138434	134219	190823	203381	192267	188820	163027	104408	62139	36091	25907	20351	28397
		0.00	0.13	16.69	94.24	164.81	233.84	303.76	349.65	380.63	404.48	415.27	409.42	366.36	349.36	279.65	279.61	281.20
Coniferous	stock per ha (m ³ /ha)	0.00	1.09	12.25	74.56	131.37	170.42	201.35	228.17	258.55	287.45	319.38	345.01	344.81	339.34	327.68	330.82	321.67
		0.00	0.70	14.22	83.71	146.57	195.18	236.20	272.02	306.15	337.29	361.26	370.27	353.26	343.46	305.78	306.20	301.19

Table A.13 Development of age related forest characteristics for tree species strata in year 2006

species/year	2006	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3546	845792	4480034	7000145	8433712	14602287	20158513	21443514	23118422	20535005	11663364	5823686	3546829	2318403	2016026	3107030
	area (ha)	2853.32	31762.67	44244.70	43643.00	38845.61	33358.18	44915.57	53415.96	51979.81	51997.49	44286.74	25133.29	13961.55	9321.90	6851.01	6150.72	10017.73
	stocking	0.00	0.88	0.89	0.88	0.84	0.81	0.78	0.76	0.75	0.75	0.75	0.74	0.71	0.69	0.67	0.67	0.66
	yield class	29.4	28.7	33.9	32.6	31.1	30.4	30.6	30.5	29.8	29.0	28.1	26.8	23.9	21.5	19.1	17.6	16.2
Fir	stock per ha (m ³ /ha)	0.00	0.11	19.12	102.65	180.20	252.82	325.11	377.39	412.54	444.61	463.68	464.06	417.12	380.48	338.40	327.77	310.15
	growing stock (m ³)	0	267	53214	364973	615854	615288	1084096	1653794	2720509	3674418	4641702	3432767	2030431	1300917	776337	590693	766724
	area (ha)	440.67	6562.49	6285.67	4743.32	3852.73	2581.43	3516.00	4666.50	6922.04	9063.58	10813.54	7652.16	4458.43	2807.52	1775.97	1367.68	1678.81
	stocking	0.00	0.90	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.73	0.71	0.71	0.71	0.72	0.70	0.70	0.71
Pine	yield class	28.3	27.2	33.7	31.4	30.9	30.2	30.6	30.3	29.6	28.1	27.4	26.8	25.4	24.2	22.6	21.2	21.1
	stock per ha (m ³ /ha)	0.00	0.04	8.47	76.94	159.85	238.35	308.33	354.40	393.02	405.40	429.25	448.60	455.41	463.37	437.13	431.89	456.71
	growing stock (m ³)	0	500	152927	1069806	2083835	2352151	2818800	3244652	3834129	4312536	4181220	2398084	1042175	476007	246959	190097	172714
	area (ha)	784.22	8266.67	11359.33	12872.53	14573.10	12456.68	12058.42	12318.63	13497.02	14370.98	13352.49	7469.33	3447.46	1684.71	890.80	805.67	716.03
Larch	stocking	0.00	0.89	0.87	0.86	0.82	0.80	0.78	0.77	0.76	0.76	0.76	0.74	0.71	0.70	0.68	0.66	0.67
	yield class	25.5	23.0	28.4	28.8	27.5	26.7	26.5	25.8	24.9	24.1	23.3	23.0	21.7	19.8	19.3	17.0	17.1
	stock per ha (m ³ /ha)	0.00	0.06	13.46	83.11	142.99	188.83	233.76	263.39	284.07	300.09	313.14	321.06	302.30	282.55	277.23	235.95	241.21
	growing stock (m ³)	0	3016	188005	641605	1086929	836593	738848	869820	748039	769508	789867	482015	214304	129134	87897	56209	111665
Other coniferous	area (ha)	256.67	5575.93	8564.33	6167.58	6412.57	3876.39	2738.49	2899.91	2203.39	2201.93	2141.77	1282.28	598.63	387.94	261.82	179.38	373.70
	stocking	0.00	0.87	0.88	0.85	0.81	0.79	0.78	0.77	0.75	0.74	0.73	0.72	0.72	0.69	0.67	0.66	0.67
	yield class	26.6	24.0	23.8	28.3	28.7	28.2	28.2	27.7	28.1	27.5	27.3	27.0	25.3	23.9	23.8	22.7	22.1
	stock per ha (m ³ /ha)	0.00	0.54	21.95	104.03	169.50	215.82	269.80	299.95	339.50	349.47	368.79	375.90	357.99	332.87	335.72	313.35	298.81
Beech	growing stock (m ³)	0	0	11	160	1076	1828	1302	1400	2061	2433	6638	3890	1521	2825	4916	8295	12373
	area (ha)	116.39	94.85	1246.09	1490.91	1187.00	383.91	357.28	427.37	996.76	1240.79	1863.06	1661.80	2638.11	1199.56	2236.02	1718.07	2056.86
	stocking	0.00	0.38	0.49	0.59	0.62	0.57	0.61	0.58	0.69	0.73	0.78	0.76	0.76	0.74	0.75	0.72	0.72
	yield class	19.8	19.9	19.7	19.9	19.8	19.7	19.8	19.9	19.9	19.4	19.9	19.6	19.8	19.9	19.8	19.8	19.8
Oak	stock per ha (m ³ /ha)	0.00	0.00	0.01	0.11	0.91	4.76	3.64	3.28	2.07	1.96	3.56	2.34	0.58	2.36	2.20	4.83	6.02
	growing stock (m ³)	0	152	307454	2978594	5507190	7470313	12816841	15379825	16680983	19653990	20269467	15654811	9264548	5708451	3815968	2996272	3799000
	area (ha)	3402.60	41637.95	48186.77	42299.52	39421.56	38878.52	54916.36	58024.89	56250.47	60127.11	56667.05	40734.12	24465.61	15822.38	11005.43	8588.83	11013.95
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.78	0.78	0.79	0.80	0.78	0.75	0.73	0.73	0.72
Turkey oak	yield class	25.7	24.2	28.6	28.0	27.7	27.4	27.1	26.5	26.0	25.7	25.2	24.7	22.9	21.0	19.5	18.4	17.3
	stock per ha (m ³ /ha)	0.00	0.00	6.38	70.42	139.70	192.15	233.39	265.06	296.55	326.87	357.69	384.32	378.68	360.78	346.74	348.86	344.93
	growing stock (m ³)	0	230	67254	458834	763340	1408730	4454728	5936006	6490838	6039124	5511974	4391796	2460402	929922	461166	293440	454500
	area (ha)	1189.18	8815.30	9508.20	8160.12	7344.78	9393.85	26115.90	31131.17	29685.66	26343.11	22278.25	16152.01	8934.78	3554.51	1790.78	1218.48	2078.46
Hornbeam	stocking	0.00	0.89	0.90	0.88	0.85	0.81	0.80	0.79	0.78	0.77	0.78	0.79	0.78	0.76	0.73	0.72	0.69
	yield class	23.6	22.1	26.6	25.7	25.6	25.6	24.5	23.8	24.0	23.1	22.5	22.5	21.8	20.1	19.5	17.9	16.2
	stock per ha (m ³ /ha)	0.00	0.03	7.07	56.23	103.93	149.96	170.58	190.68	218.65	229.25	247.41	271.90	275.37	261.62	257.52	240.83	218.67
	growing stock (m ³)	0	182	17544	77989	126189	429614	1332611	1903261	2040693	1404910	842793	531472	246163	96600	57121	32023	43969
Birch	area (ha)	269.17	1673.41	1538.20	1285.33	1253.63	2842.06	7702.00	9787.00	9082.73	5906.78	3312.68	1907.45	876.74	376.66	195.72	139.05	220.22
	stocking	0.00	0.93	0.92	0.88	0.82	0.80	0.80	0.80	0.80	0.81	0.81	0.81	0.80	0.76	0.78	0.71	0.68
	yield class	23.9	22.6	26.3	25.8	25.2	25.5	24.7	23.9	24.1	23.1	22.4	22.6	21.6	19.6	20.6	17.2	14.9
	stock per ha (m ³ /ha)	0.00	0.11	11.41	60.68	100.66	151.16	173.02	194.47	224.68	237.85	254.41	278.63	280.77	256.47	291.85	230.30	199.66
Ash	growing stock (m ³)	0	363	68993	488935	861342	1529810	3179280	3691158	3494441	2814846	1839442	943036	406593	214732	109451	48937	85906
	area (ha)	625.62	4552.10	8749.19	7282.26	7046.63	9490.69	16981.94	17583.36	15126.88	11356.42	6938.58	3417.76	1506.24	820.12	416.72	196.31	332.55
	stocking	0.00	0.92	0.92	0.89	0.85	0.81	0.79	0.78	0.77	0.76	0.76	0.78	0.76	0.74	0.72	0.69	0.71
	yield class	23.0	21.3	28.7	27.5	26.0	24.8	23.6	22.4	21.5	20.7	19.4	18.4	16.8	15.8	15.2	13.6	12.7
Maple	stock per ha (m ³ /ha)	0.00	0.08	7.89	67.14	122.23	161.19	186.98	209.92	231.01	247.86	265.10	275.92	269.94	261.83	262.65	249.28	258.33

Continuing of table A.13

Maple	growing stock (m ³)	0	861	64307	385488	493109	465534	583256	552123	472217	486765	490900	442696	323022	239362	183364	159836	253120
	area (ha)	215.89	6307.29	6730.59	4902.85	3517.61	2494.53	2645.29	2266.50	1725.86	1638.91	1503.27	1321.83	944.63	724.83	568.70	497.29	789.35
	stocking	0.00	0.90	0.89	0.87	0.83	0.80	0.79	0.78	0.76	0.76	0.77	0.77	0.76	0.73	0.72	0.71	0.70
	yield class	26.0	23.9	29.2	29.3	28.6	27.9	26.6	25.1	24.8	24.0	23.3	22.3	21.1	19.5	18.1	17.4	16.5
	stock per ha (m ³ /ha)	0.00	0.14	9.55	78.63	140.18	186.62	220.49	243.60	273.61	297.00	326.56	334.91	341.95	330.23	322.43	321.42	320.67
Ash	growing stock (m ³)	0	1387	72556	286653	339549	478762	999418	926572	665368	510309	385263	285601	168977	103833	67234	48664	48205
	area (ha)	157.11	3465.76	3960.17	3015.03	2119.89	2072.29	3678.90	3164.06	2129.21	1521.73	1040.21	742.12	440.29	255.83	175.34	143.11	151.65
	stocking	0.00	0.89	0.89	0.86	0.83	0.81	0.80	0.79	0.78	0.77	0.78	0.78	0.77	0.78	0.75	0.67	0.66
	yield class	28.8	25.1	31.3	31.2	30.8	31.5	30.6	28.8	27.3	26.4	26.0	24.8	23.5	22.8	21.2	19.7	17.3
	stock per ha (m ³ /ha)	0.00	0.40	18.32	95.07	160.17	231.03	271.66	292.84	312.49	335.35	370.37	384.85	383.79	405.87	383.45	340.04	317.87
Elm	growing stock (m ³)	0	0	770	4185	8910	9015	17780	19689	21449	10015	10765	13150	10668	7847	6474	9692	9055
	area (ha)	4.09	45.46	50.88	55.06	62.25	50.83	83.19	79.91	74.88	32.89	35.68	40.88	30.56	19.68	16.97	24.12	27.17
	stocking	0.00	0.90	0.91	0.85	0.82	0.75	0.75	0.79	0.77	0.77	0.72	0.75	0.75	0.79	0.75	0.75	0.70
	yield class	25.4	22.4	31.1	29.0	28.6	28.3	27.2	25.6	25.4	24.2	22.9	22.3	22.0	22.3	21.0	20.4	17.4
	stock per ha (m ³ /ha)	0.00	0.00	15.14	76.01	143.14	177.34	213.73	246.40	286.44	304.49	301.68	321.65	349.13	398.73	381.53	401.87	333.22
Linden	growing stock (m ³)	0	91	14076	112724	172045	110462	130961	108458	138003	144728	121757	95825	53327	30474	29335	14383	18993
	area (ha)	41.27	357.88	745.15	1161.43	1158.71	561.97	579.89	464.86	580.97	536.20	395.51	301.52	185.47	111.82	110.04	56.71	65.90
	stocking	0.00	0.89	0.89	0.87	0.84	0.82	0.79	0.77	0.75	0.74	0.75	0.75	0.72	0.71	0.67	0.64	0.67
	yield class	26.2	23.0	30.6	30.8	29.4	28.5	26.9	24.4	22.4	22.8	22.6	21.5	18.5	17.1	16.1	15.2	15.1
	stock per ha (m ³ /ha)	0.00	0.25	18.89	97.06	148.48	196.56	225.84	233.31	237.54	269.91	307.85	317.80	287.53	272.52	266.59	253.60	288.19
Locust	growing stock (m ³)	0	31055	169474	265305	381590	768331	938403	364750	129353	61043	38887	12960	8094	1702	196	81	313
	area (ha)	187.70	5628.35	3443.59	3124.84	3522.74	6375.36	6759.81	2749.61	980.47	482.93	298.01	99.96	59.62	12.63	1.67	0.79	1.96
	stocking	0.00	0.93	0.88	0.85	0.79	0.79	0.79	0.76	0.77	0.76	0.73	0.77	0.72	0.73	0.69	0.78	
	yield class	19.4	21.5	18.6	18.6	18.9	18.7	19.6	19.3	19.0	18.8	18.6	19.0	18.8	18.8	18.0	17.5	19.6
	stock per ha (m ³ /ha)	0.00	5.52	49.21	84.90	108.32	120.52	138.82	132.66	131.93	126.40	130.49	129.65	135.76	134.73	117.69	102.26	159.70
Birch	growing stock (m ³)	0	886	55998	182423	290286	349198	459105	365230	239934	118857	59523	27892	16104	7419	5270	1561	1346
	area (ha)	155.41	2147.58	4300.70	3911.95	3781.27	3584.12	3822.46	2743.19	1757.70	841.66	406.68	211.19	123.64	63.21	47.04	14.34	15.08
	stocking	0.00	0.85	0.84	0.80	0.76	0.74	0.75	0.74	0.73	0.73	0.73	0.71	0.73	0.66	0.63	0.64	0.62
	yield class	17.2	19.5	17.2	17.6	17.3	17.0	16.9	16.5	16.0	16.0	16.4	15.9	15.5	15.2	15.7	15.1	14.4
	stock per ha (m ³ /ha)	0.00	0.41	12.93	46.63	76.77	97.43	120.11	133.14	136.50	141.22	146.36	132.07	130.24	117.36	112.04	108.87	89.26
Alder	growing stock (m ³)	0	3250	47353	205864	339554	293639	271344	179130	147563	86217	76024	33422	20577	8542	3661	1149	1202
	area (ha)	82.07	518.83	1295.44	2371.27	3142.25	2449.02	1887.90	1095.87	759.12	433.70	361.09	164.80	113.97	40.71	19.52	5.63	6.42
	stocking	0.00	0.86	0.81	0.77	0.75	0.73	0.74	0.76	0.77	0.77	0.82	0.78	0.67	0.79	0.74	0.77	0.65
	yield class	18.1	19.9	17.8	17.5	17.1	17.1	18.4	19.1	20.7	20.6	20.9	20.7	21.1	21.1	20.6	19.7	21.8
	stock per ha (m ³ /ha)	0.00	6.26	36.55	86.82	108.06	119.90	143.73	163.46	194.39	198.79	210.54	202.80	180.55	209.82	187.58	204.24	187.29
Poplar	growing stock (m ³)	0	1969	35818	80649	117211	147961	229022	211104	109600	55804	26740	10788	5592	1462	591	308	21
	area (ha)	40.96	268.71	524.48	770.97	871.80	1005.59	1423.83	1201.39	667.91	322.35	151.93	64.98	29.88	9.74	4.07	2.45	0.15
	stocking	0.00	0.77	0.78	0.75	0.71	0.72	0.74	0.74	0.73	0.72	0.74	0.67	0.71	0.61	0.63	0.64	0.53
	yield class	19.3	20.1	18.3	18.5	19.4	18.8	19.2	20.0	19.5	20.0	20.0	20.0	20.4	19.3	18.2	18.1	22.5
	stock per ha (m ³ /ha)	0.00	7.33	68.29	104.61	134.45	147.14	160.85	175.72	164.09	173.12	176.01	166.02	187.18	150.13	145.14	125.85	137.87
Hybrid poplars	growing stock (m ³)	0	58676	180701	449793	517361	230788	42408	17126	6976	1400	521	557	424	75	0	0	0
	area (ha)	54.49	3137.32	1458.81	1934.50	2086.37	867.96	157.80	60.63	22.17	4.64	2.08	2.22	1.56	0.58	0.00	0.00	0.00
	stocking	0.00	0.80	0.78	0.71	0.72	0.78	0.74	0.73	0.83	0.77	0.61	0.69	0.60	0.75	0.00	0.00	0.00
	yield class	27.0	26.3	27.7	29.4	26.5	24.4	24.8	25.8	25.5	26.0	24.2	23.9	27.7	18.4	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	18.70	123.87	232.51	247.97	265.90	268.74	282.45	314.69	301.68	250.27	250.46	271.13	129.57	0.00	0.00	0.00

Continuing of table A.13

	growing stock (m ³)	0	1569	21322	55033	48340	42146	21089	13123	3492	1753	665	219	130	118	34	0	1
Willows	area (ha)	11.55	172.78	296.42	526.50	416.24	380.62	145.86	81.90	20.88	12.06	6.01	1.38	1.06	1.02	0.55	0.00	0.00
	stocking	0.00	0.76	0.79	0.70	0.68	0.63	0.65	0.65	0.64	0.72	0.71	0.66	0.52	0.61	0.33	0.00	0.00
	yield class	18.8	18.2	19.2	19.3	18.5	17.8	19.6	20.5	21.5	19.0	18.0	20.3	19.8	18.1	18.2	0.0	0.0
	stock per ha (m ³ /ha)	0.00	9.08	71.93	104.53	116.13	110.73	144.58	160.24	167.26	145.31	110.62	158.58	123.10	116.20	62.00	0.00	0.00
	growing stock (m ³)	0	267	7137	24845	39623	39819	53521	41040	30345	24731	18493	18226	15540	7461	6645	5561	5012
Other broadleaves	area (ha)	29.58	1093.74	844.22	569.51	642.40	451.58	404.94	254.46	185.98	149.87	128.89	116.14	155.80	61.15	79.61	73.71	74.18
	stocking	0.00	0.90	0.88	0.85	0.76	0.75	0.72	0.73	0.73	0.69	0.67	0.70	0.75	0.64	0.70	0.72	0.69
	yield class	17.7	18.5	17.8	19.1	18.4	17.4	20.0	19.9	17.8	17.8	15.1	14.6	11.7	12.3	10.5	10.5	10.6
	stock per ha (m ³ /ha)	0.00	0.24	8.45	43.63	61.68	88.18	132.17	161.28	163.16	165.01	143.47	156.93	99.74	122.01	83.47	75.44	67.57
	growing stock (m ³)	0	7329	1239949	6556578	10787839	12239572	19245333	25928179	28748252	31877317	30154432	17980120	9112117	5455712	3434512	2861320	4170506
Coniferous	Broadleaves	0	42262	949656	5607521	9488278	13543334	25483359	29691469	30664279	31413092	29692693	22461894	12999737	7357925	4746510	3611907	4720643
		0	49591	2189605	12164099	20276117	25782906	44728692	55619648	59412531	63290409	59847125	40442014	22111854	12813637	8181022	6473227	8891149
		0	4451	52263	71700	68917	64871	52657	63586	73728	75599	78875	72458	43199	25104	15402	12016	10222
Broadleaves	area (ha)	6467	79822	91633	81371	76388	80899	127306	130689	119051	109710	93526	65278	37870	21875	14432	10961	14777
		10918	132085	163333	150288	141259	133556	190892	204417	194650	188585	165984	108477	62974	37277	26448	21182	29620
		0.00	0.14	17.29	95.14	166.30	232.44	302.67	351.67	380.27	404.15	416.17	362.97	354.23	285.84	279.93	280.97	
Coniferous	stock per ha (m ³ /ha)	0.00	1.26	12.34	74.44	130.98	170.26	200.51	227.32	257.63	286.34	317.49	344.10	343.29	336.37	328.88	329.53	319.46
		0.00	0.82	14.51	83.93	147.20	194.78	234.54	272.17	305.26	335.61	360.56	372.82	351.13	343.75	309.33	305.60	300.17

Table A.14 Development of age related forest characteristics for tree species strata in year 2007

species/year	2007	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3580	825993	4595486	6968273	8382572	14251926	19994515	21055045	22504206	20502082	11754473	5840723	3485916	2340905	2011381	3766164
	area (ha)	3032.68	35076.73	42930.22	43529.93	37992.20	32912.63	43633.11	52619.42	50547.50	50103.27	43590.20	25024.16	13564.41	9044.28	6576.50	5932.16	11865.59
	stocking	0.00	0.84	0.90	0.88	0.84	0.81	0.79	0.77	0.76	0.76	0.75	0.74	0.72	0.69	0.68	0.67	0.66
	yield class	29.5	29.0	34.0	32.9	31.4	30.5	30.6	30.6	30.0	29.1	28.3	27.0	24.4	21.6	19.9	18.2	16.4
	stock per ha (m ³ /ha)	0.00	0.10	19.24	105.57	183.41	254.69	326.63	379.98	416.54	449.16	470.34	469.72	430.59	385.43	355.95	339.06	317.40
Fir	growing stock (m ³)	0	266	52688	372177	623628	618491	1076096	1662407	2709982	3643598	4602655	3431371	2040075	1329810	785123	585090	850851
	area (ha)	474.20	6830.39	6290.87	4762.68	3866.38	2595.64	3479.19	4665.26	6874.71	8971.15	10685.56	7643.05	4453.31	2850.52	1772.50	1337.00	1875.60
	stocking	0.00	0.89	0.91	0.88	0.85	0.82	0.77	0.75	0.73	0.72	0.72	0.71	0.71	0.72	0.70	0.70	0.71
	yield class	28.4	27.4	33.7	31.5	31.0	30.2	30.6	30.3	29.7	28.1	27.4	26.9	25.6	24.4	22.7	21.5	21.0
	stock per ha (m ³ /ha)	0.00	0.04	8.38	78.14	161.30	238.28	309.30	356.34	394.20	406.15	430.74	448.95	458.10	466.52	442.95	437.61	453.64
Pine	growing stock (m ³)	0	453	145418	1106928	2089150	2430153	2800252	3154511	3861750	4176404	4022966	2645584	1071646	465567	287239	161830	222029
	area (ha)	835.77	8454.66	10755.90	13033.27	14478.13	12638.66	11988.57	11874.14	13378.97	13822.97	12810.34	8229.39	3502.24	1633.14	1016.58	616.52	922.54
	stocking	0.00	0.87	0.88	0.86	0.82	0.80	0.78	0.77	0.76	0.76	0.74	0.71	0.70	0.69	0.68	0.69	0.69
	yield class	25.63	23.95	28.32	29.10	27.60	26.85	26.46	25.86	25.21	24.23	23.35	23.13	21.73	19.94	19.36	17.88	16.7
	stock per ha (m ³ /ha)	0.00	0.05	13.52	84.93	144.30	192.28	233.58	265.66	288.64	302.14	314.04	321.48	305.99	285.07	282.55	262.49	240.67
Larch	growing stock (m ³)	0	3518	192803	640084	1054332	881127	747050	862790	754008	762770	787128	471219	218726	122173	124897	62220	137725
	area (ha)	277.64	6042.50	8543.00	6110.31	6103.59	4054.86	2779.23	2813.55	2216.03	2154.37	2131.39	1243.11	616.36	386.72	373.58	193.85	464.90
	stocking	0.00	0.83	0.88	0.85	0.82	0.79	0.78	0.77	0.75	0.74	0.72	0.72	0.69	0.64	0.66	0.67	0.67
	yield class	26.7	24.1	23.8	28.4	28.9	28.3	28.2	27.9	28.1	27.6	27.4	27.0	25.7	24.0	24.1	22.8	22.0
	stock per ha (m ³ /ha)	0.00	0.58	22.57	104.75	172.74	217.30	268.80	306.66	340.25	354.06	369.30	379.06	354.86	315.92	334.33	320.98	296.25
Other coniferous	growing stock (m ³)	0	0	25	209	1036	2996	2773	1503	2220	1172	4382	4127	4427	2930	4485	4523	22529
	area (ha)	132.34	71.67	540.68	1396.11	1245.41	625.21	510.19	415.86	927.29	1074.13	1322.08	1975.20	2057.94	2634.87	1801.47	1591.00	3845.79
	stocking	0.00	0.55	0.47	0.59	0.55	0.62	0.60	0.56	0.67	0.70	0.76	0.77	0.73	0.80	0.68	0.73	0.75
	yield class	19.2	18.4	19.1	19.9	19.6	18.1	19.6	19.8	19.8	19.4	19.8	19.7	19.4	16.1	19.1	19.8	20.2
	stock per ha (m ³ /ha)	0.00	0.00	0.05	0.15	0.83	4.79	5.44	3.61	2.39	1.09	3.31	2.09	2.15	1.11	2.49	2.84	5.86
Beech	growing stock (m ³)	0	222	306925	2993288	5553157	7448225	12631774	15282903	16732318	20182422	20420490	15868386	9394125	5910012	3840168	3029206	3926081
	area (ha)	3662.75	42476.61	47942.47	42329.06	39801.48	38587.38	53944.35	57470.53	56108.72	61372.15	56909.96	41182.45	24552.89	16134.84	11014.01	8649.68	11371.74
	stocking	0.00	0.90	0.92	0.90	0.87	0.84	0.81	0.79	0.78	0.78	0.79	0.80	0.78	0.76	0.73	0.73	0.72
	yield class	25.8	24.4	28.6	28.0	27.7	27.5	27.1	26.5	26.2	25.9	25.3	24.7	23.0	21.2	19.5	18.4	17.3
	stock per ha (m ³ /ha)	0.00	0.01	6.40	70.71	139.52	193.02	234.16	265.93	298.21	328.85	358.82	385.32	382.61	366.29	348.66	350.21	345.25
Oak	growing stock (m ³)	0	280	66688	480728	758945	1307340	4102061	6015942	6471904	6362744	5748488	4559234	2599564	937372	479887	295374	461112
	area (ha)	1271.82	8769.50	9248.01	8468.64	7297.87	8752.38	23847.69	30996.74	29346.89	27273.74	23023.22	16645.78	9343.80	3563.47	1854.30	1218.82	2107.95
	stocking	0.00	0.90	0.90	0.88	0.85	0.82	0.80	0.80	0.79	0.78	0.79	0.80	0.78	0.76	0.73	0.72	0.69
	yield class	23.6	22.4	26.8	25.8	25.6	24.6	23.9	24.0	23.3	22.6	22.6	21.9	20.2	19.5	18.1	16.2	
	stock per ha (m ³ /ha)	0.00	0.03	7.21	56.77	104.00	149.37	172.01	194.08	220.53	233.29	249.68	273.90	278.21	263.05	258.80	242.34	218.75
Turkey oak	growing stock (m ³)	0	211	18095	98656	125849	353348	1134774	1880927	2151803	1700714	971594	607133	275123	95931	59413	32108	45471
	area (ha)	289.42	1898.73	1423.14	1593.17	1252.56	2317.25	6339.09	9336.33	9454.74	6789.86	3720.88	2157.86	968.68	373.06	200.68	139.63	223.36
	stocking	0.00	0.94	0.92	0.89	0.82	0.80	0.80	0.80	0.81	0.82	0.82	0.81	0.80	0.76	0.78	0.71	0.69
	yield class	24.1	23.0	26.5	26.0	25.3	25.6	25.0	24.3	24.3	23.6	22.6	22.8	21.6	19.6	20.7	17.2	15.0
	stock per ha (m ³ /ha)	0.00	0.11	12.71	61.92	100.47	152.49	179.01	201.46	227.59	250.48	261.12	281.36	284.02	257.15	296.05	229.95	203.58
Hornbeam	growing stock (m ³)	0	585	70914	579050	879355	1441661	2904309	3742233	3577296	3009632	1942480	1008674	438899	215529	104993	54857	90275
	area (ha)	676.36	5020.83	8830.82	8203.93	7171.84	8936.25	15445.63	17590.94	15248.29	11941.51	7249.69	3608.56	1597.28	815.73	395.21	211.99	345.74
	stocking	0.00	0.93	0.92	0.90	0.85	0.81	0.79	0.78	0.77	0.76	0.78	0.78	0.76	0.74	0.72	0.70	0.70
	yield class	23.1	21.6	28.3	27.8	26.2	24.9	23.6	22.6	21.7	20.8	19.6	18.5	17.0	15.8	15.2	13.8	12.8
	stock per ha (m ³ /ha)	0.00	0.12	8.03	70.58	122.61	161.33	188.03	212.74	234.60	252.03	267.94	279.52	274.78	264.22	265.66	258.77	261.11

Continuing of table A.14

Maple	growing stock (m ³)	0	892	64482	394584	509129	470231	576489	569959	492359	504203	491887	441610	322589	246352	183373	163441	263645
	area (ha)	236.57	6647.21	6768.73	5043.49	3614.92	2515.80	2612.69	2318.56	1800.50	1686.55	1498.80	1314.05	938.20	734.83	563.05	505.23	826.40
	stocking	0.00	0.89	0.90	0.87	0.83	0.80	0.79	0.78	0.76	0.76	0.77	0.77	0.77	0.74	0.73	0.71	0.70
	yield class	26.0	24.1	29.1	29.3	28.7	27.9	26.6	25.3	24.8	24.1	23.4	22.4	21.1	19.7	18.2	17.3	16.5
	stock per ha (m ³ /ha)	0.00	0.13	9.53	78.24	140.84	186.91	220.65	245.82	273.46	298.95	328.19	336.07	343.84	335.25	325.68	323.50	319.03
Ash	growing stock (m ³)	0	1470	70008	292558	348744	453277	972110	940276	727972	511818	419357	289968	171064	110664	65531	47601	53857
	area (ha)	169.82	3489.53	3952.74	3029.32	2189.68	1979.06	3601.83	3164.20	2283.47	1525.71	1115.90	750.17	443.76	271.78	168.97	141.97	167.44
	stocking	0.00	0.89	0.89	0.86	0.83	0.81	0.80	0.79	0.78	0.77	0.78	0.78	0.77	0.76	0.76	0.66	0.66
	yield class	28.8	25.3	31.4	31.5	30.7	31.4	30.4	29.0	27.7	26.3	26.4	24.8	23.6	22.8	21.3	19.5	17.4
	stock per ha (m ³ /ha)	0.00	0.42	17.71	96.58	159.27	229.04	269.89	297.16	318.80	335.46	375.80	386.53	385.48	407.18	387.82	335.29	321.65
Elm	growing stock (m ³)	0	0	668	4546	9335	9011	17843	20292	22293	10031	11176	12729	10029	9481	6201	9202	10269
	area (ha)	4.47	50.32	47.05	58.41	64.99	50.51	83.08	81.26	77.77	32.83	36.93	40.00	28.59	23.57	16.02	22.79	29.74
	stocking	0.00	0.88	0.91	0.86	0.82	0.76	0.74	0.79	0.77	0.72	0.74	0.75	0.79	0.75	0.74	0.71	0.71
	yield class	25.5	23.2	30.8	29.1	28.6	28.4	27.3	25.7	25.4	24.3	23.0	22.3	22.1	22.5	21.2	20.6	17.6
	stock per ha (m ³ /ha)	0.00	0.00	14.20	77.83	143.63	178.41	214.77	249.71	286.67	305.57	302.61	318.22	350.78	402.22	387.02	403.79	345.31
Linden	growing stock (m ³)	0	55	13346	115884	174240	115082	132955	119278	145628	146471	123311	97855	53497	32323	27324	16281	20365
	area (ha)	44.82	341.48	719.92	1173.76	1171.70	582.82	583.00	497.38	606.69	538.86	401.23	308.78	182.03	120.99	99.31	64.46	70.89
	stocking	0.00	0.90	0.89	0.87	0.84	0.81	0.79	0.78	0.75	0.74	0.75	0.75	0.73	0.70	0.69	0.63	0.67
	yield class	26.3	23.6	30.5	31.0	29.5	28.6	27.0	24.7	22.6	22.9	22.6	21.5	18.8	16.9	16.2	15.3	15.2
	stock per ha (m ³ /ha)	0.00	0.16	18.54	98.73	148.71	197.46	228.05	239.81	240.04	271.81	307.33	316.91	293.89	267.16	275.15	252.59	287.29
Locust	growing stock (m ³)	0	34693	167125	265579	388712	755933	896179	388518	150371	63700	40970	16566	8910	1787	242	87	314
	area (ha)	202.29	6130.01	3343.41	3174.56	3535.58	6185.49	6348.43	2822.11	1126.43	487.91	316.23	127.20	66.27	12.97	1.77	0.90	1.91
	stocking	0.00	0.93	0.89	0.86	0.80	0.79	0.79	0.77	0.77	0.76	0.77	0.76	0.76	0.72	0.74	0.70	0.79
	yield class	19.6	21.5	18.8	18.5	19.1	18.8	19.8	19.6	19.2	19.1	19.0	19.1	18.9	18.9	18.2	17.2	19.6
	stock per ha (m ³ /ha)	0.00	5.66	49.99	83.66	109.94	122.21	141.17	137.67	133.49	130.56	129.56	130.23	134.44	137.73	136.89	96.21	164.39
Birch	growing stock (m ³)	0	823	56468	188221	289786	347909	441147	363216	243028	123253	58836	29595	15558	8069	5287	1561	1433
	area (ha)	168.95	2537.52	4254.28	4060.32	3774.39	3576.05	3682.99	2715.33	1776.84	858.84	404.83	219.43	117.94	73.69	47.11	14.35	15.95
	stocking	0.00	0.80	0.84	0.79	0.76	0.74	0.75	0.74	0.73	0.74	0.72	0.71	0.73	0.66	0.63	0.64	0.61
	yield class	17.2	18.9	17.3	17.6	17.4	16.9	16.8	16.6	15.9	16.1	16.4	16.0	15.7	14.5	15.8	15.1	14.4
	stock per ha (m ³ /ha)	0.00	0.32	13.27	46.36	76.78	97.29	119.78	133.77	136.78	143.51	145.33	134.87	131.92	109.50	112.22	108.81	89.84
Alder	growing stock (m ³)	0	3468	45022	199181	326064	323422	269371	201232	156464	90101	77360	34401	20709	8569	3454	1453	1197
	area (ha)	89.04	618.00	1193.39	2321.95	3003.47	2666.98	1857.97	1204.06	795.14	447.41	364.25	165.52	114.73	40.09	17.97	7.94	6.42
	stocking	0.00	0.79	0.81	0.76	0.75	0.73	0.74	0.76	0.77	0.82	0.79	0.67	0.79	0.75	0.75	0.65	0.65
	yield class	18.2	19.8	17.8	17.5	17.2	17.3	18.6	19.3	20.9	20.7	21.0	20.8	21.1	21.1	20.7	18.8	21.9
	stock per ha (m ³ /ha)	0.00	5.61	37.73	85.78	108.56	121.27	144.98	167.13	196.77	201.38	212.38	207.84	180.50	213.73	192.17	183.11	186.41
Poplar	growing stock (m ³)	0	1798	35260	81085	115489	136661	206312	220843	121933	60584	32964	11032	6806	1493	638	297	74
	area (ha)	43.66	324.01	508.93	780.58	866.29	933.63	1276.53	1229.32	702.53	352.28	178.75	65.61	34.35	10.18	4.06	2.46	0.66
	stocking	0.00	0.73	0.78	0.75	0.70	0.72	0.73	0.74	0.74	0.74	0.74	0.67	0.72	0.61	0.64	0.63	0.55
	yield class	19.4	20.1	18.4	18.5	19.3	18.8	19.4	20.2	20.0	20.0	20.5	20.2	21.1	19.1	18.5	18.0	18.8
	stock per ha (m ³ /ha)	0.00	5.55	69.28	103.88	133.31	146.38	161.62	179.65	173.56	171.98	184.42	168.13	198.13	146.65	156.99	120.79	112.05
Hybrid poplars	growing stock (m ³)	0	58671	179524	436113	501075	253581	43228	19765	8418	1329	673	557	424	75	0	0	0
	area (ha)	58.18	3142.12	1454.01	1873.63	1995.25	957.54	158.23	67.32	27.14	4.80	2.75	2.23	1.56	0.58	0.00	0.00	0.00
	stocking	0.00	0.80	0.78	0.71	0.71	0.78	0.75	0.76	0.81	0.79	0.64	0.69	0.60	0.75	0.00	0.00	0.00
	yield class	27.0	26.3	27.7	29.5	26.7	24.4	24.9	25.8	25.8	24.8	24.1	23.9	27.7	18.4	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	18.67	123.47	232.76	251.13	264.82	273.19	293.59	310.20	277.13	244.43	250.33	270.99	129.51	0.00	0.00	0.00

Continuing of table A.14

	growing stock (m ³)	0	1580	20872	53607	49469	41529	21623	14133	4091	1422	1396	192	227	108	650	0	1
Willows	area (ha)	12.58	182.39	288.70	513.03	426.17	372.72	155.33	88.48	24.77	10.35	9.48	1.56	7.40	0.73	6.89	0.00	5.93
	stocking	0.00	0.77	0.79	0.70	0.68	0.63	0.65	0.66	0.65	0.73	0.74	0.68	0.65	0.72	0.66	0.00	0.69
	yield class	18.8	18.0	19.2	19.3	18.5	17.9	19.2	20.3	21.2	18.5	19.2	17.9	18.5	18.3	16.2	0.0	16.0
	stock per ha (m ³ /ha)	0.00	8.66	72.30	104.49	116.08	111.42	139.21	159.72	165.16	137.35	147.27	122.71	30.69	147.64	94.36	0.00	0.17
	growing stock (m ³)	0	250	6830	26481	38942	41466	57217	48598	32296	26289	18861	19549	14700	9925	7178	4036	9056
Other broadleaves	area (ha)	41.37	2374.02	855.63	613.95	580.93	479.81	454.43	329.31	203.86	160.58	132.41	126.33	151.84	106.04	87.17	46.25	184.89
	stocking	0.00	0.66	0.87	0.84	0.77	0.75	0.73	0.73	0.73	0.69	0.68	0.71	0.73	0.71	0.67	0.70	0.74
	yield class	17.5	18.1	17.9	19.0	19.1	17.3	19.1	18.8	17.5	17.6	15.0	14.6	11.9	11.4	10.6	10.9	10.4
	stock per ha (m ³ /ha)	0.00	0.11	7.98	43.13	67.03	86.42	125.91	147.58	158.42	163.71	142.45	154.74	96.81	93.60	82.34	87.27	48.98
	growing stock (m ³)	0	7817	1216927	6714884	10736419	12315339	18878097	25675726	28383005	31088150	29919213	18306774	9175597	5406396	3542649	2825044	4999298
Coniferous	growing stock (m ³)	0	46327	942703	5773448	9567216	13245095	24364164	29808350	31029756	32793384	30359170	22996924	13331800	7587615	4784339	3655504	4883150
Broadleaves		0	54144	2159630	12488332	20303635	25560434	43242261	55484076	59412761	63881534	60278383	41303698	22507397	12994011	8326988	6480548	9882448
Total		0	4753	56476	69061	68832	63686	52827	62390	72388	73944	76126	70540	44115	24194	16550	11541	9671
Coniferous	area (ha)	6972	84002	90831	83238	76747	78894	120391	129912	119584	113483	95365	66716	38549	22283	14477	11026	15359
Broadleaves		11725	140478	159892	152070	140433	131721	182782	202300	193528	189609	165905	110830	62744	38832	26017	20697	34333
Total		0.00	0.14	17.62	97.55	168.58	233.13	302.58	354.69	383.84	408.38	424.15	414.98	379.25	326.68	306.97	292.13	263.48
Coniferous	stock per ha (m ³ /ha)	0.00	1.25	12.36	74.60	131.19	171.10	202.73	229.60	259.55	288.98	318.35	344.71	345.85	340.52	330.49	331.52	317.93
Broadleaves		0.00	0.80	14.63	84.99	148.15	195.98	236.82	274.36	307.04	336.92	363.34	372.68	358.73	334.62	320.06	313.12	287.84

Table A.15 Development of age related forest characteristics for tree species strata in year 2008

species/year	2008	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3501	816573	4712964	7039318	8260167	14058501	20269976	20907772	21710163	20828108	12572155	6189407	3547694	2531671	2101112	3872011
	area (ha)	2862.86	34800.68	42047.43	43837.28	37977.27	32141.31	42882.01	53228.64	49851.56	47822.89	43979.09	26543.82	14345.48	8987.06	7050.43	6240.47	12202.97
	stocking	0.00	0.84	0.90	0.88	0.84	0.81	0.79	0.77	0.76	0.76	0.75	0.74	0.72	0.70	0.68	0.67	0.66
	yield class	29.6	29.3	34.1	33.2	31.5	30.6	30.7	30.6	30.0	29.3	28.4	27.1	24.4	21.9	19.9	18.2	16.4
	stock per ha (m ³ /ha)	0.00	0.10	19.42	107.51	185.36	257.00	327.84	380.81	419.40	453.97	473.59	473.64	431.45	394.76	359.08	336.69	317.30
Fir	growing stock (m ³)	0	240	54945	389155	654112	623949	1020908	1623855	2697349	3363835	4728685	3619866	2144675	1378552	825663	579428	882885
	area (ha)	447.44	6742.49	6173.10	4856.86	4003.47	2610.87	3259.46	4500.53	6754.46	8194.78	10893.45	8023.75	4674.25	2938.67	1854.83	1333.60	1946.98
	stocking	0.00	0.89	0.91	0.88	0.85	0.82	0.78	0.75	0.74	0.73	0.72	0.71	0.72	0.72	0.71	0.70	0.71
	yield class	28.5	27.8	33.5	31.8	31.2	30.2	30.7	30.6	29.9	28.3	27.6	27.0	25.5	24.6	22.7	21.5	21.0
	stock per ha (m ³ /ha)	0.00	0.04	8.90	80.12	163.39	238.98	313.21	360.81	399.34	410.49	434.09	451.14	458.83	469.11	445.14	434.48	453.46
Pine	growing stock (m ³)	0	459	140535	1109648	2149165	2414459	2836121	3187154	3835547	4121857	4095696	2824554	1114719	557461	295462	171111	228214
	area (ha)	786.82	7814.69	10314.46	12876.96	14749.35	12425.93	11983.34	11897.87	13060.76	13417.88	13038.53	8750.19	3653.91	1892.03	1029.88	653.98	940.83
	stocking	0.00	0.87	0.88	0.86	0.82	0.81	0.78	0.77	0.76	0.76	0.76	0.74	0.71	0.70	0.69	0.69	0.69
	yield class	25.8	25.1	28.3	29.3	27.7	27.1	26.6	26.1	25.5	24.5	23.3	23.1	21.7	20.4	19.4	18.1	16.8
	stock per ha (m ³ /ha)	0.00	0.06	13.63	86.17	145.71	194.31	236.67	267.88	293.67	307.19	314.12	322.80	305.08	294.64	286.89	261.65	242.57
Larch	growing stock (m ³)	0	4497	201106	685413	1084184	924221	755791	897646	767098	731311	808152	524693	237326	131320	124978	63127	139364
	area (ha)	263.27	5668.21	8157.78	6481.28	6201.55	4193.20	2800.92	2899.92	2222.63	2015.98	2188.65	1385.73	677.86	410.71	372.87	197.27	468.10
	stocking	0.00	0.84	0.87	0.85	0.82	0.80	0.78	0.77	0.76	0.75	0.72	0.72	0.69	0.64	0.66	0.66	0.67
	yield class	26.9	24.4	24.2	28.6	29.1	28.5	28.3	28.1	28.3	27.9	27.5	26.9	25.6	24.1	24.1	22.9	22.0
	stock per ha (m ³ /ha)	0.00	0.79	24.65	105.75	174.82	220.41	269.84	309.54	345.13	362.76	369.25	378.64	350.11	319.74	335.18	320.01	297.72
Other coniferous	growing stock (m ³)	0	0	25	209	1039	2996	2798	1503	2212	1172	4382	4127	4427	2930	4485	4523	22529
	area (ha)	124.71	57.80	161.70	1348.13	1350.19	742.00	473.21	481.44	762.14	1094.05	1463.01	1897.44	2116.21	2261.09	2291.54	1598.32	3854.11
	stocking	0.00	0.63	0.57	0.54	0.57	0.61	0.59	0.55	0.68	0.70	0.75	0.77	0.73	0.80	0.71	0.73	0.75
	yield class	19.2	18.5	17.8	19.9	19.6	18.3	19.6	19.8	19.8	19.4	19.8	19.7	19.4	15.3	19.3	19.8	20.2
	stock per ha (m ³ /ha)	0.00	0.00	0.15	0.16	0.77	4.04	5.91	3.12	2.90	1.07	3.00	2.18	2.09	1.30	1.96	2.83	5.85
Beech	growing stock (m ³)	0	425	298165	3188922	5658631	7240819	12480137	15774651	17335491	19970472	20560682	16882115	9700197	5967781	3882054	3100127	4074011
	area (ha)	3488.20	44025.83	46110.11	43938.79	40372.74	37275.10	52741.44	58423.21	57505.00	60390.48	56930.24	43451.09	25186.49	16107.38	10969.63	8864.40	11721.83
	stocking	0.00	0.91	0.92	0.90	0.87	0.84	0.82	0.80	0.78	0.78	0.79	0.80	0.79	0.76	0.74	0.73	0.72
	yield class	26.0	24.9	28.4	28.2	27.9	27.7	27.3	26.8	26.4	26.0	25.4	24.9	23.1	21.3	19.7	18.5	17.5
	stock per ha (m ³ /ha)	0.00	0.01	6.47	72.58	140.16	194.25	236.63	270.01	301.46	330.69	361.16	388.53	385.13	370.50	353.89	349.73	347.56
Oak	growing stock (m ³)	0	284	65559	496112	792826	1073137	3913279	6299203	6640637	6407050	5739523	4711615	2721915	968614	519684	293600	484470
	area (ha)	1202.81	8403.19	8726.28	8634.33	7567.81	7261.74	22651.62	32155.58	30030.48	27379.54	22925.08	17190.05	9759.56	3670.05	1986.75	1203.94	2179.01
	stocking	0.00	0.90	0.90	0.88	0.85	0.82	0.80	0.80	0.79	0.78	0.79	0.79	0.78	0.76	0.74	0.71	0.70
	yield class	23.7	23.0	26.6	25.9	25.8	25.5	24.6	24.1	24.1	23.4	22.7	22.6	21.9	20.3	19.6	18.3	16.3
	stock per ha (m ³ /ha)	0.00	0.03	7.51	57.46	104.76	147.78	172.76	195.90	221.13	234.01	250.36	274.09	278.90	263.92	261.57	243.87	222.34
Turkey oak	growing stock (m ³)	0	232	18144	95718	129854	332017	1148211	1888060	2167574	1721603	979195	618129	297251	103884	58620	34388	45295
	area (ha)	275.21	1895.98	1410.56	1580.68	1270.43	2163.33	6389.92	9361.62	9521.67	6876.70	3758.57	2185.65	1055.10	403.37	201.00	148.40	221.63
	stocking	0.00	0.94	0.92	0.89	0.82	0.80	0.80	0.81	0.82	0.81	0.81	0.80	0.76	0.77	0.71	0.69	
	yield class	24.1	23.0	26.3	25.9	25.4	25.7	25.1	24.4	24.3	23.7	22.7	22.9	21.7	19.8	20.7	17.4	15.1
	stock per ha (m ³ /ha)	0.00	0.12	12.86	60.56	102.21	153.47	179.69	201.68	227.65	250.35	260.52	282.81	281.73	257.54	291.64	231.72	204.37
Hornbeam	growing stock (m ³)	0	700	71926	645789	885797	1346150	2870110	3864160	3618565	3035501	1983478	1103176	468987	216171	112361	58159	97567
	area (ha)	642.50	5191.09	8531.32	8964.06	7148.72	8155.77	15087.37	17991.72	15313.04	11962.13	7348.58	3900.94	1690.81	810.50	414.92	216.10	369.71
	stocking	0.00	0.93	0.92	0.89	0.85	0.81	0.79	0.79	0.78	0.77	0.78	0.78	0.76	0.74	0.72	0.71	0.70
	yield class	23.2	21.8	28.0	28.0	26.3	25.2	23.8	22.7	21.8	21.0	19.7	18.7	17.2	15.9	15.5	14.1	12.9
	stock per ha (m ³ /ha)	0.00	0.13	8.43	72.04	123.91	165.05	190.23	214.77	236.31	253.76	269.91	282.80	277.37	266.71	270.80	269.13	263.90

Continuing of table A.15

Maple	growing stock (m ³)	0	921	62153	435318	577805	482120	590044	616043	541151	509465	510389	457772	335099	243507	186191	163609	277674
	area (ha)	229.40	6693.02	6457.51	5368.03	4015.14	2565.31	2648.80	2457.79	1961.66	1687.25	1532.29	1357.90	976.97	722.82	563.21	505.38	867.53
	stocking	0.00	0.90	0.90	0.87	0.83	0.80	0.79	0.79	0.77	0.77	0.78	0.77	0.76	0.74	0.73	0.71	0.69
	yield class	26.2	24.7	28.9	29.6	29.0	28.1	26.8	25.6	25.0	24.2	23.7	22.4	21.1	19.7	18.4	17.4	16.7
	stock per ha (m ³ /ha)	0.00	0.14	9.62	81.09	143.91	187.94	222.76	250.65	275.86	301.95	333.09	337.12	343.00	336.88	330.59	323.73	320.07
Ash	growing stock (m ³)	0	1518	70437	320876	368894	417655	946140	1028712	766921	560103	424888	321358	180772	112767	70897	49193	55209
	area (ha)	164.16	3516.33	3857.00	3235.67	2328.45	1847.56	3521.24	3384.77	2378.40	1639.39	1131.45	813.67	470.14	273.25	181.94	145.68	171.53
	stocking	0.00	0.89	0.89	0.87	0.83	0.81	0.80	0.80	0.78	0.77	0.78	0.78	0.77	0.75	0.75	0.66	0.66
	yield class	29.1	25.9	31.3	31.8	30.6	31.2	30.4	29.5	28.0	26.8	26.6	25.7	23.7	23.2	21.5	19.6	17.4
	stock per ha (m ³ /ha)	0.00	0.43	18.26	99.17	158.43	226.06	268.69	303.92	322.45	341.65	375.52	394.95	384.50	412.68	389.68	337.69	321.86
Elm	growing stock (m ³)	0	5	581	4562	9367	7566	18530	20379	22282	11352	10520	13402	10324	7305	5210	5093	12223
	area (ha)	4.15	51.18	46.08	58.78	65.13	41.97	85.30	80.03	77.40	36.64	34.28	42.51	29.46	18.18	15.43	13.27	35.44
	stocking	0.00	0.88	0.91	0.85	0.84	0.77	0.75	0.79	0.78	0.77	0.73	0.74	0.75	0.81	0.66	0.74	0.70
	yield class	25.5	23.8	29.9	29.0	28.4	28.0	27.5	26.1	25.4	24.7	23.1	22.2	22.1	22.4	20.6	19.8	18.2
	stock per ha (m ³ /ha)	0.00	0.10	12.61	77.62	143.83	180.27	217.23	254.64	287.87	309.86	306.85	315.28	350.45	401.81	337.61	383.69	344.85
Linden	growing stock (m ³)	0	53	12162	114059	194450	103211	131795	155692	155318	162161	130366	102058	55851	37285	28001	15726	21691
	area (ha)	43.10	314.58	620.48	1123.52	1287.71	544.65	569.84	610.11	636.09	578.31	423.24	320.65	186.18	133.33	100.66	60.82	75.85
	stocking	0.00	0.91	0.90	0.87	0.84	0.81	0.80	0.79	0.76	0.75	0.75	0.75	0.73	0.70	0.69	0.64	0.67
	yield class	26.5	24.5	30.4	31.3	29.5	28.2	27.3	25.8	22.8	23.4	22.6	21.7	19.2	17.5	16.3	15.3	15.2
	stock per ha (m ³ /ha)	0.00	0.17	19.60	101.52	151.01	189.50	231.28	255.19	244.18	280.41	308.02	318.29	299.98	279.65	278.16	258.56	285.99
Locust	growing stock (m ³)	0	34977	173045	266607	340672	751191	917600	424060	158885	68195	48402	16179	9570	2866	475	124	314
	area (ha)	192.16	6284.23	3421.75	3183.73	3110.18	6019.18	6451.45	3057.90	1189.44	512.09	371.51	127.58	68.96	20.98	3.63	1.28	1.91
	stocking	0.00	0.93	0.89	0.86	0.80	0.80	0.80	0.77	0.77	0.76	0.77	0.74	0.73	0.73	0.68	0.70	0.79
	yield class	19.7	21.6	18.8	18.5	19.0	19.0	19.8	19.7	19.3	19.5	19.1	19.1	19.9	19.4	19.9	17.4	19.6
	stock per ha (m ³ /ha)	0.00	5.57	50.57	83.74	109.53	124.80	142.23	138.68	133.58	133.17	130.28	126.82	138.77	136.61	130.71	96.68	164.08
Birch	growing stock (m ³)	0	835	57814	198855	288276	326698	438439	382158	252129	132867	64470	30661	16299	8051	5940	1770	1620
	area (ha)	159.62	2671.23	4091.57	4328.02	3754.49	3233.58	3560.20	2833.22	1788.67	906.08	438.41	218.99	120.65	70.19	51.16	14.99	15.25
	stocking	0.00	0.81	0.84	0.80	0.76	0.75	0.75	0.75	0.74	0.74	0.73	0.72	0.72	0.67	0.64	0.66	0.66
	yield class	17.3	18.7	17.6	17.5	17.4	17.1	17.0	16.7	16.2	16.2	16.4	16.2	15.9	14.7	15.8	15.4	15.2
	stock per ha (m ³ /ha)	0.00	0.31	14.13	45.95	76.78	101.03	123.15	134.88	140.96	146.64	147.05	140.01	135.10	114.71	116.10	118.05	106.24
Alder	growing stock (m ³)	0	3338	42176	196996	312808	335603	279942	215396	160343	101710	79913	34801	21265	8912	3552	1453	1201
	area (ha)	84.61	599.73	1136.70	2317.58	2903.84	2698.10	1929.62	1266.02	810.14	500.12	372.81	168.58	116.06	42.06	18.25	7.95	6.48
	stocking	0.00	0.78	0.81	0.76	0.74	0.74	0.74	0.76	0.77	0.78	0.81	0.79	0.68	0.79	0.76	0.75	0.65
	yield class	18.3	20.0	17.7	17.5	17.1	17.5	18.5	19.5	21.0	20.8	21.2	20.8	21.1	21.1	20.9	18.8	21.8
	stock per ha (m ³ /ha)	0.00	5.57	37.10	85.00	107.72	124.38	145.08	170.14	197.92	203.37	214.35	206.44	183.22	211.88	194.61	182.77	185.22
Poplar	growing stock (m ³)	0	1869	33646	82623	116916	125367	196590	228950	135332	72434	33624	14039	6026	1848	617	312	87
	area (ha)	41.29	343.47	486.59	800.52	883.27	849.14	1195.05	1238.16	756.61	398.80	191.29	77.01	30.04	11.23	3.66	2.64	0.86
	stocking	0.00	0.74	0.79	0.75	0.70	0.72	0.73	0.75	0.75	0.72	0.70	0.71	0.62	0.62	0.63	0.52	
	yield class	19.6	20.2	18.6	18.4	19.3	19.0	19.6	20.4	20.1	20.3	20.4	20.8	21.2	20.1	19.4	17.9	18.3
	stock per ha (m ³ /ha)	0.00	5.44	69.15	103.21	132.37	147.64	164.50	184.91	178.87	181.63	175.78	182.31	200.60	164.59	168.37	118.34	101.75
Hybrid poplars	growing stock (m ³)	0	58095	180893	434418	475278	254162	44290	20825	8612	2717	779	407	461	155	0	0	0
	area (ha)	54.49	3121.73	1461.44	1865.39	1909.49	961.92	158.26	70.37	27.09	9.18	3.13	1.81	1.67	0.93	0.00	0.00	0.00
	stocking	0.00	0.80	0.78	0.70	0.71	0.78	0.75	0.77	0.81	0.81	0.67	0.68	0.62	0.63	0.00	0.00	0.00
	yield class	27.1	26.4	27.8	29.6	26.8	24.4	25.2	25.8	26.1	25.1	25.2	23.0	27.7	23.5	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	18.61	123.78	232.88	248.90	264.22	279.86	295.94	317.94	295.91	249.28	224.62	276.15	167.33	0.00	0.00	0.00

Continuing of table A.15

	growing stock (m ³)	0	1546	19965	53120	48389	39666	22470	13868	4001	1709	1064	590	163	135	676	0	1
Willows	area (ha)	11.71	184.95	274.50	502.31	416.56	367.15	162.57	86.01	23.26	10.57	9.38	3.65	6.76	0.98	7.03	0.00	5.94
	stocking	0.00	0.77	0.80	0.71	0.68	0.63	0.65	0.66	0.64	0.76	0.68	0.76	0.67	0.63	0.66	0.00	0.69
	yield class	18.8	18.1	19.3	19.4	18.6	17.7	19.2	20.4	21.5	19.4	18.3	19.4	18.4	19.7	16.3	0.0	16.0
	stock per ha (m ³ /ha)	0.00	8.36	72.73	105.75	116.16	108.04	138.21	161.25	172.01	161.74	113.49	161.45	24.12	138.15	96.11	0.00	0.17
	growing stock (m ³)	0	252	6951	26587	39334	39830	61209	52186	36670	26697	20429	20362	15149	10110	7742	4191	9194
Other broadleaves	area (ha)	39.98	2428.60	882.08	620.46	560.68	468.28	489.32	337.45	227.24	162.03	144.70	127.90	153.28	105.84	97.62	47.66	185.17
	stocking	0.00	0.67	0.88	0.84	0.78	0.75	0.74	0.73	0.73	0.70	0.68	0.71	0.73	0.71	0.69	0.70	0.74
	yield class	17.6	18.1	17.9	19.0	19.6	17.2	19.0	19.6	17.7	17.7	15.1	14.7	12.0	11.3	10.5	10.9	10.4
	stock per ha (m ³ /ha)	0.00	0.10	7.88	42.85	70.15	85.06	125.09	154.65	161.37	164.76	141.18	159.20	98.83	95.52	79.31	87.94	49.65
	growing stock (m ³)	0	8697	1213184	6897389	10927818	12225792	18674119	25980134	28209978	29928338	30465023	19545395	9690554	5617957	3782259	2919301	5145003
Coniferous	growing stock (m ³)	0	46955	932724	6126144	9764019	12621030	24014496	30963518	31995299	32781319	30586943	24326257	13838868	7689236	4882020	3727745	5080557
Broadleaves		0	55652	2145908	13023533	20691837	24846822	42688615	56943652	60205277	62709657	61051966	43871652	23529422	13307193	8664279	6647046	10225560
Total		0	11119	140809	154368	155922	141876	126566	179041	206362	194898	185595	167178	116589	65320	38881	27214	21256
Coniferous	area (ha)	4485	55084	66854	69401	64282	52113	61399	73008	72652	72546	71563	46601	25468	16490	12600	10024	19413
Broadleaves		6633	85725	87514	86522	77595	74453	117642	133354	122246	113049	95615	69988	39852	22391	14615	11233	15858
Total		11119	140809	154368	155922	141876	126566	179041	206362	194898	185595	167178	116589	65320	38881	27214	21256	35271
Coniferous	stock per ha (m ³ /ha)	0.00	0.16	18.15	99.39	170.00	234.60	304.14	355.85	388.29	412.55	425.71	419.42	380.50	340.70	300.19	291.24	265.03
Broadleaves		0.00	1.23	12.73	75.83	131.96	172.93	204.51	232.35	261.80	290.00	319.91	347.58	347.27	343.41	334.04	331.87	320.37
Total		0.00	0.81	15.07	86.31	149.19	198.32	238.68	276.04	308.95	337.90	365.20	376.30	360.23	342.26	318.37	312.71	289.91

Table A.16 Development of age related forest characteristics for tree species strata in year 2009

species/year	2009	age class																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Spruce	growing stock (m ³)	0	3374	804362	4877843	7299154	8466096	13487743	20212325	19980381	21278505	20897081	13371873	6344712	3709163	2471740	1986604	3847596
	area (ha)	2779.04	36083.96	40644.65	44666.88	38756.85	32801.53	41248.44	52855.60	47584.28	46590.53	43726.35	27784.48	14677.60	9293.20	6892.70	5988.09	12127.03
	stocking	0.00	0.84	0.90	0.88	0.84	0.81	0.79	0.77	0.76	0.76	0.75	0.74	0.72	0.70	0.68	0.67	0.66
	yield class	29.7	29.5	34.1	33.3	31.7	30.8	30.8	30.7	30.1	29.5	28.6	27.3	24.5	22.1	19.9	18.0	16.6
	stock per ha (m ³ /ha)	0.00	0.09	19.79	109.20	188.33	258.10	326.99	382.41	419.89	456.71	477.91	481.27	432.27	399.13	358.60	331.76	317.27
Fir	growing stock (m ³)	0	212	54162	408027	678705	629693	964448	1635322	2583009	3250036	4706185	3775830	2234620	1447936	837059	552298	919541
	area (ha)	437.94	7280.37	6057.77	4889.30	4075.57	2614.25	3107.43	4449.48	6438.39	7874.02	10810.39	8316.44	4890.98	3075.56	1884.24	1270.54	2029.70
	stocking	0.00	0.89	0.91	0.89	0.85	0.83	0.78	0.76	0.74	0.73	0.72	0.71	0.71	0.72	0.70	0.70	0.71
	yield class	28.6	28.0	33.3	32.1	31.5	30.5	30.7	30.8	30.1	28.6	27.7	27.1	25.6	24.7	22.9	21.6	21.1
	stock per ha (m ³ /ha)	0.00	0.03	8.94	83.45	166.53	240.87	310.37	367.53	401.19	412.75	435.34	454.02	456.89	470.79	444.24	434.70	453.04
Pine	growing stock (m ³)	0	460	145633	1121273	2077807	2464416	2882459	3192567	3945186	4096071	4096551	2891925	1177156	566967	289399	180200	246227
	area (ha)	767.17	7485.96	10430.06	12881.46	14219.12	12562.42	12001.98	11863.39	13235.96	13325.04	13060.60	8987.77	3828.07	1933.89	1006.45	682.23	998.57
	stocking	0.00	0.88	0.89	0.86	0.83	0.81	0.79	0.77	0.77	0.75	0.75	0.74	0.71	0.70	0.69	0.68	0.69
	yield class	25.8	24.4	28.0	29.4	27.7	27.2	26.8	26.1	25.7	24.7	23.4	23.1	21.8	20.4	19.6	18.4	17.1
	stock per ha (m ³ /ha)	0.00	0.06	13.96	87.05	146.13	196.17	240.17	269.11	298.07	307.40	313.66	321.76	307.51	293.17	287.55	264.14	246.58
Larch	growing stock (m ³)	0	5482	209398	721604	1071950	1032666	790134	930300	777840	714809	810108	562881	247169	140453	125421	64017	139501
	area (ha)	259.43	5566.84	7732.99	6854.92	6085.31	4631.89	2914.21	2977.71	2259.11	1967.86	2193.60	1470.49	703.69	431.69	376.82	199.26	470.97
	stocking	0.00	0.84	0.87	0.85	0.82	0.80	0.79	0.77	0.76	0.75	0.72	0.72	0.69	0.65	0.66	0.66	0.67
	yield class	27.1	24.6	24.5	28.6	29.2	28.6	28.4	28.3	28.2	28.1	27.6	27.1	25.6	24.3	24.1	23.0	22.0
	stock per ha (m ³ /ha)	0.00	0.98	27.08	105.27	176.15	222.95	271.13	312.42	344.31	363.24	369.30	382.79	351.25	325.35	332.84	321.28	296.20
Other coniferous	growing stock (m ³)	0	10	17	227	783	2383	2958	2356	2838	989	3164	6232	4417	3178	4198	4584	23367
	area (ha)	121.72	55.08	146.68	1277.06	1279.77	841.47	463.37	468.94	632.10	1144.12	1447.67	2020.06	2173.07	2220.36	1929.55	1960.14	3914.73
	stocking	0.00	0.63	0.58	0.53	0.57	0.61	0.59	0.56	0.65	0.71	0.75	0.77	0.73	0.80	0.71	0.74	0.75
	yield class	19.0	18.5	17.6	19.9	19.6	17.7	19.7	19.5	19.4	18.6	19.6	19.2	19.4	15.2	19.2	19.8	19.7
	stock per ha (m ³ /ha)	0.00	0.18	0.12	0.18	0.61	2.83	6.38	5.02	4.49	0.86	2.19	3.09	2.03	1.43	2.18	2.34	5.97
Beech	growing stock (m ³)	0	484	301904	3317629	5689019	7380426	12141765	16347293	17769750	20185095	20920987	17329437	9876262	6225595	3949400	3078177	4373997
	area (ha)	3441.23	46472.89	45205.10	45237.55	40439.74	37598.55	50976.22	59828.49	58517.48	60709.31	57672.23	44383.78	25493.46	16444.29	11068.67	8749.72	12475.08
	stocking	0.00	0.91	0.92	0.89	0.87	0.84	0.82	0.80	0.79	0.78	0.79	0.80	0.79	0.76	0.73	0.73	0.72
	yield class	26.1	25.4	28.4	28.4	28.0	27.9	27.5	27.1	26.6	26.2	25.6	25.1	23.2	21.8	20.0	18.6	17.6
	stock per ha (m ³ /ha)	0.00	0.01	6.68	73.34	140.68	196.30	238.18	273.24	303.67	332.49	362.76	390.45	387.40	378.59	356.81	351.80	350.62
Oak	growing stock (m ³)	0	288	67048	505796	779848	1072409	3737972	6282305	6602056	6360506	5796839	4891073	2899851	1009404	528953	324218	495467
	area (ha)	1171.07	8328.09	8523.33	8807.49	7395.56	7251.19	21667.13	32065.01	29821.03	27079.00	23078.14	17680.25	10355.11	3819.42	2041.68	1307.66	2202.53
	stocking	0.00	0.90	0.90	0.88	0.85	0.82	0.80	0.80	0.79	0.78	0.79	0.80	0.79	0.76	0.73	0.71	0.70
	yield class	23.8	23.4	26.6	25.9	25.8	25.6	24.7	24.2	24.1	23.4	22.7	22.8	22.0	20.5	19.7	18.6	16.3
	stock per ha (m ³ /ha)	0.00	0.03	7.87	57.43	105.45	147.89	172.52	195.92	221.39	234.89	251.18	276.64	280.04	264.28	259.08	247.94	224.95
Turkey oak	growing stock (m ³)	0	232	18152	97851	133852	334769	1136851	1938285	2190355	1784547	998817	662862	332646	130158	54503	39259	46558
	area (ha)	274.07	1918.77	1415.09	1604.90	1301.00	2175.33	6363.84	9600.61	9622.21	7115.14	3819.11	2309.46	1175.79	469.06	198.74	164.47	226.66
	stocking	0.00	0.94	0.92	0.89	0.82	0.81	0.80	0.80	0.81	0.82	0.82	0.82	0.79	0.77	0.75	0.71	0.68
	yield class	24.2	23.2	26.2	26.0	25.5	25.7	25.1	24.4	24.3	23.8	22.7	23.3	22.1	21.3	20.2	18.1	15.4
	stock per ha (m ³ /ha)	0.00	0.12	12.83	60.97	102.88	153.89	178.64	201.89	227.64	250.81	261.53	287.02	282.91	277.48	274.24	238.70	205.41
Hornbeam	growing stock (m ³)	0	766	74625	694742	877864	1324040	2740626	3926856	3622021	3097638	2032573	1142017	499362	216073	115150	62299	100939
	area (ha)	629.14	5408.11	8485.99	9552.46	7023.12	7933.48	14314.50	18289.24	15268.66	12168.97	7502.75	4013.59	1784.55	797.08	430.42	233.65	377.00
	stocking	0.00	0.93	0.93	0.89	0.86	0.82	0.79	0.79	0.78	0.77	0.78	0.78	0.76	0.74	0.72	0.70	0.71
	yield class	23.3	22.0	27.6	28.1	26.5	25.5	23.9	22.8	21.9	21.1	19.8	18.8	17.4	16.1	15.5	14.3	13.1
	stock per ha (m ³ /ha)	0.00	0.14	8.79	72.73	125.00	166.89	191.46	214.71	237.22	254.55	270.91	284.54	279.83	271.08	267.53	266.63	267.74

Continuing of table A.16

Maple	growing stock (m ³)	0	1067	65426	455585	594940	503262	583244	650330	576846	529716	532563	485131	331565	264748	179475	156290	303635
	area (ha)	231.29	7110.38	6639.42	5574.95	4108.44	2647.65	2610.15	2562.71	2071.61	1735.56	1598.68	1413.78	961.22	763.71	542.42	478.12	938.50
	stocking	0.00	0.90	0.90	0.87	0.83	0.80	0.79	0.79	0.77	0.77	0.77	0.76	0.75	0.73	0.72	0.70	0.70
	yield class	26.4	25.1	28.9	29.7	29.1	28.3	26.9	26.0	25.1	24.5	23.8	22.6	21.2	20.0	18.4	17.5	16.8
	stock per ha (m ³ /ha)	0.00	0.15	9.85	81.72	144.81	190.08	223.45	253.77	278.45	305.21	333.13	343.15	344.94	346.66	330.88	326.88	323.53
Ash	growing stock (m ³)	0	1592	73904	333531	364350	431241	902181	1063140	828205	620925	455458	327880	192874	120484	72915	53955	69675
	area (ha)	163.47	3463.94	3935.63	3398.39	2307.36	1886.33	3353.48	3465.64	2541.53	1800.29	1210.70	831.25	493.69	280.33	181.69	145.38	216.61
	stocking	0.00	0.89	0.89	0.87	0.83	0.81	0.80	0.80	0.79	0.78	0.78	0.77	0.76	0.76	0.71	0.66	0.66
	yield class	29.2	26.4	31.3	31.8	30.6	31.5	30.5	29.7	28.2	27.0	26.7	25.8	24.0	23.9	22.4	20.5	17.6
	stock per ha (m ³ /ha)	0.00	0.46	18.78	98.14	157.91	228.61	269.03	306.77	325.87	344.90	376.19	394.44	390.68	429.80	401.31	371.14	321.66
Elm	growing stock (m ³)	0	5	562	4595	9301	7523	17131	18882	20649	11917	9394	12940	9324	7740	4465	4418	11324
	area (ha)	3.84	46.07	46.42	60.10	63.86	39.89	79.31	73.57	71.64	38.19	30.71	41.13	26.54	19.05	13.12	11.26	32.94
	stocking	0.00	0.87	0.90	0.85	0.84	0.78	0.74	0.79	0.77	0.77	0.74	0.74	0.74	0.82	0.67	0.74	0.70
	yield class	25.7	24.1	29.9	29.1	28.8	28.5	27.7	26.3	25.5	25.0	22.9	22.2	22.2	22.5	20.7	20.2	18.4
	stock per ha (m ³ /ha)	0.00	0.11	12.11	76.46	145.66	188.58	215.99	256.67	288.25	312.07	305.87	314.63	351.36	406.25	340.31	392.29	343.79
Linden	growing stock (m ³)	0	67	11979	111259	196998	120981	124819	162495	162904	161760	144586	102887	60759	39025	26425	16624	24508
	area (ha)	42.60	309.08	601.33	1093.32	1290.55	628.77	536.32	629.02	661.53	573.60	461.44	322.15	199.89	139.38	96.28	63.05	84.44
	stocking	0.00	0.91	0.90	0.88	0.85	0.81	0.80	0.79	0.76	0.75	0.76	0.75	0.74	0.70	0.69	0.64	0.67
	yield class	26.5	24.6	30.3	31.3	29.6	28.5	27.6	26.0	23.1	23.5	23.0	21.8	19.6	17.6	16.3	15.6	15.5
	stock per ha (m ³ /ha)	0.00	0.22	19.92	101.76	152.65	192.41	232.73	258.33	246.25	282.01	313.34	319.38	303.96	279.99	274.45	263.67	290.24
Locust	growing stock (m ³)	0	35042	173983	266219	337450	741155	921219	432670	165174	70176	50880	16844	9769	3012	578	124	157
	area (ha)	188.08	6345.13	3448.84	3178.69	3076.77	5933.38	6490.05	3111.63	1230.70	521.98	387.35	132.18	70.21	22.80	4.52	1.29	0.85
	stocking	0.00	0.93	0.89	0.86	0.80	0.80	0.80	0.77	0.77	0.76	0.77	0.75	0.73	0.73	0.65	0.70	0.86
	yield class	19.7	21.6	18.9	18.5	19.0	19.0	19.8	19.7	19.4	19.5	19.2	20.1	19.6	20.5	17.4	20.1	20.1
	stock per ha (m ³ /ha)	0.00	5.52	50.45	83.75	109.68	124.91	141.94	139.05	134.21	134.44	131.35	127.43	139.15	132.11	127.79	96.39	185.26
Birch	growing stock (m ³)	0	809	60295	213094	282478	325741	439640	405000	267480	141763	68174	31260	15972	7412	5853	1688	1774
	area (ha)	158.20	2881.99	3921.69	4659.97	3635.82	3186.88	3511.96	2982.44	1876.73	962.68	465.14	216.91	116.37	63.87	49.11	13.80	16.50
	stocking	0.00	0.82	0.84	0.81	0.76	0.75	0.76	0.75	0.74	0.74	0.73	0.72	0.73	0.68	0.64	0.66	0.65
	yield class	17.4	18.5	18.1	17.5	17.5	17.2	17.2	16.8	16.2	16.4	16.5	16.4	15.9	14.7	15.9	15.5	15.2
	stock per ha (m ³ /ha)	0.00	0.28	15.37	45.73	77.69	102.21	125.18	135.79	142.52	147.26	146.57	144.12	137.25	116.06	119.18	122.28	107.52
Alder	growing stock (m ³)	0	3884	43989	185688	290759	363132	287495	224149	165224	108626	80118	42190	21855	8609	3979	1717	1304
	area (ha)	82.75	603.21	1147.19	2225.50	2712.15	2850.75	1936.13	1330.84	832.44	534.34	368.98	202.94	118.46	40.26	18.77	10.35	6.93
	stocking	0.00	0.79	0.82	0.76	0.74	0.74	0.74	0.76	0.77	0.77	0.81	0.80	0.68	0.79	0.77	0.70	0.64
	yield class	18.5	20.3	17.8	17.3	17.2	17.8	18.8	19.5	21.1	21.0	21.4	21.0	21.4	21.1	21.6	18.9	22.4
	stock per ha (m ³ /ha)	0.00	6.44	38.35	83.44	107.21	127.38	148.49	168.43	198.48	203.29	217.13	207.89	184.49	213.84	212.03	165.84	188.09
Poplar	growing stock (m ³)	0	1810	33641	79860	114877	149252	194719	237297	143708	82163	41654	14973	6114	1706	551	253	148
	area (ha)	41.80	361.62	491.20	770.02	866.17	958.75	1166.16	1293.78	818.82	452.15	237.95	82.42	31.51	9.76	3.27	2.36	1.11
	stocking	0.00	0.74	0.79	0.76	0.70	0.73	0.74	0.75	0.74	0.75	0.71	0.69	0.70	0.63	0.65	0.61	0.59
	yield class	19.7	20.2	18.6	18.5	19.4	19.3	19.7	20.3	20.1	20.3	20.5	20.9	21.4	20.6	19.7	17.8	19.6
	stock per ha (m ³ /ha)	0.00	5.01	68.49	103.71	132.63	155.67	166.98	183.41	175.51	181.72	175.05	181.67	194.04	174.78	168.64	107.27	132.98
Hybrid poplars	growing stock (m ³)	0	58094	180701	429972	456622	256149	44125	22037	8285	2626	847	407	455	155	0	0	0
	area (ha)	52.45	3129.87	1464.33	1834.27	1793.47	974.18	157.33	73.99	25.46	8.87	3.43	1.82	1.58	0.93	0.00	0.00	0.00
	stocking	0.00	0.80	0.78	0.71	0.71	0.78	0.75	0.77	0.81	0.81	0.68	0.68	0.62	0.63	0.00	0.00	0.00
	yield class	27.1	26.4	27.8	29.7	27.1	24.4	25.3	25.9	26.5	25.1	25.1	23.0	28.3	23.5	0.0	0.0	0.0
	stock per ha (m ³ /ha)	0.00	18.56	123.40	234.41	254.60	262.94	280.46	297.82	325.35	295.96	246.89	223.94	287.50	166.82	0.00	0.00	0.00

Continuing of table A.16

	growing stock (m ³)	0	1454	19278	53110	47076	41217	22379	14167	3988	1779	1230	566	194	118	654	20	0
Willows	area (ha)	11.31	178.28	256.16	499.36	404.01	383.14	162.90	88.46	23.18	11.29	10.10	3.51	7.03	0.93	6.61	0.41	5.96
	stocking	0.00	0.77	0.80	0.71	0.68	0.63	0.65	0.67	0.65	0.74	0.69	0.77	0.66	0.59	0.69	0.25	0.69
	yield class	18.8	18.1	19.6	19.4	18.7	17.6	19.2	20.3	21.5	19.3	18.7	19.3	18.5	19.7	16.1	17.8	16.0
	stock per ha (m ³ /ha)	0.00	8.16	75.26	106.36	116.52	107.58	137.38	160.15	172.06	157.54	121.81	161.14	27.58	127.00	99.00	48.97	0.00
	growing stock (m ³)	0	276	7170	26295	39244	40185	62170	55269	35340	28108	22875	19335	15318	10236	7262	5059	9224
Other broadleaves	area (ha)	41.65	2835.04	906.26	621.24	556.38	475.18	499.00	351.73	217.25	171.67	154.40	126.50	155.30	108.93	86.61	62.97	191.36
	stocking	0.00	0.67	0.88	0.85	0.79	0.75	0.74	0.73	0.73	0.71	0.68	0.70	0.73	0.70	0.70	0.73	0.73
	yield class	17.6	17.8	18.1	18.9	19.6	17.2	19.0	19.8	18.0	17.3	15.7	14.5	11.9	11.4	10.7	10.7	10.4
	stock per ha (m ³ /ha)	0.00	0.10	7.91	42.33	70.53	84.57	124.59	157.14	162.67	163.74	148.15	152.85	98.64	93.96	83.84	80.34	48.20
Coniferous	growing stock (m ³)	0	9538	1213572	7128974	11128399	12595254	18127742	25972870	27289254	29340410	30513089	20608741	10008074	5867697	3727817	2787703	5176232
Broadleaves		0	47776	951956	6345254	9758056	12835333	23312211	31758138	32553700	33184719	31156148	25079395	14271865	8044320	4950163	3744101	5438710
Total		0	57314	2165528	13474228	20886455	25430587	41439953	57731008	59842954	62525129	61669237	45688136	24279939	13912017	8677980	6531804	10614942
Coniferous	area (ha)	4365	56472	65012	70570	64417	53452	59735	72615	70150	70902	71239	48579	26273	16955	12090	10100	19541
Broadleaves		6533	89392	86488	89118	76974	74923	113824	135747	123600	113883	97001	71762	40991	22980	14742	11244	16776
Total		10898	145865	151500	159688	141391	128375	173560	208362	193750	184785	168240	120341	67264	39935	26832	21345	36317
Coniferous	stock per ha (m ³ /ha)	0.00	0.17	18.67	101.02	172.76	235.64	303.47	357.68	389.01	413.82	428.32	424.23	380.92	346.08	308.34	276.00	264.89
Broadleaves		0.00	1.18	13.10	76.03	132.70	174.73	205.20	234.11	263.45	291.42	321.20	349.49	348.18	350.07	335.79	332.97	324.19
Total		0.00	0.79	15.49	87.07	150.95	200.09	239.02	277.18	308.91	338.38	366.56	379.66	360.97	348.37	323.42	306.01	292.28

Table A.17 Variations applied for thinning ratios

Tree species	Reference period										Commitment period							
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Spruce	-3,1	-19,7	-17,3	-12,2	-3,1	19,3	27,7	11,3	7,8	-10,9	104,0	125,9	-28,7	-21,2	-49,7	-39,3	-49,8	-41,2
Fir	37,8	2,5	2,9	-14,6	-7,1	19,4	-13,7	-11,1	-7,8	-8,3	60,3	74,9	-12,6	-21,5	-41,0	-33,0	-7,1	-20,0
Pine	7,9	-2,9	5,5	-12,3	10,9	-0,9	29,9	-3,3	-10,8	-24,0	15,8	46,6	-19,5	-13,2	-19,9	-2,8	1,8	-8,9
Larch	0,5	48,1	11,0	2,7	-5,7	7,2	-2,4	-7,7	-23,9	-29,8	57,0	73,4	-7,6	-19,7	-34,6	-30,1	-21,8	-16,6
Beech	-11,1	30,4	11,7	9,9	3,2	-7,9	-9,6	-4,7	-11,7	-10,3	6,6	23,3	-4,9	-1,9	-32,5	-13,3	12,8	9,9
Oaks	-8,0	23,8	16,9	4,8	-3,4	-12,4	-3,2	-3,9	-5,2	-9,4	10,5	21,6	-18,4	-4,1	-39,2	2,4	7,1	20,2
Turkey oak	31,0	-5,0	0,7	26,1	-6,7	-18,8	-3,2	-4,4	-18,2	-1,4	-13,9	-12,4	-6,5	2,2	-42,1	22,7	33,4	16,6
Hornbeam	-8,3	22,6	20,1	21,1	5,3	-4,1	-6,7	-15,7	-23,1	-11,1	-11,8	14,3	1,6	2,0	-33,9	-7,0	20,0	14,8
Maple	7,5	35,9	14,0	18,1	-6,4	-2,5	-5,8	-11,5	-17,7	-31,7	1,5	22,1	10,6	-7,9	-25,7	-14,0	6,4	6,9
Ash	16,1	23,2	21,2	11,6	8,3	-15,8	-12,7	-18,5	-9,2	-24,1	7,9	52,3	-8,6	-16,7	-35,2	-9,0	14,6	-5,2
Elm	121,9	51,4	-5,8	-4,7	-36,1	-42,4	-1,8	-24,9	-20,3	-37,1	107,7	230,2	-59,8	-49,7	-63,8	-70,9	-46,0	-47,7
Linden	6,6	28,4	40,3	-7,7	-1,1	-13,7	-8,6	3,9	-25,8	-22,3	-0,7	58,2	-0,6	-7,0	-41,5	1,3	-7,6	-2,1
Locust	-6,5	-22,1	-18,9	-15,7	9,8	8,3	25,8	-0,8	4,4	15,8	-11,8	14,8	-19,6	4,8	-27,2	2,0	21,9	15,2
Birch	27,4	30,4	45,5	22,2	10,3	-18,7	-29,9	-26,2	-27,6	-33,5	8,0	41,3	4,3	-7,3	-19,1	-22,8	-9,6	5,3
Alder	-3,8	20,3	24,1	3,3	-6,5	-3,3	6,1	3,5	-17,0	-26,7	71,9	67,5	-24,2	6,8	-49,1	-28,2	-23,7	-21,1
Poplar	-10,6	-3,3	5,1	18,3	1,2	46,8	-7,0	13,1	-12,9	-50,6	85,5	71,4	34,0	-23,7	-60,4	-30,9	-38,7	-37,1
Hybrid poplars	-25,5	-30,0	4,6	18,2	-28,2	-33,7	-54,6	-59,0	111,9	96,4	-22,2	-5,2	-22,0	5,8	-5,6	23,3	19,7	6,3
Willows	24,1	-1,3	-20,2	45,8	-10,9	-82,6	-0,5	7,4	-24,2	62,4	161,8	72,0	-18,3	-1,2	-78,6	-54,9	-59,7	-21,0

Table A.18 Variations applied for harvest ratios

Tree species	Reference period												Commitment period						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Spruce	-24,9	-40,9	-37,6	-28,5	-23,6	59,7	0,3	15,4	41,5	38,6	15,4	-6,6	-14,0	-26,7	7,1	-4,2	9,1	19,8	
Fir	11,5	14,7	-9,3	-25,1	-3,5	11,4	16,6	-2,9	-4,3	-9,2	1,0	8,5	4,2	14,6	2,7	-4,1	-14,2	-12,7	
Pine	-7,9	-3,5	-10,4	-21,6	-11,2	18,8	12,5	6,9	-13,9	30,3	1,5	7,6	7,5	7,8	-1,8	0,7	-15,3	-7,9	
Larch	-30,2	-13,0	-11,3	-20,9	-11,7	133,5	17,8	-24,6	-13,1	-26,5	-8,4	-14,5	1,5	-21,0	63,3	13,7	-10,1	-24,4	
Beech	4,9	14,5	-5,3	-6,8	4,7	-0,1	3,2	-1,1	-3,6	-10,3	8,4	8,9	3,1	-12,9	13,4	7,9	-9,5	-19,2	
Oaks	40,6	25,6	2,2	-9,8	-10,6	-9,0	-7,1	-8,5	-6,1	-17,3	3,1	16,2	18,2	-12,5	-2,2	1,5	-6,1	-18,1	
Turkey oak	-24,6	-30,6	-22,4	22,4	9,8	16,3	10,4	11,0	0,0	7,8	18,9	39,5	32,7	-18,4	-24,4	-25,6	-5,2	-17,4	
Hornbeam	-22,5	3,6	-1,3	6,9	1,7	11,3	14,1	2,2	-13,0	-3,0	6,0	27,3	30,9	-5,0	-19,7	-16,3	-10,9	-12,3	
Maple	-11,9	13,9	2,2	1,1	16,2	-3,5	18,4	2,1	-10,9	-27,7	-4,7	23,4	14,3	-0,3	-8,3	-5,4	-4,8	-14,0	
Ash	21,9	38,1	21,6	-9,9	5,2	-17,7	-11,3	-10,5	-1,4	-36,1	-6,0	5,2	12,4	-17,4	-15,3	-3,1	18,4	5,7	
Elm	77,4	5,7	-34,0	-5,0	36,5	-37,1	-30,3	2,6	3,6	-19,5	11,4	80,3	-2,0	-19,6	-25,9	-27,7	-4,5	-11,9	
Linden	-10,1	5,5	14,7	33,6	-14,2	-35,1	10,2	23,0	-5,4	-22,2	-25,6	-21,2	-6,6	-18,6	6,9	41,3	40,8	-17,0	
Locust	-6,9	20,3	24,1	35,6	14,8	-6,1	-11,3	-20,6	-18,6	-31,3	22,3	21,3	9,6	-0,7	-25,4	-21,0	-8,7	2,5	
Birch	-12,8	17,8	8,7	-17,4	-18,6	14,1	53,5	-16,3	-8,3	-20,7	1,5	11,2	45,1	-12,7	-18,4	-8,3	-5,7	-12,6	
Alder	-48,7	0,2	-12,1	-25,7	10,2	92,0	54,8	4,4	-40,5	-34,6	3,9	1,1	2,6	6,3	-3,4	-14,6	-6,8	10,9	
Poplar	-60,6	12,9	-20,3	-36,9	-29,4	103,9	54,3	75,1	-62,6	-36,6	140,0	41,8	29,8	-15,9	-58,0	-38,2	-41,5	-58,0	
Hybrid poplars	35,0	20,6	15,8	12,6	21,4	-3,0	-3,9	-51,7	-19,8	-27,1	26,2	43,0	-6,2	-16,1	-28,4	-2,4	-2,0	-14,2	
Willows	-16,5	-10,5	70,6	102,1	-3,7	47,1	-32,7	-54,8	-48,4	-53,3	-49,8	101,0	114,5	-19,7	-34,6	-9,4	-42,8	-59,3	