



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE



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Forward

The Italian National Forestry Accounting Plan is prepared in the framework of the 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 (LULUCF Regulation), and amending Regulation (EU) 525/2013 and Decision 529/2013/EU. The Plan contains the Italy Forest Reference Level (FRL), for the period from 2021 to 2025, in accordance with paragraph 3 of article 8 of the LULUCF Regulation.

This Plan has been prepared by the Institute for Environmental Protection and Research (ISPRA), with the contribution of Ministry of Agricultural, Forestry and Tourism Policies. ISPRA is the single entity in charge of the development and compilation of the national GHG inventory (Legislative Decree 51, 7 March 2008). The Ministry for the Environment, Land and Sea is responsible for the endorsement of the inventory and for its official communication to the UNFCCC and EC Monitoring Mechanism. ISPRA is also responsible of *National system for policies, measures and emissions projections*, established in 2016, following the Kyoto Protocol commitments and its amendment ('Doha amendment') for the second Commitment Period (2013-2020), with the Law n. 79/2016, "Ratification of the Doha amendment to the Kyoto Protocol".

The Plan has been updated addressing the technical recommendations as formulated by the Commission, reflecting the conclusions of the technical assessment; the Plan is organized into four chapters, accompanied by six Appendixes. Chapter 1 provides a general introduction of the forest reference level and how it address the the criteria set out in Annex IV of the LULUCF Regulation. Chapter 2 provides general information on the FRL, including the description of carbon pools and greenhouse gases included and its consistency with the GHG Inventory, and the description of the long-term forest strategy. Chapter 3 describes the modeling approach applied for estimating the FRL, including background data sources, equations and assumptions, and its consistency with the GHG Inventory. Chapter 4 provides a detailed analysis of the calculation of the FRL.

The Italian FRL for the period 2021-2025 is equal to **-19,656.1** kt CO₂ eq. yr⁻¹. This corresponds to the annual average value of the aggregated CO₂, CH₄ and N₂O emissions and removals in Managed Forest Land (MFL). The FRL has been estimated with the same model and the same datasets used to prepare the Italian GHG inventory, so ensuring complete consistency among the GHG inventory and the FRL estimates.

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1. General introduction

1.1 General description of the forest reference level (FRL) for Italy

The Italian FRL for the period 2021-2025 is equal to **-19,656.1** kt CO₂ eq. yr⁻¹. This corresponds to the annual average value of the aggregated CO₂, CH₄ and N₂O emissions and removals in Managed Forest Land (MFL) as reported in Table 1 below:

Gg CO ₂ eq.	2021	2022	2023	2024	2025	average
CO ₂ (Living biomass pool)	-20,525.7	-19,985.7	-19,460.9	-18,950.9	-18,454.8	-19,475.6
CO ₂ (dead mass and litter pools)	0.0	0.0	0.0	0.0	0.0	0.0
CO ₂ (HWP_FOD)	-311.2	-316.3	-321.0	-325.4	-329.6	-320.7
CH ₄	139.7	139.7	139.7	139.7	139.7	139.7
N ₂ O	0.5	0.5	0.5	0.5	0.5	0.5
Total CO₂ eq. (HWP_FOD)	-20,696.7	-20,161.8	-19,641.8	-19,136.2	-18,644.2	-19,656.1
<i>Total CO₂ eq. (HWP_IO)</i>	-20,385.5	-19,845.5	-19,320.8	-18,810.7	-18,314.7	-19,335.4

Table 1 Forest Reference Level (FRL)

HWP_FOD: indicates that the HWP contribution is estimated using the First Order Decay (FOD) function under the production approach as described in Annex V of Regulation 2018/841

HWP_IO: indicates that the HWP contribution is estimated using the Instantaneous Oxidation (IO) approach.

The FRL has been estimated with the same model and the same datasets used to prepare the Italian GHG inventory² (ISPRA, 2018), so ensuring full consistency among the GHG inventory and the FRL estimates.

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

Criterion (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.

This criterion implies that the so-called long-term average C stock is increasing across time (i.e. the residence time of CO₂ in the C pools increases). This is demonstrated by a net total negative flux across time as reported in table 1. In addition, the same model and the same datasets used to prepare the Italian GHG inventory and to estimate the FRL has been used to assess the GHG emissions scenarios included in the Italian Long Term Strategy at 2050. In the figure 1, the comparison between the CO₂ removals from Managed Forest – FRL and the CO₂ removals from forest land remaining forest land related to the reference scenario of Italian Long term Strategy is shown.

² See section 3.3

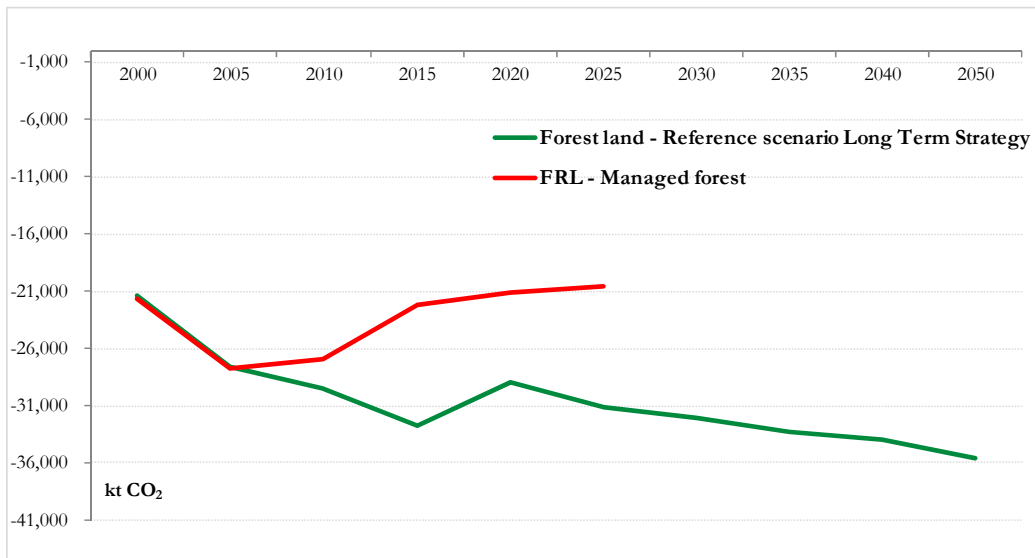


Figure 1 CO₂ removals from Managed Forest – FRL versus CO₂ removals from forest land remaining forest land related to the reference scenario of Italian Long term Strategy

Criterion (b): the reference level shall ensure that the mere presence of carbon stocks is excluded from accounting.

This criterion implies that the accounted quantities are either CO₂ removals or CO₂ reductions of emissions compared to a Business As Usual (BAU) scenario, i.e. a scenario where no any assumptions on trends in relevant variables are assumed. Every scenario that imply a deviation from BAU would account as an emissions reduction any difference between its projected emissions and the BAU scenario. This means that the mere presence of those C stock for which a loss is projected under a non-BAU scenario would be accounted as an emissions reduction.

The Italian FRL doesn't include any assumptions on future changes of BAU conditions, i.e. continuation of current forest management practices, and consequently it is consistent with this criterion.

Criterion (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.

This criterion aims to ensure that any net permanent transfer of carbon from the biomass pool to the atmosphere is accounted for as a net emission since it determines a long-term change in the CO₂ atmospheric concentration, while temporary GHG fluxes (e.g. harvest followed by forest regrowth) should not be accounted for as debits/credits. This is achieved when the reference level does not include management activities that cause a decrease of the long-term average C stock. For each Forest Management Practice (FMP) of the Italian FRL, the projected annual net biomass increment is larger than the projected C stock losses (i.e. harvest, disturbances and mortality) for the same year, therefore in each stratum (FMP area) the biomass C stock is projected increasing across time (section 4.1).

Further, this criterion aims to exclude emissions and subsequent removals in forest land that are not associated with the human activities and should therefore not be accounted i.e. emissions and removals associated with the natural disturbances (ND). The Italian reference level includes a background level (BL), and associated margin, of emissions from disturbances (section 4.1.6) calculated according to provisions set in Annex VI to the EU Regulation 2018/841. According to those provisions, the BL has been calculated and applied to exclude, in the FRL, all emissions and subsequent removals associated with ND without providing expectation for either net credits or net debits.

Criterion (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.

The Italian FRL includes the Harvested Wood Products (HWP) pool, and estimates have been provided in table 1 applying either the first order decay function, HWP_FOD, or the instantaneous oxidation, HWP_IO.

Criterion (e): a constant ratio between solid and energy use of forest biomass as documented in the period from 2000 to 2009 shall be assumed.

The Italian GHG inventory assumes that industrial roundwood is predominantly collected in forest land that have a “stands” structure while fuelwood is collected in forest land that have a “coppices” structure. Consequently, all C losses associated with harvesting of industrial roundwood are assigned at the “stands” FMPs and all C losses associated with harvesting of fuelwood are assigned at the “coppices” FMPs (for the stratification of Italian forest land in FMPs see section 3.2.1). Considering that the harvesting ratio of each FMP is a constant value (section 3.2.2), the ratio between material use and energy use has not been modified.

Criterion (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.

Forest management practices applied for the projection of the FRL are the same as applied in the reference period in accordance with EU and National legislation on forest management and forest protection including for biodiversity conservation. The FRL doesn’t include any projection of deforestation, so that each deforestation event that occurred during the accounting period would generate a gross amount of debits associated with the C loss as well as an additional amount of debits associated with the missing sink. The FRL doesn’t include any harvest in the forests with protective function, i.e. the FMPs called “rupicolous forest” and “riparian forest”, and it doesn’t include any planned activities of forest rejuvenation -indeed, the projected annual harvest is a fraction of the annual increment (Appendix I)- or any changes in the harvest practices from selective logging to clear-cut. See also section 2.3.

Criterion (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) n. 525/2013.

The FRL is fully consistent with the national projections of anthropogenic greenhouse gas emissions by sources and removals by sinks reported under Regulation (EU) n. 525/2013. The modelling framework used to estimate and report under under Regulation (EU) n. 525/2013 is the same used to estimate FRL (i.e. *for-est* model and NIR dataset, described in section 3.3) so that full consistency is ensured. In figure 2, the projections of CO₂ removals for forest land, as reported under Regulation (EU) n. 525/2013, is compared with the CO₂ removals for the managed forest for Forest Reference Level assessment.

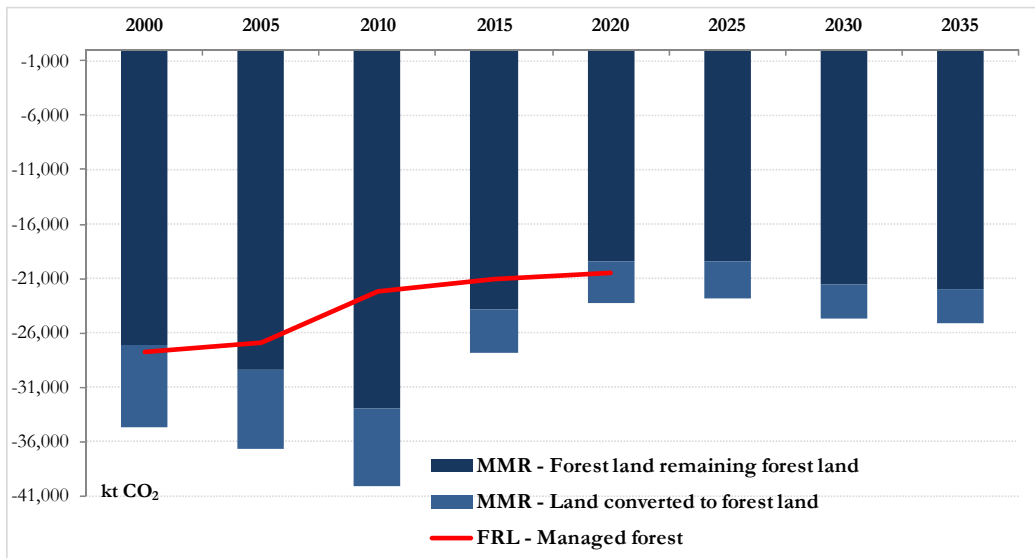


Figure 2 CO₂ removals from Managed Forest – FRL versus CO₂ removals from forest land as reported under under Regulation (EU) n. 525/2013 (MMR)

Criterion (b): 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.

The FRL is estimated with the same model and the same background data used to prepare the Italian GHG inventory, so ensuring complete consistency among the GHG inventory and the FRL estimates. The comparison between the GHG inventory data, submitted in 2018, and the data estimated for the FRL assessment is shown in figure 3; additional information is available in the relevant sections of chapters 2, 3 and 4.

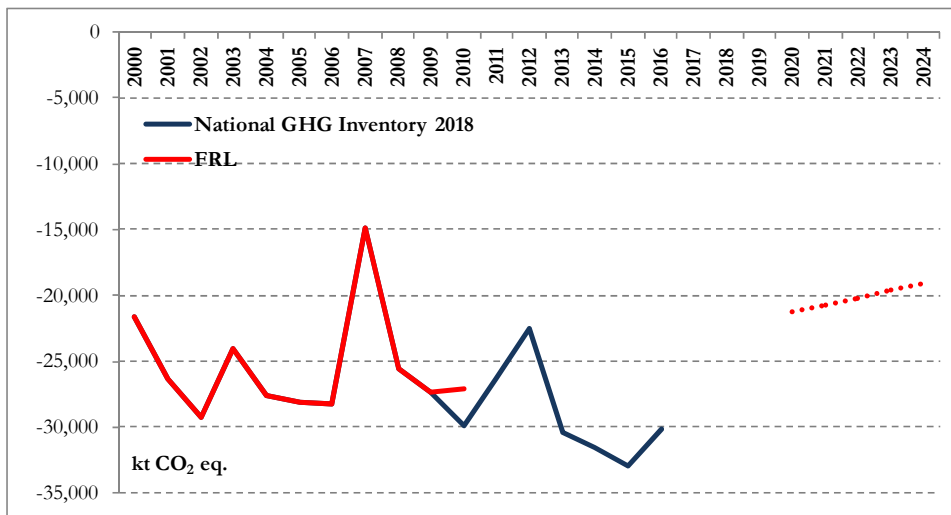


Figure 3 Comparison between GHG inventory data and FRL estimates

2. Preamble for the FRL

2.1 Carbon (C) pools and greenhouse gases (GHG) included in the FRL

2.1.1 Identification of the C pools and GHG which have been included in the FRL

The FRL includes the following C pools:

- ✓ aboveground biomass,
- ✓ belowground biomass,
- ✓ dead wood
- ✓ litter
- ✓ harvested wood products.

The soil organic matter pool (SOM) is not included on the basis that it is a net sink.

All GHG relevant for the LULUCF sector have been included in the FRL, namely:

- ✓ carbon dioxide,
- ✓ methane,
- ✓ nitrous oxide.

2.1.2 Reasons for omitting a C pool from the FRL determination

As reported in Italian National Inventory Report (ISPRA, 2018), section “9.3.1.2 Justification when omitting any carbon pool or GHG emissions/removals from activities under Article 3.3 and elected activities under Article 3.4”, the SOM pool is a net sink across the entire time series (figure 4).

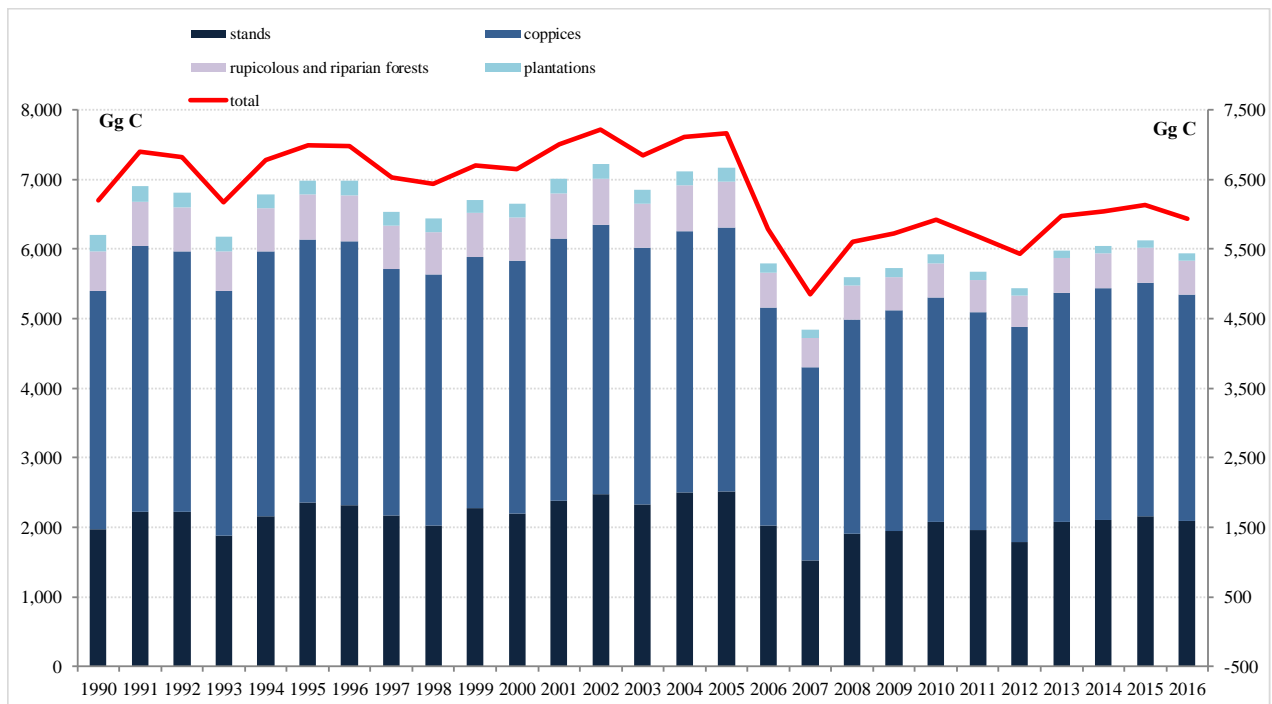


Figure 4 Soil Organic C stock (SOC) net gain in forest mineral soils

Because the SOC changes are generally perceived having a large uncertainty as well as having a high likelihood of bias, SOC changes are neither reported in the Italian GHG inventory nor in the FRL. Notwithstanding the perceived high uncertainty of SOC changes estimates, an exercise of verification, reported in NIR (ISPRA, 2018), table 9.6 of the above-mentioned section, shows that the error in the total SOC in the year 2008 is around -1% compared to the Italian National Forest Inventory (NFI) data.

2.2 Demonstration of consistency between the C pools included in the FRL

Consistency between C stock changes in the aboveground biomass and in the belowground biomass pools is ensured by the application of the root-to-shoot ratios³ to derive the belowground biomass from the aboveground biomass. Accordingly, projected changes in the belowground biomass are directly proportional to the projected changes of aboveground biomass.

Consistency between C stock changes in the aboveground pool and in the HWP pool has been ensured by deriving a HWP-specific inflow ratio (section 4.1.7) from the annual HWP inflow (t C) in the period 2000-2009 to the total harvest (m³) in forest stands and plantations. The average value of the ratios calculated across the reference period has been applied during the projection period to the projected amount of harvest, ensuring consistency between the two C pools.

2.3 Description of the long-term forest strategy

The development of a national long-term forest strategy is an ongoing process guided by the recent adoption of the Legislative Decree n. 34 “Testo unico in materia di Foreste e Filiere forestali” (section 2.3.2).

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

The forest resource in Italy has progressively reached 12 million hectares (forest land plus other wooded land), mostly in mountain and hilly areas, covering today 39% of the national surface; a steady increase since the 70's has to be noted: forest expansion rate was about 78 kha y⁻¹ in 2000 and it was 53.8 kha y⁻¹ in 2010.

Historical management practices in the Italian forests have been guided by the Legislative Decree n. 227 of 18 May 2001, although the design and implementation of specific guidelines has been carried out at regional level since, according to the Italian Constitutional Law, the forest management is a regional competence. The Legislative Decree n. 227/2001 provides 5 general guidance on forest management:

- protect forest ecosystem functions, genetic resources, water basins and landscape;
- avoid conversion of forest land to other uses of land, and where occurring apply compensative; reforestations with endemic species;
- avoid conversion fo forest stands to coppices;
- avoid clearcut;
- conserve biodiversity, including true conservation of old trees and dead wood.

From 2008 onward such guidance have been further elaborated in the Framework Program for the Forestry Sector (Programma Quadro per il Settore Forestale - PQSF) for the protection, enhancement and sustainable management of the national forest patrimony in compliance with the commitments undertaken at international and European level. Such goals are to be achieved within 4 area of action: bio-economy, conservation, including conservation and enhancement of the forest carbon stocks, rural and social development, socio-recreational and educational functions and public awareness.

With the entry into force of the Testo unico in materia di Foreste e Filiere forestali (TUFF), article 6, a new National Forest Strategy (Strategia Forestale Nazionale - SFN) is expected to be established, in continuation of the above-mentioned PQSF (paragraph 1, Article 6, Legislative Decree 3 April 2018, n. 34).

³ See section 3.3

2.3.2 Description of future harvesting rates under different policy scenarios (differentiating among current measures and expected additional measures)

On 3 April 2018 the TUFF was promulgated with Legislative Decree no. 34, which repeals Legislative Decree 227 of 2001 on "Orientation and modernization of the forest sector". The TUFF provides guidelines on sustainable forest management, and it is aimed to define a new National Forest Strategy (2019-2039). The strategy is to promote the sustainable forest management as an instrument to increase the net absorption of carbon, to guarantee all goods and services provided by forests and to promote the production of wood products.

The new National Forest Strategy in the drafting phase, in line with the provisions of the eight Priority Areas of the European Forestry Strategy (COM (2013) n. 659) of 2013, defines clear goals, aimed at:

- overcome the economic and environmental emergencies of forest interest;
- build a system that encourages sustainable forest management and the production of public goods and services, especially for mitigation;
- develop the sector and its production, environmental and socio-cultural supply chains;
- guaranteeing security and development, protection and enhancement of natural capital, of which the forest patrimony and sector are essential components.

In order to support the process of drafting the new National Forest Strategy, the Ministry of Agricultural, Forestry and Tourism Policies has collected and summarized in a White Paper the contributions, observations and proposals that emerged during a long process of public consultations between 2016 and 2017 (National Forum of Forests - www.reterurale.it/foreste)

In this context, a gradual change in the harvesting rates is expected over a ten-year period, with a shift from the current 30-33% use of the annual increase to the a potential 40-45%.

3. Description of the modelling approach

3.1 Description of the general approach as applied for estimating the FRL

The FRL is estimated using the same model, i.e. *for-est*, applied to estimate emissions and removals for the Forest land category in the Italian national GHG inventory (ISPRA, 2018). *For-est* is a bookkeeping model that calculates annually the aboveground biomass pool C stock by adding the annual net increment and subtracting annual losses associated with formal and informal⁴ harvest (industrial roundwood and fuelwood), forest fires and other mortality, which includes all other disturbances⁵ (i.e. drought, grazing, wind). Detailed description of the modeling approach is reported in section 3.3.

Forest land has been stratified within the regional administrative boundaries of Italy, i.e. 19 regions⁶ and 2 provinces, by 26 forest types⁷ based on the management system of practices and the main tree species. This means that each forest type in each region/province corresponds to a forest management system of practices (FMPs) used for the projection of the FRL; same stratification is applied for preparing the GHG estimates of the Italian national GHG inventory. The area of each forest type identified within the above-described stratification has been kept constant across the entire time series projected 2010-2025.

In the *for-est* model, each forest type is characterized by the average aboveground biomass C stock (t C ha⁻¹) and by an annual increment curve (t C ha⁻¹ yr⁻¹) calculated through a density-based function, i.e. the annual increment is function of the average density. For each year, the average biomass C stock is modelled by adding the annual net increment, as calculated in function of the average biomass itself, and subtracting annual losses caused by harvesting, fires and other natural causes of mortality.

For the reference period 2000-2009 the harvest amount is the same used in the national GHG inventory (ISPRA, 2018) as derived from the Italian statistics; for the projected period 2010-2025 the harvest quantities are estimated based on harvesting ratios inferred from the FMPs in the reference period. The harvesting ratio associated to each FMP has been quantified across the reference period for each region/province as either the average⁸ or the latest value⁹ of the ratio of historical harvest (m³) to total available biomass (t C).

C stock losses associated with forest fires are those reported in the national GHG inventory (ISPRA, 2018) for the years 2000-2016, while for the projected years a background level of anthropogenic emissions from forest fires has been used as calculated for the FRL (section 4.1.4).

Other mortality losses, due to drought, grazing, wind, are estimated for the entire time series applying to the biomass stock constant rates specific for all deciduous forests, equal to 1.17%, and all evergreen forests, equal to 1.16%.

For the reference period 2000-2009 the HWP inflow is the same used in the national GHG inventory as calculated from FAOSTAT¹⁰ data. The HWP contribution is estimated using the Production Approach consistently with article 9 of the EU Regulation 2018/841 and its Annex V. For the projected period 2010-2025 the HWP inflows are estimated based on inflow ratios inferred from historical harvest and HWP inflows in the reference period. The inflow ratio is calculated for each HWP and it is calculated as the annual HWP inflow (t C)

⁴ “Informal harvest” includes all harvest not captured by the official system of statistics either because occurring outside the chain of data collection, e.g. domestic fuelwood collection, or because may have occurred outside the planned harvest, e.g. small areas for which no harvesting plan is required and illegal harvest.

⁵ Although natural mortality does not explicitly include losses caused by exceptional occurrences of those other disturbances, such exceptional losses are included in the national GHG inventory through the subsequent salvage logging of those lost biomass stocks.

⁶ Abruzzo, Alto Adige/Sud Tirolo, Basilicata, Calabria, Campania, Emilia Romagna, Friuli Venezia Giulia, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Sardegna, Sicilia, Toscana, Trentino, Umbria, Valle d’Aosta, Veneto.

⁷ 4 different management system of practices (High stands, Coppices, Plantations, Protective) are combined with 22 (*norway spruce, silver fir, larches, mountain pines, mediterranean pines, other conifers, european beech, turkey oak, other oaks, other broadleaves, sweet chestnut, hornbeams, evergreen oaks, conifers* (in coppices), *eucalyptus coppices, other broadleaves coppices, poplars stands, other broadleaves stands, conifer stands* (in plantations), *rupicolous forest, riparian forest, others*) to produce 26 forest types.

⁸ In case not clear trend is shown in ratios calculated for the reference period. For more information see section 3.2.2.

⁹ In case a clear trend is shown in ratios calculated for the reference period. For more information see section 3.2.2.

¹⁰ <http://www.fao.org/faostat/en/#data/FO>

to the total harvest (m³) in forest stands and plantations. The average value of the ratios calculated across the reference period has been applied during the projection period to the projected amount of harvest so ensuring consistency between the two C pools.

Consistently with GHG estimates reported for the national GHG inventory, the SOM pool is not estimated since it is a net sink (ISPRA, 2018 - section 9.3.1.2).

3.1.1 Description of the forest definition for Managed Forest Land (MFL) used for the construction of FRL and of its consistency with that used in the national inventory report (NIR) and the national forest inventory (NFI)

The forest definition applied for the FRL is the same used for the Italian national GHG Inventory, which is also that applied for the Italian National Forest Inventory (NFI) and corresponds to the FAO, Global Forest Resource Assessment, definition. This definition has the following threshold values for tree crown cover, minimum 10%, land area, minimum 0.5 hectares, tree height, minimum 5 meters. Orchards and urban trees, including urban parks, do not qualify as forest land even when these meet the threshold values. Cleared areas that are expected to regrow to forest, as well as forest roads, firebreaks and other open areas smaller than 0.5 hectares within forest are included in forest land.

The entire area of Italian forest land is managed and the MFL for which the FRL has been estimated corresponds to the category Forest land remaining Forest land as reported in the Italian GHG Inventory. In particular, the area for which the FRL has been projected is the area of the category Forest land remaining Forest land in the year 2009.

3.1.2 Description of each historical FMPs (including timing and modalities of its implementation, its compliance with sustainable forest management principles and including age-related characteristics as increment curves and rotation length) as applied to stratification

For the estimation of the FRL, Forest land has been stratified within the regional administrative boundaries of Italy, 19 regions¹¹ and 2 provinces, by 26 forest types¹² based on the management system of practices and the main tree species

The forest inventory typologies, classified in 4 main aggregates (stands, coppices, plantations, protective), are:

Stands: 1. *norway spruce*, 2. *silver fir*, 3. *larches*, 4. *mountain pines*, 5. *mediterranean pines*, 6. *other conifers*, 7. *European beech*, 8. *turkey oak*, 9. *other oaks*, 10. *other broadleaves*.

Coppices: 11. *European beech*, 12. *sweet chestnut*, 13. *hornbeams*, 14. *other oaks*, 15. *turkey oak*, 16. *evergreen oaks*, 17. *other broadleaves*, 18. *conifers*.

Plantations: 19. *eucalyptuses coppices*, 20. *other broadleaves coppices*, 21. *poplar stands*, 22. *other broadleaves stands*, 23. *conifer stands*, 24. *others*.

Protective Forests: 25. *rupicolous forest*, 26. *riparian forests*

This means that each forest type in each region/province corresponds to a forest management system of practices (FMPs) used for the projection of the FRL; same stratification is applied for preparing the GHG estimates of the Italian national GHG inventory.

Historical management practices in the Italian forests have been guided by the Legislative Decree n. 227 of 18 May 2001, although the design and implementation of specific guidelines has been carried out at regional level

¹¹ Abruzzo, Alto Adige/Sud Tirolo, Basilicata, Calabria, Campania, Emilia Romagna, Friuli Venezia Giulia, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Sardegna, Sicilia, Toscana, Trentino, Umbria, Valle d'Aosta, Veneto.

¹² 4 different management system of practices (High stands, Coppices, Plantations, Protective) are combined with 22 (*norway spruce*, *silver fir*, *larches*, *mountain pines*, *mediterranean pines*, *other conifers*, *European beech*, *turkey oak*, *other oaks*, *other broadleaves*, *sweet chestnut*, *hornbeams*, *evergreen oaks*, *conifers* (in coppices), *eucalyptus coppices*, *other broadleaves coppices*, *poplars stands*, *other broadleaves stands*, *conifer stands* (in plantations), *rupicolous forest*, *riparian forest*, *others*) to produce 26 forest types.

since, according to the Italian Constitutional Law, the forest management is a regional competence. The Legislative Decree n. 227/2001 provides 5 general guidance on forest management:

- protect forest ecosystem functions, genetic resources, water basins and landscape;
- avoid conversion of forest land to other uses of land, and where occurring apply compensative reforestations with endemic species;
- avoid conversion of forest stands to coppices;
- avoid clearcut;
- conserve biodiversity, including true conservation of old trees and dead wood.

Characteristic of each FMP is the average biomass density ($t\ C\ ha^{-1}$) derived from the first national forest inventory¹³ and modeled across the time series by adding annual increment and subtracting annual losses, i.e. harvest, fires, other mortality. The biomass stock has been verified for the year 2008 using the data of the second national forest inventory¹⁴; results of such verification exercise (ISPRA, 2018 - section 6.2.5) show that the difference between the measured and modeled biomass C stocks is around -7%; which means that the model has underestimated the net accumulation of C stocks across the period 1985-2008.

Increment curves applied to each FMP are density-dependent, which means that calculates the annual net increment in function of the current aboveground biomass stock per hectare. The curves have been derived from a collection of around 100 Italian yield tables. Increment curves applied to each FMPs are reported in section 3.1.3 of this chapter.

3.1.2.1 Documentation on the sources and timeframe of information used to define the FMP, including a justification if outside the period 2000-2009

Biomass losses from timber harvest, fuel wood collection and harvest from short rotation forests are calculated on the basis of official statistic by ISTAT; total commercial harvested wood, for construction and energy purposes, has been published by ISTAT (disaggregated at NUTS2 level, in sectoral statistics or at NUTS1 level for coppices and high forests in national statistics). Aiming to take into account the informal harvest, the time series has been recalculated, applying a correction factor, on regional basis, to the commercial harvested wood statistical data. The correction factor¹⁵, was inferred with the outcome of a 2005 NFI survey¹⁶, carrying out a regional assessment of the harvested biomass; the computed figures have been subtracted, as losses, from growing stock volume, as mentioned above. Harvest and aboveground biomass stock data used to derive the harvesting ratio for each forest type in each region/province are taken from the period 2000-2009 only (a complete set of data is reported in section 3.2.2).

3.1.2.2 Documentation on gap-filling of information on FMPs

No gap-filling has been applied to the information on FMPs in the reference period.

3.1.3 Documentation on forest characteristics, including increments

Average aboveground biomass densities in the period 2000-2025 for each FMP of each region are reported in appendix I. The parameters of the aboveground biomass increment curves applied for each forest type in each region are reported in Appendix A. Aboveground biomass increments in the period 2000-2025 for each FMP of each region are reported in appendix II.

¹³ https://www.sian.it/inventarioforestale/jsp/1985_intro.jsp?menu=4

¹⁴ https://www.sian.it/inventarioforestale/jsp/risultati_introa.jsp?menu=3

¹⁵ A correction factor for each Italian region (21) has been pointed out. The mean value is 1.57, obtained as ratio of data from official statistics and NFI survey data. The variance is equal to 0.82.

¹⁶ NFI survey on harvested volume: <http://www.sian.it/inventarioforestale/caricaDocumento?idAlle=442>

3.2 Documentation of data sources as applied for estimating the FRL

The MFL projected area, to estimate the FRL, is the area of forest land remaining forest land in the year 2009, no area changes are projected. The same stratification applied for the national GHG inventory, i.e. the subdivision by administrative boundaries and forest types, is applied to MFL area for the FRL estimation; in addition, the area of each stratum is taken constant as its value reported in the national GHG inventory for the year 2009.

The average biomass C stock of each forest type in each region/province calculated for the year 2009, as used for the Italian national GHG inventory estimates. Biomass increment curves for each forest type in each region/province are those used for the national GHG inventories (section 3.1.3).

For the reference period the harvested wood data, for each region/province are taken from the national statistics by ISTAT (Italian National Institute of Statistics) and are the same data used for the national GHG inventory (ISPRA, 2018 - Figure 6.3)¹⁷. For the projection period (2010-2025) harvested quantities for each region/province and forest type have been estimated based on the aboveground biomass C stock and harvesting ratio of each FMP (see section 4.1.5).

For burnt areas in forest land several sources of data are used:

- ✓ the period 1990-2007, national statistics produced by ISTAT on areas affected by fire per region and management type, i.e. high forest (resinous, broadleaves, mixed) and coppices (simple, mixed and degraded);
- ✓ for the period 2008-2016, a detailed database¹⁸, collected by “Carabinieri Forestali”¹⁹ for 15 regions²⁰ and by regional offices for the remaining 4 autonomous regions²¹ and 2 autonomous provinces²²:

3.2.1 Documentation of stratification of the MFL

Same stratification applied to the forest land category in the Italian national GHG inventory and in the National Forest Inventory²³ has been applied for the estimation of the FRL.

The total national forest land area is stratified by:

- I. Administrative boundaries of 19 regions and 2 provinces

Administrative boundary	Forest land remaining Forest land Area of MFL in the year 2009 (kha)
Abruzzo (region)	278.45
Alto Adige/Sudtirolo (province)	310.98
Basilicata (region)	233.18
Calabria (region)	463.08
Campania (region)	324.55
Emilia Romagna (region)	440.38
Friuli Venezia Giulia (region)	283.98
Lazio (region)	430.49

¹⁷ <https://unfccc.int/documents/65681>

¹⁸ Containing information also on forest type (consistently with those used for the stratification of forest land), fire's type (crown, surface, ground) and scorch height. This detailed information allows the assessment of the forest fire damage and related biomass losses.

¹⁹ <http://www.carabinieri.it/arma/oggi/organizzazione/organizzazione-per-la-tutela-forestale-ambientale-e-agroalimentare>

²⁰ Abruzzo, Basilicata, Calabria, Campania, Emilia Romagna, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Toscana, Umbria, Veneto.

²¹ Friuli Venezia Giulia, Sardegna, Sicilia, Valle d'Aosta.

²² Alto Adige/Sud Tirolo, Trentino.

²³ <https://www.sian.it/inventarioforestale/jsp/tablesforesttypes.jsp>

Liguria (region)	327.21
Lombardia (region)	561.32
Marche (region)	222.13
Molise (region)	110.07
Piemonte (region)	720.94
Puglia (region)	125.16
Sardegna (region)	426.78
Sicilia (region)	226.32
Toscana (region)	909.65
Trentino (province)	354.13
Umbria (region)	315.23
Valle d'Aosta (region)	84.93
Veneto (region)	333.56
Italy	7,482.54

Table 2 Area of Managed Forest Land (MFL) in 2009

- II. The forest land area of each administrative region/province is further stratified in forest types identified by main function (productive, protective), structure (stands, coppices, plantation, other) and main trees species.

FMP	function	structure	forest type	area (kha)	
Forest Management Practice	productive	stands	norway spruce	453.89	
	productive	stands	silver fir	77.45	
	productive	stands	larches	292.06	
	productive	stands	mountain pines	324.12	
	productive	stands	mediterranean pines	132.72	
	productive	stands	other conifers	29.09	
	productive	stands	european beech	367.81	
	productive	stands	turkey oak	123.81	
	productive	stands	other oaks	226.70	
	productive	stands	other broadleaves	349.21	
	productive	coppices	european beech	496.96	
	productive	coppices	sweet chestnut	553.93	
	productive	coppices	hornbeams	466.62	
	productive	coppices	other oaks	844.20	
	productive	coppices	turkey oak	410.33	
	productive	coppices	evergreen oaks	224.11	
	productive	coppices	other broadleaves	941.07	
	productive	coppices	conifers	123.20	
	productive	plantation	eucaliptus coppices	0.97	
	productive	plantation	other broadleaves coppices	2.91	
	productive	plantation	poplars stands	118.20	
	productive	plantation	other broadleaves stands	12.78	
	productive	plantation	conifers stands	8.72	
	productive	plantation	others	166.36	
	protective	other	rupicolous forest	613.99	
	protective	other	riparian forest	121.32	
	Total				7,482.54

Table 3 Stratification of FMPs - year 2009

3.2.2: Documentation on whether FMP values used for FRL projections are the average or the latest FMPs in the RP.

The quantification of FMPs is exclusively based on the harvesting ratio, i.e. the ratio of the harvested amount (m^3) to the total aboveground biomass (t C) of the FMP. For each region/province, the harvesting ratio of each FMP has been calculated from the historical time series 2000-2009. To select which value²⁴ of the time series has been taken as the quantitative indicator of the relevant FMP, the following procedure has been applied:

- I. for each region/province, the annual harvesting ratios of the FMPs with same forest structure, i.e. stands, coppices, plantations, have been aggregated;
- II. for each forest structure, the historical time series of aggregated harvesting ratios has been plotted in a cartesian plane where a linear regression has been fitted (Microsoft Excel Software), thus
 - a. if the r^2 of the trendline was higher than 0.5, for each single FMP the harvest ratio of the latest year (2009) has been taken
 - b. otherwise the average value has been taken.

In the Appendix B, the time series of values of harvesting ratios, for each FMP in each region/province, is reported, for the reference period. Each green shadowed cell contains the value of the harvest ratio used as indicator for the respective FMP.

3.3: Detailed description of the modelling framework as applied in the estimation of the FRL

The FRL is estimated using the same model, i.e. *for-est model* (Federici *et al.*, 2008) applied to estimate emissions and removals for the Forest land category in the Italian national GHG inventory (ISPRA, 2018 – section 6.24). *For-est* is a bookkeeping model (figure 5) that calculates annually the C stock of the aboveground biomass pool by adding the annual net increment and subtracting annual losses associated with formal and informal²⁵ harvest (industrial roundwood and fuelwood), forest fires and other mortality, which includes all other disturbances²⁶ (i.e. drought, grazing, wind).

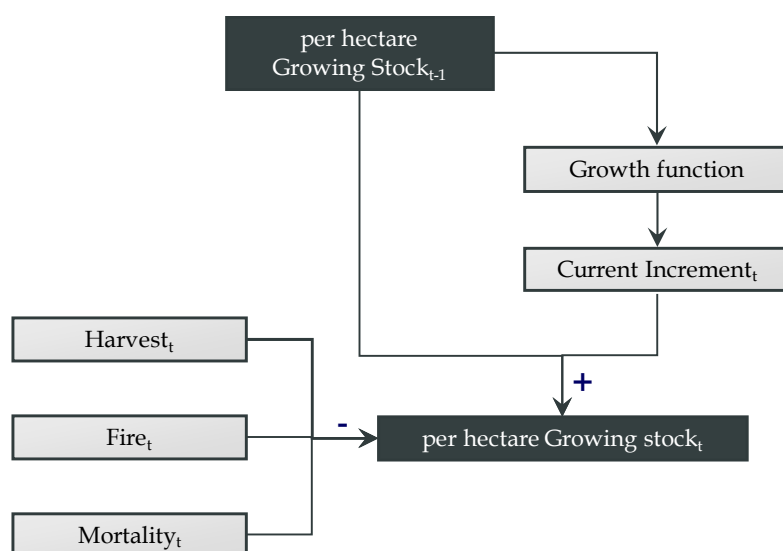


Figure 5 *For-est* model flow-chart

The model has been applied to each FMP at regional/provincial scale (NUTS2), using as model input data for the forest area and initial growing stock of the first and second national forest inventories (NFI1985, NFI2005),

²⁴ either the average or the latest value

²⁵ "Informal harvest" includes all harvest not captured by the official system of statistics either because occurring outside the chain of data collection, e.g. domestic fuelwood collection, or because may have occurred outside the planned harvest, e.g. small areas for which no harvesting plan is required and illegal harvest.

²⁶ Although natural mortality does not explicitly include losses caused by exceptional occurrences of those other disturbances, such exceptional losses are included in the national GHG inventory through the subsequent salvage logging of those lost biomass stocks.

while the results of the first phase of the NFI2015 is used for the forest area only. An independent verification (Tabacchi et al., 2010) of the model results versus measured data was carried out for the year 2005 (ISPRA, 2018 – section 6.2.6).

Consistently, the time series of growing stock values in each FMP is estimated applying the following steps:

1. deriving the initial growing stock volume for the year 1985 from the NFI data (MAF/ISAFA, 1988);
2. for each year, the current increment per hectare [$\text{m}^3 \text{ ha}^{-1} \text{ yr}^{-1}$] is computed with the FMP-specific derivative Richards function, for each forest typology using as independent variable x the per hectare growing stock of the FMP;
3. for each year, the following losses are calculated:
 - a. harvest, statistical data collected from ISTAT on industrial roundwood production (all assigned to “stands” forests), fuelwood (all assigned to “coppices” forests) and wood outside forest assigned to “plantations” forests;
 - b. fires, area burnt from Forest service statistics, assigned to FMPs proportionally to their area, all biomass stock assumed lost;
 - c. mortality, an average constant ratio of mortality to total growing stock (Federici et al, 2008) estimated by expert judgement for evergreen (1.16%) and deciduous (1.17%) productive forests (i.e. stands, coppices, plantations);
 - d. for protective forest (i.e. rupicouls and riparian forests), an average constant ratio (3%) of C stock losses associated with drain and grazing
4. starting from 1986, for each year, the final growing stock per hectare [$\text{m}^3 \text{ ha}^{-1}$] is computed adding to the final growing stock volume of the previous year the increment calculated for the current year and subtracting the losses occurred in the year as due to harvest, fires and mortality.

The procedure can be summarized as follows:

$$v_i = \frac{V_{i-1} + I_i - H_i - F_i - M_i - D_i}{A_i}$$

where:

$$I_i = f(v_{i-1}) \cdot A_{i-1}$$

v_i is the volume per hectare of growing stock for the current year

V_{i-1} is the total previous year growing stock volume

I_i is the total current increment of growing stock for the current year

H_i is the total amount of harvested growing stock for the current year

F_i is the total amount of burned growing stock for the current year

M_i is the annual rate of mortality

D is the annual rate of drain and grazing for the protective forest

A_i is the total area referred to a specific forest typology for the current year

v_{i-1} is the previous year growing stock volume per hectare

A_{i-1} is the total area referred to a specific forest typology for the previous year

f is the Richards function reported above

The **annual current increment** is estimated through the use of a non-linear function, the Richards function, that has the growing stock as its independent variable. The Richards' 4 parameters allow the needed flexibility to represent the various potential growth rates, including the initial, nearly constant, rate. To calculate the 4 parameters for each FMP the Richards function has been fitted through the data of growing stock [$\text{m}^3 \text{ ha}^{-1}$] and increment [$\text{m}^3 \text{ ha}^{-1} \text{ yr}^{-1}$] obtained from the collection of Italian yield tables.

$$y = a \cdot \left[1 \pm e^{(\beta - kx)} \right]^{\frac{1}{v}} \quad (\text{Richards function})$$

The per hectare growing stock (i.e. the biomass density of the stand) is the independent variable x , while the dependent variable y is the increment computed with the Richards function - first derivative.

$$\frac{dy}{dt} = \frac{k}{v} \cdot y \cdot \left[1 - \left(\frac{y}{a} \right)^v \right] + y_0$$

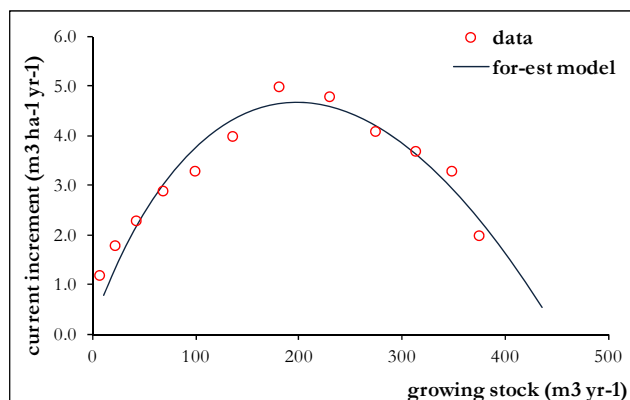
(Richards function - first derivative)

where the general constrain for the parameters are the following:

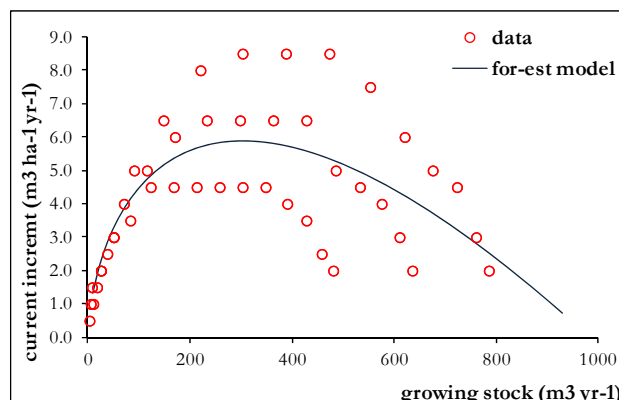
$$a, k > 0 \quad -1 \leq v \leq \infty \text{ and } v \neq 0$$

The constant y_0 is the growing stock volume at 1 year age.

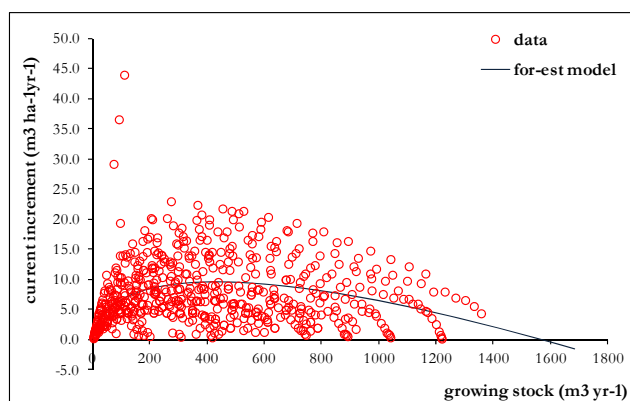
The Richards function, first derivative, has been fitted against data taken from all quality classes of each yield table (Figure 6), in order to calculate a set of variables' values for each FMP.



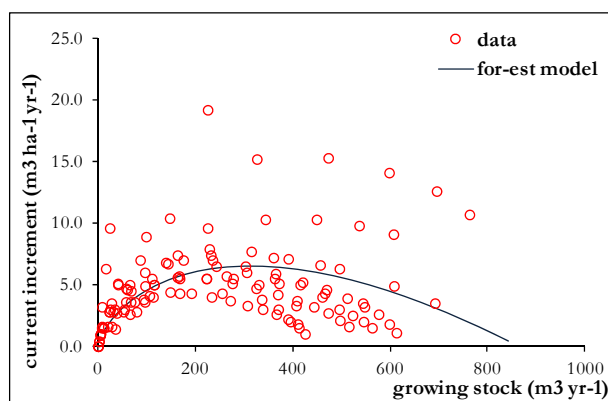
3a Trentino, *larches*



3b Lombardia, *norway spruce*



3c Piemonte, *other conifers*



3d Campania, *European beech*

Figure 6: *For-est* model fitting

The [annual average rate of mortality](#) allows to calculate all losses due to natural mortality and all disturbances other than fires. It has been estimated at 1.16% for evergreen forests and 1.17% for deciduous forest, in line with the IPCC Good Practice Guidance for LULUCF 2003. The rate of draining and grazing, applied to protective forest, has been set as 3% following an expert judgement (Federici et al., 2008).

Biomass losses from [timber harvest](#), [fuel wood](#) collection are calculated on the basis of official statistic by ISTAT; total commercial harvested wood, for construction and energy purposes, has been published by ISTAT (disaggregated at NUTS2 level, in sectoral statistics). Aiming to take into account the informal harvest, the time series has been recalculated, applying a correction factor, on regional basis, to the commercial harvested wood statistical data. The correction factor²⁷, was inferred with the outcome of a 2005 NFI survey²⁸, carrying out a regional assessment of the harvested biomass. In Figure 7, the time series of harvest on stands, coppices and plantations, are shown.

²⁷ A correction factor for each Italian region (21) has been pointed out. The mean value is 1.57, obtained as ratio of data from official statistics and NFI survey data. The variance is equal to 0.82.

²⁸ NFI survey on harvested volume: <http://www.sian.it/inventarioforestale/caricaDocumento?idAlle=442>

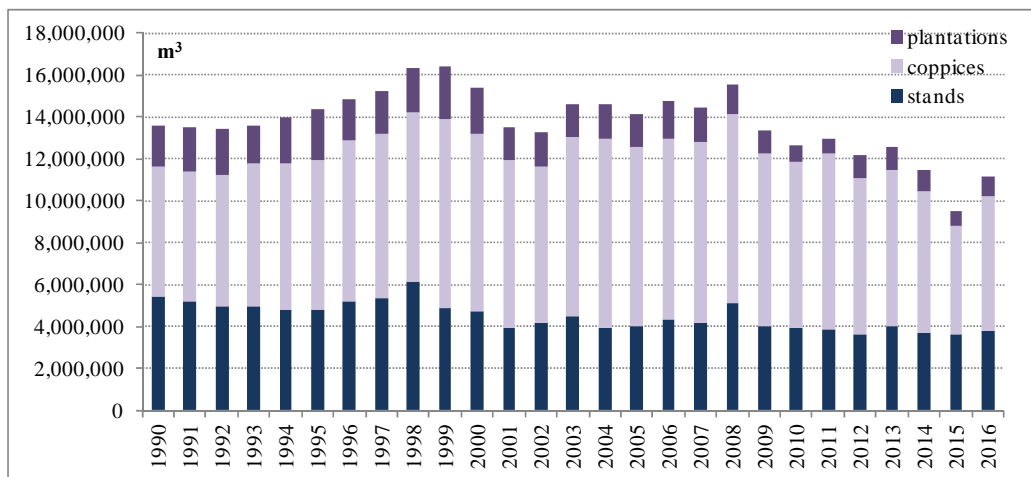


Figure 7 Harvest time series

The growing stock loss caused by forest fires has been estimated on the basis of the average growing stock per hectare. All the biomass stock present on a burned area is assumed to be lost, although only a fraction of it is assumed to be burned according to the fire typology.

The per hectare growing stock and associated gain and losses are converted into aboveground biomass stock applying the following equation:

$$\text{Aboveground tree biomass (d.m.)} = GS \cdot BEF \cdot WBD \cdot A$$

where:

GS = volume of growing stock (MAF/ISAF, 1988) [$\text{m}^3 \text{ha}^{-1}$] of specific FMP

BEF = Biomass Expansion Factors which expands growing stock volume to volume of aboveground woody biomass (ISAF, 2004)

WBD = Wood Basic Density for conversions from fresh volume to dry weight (d.m.) [t m^{-3}] (Giordano, 1980)

A = forest area of specific FMP [ha]

The BEFs and WBDs have been estimated for each forest inventory typology and are reported in following table 4.

	Inventory typology	BEF	WBD
		<i>aboveground biomass / growing stock</i>	<i>Dry weight t/ fresh volume</i>
Stands	norway spruce	1.29	0.38
	silver fir	1.34	0.38
	larches	1.22	0.56
	mountain pines	1.33	0.47
	mediterranean pines	1.53	0.53
	other conifers	1.37	0.43
	european beech	1.36	0.61
	turkey oak	1.45	0.69
	other oaks	1.42	0.67
	other broadleaves	1.47	0.53
	Coppices	european beech	1.36
sweet chestnut		1.33	0.49
hornbeams		1.28	0.66
other oaks		1.39	0.65
turkey oak		1.23	0.69
evergreen oaks		1.45	0.72
other broadleaves		1.53	0.53
conifers		1.38	0.43
Plantations	eucalyptuses coppices	1.33	0.54
	other broadleaves coppices	1.45	0.53
	poplars stands	1.24	0.29
	other broadleaves stands	1.53	0.53

Inventory typology	BEF	WBD
	<i>aboveground biomass / growing stock</i>	<i>Dry weight t/ fresh volume</i>
conifers stands	1.41	0.43
others	1.46	0.48
rupicolous forest	1.44	0.52
riparian forest	1.39	0.41

Table 4 Biomass Expansion Factors and Wood Basic Densities

Applying a Root/Shoot ratio (R) to the aboveground volume and the same WBDs the belowground biomass is derived for each forest inventory typology. The Rs have been estimated for each forest inventory typology and are reported in table 5. Data on root to shoot ratios have been taken from the following European projects: CANIF²⁹ (*CARbon and NITrogen cycling in Forest ecosystems*), CARBODATA³⁰ (*Carbon Balance Estimates and Resource Management - Support with Data from Project Networks Implemented at European Continental Scale*), CARBOINVENT³¹ (*Multi-source inventory methods for quantifying carbon stocks and stock changes in European forests*) and COST³² Action E21- Contribution of forests and forestry to mitigate greenhouse effects.

Inventory typology	R	WBD	
	<i>Root/shoot ratio</i>	<i>Dry weight t/ fresh volume</i>	
<i>stands</i>	norway spruce	0.29	0.38
	silver fir	0.28	0.38
	Larches	0.29	0.56
	mountain pines	0.36	0.47
	mediterranean pines	0.33	0.53
	other conifers	0.29	0.43
	europaean beech	0.20	0.61
	turkey oak	0.24	0.69
	other oaks	0.20	0.67
	other broadleaves	0.24	0.53
<i>coppices</i>	europaean beech	0.20	0.61
	sweet chestnut	0.28	0.49
	Hornbeams	0.26	0.66
	other oaks	0.20	0.65
	turkey oak	0.24	0.69
	evergreen oaks	1.00	0.72
	other broadleaves	0.24	0.53
	Conifers	0.29	0.43
<i>Plantations</i>	eucalyptuses coppices	0.43	0.54
	other broadleaves coppices	0.24	0.53
	poplars stands	0.21	0.29
	other broadleaves stands	0.24	0.53
	conifers stands	0.29	0.43
	others	0.28	0.48
<i>protection</i>	rupicolous forest	0.42	0.52
	riparian forest	0.23	0.41

Table 5 Root/Shoot ratio and Wood Basic Densities

²⁹ CANIF-CARbon and NITrogen cycling in Forest ecosystems http://www.bgc-jena.mpg.de/bgc-processes/research/Schulze_Euro_CANIF.html; Scarascia Mugnozza G., Bauer G., Persson H., Matteucci G., Masci A.(2000). Tree biomass, growth and nutrient pools. In: Schulze E.-D. (edit.) Carbon and Nitrogen Cycling in European forest Ecosystems, Ecological Studies 142, Springer Verlag, Heidelberg. Pp. 49-62. ISBN 3-540-67239-7

³⁰ CARBODATA - Carbon Balance Estimates and Resource Management - Support with Data from Project Networks Implemented at European Continental Scale: http://afoludata.jrc.it/carbodatat/proj_desc.html

³¹ CARBOINVENT - Multi-source inventory methods for quantifying carbon stocks and stock changes in European forests; <http://www.joanneum.at/carboinvent/>

³² COST Action E21 - Contribution of forests and forestry to mitigate greenhouse effects: http://www.cost.eu/domains_actions/fps/Actions/E21; http://www.afs-journal.org/index.php?option=com_article&access=standard&Itemid=129&url=/articles/forest/pdf/2005/08/F62800f.pdf

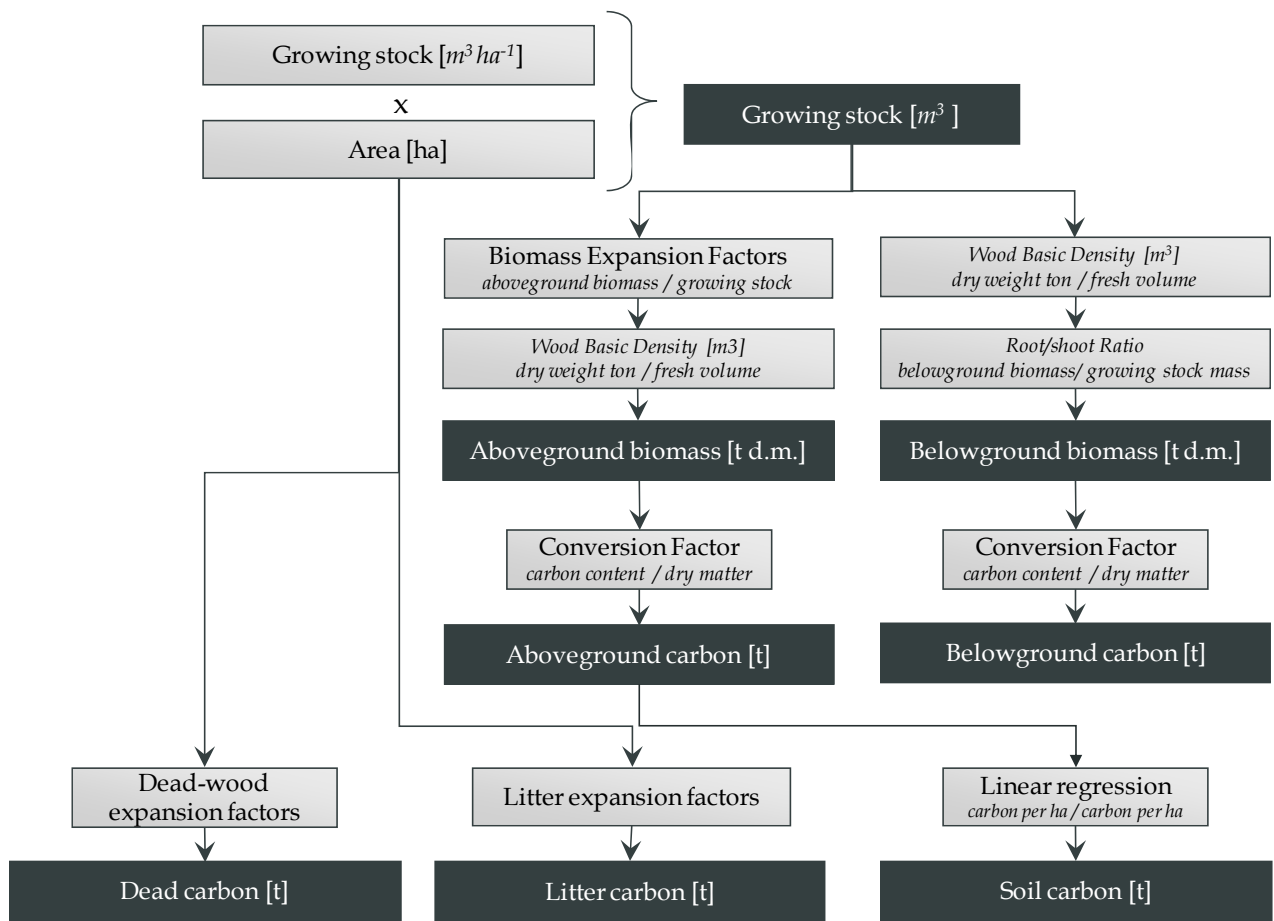


Figure 8 For-est model flow-chart

3.3.1 Emissions and removals from forests and harvested wood products as shown in the NIR and relevant historical data.

Emissions and removals from Forest land remaining Forest land for the reference period 2000-2009 have been calculated with the same model, i.e. *for-est*, applied for estimating the FRL. Historical C stock change estimates as well as the background data for harvest, fires and HWP inflow are reported in NIR (ISPRA, 2018 - table 6.1, figure 6.3, figure 6.4,) and in the related Common Reporting Formats (CRF) for the relevant years (CRF table 4.A).

3.3.2 Documentation on the calibration of the methodology (including information on actual FMPs applied for the period between the end of the RP and the beginning of the projection period (PP)).

Since the same model, i.e. *for-est*, and the same background data used to prepare the GHG inventory of forest land have also been used for the estimate of the FRL, all information reported in section 3.3 of this report on model calibration and model's outputs verification also applies to the estimate of the FRL.

Considering that the projection of the data to estimate the FRL begins in the year 2010, no information on FMPs in years after 2009 has been used for estimating the FRL.

4. Forest Reference Level

4.1 FRL and detailed description of the development of the C pools under 'business as usual' (BAU)

C stocks in the aboveground and belowground biomass pools have been projected for the entire period 2010-2025 as described in section 3.3; their development, stratified by FMP, across the period 2010-2025 is reported in following table 6.

The SOM pool has not be projected since included neither in the forest land remaining forest land category of the Italian GHG inventory nor in the FM activity of the KP-LULUCF reporting.

C stocks in the HWP pool have been projected for the entire period 2010-2025 as described in section 3.3; their development, stratified by HWP type, across the period 2010-2025 is reported in table 7.

The time series of C stocks in the biomass pools of each FMP, for the administrative regions and provinces, are reported in the Appendix I.

Italy	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
inventory typology	<i>kt C</i>																
stands	norway spruce	31,585.7	31,619.0	31,658.3	31,699.0	31,745.4	31,789.7	31,836.6	31,880.0	31,923.4	31,966.9	32,010.4	32,053.9	32,097.4	32,140.9	32,184.3	32,227.6
	silver fir	5,883.0	5,913.6	5,941.6	5,976.7	6,013.8	6,048.8	6,084.6	6,119.6	6,154.5	6,189.1	6,223.6	6,257.9	6,291.9	6,325.6	6,359.1	6,392.4
	larches	17,955.0	18,081.8	18,210.7	18,340.0	18,473.1	18,601.4	18,728.7	18,858.3	18,987.5	19,116.2	19,244.5	19,372.2	19,499.2	19,625.7	19,751.5	19,876.6
	mountain pines	30,914.6	31,513.5	31,978.0	32,652.8	33,323.6	33,982.4	34,648.3	35,301.7	35,952.5	36,600.6	37,246.0	37,888.5	38,528.2	39,164.9	39,798.6	40,429.3
	mediterranean pines	13,475.9	13,729.4	13,856.1	14,164.7	14,457.7	14,755.4	15,023.5	15,293.9	15,556.3	15,810.8	16,057.5	16,296.4	16,527.9	16,751.8	16,968.5	17,178.1
	other conifers	1,866.3	1,908.2	1,941.7	1,987.1	2,030.9	2,075.5	2,118.2	2,161.3	2,204.1	2,246.4	2,288.4	2,329.9	2,371.1	2,411.8	2,452.1	2,491.9
	europaean beech	38,906.8	39,244.9	39,450.0	39,970.6	40,498.7	40,988.7	41,503.4	41,994.0	42,479.3	42,959.1	43,433.5	43,902.3	44,365.5	44,823.1	45,274.9	45,721.1
	turkey oak	11,505.1	11,630.5	11,675.3	11,858.9	12,032.7	12,210.9	12,377.1	12,545.4	12,711.5	12,875.4	13,037.2	13,196.8	13,354.3	13,509.7	13,662.9	13,814.0
	other oaks	14,488.3	14,733.8	14,810.0	15,103.1	15,354.3	15,638.1	15,863.7	16,111.7	16,351.7	16,583.7	16,807.7	17,023.8	17,232.0	17,432.4	17,625.2	17,810.4
	other broadleaves	22,363.2	22,691.0	22,847.8	23,267.0	23,664.3	24,071.4	24,453.7	24,843.5	25,229.8	25,612.5	25,991.6	26,366.9	26,738.6	27,106.6	27,470.9	27,831.4
coppices	europaean beech	30,891.4	31,240.6	31,498.4	31,898.9	32,285.1	32,627.8	32,964.9	33,337.6	33,706.9	34,071.9	34,432.2	34,787.0	35,136.0	35,478.7	35,814.5	36,143.0
	sweet chestnut	71,261.4	73,113.7	74,822.7	76,719.9	78,571.1	80,217.1	81,868.0	83,557.1	85,205.8	86,815.1	88,386.1	89,919.4	91,415.7	92,875.6	94,299.5	95,687.8
	hornbeams	13,541.0	13,643.7	13,735.3	13,852.0	13,967.0	14,049.8	14,140.3	14,238.3	14,332.2	14,422.4	14,508.9	14,591.8	14,671.3	14,747.5	14,820.4	14,890.3
	other oaks	26,971.3	27,355.3	27,603.7	28,019.4	28,391.2	28,718.6	29,010.8	29,340.8	29,655.5	29,955.9	30,242.6	30,516.6	30,778.5	31,029.0	31,269.0	31,498.9
	turkey oak	16,535.3	16,621.4	16,655.9	16,773.7	16,878.0	16,951.7	17,020.5	17,113.5	17,202.7	17,288.2	17,370.2	17,448.8	17,524.2	17,596.5	17,665.9	17,732.4
	evergreen oaks	15,019.1	15,160.2	15,220.8	15,411.0	15,584.3	15,736.8	15,858.2	16,021.5	16,181.9	16,339.4	16,493.8	16,645.4	16,793.9	16,939.5	17,082.2	17,222.0
	other broadleaves	64,524.6	65,793.0	66,923.8	68,123.2	69,262.9	70,214.0	71,132.5	72,032.4	72,870.2	73,648.7	74,370.7	75,039.2	75,657.2	76,227.7	76,753.7	77,238.1
	conifers	7,077.8	7,222.0	7,355.3	7,505.8	7,658.3	7,799.4	7,941.6	8,088.1	8,233.8	8,378.3	8,521.7	8,663.9	8,804.7	8,944.1	9,082.0	9,218.5
	eucalyptuses coppices	104.3	105.3	103.5	105.2	105.9	106.8	106.4	107.1	107.6	108.0	108.3	108.5	108.6	108.7	108.8	108.8
	other broadleaves coppices	286.9	288.6	289.3	290.9	292.0	292.4	292.5	292.9	293.3	293.5	293.7	293.8	293.9	293.9	294.0	294.0
plantations	poplars stands	11,678.6	11,868.3	12,027.2	12,160.4	12,272.1	12,365.5	12,443.6	12,508.7	12,562.9	12,608.1	12,645.5	12,676.6	12,702.4	12,723.8	12,741.5	12,756.2
	other broadleaves stands	614.1	623.9	633.5	647.3	661.7	677.0	691.3	706.8	722.3	737.9	753.5	769.1	784.6	800.1	815.5	830.9
	conifers stands	1,081.5	1,124.3	1,167.3	1,212.4	1,258.6	1,306.9	1,350.6	1,397.3	1,443.6	1,489.3	1,534.4	1,578.8	1,622.3	1,665.1	1,706.9	1,747.8
	others	24,177.3	24,630.0	25,053.9	25,603.0	26,156.1	26,714.7	27,214.0	27,740.0	28,251.2	28,747.4	29,228.4	29,694.3	30,145.0	30,580.7	31,001.6	31,408.0
	protective	rupicolous forest	27,076.4	27,530.2	27,883.8	28,414.0	28,936.1	29,451.9	29,949.5	30,448.7	30,940.9	31,426.1	31,904.1	32,374.9	32,838.4	33,294.6	33,743.5
	riparian forest	7,059.0	7,102.1	7,142.0	7,188.6	7,236.5	7,281.2	7,325.5	7,368.9	7,411.3	7,452.8	7,493.3	7,533.0	7,571.8	7,609.7	7,646.7	7,682.9
Total	506,844	514,488	520,486	528,946	537,112	544,674	551,948	559,409	566,673	573,744	580,628	587,330	593,855	600,208	606,394	612,417	

Table 6 Aboveground and belowground C stock – Italy

HWP	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	<i>kt C</i>															
Sawnwood	-101.0	-99.4	-97.8	-96.4	-93.9	-91.4	-88.9	-86.4	-83.9	-81.5	-79.1	-76.7	-74.4	-72.1	-69.9	-67.8
Wood panels	191.9	185.4	178.8	171.7	169.3	167.4	165.7	164.3	162.9	161.7	160.5	159.4	158.3	157.2	156.1	155.0
Paper & Paperboard	-13.6	-9.9	-7.4	-5.8	-3.5	-1.8	-0.6	0.4	1.1	1.6	1.9	2.2	2.3	2.5	2.5	2.6
total	77.4	76.1	73.7	69.5	71.9	74.2	76.2	78.3	80.1	81.8	83.4	84.9	86.3	87.6	88.8	89.9

Table 7 Total C stock for Harvested Wood Product

4.1.1 Documentation on forest characteristic, including the age-related structure of strata, at the beginning of the FRL projection

The following tables 8-28 describe the forest characteristics, i.e. area and average aboveground biomass C stock, of each FMP in each region/province at the beginning of the projection period, i.e. at the end of the year 2009. Note that the aboveground biomass density is an age-related variable, which therefore changes year by year according to forest ageing as well as the impact of human activities and disturbances, including natural disturbances.

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	2.51	7.27
	productive	stands	silver fir	1.03	47.67
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	8.03	79.66
	productive	stands	mediterranean pines	1.11	85.77
	productive	stands	other conifers	0.00	0.00
	productive	stands	european beech	67.79	89.31
	productive	stands	turkey oak	8.01	72.26
	productive	stands	other oaks	19.01	60.46
	productive	stands	other broadleaves	13.95	58.19
	productive	coppices	european beech	51.27	43.42
	productive	coppices	sweet chestnut	6.66	84.76
	productive	coppices	hornbeams	11.42	23.22
	productive	coppices	other oaks	29.82	32.88
	productive	coppices	turkey oak	5.04	31.45
	productive	coppices	evergreen oaks	1.20	41.01
	productive	coppices	other broadleaves	21.60	51.21
	productive	coppices	conifers	2.34	44.03
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.04	11.23
	productive	plantation	poplars stands	0.18	26.35
	productive	plantation	other broadleaves stands	0.60	3.95
	productive	plantation	conifers stands	0.05	3.75
	productive	plantation	others	2.10	10.75
	protective	other	rupicolous forest	24.68	28.69
	protective	other	riparian forest	0.00	0.00

Table 8 Abruzzo - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	140.94	57.29
	productive	stands	silver fir	4.41	69.74
	productive	stands	larches	52.18	57.96
	productive	stands	mountain pines	49.49	81.68

productive	stands	mediterranean pines	0.00	0.00
productive	stands	other conifers	2.20	54.93
productive	stands	european beech	4.27	68.07
productive	stands	turkey oak	0.00	0.00
productive	stands	other oaks	3.41	54.59
productive	stands	other broadleaves	4.17	46.81
productive	coppices	european beech	2.58	1.57
productive	coppices	sweet chestnut	3.29	5.45
productive	coppices	hornbeams	3.11	3.06
productive	coppices	other oaks	3.46	3.00
productive	coppices	turkey oak	0.00	0.00
productive	coppices	evergreen oaks	0.00	0.00
productive	coppices	other broadleaves	1.76	4.96
productive	coppices	conifers	1.16	1.10
productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.00	0.00
productive	plantation	poplars stands	0.00	0.00
productive	plantation	other broadleaves stands	0.00	0.00
productive	plantation	conifers stands	0.96	1.55
productive	plantation	others	0.00	0.00
protective	other	rupicolous forest	33.59	27.31
protective	other	riparian forest	0.00	0.00

Table 9 Alto Adige - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground
				<i>kha</i>	biomass density <i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	1.11	37.21
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	3.43	62.19
	productive	stands	mediterranean pines	3.10	88.95
	productive	stands	other conifers	1.01	53.42
	productive	stands	european beech	27.39	89.97
	productive	stands	turkey oak	32.86	90.67
	productive	stands	other oaks	19.59	61.10
	productive	stands	other broadleaves	30.96	58.51
	productive	coppices	european beech	4.64	34.55
	productive	coppices	sweet chestnut	6.91	68.29
	productive	coppices	hornbeams	5.35	19.58
	productive	coppices	other oaks	33.97	30.79
	productive	coppices	turkey oak	8.94	34.32
	productive	coppices	evergreen oaks	10.04	36.09
	productive	coppices	other broadleaves	13.98	45.25
	productive	coppices	conifers	1.23	34.55
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.01	7.82
	productive	plantation	poplars stands	0.07	17.83
	productive	plantation	other broadleaves stands	0.02	2.86
	productive	plantation	conifers stands	0.02	2.60
	productive	plantation	others	0.83	7.25

protective	other	rupicolous forest	26.76	36.14
protective	other	riparian forest	0.96	45.55

Table 10 Basilicata - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	4.06	37.33
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	77.04	60.74
	productive	stands	mediterranean pines	9.94	82.54
	productive	stands	other conifers	1.05	49.39
	productive	stands	european beech	57.14	87.17
	productive	stands	turkey oak	5.19	80.33
	productive	stands	other oaks	27.49	56.97
	productive	stands	other broadleaves	58.59	54.60
	productive	coppices	european beech	30.20	39.27
	productive	coppices	sweet chestnut	35.06	71.29
	productive	coppices	hornbeams	6.23	19.62
	productive	coppices	other oaks	15.06	30.17
	productive	coppices	turkey oak	13.41	31.47
	productive	coppices	evergreen oaks	21.96	39.03
	productive	coppices	other broadleaves	31.30	45.16
	productive	coppices	conifers	3.34	36.93
	productive	plantation	eucalyptus coppices	0.31	69.29
	productive	plantation	other broadleaves coppices	0.26	73.94
productive	plantation	poplars stands	1.90	42.83	
productive	plantation	other broadleaves stands	0.87	44.43	
productive	plantation	conifers stands	0.33	100.96	
productive	plantation	others	15.19	114.23	
protective	other	rupicolous forest	46.21	34.20	
protective	other	riparian forest	0.94	43.29	

Table 11 Calabria - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	1.19	29.65
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	1.94	52.56
	productive	stands	mediterranean pines	1.36	64.61
	productive	stands	other conifers	0.00	0.00
	productive	stands	european beech	43.92	65.63
	productive	stands	turkey oak	8.02	55.26
	productive	stands	other oaks	5.45	45.93
	productive	stands	other broadleaves	12.37	41.93
	productive	coppices	european beech	9.43	26.86
	productive	coppices	sweet chestnut	35.18	54.11
	productive	coppices	hornbeams	20.05	15.80

productive	coppices	other oaks	49.33	13.84
productive	coppices	turkey oak	21.39	23.52
productive	coppices	evergreen oaks	9.28	27.64
productive	coppices	other broadleaves	49.89	36.31
productive	coppices	conifers	5.34	27.12
productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.34	74.47
productive	plantation	poplars stands	2.31	43.09
productive	plantation	other broadleaves stands	1.00	44.30
productive	plantation	conifers stands	0.42	100.83
productive	plantation	others	19.71	114.51
protective	other	rupicolous forest	25.70	35.78
protective	other	riparian forest	0.00	0.00

Table 12 Campania - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	3.68	7.22
	productive	stands	silver fir	1.74	33.82
	productive	stands	larches	1.78	3.86
	productive	stands	mountain pines	8.13	69.96
	productive	stands	mediterranean pines	1.91	84.23
	productive	stands	other conifers	0.94	46.90
	productive	stands	european beech	6.49	76.67
	productive	stands	turkey oak	4.75	61.79
	productive	stands	other oaks	4.81	57.07
	productive	stands	other broadleaves	9.32	52.36
	productive	coppices	european beech	73.39	47.36
	productive	coppices	sweet chestnut	26.78	94.65
	productive	coppices	hornbeams	52.79	26.66
	productive	coppices	other oaks	47.15	34.72
	productive	coppices	turkey oak	38.31	35.32
	productive	coppices	evergreen oaks	1.98	38.68
	productive	coppices	other broadleaves	76.83	57.80
	productive	coppices	conifers	8.35	51.08
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.11	75.48
productive	plantation	poplars stands	18.10	43.02	
productive	plantation	other broadleaves stands	0.86	38.25	
productive	plantation	conifers stands	0.14	87.87	
productive	plantation	others	6.52	102.95	
protective	other	rupicolous forest	19.79	36.35	
protective	other	riparian forest	25.73	43.43	

Table 13 Emilia Romagna - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
gemen	productive	stands	norway spruce	33.59	53.24
	productive	stands	silver fir	6.70	71.38

productive	stands	larches	8.37	55.83
productive	stands	mountain pines	15.52	81.04
productive	stands	mediterranean pines	0.99	91.59
productive	stands	other conifers	0.99	55.25
productive	stands	european beech	40.45	96.86
productive	stands	turkey oak	0.00	0.00
productive	stands	other oaks	1.99	60.65
productive	stands	other broadleaves	10.77	63.30
productive	coppices	european beech	10.64	64.57
productive	coppices	sweet chestnut	6.66	84.21
productive	coppices	hornbeams	13.63	23.26
productive	coppices	other oaks	3.66	30.83
productive	coppices	turkey oak	0.00	0.00
productive	coppices	evergreen oaks	0.00	0.00
productive	coppices	other broadleaves	35.68	51.93
productive	coppices	conifers	9.63	44.74
productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.02	29.91
productive	plantation	poplars stands	1.65	42.58
productive	plantation	other broadleaves stands	0.03	8.83
productive	plantation	conifers stands	0.02	13.00
productive	plantation	others	1.16	28.06
protective	other	rupicolous forest	69.31	26.29
protective	other	riparian forest	12.51	43.96

Table 14 Friuli Venezia Giulia - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	0.00	0.00
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	4.30	60.70
	productive	stands	mediterranean pines	4.10	67.48
	productive	stands	other conifers	1.02	38.02
	productive	stands	european beech	36.83	52.76
	productive	stands	turkey oak	10.05	45.84
	productive	stands	other oaks	7.20	45.71
	productive	stands	other broadleaves	9.22	41.81
	productive	coppices	european beech	38.73	30.86
	productive	coppices	sweet chestnut	32.92	109.77
	productive	coppices	hornbeams	69.98	17.40
	productive	coppices	other oaks	56.85	25.77
	productive	coppices	turkey oak	48.79	25.76
	productive	coppices	evergreen oaks	27.27	29.73
	productive	coppices	other broadleaves	45.81	39.83
	productive	coppices	conifers	4.98	29.72
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.10	42.46
	productive	plantation	poplars stands	1.13	37.66
	productive	plantation	other broadleaves stands	0.64	12.77
	productive	plantation	conifers stands	0.13	26.43

productive	plantation	others	5.86	39.74
protective	other	rupicolous forest	23.59	25.49
protective	other	riparian forest	0.98	40.37

Table 15 Lazio - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	1.69	4.80
	productive	stands	silver fir	0.81	33.60
	productive	stands	larches	5.94	2.56
	productive	stands	mountain pines	13.64	28.62
	productive	stands	mediterranean pines	17.71	57.37
	productive	stands	other conifers	0.89	29.83
	productive	stands	european beech	1.89	48.23
	productive	stands	turkey oak	1.82	38.11
	productive	stands	other oaks	0.98	36.41
	productive	stands	other broadleaves	11.47	33.35
	productive	coppices	european beech	20.49	74.82
	productive	coppices	sweet chestnut	88.47	104.24
	productive	coppices	hornbeams	12.30	27.92
	productive	coppices	other oaks	45.72	36.96
	productive	coppices	turkey oak	9.33	37.53
	productive	coppices	evergreen oaks	7.03	53.05
	productive	coppices	other broadleaves	58.76	59.69
	productive	coppices	conifers	6.28	54.45
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.00	5.80
	productive	plantation	poplars stands	0.00	10.17
	productive	plantation	other broadleaves stands	0.00	0.00
	productive	plantation	conifers stands	0.01	1.10
	productive	plantation	others	0.00	0.00
	protective	other	rupicolous forest	22.00	35.10
	protective	other	riparian forest	0.00	0.00

Table 16 Liguria - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	64.33	33.32
	productive	stands	silver fir	11.61	47.36
	productive	stands	larches	33.19	35.16
	productive	stands	mountain pines	19.53	48.15
	productive	stands	mediterranean pines	0.00	0.00
	productive	stands	other conifers	4.00	39.28
	productive	stands	european beech	5.49	54.15
	productive	stands	turkey oak	2.48	48.74
	productive	stands	other oaks	2.94	40.84
	productive	stands	other broadleaves	17.86	43.22
	productive	coppices	european beech	23.18	67.10
	productive	coppices	sweet chestnut	55.64	103.14
	productive	coppices	hornbeams	43.13	29.05

productive	coppices	other oaks	17.79	38.43
productive	coppices	turkey oak	9.42	37.22
productive	coppices	evergreen oaks	0.00	0.00
productive	coppices	other broadleaves	134.96	61.18
productive	coppices	conifers	16.48	58.21
productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.11	78.48
productive	plantation	poplars stands	41.57	89.40
productive	plantation	other broadleaves stands	0.85	48.54
productive	plantation	conifers stands	0.14	110.05
productive	plantation	others	6.49	124.59
protective	other	rupicolous forest	28.76	27.37
protective	other	riparian forest	21.34	44.47

Table 17 Lombardia - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	2.02	7.20
	productive	stands	silver fir	0.94	23.58
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	4.68	64.04
	productive	stands	mediterranean pines	2.86	72.81
	productive	stands	other conifers	0.96	38.37
	productive	stands	european beech	8.38	22.09
	productive	stands	turkey oak	2.84	45.86
	productive	stands	other oaks	1.92	46.71
	productive	stands	other broadleaves	2.81	37.56
	productive	coppices	european beech	17.30	25.46
	productive	coppices	sweet chestnut	3.90	46.41
	productive	coppices	hornbeams	30.02	14.91
	productive	coppices	other oaks	100.88	14.35
	productive	coppices	turkey oak	11.43	19.52
	productive	coppices	evergreen oaks	7.36	23.87
	productive	coppices	other broadleaves	12.81	33.62
	productive	coppices	conifers	1.24	22.32
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.02	5.79
	productive	plantation	poplars stands	0.10	13.41
	productive	plantation	other broadleaves stands	0.64	2.41
	productive	plantation	conifers stands	0.03	1.16
	productive	plantation	others	1.17	4.12
	protective	other	rupicolous forest	7.83	26.91
	protective	other	riparian forest	0.00	0.00

Table 18 Marche - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	1.86	67.68
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	0.93	98.76
	productive	stands	mediterranean pines	0.00	0.00
	productive	stands	other conifers	0.00	0.00
	productive	stands	european beech	7.60	104.61
	productive	stands	turkey oak	6.70	98.75
	productive	stands	other oaks	0.96	63.87
	productive	stands	other broadleaves	2.83	67.60
	productive	coppices	european beech	8.40	31.40
	productive	coppices	sweet chestnut	0.95	65.99
	productive	coppices	hornbeams	6.94	17.73
	productive	coppices	other oaks	40.10	28.63
	productive	coppices	turkey oak	20.35	26.85
	productive	coppices	evergreen oaks	1.11	31.52
	productive	coppices	other broadleaves	1.68	39.55
	productive	coppices	conifers	1.12	31.07
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.00	5.59
	productive	plantation	poplars stands	0.01	9.41
	productive	plantation	other broadleaves stands	0.00	0.00
	productive	plantation	conifers stands	0.00	1.06
	productive	plantation	others	0.00	0.00
	protective	other	rupicolous forest	8.54	32.00
	protective	other	riparian forest	0.00	0.00

Table 19 Molise - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	2.09	27.75
	productive	stands	silver fir	14.50	41.07
	productive	stands	larches	84.64	29.91
	productive	stands	mountain pines	27.49	39.06
	productive	stands	mediterranean pines	0.00	0.00
	productive	stands	other conifers	1.01	36.39
	productive	stands	european beech	7.10	53.16
	productive	stands	turkey oak	1.05	45.93
	productive	stands	other oaks	5.09	44.45
	productive	stands	other broadleaves	55.31	41.27
	productive	coppices	european beech	71.15	56.72
	productive	coppices	sweet chestnut	105.46	88.38
	productive	coppices	hornbeams	13.86	23.22
	productive	coppices	other oaks	25.54	29.68
	productive	coppices	turkey oak	13.74	31.07
	productive	coppices	evergreen oaks	0.00	0.00
	productive	coppices	other broadleaves	132.24	53.60
	productive	coppices	conifers	16.29	44.78

productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.36	70.89
productive	plantation	poplars stands	37.27	78.28
productive	plantation	other broadleaves stands	1.20	24.60
productive	plantation	conifers stands	0.44	52.97
productive	plantation	others	20.41	75.53
protective	other	rupicolous forest	58.71	24.60
protective	other	riparian forest	25.99	39.79

Table 20 Piemonte - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	0.00	0.00
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	2.24	47.26
	productive	stands	mediterranean pines	17.80	68.23
	productive	stands	other conifers	1.09	13.40
	productive	stands	european beech	5.26	25.02
	productive	stands	turkey oak	10.12	53.96
	productive	stands	other oaks	6.62	35.45
	productive	stands	other broadleaves	21.37	34.26
	productive	coppices	european beech	1.66	3.12
	productive	coppices	sweet chestnut	1.63	14.45
	productive	coppices	hornbeams	3.70	5.12
	productive	coppices	other oaks	40.60	2.54
	productive	coppices	turkey oak	1.59	6.79
	productive	coppices	evergreen oaks	7.86	6.20
	productive	coppices	other broadleaves	1.60	9.39
	productive	coppices	conifers	1.05	4.41
	productive	plantation	eucalyptus coppices	0.00	6.57
	productive	plantation	other broadleaves coppices	0.00	5.64
	productive	plantation	poplars stands	0.00	9.43
	productive	plantation	other broadleaves stands	0.00	0.00
	productive	plantation	conifers stands	0.00	1.07
	productive	plantation	others	0.00	0.00
	protective	other	rupicolous forest	0.96	38.78
	protective	other	riparian forest	0.00	0.00

Table 21 Puglia - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	0.00	0.00
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	2.48	58.83
	productive	stands	mediterranean pines	12.73	63.68
	productive	stands	other conifers	1.18	25.31
	productive	stands	european beech	0.00	0.00

productive	stands	turkey oak	2.56	29.39
productive	stands	other oaks	53.57	34.88
productive	stands	other broadleaves	8.58	28.45
productive	coppices	european beech	0.00	0.00
productive	coppices	sweet chestnut	4.40	126.07
productive	coppices	hornbeams	0.00	0.00
productive	coppices	other oaks	27.50	8.49
productive	coppices	turkey oak	3.76	29.15
productive	coppices	evergreen oaks	72.56	35.20
productive	coppices	other broadleaves	64.12	44.62
productive	coppices	conifers	6.07	35.60
productive	plantation	eucalyptus coppices	0.34	73.07
productive	plantation	other broadleaves coppices	1.21	78.23
productive	plantation	poplars stands	6.07	43.33
productive	plantation	other broadleaves stands	4.57	44.16
productive	plantation	conifers stands	5.84	100.73
productive	plantation	others	69.15	115.16
protective	other	rupicolous forest	80.08	19.59
protective	other	riparian forest	0.00	0.00

Table 22 Sardegna - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	0.00	0.00
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	9.87	28.16
	productive	stands	mediterranean pines	21.55	41.90
	productive	stands	other conifers	2.04	29.04
	productive	stands	european beech	4.05	27.65
	productive	stands	turkey oak	12.93	43.57
	productive	stands	other oaks	40.26	38.46
	productive	stands	other broadleaves	40.27	29.19
	productive	coppices	european beech	14.68	40.83
	productive	coppices	sweet chestnut	3.14	73.08
	productive	coppices	hornbeams	1.54	19.21
	productive	coppices	other oaks	29.83	31.47
	productive	coppices	turkey oak	10.35	31.09
	productive	coppices	evergreen oaks	8.81	40.15
	productive	coppices	other broadleaves	2.62	43.26
	productive	coppices	conifers	1.25	37.03
	productive	plantation	eucalyptus coppices	0.32	67.52
	productive	plantation	other broadleaves coppices	0.05	72.00
	productive	plantation	poplars stands	0.23	42.61
	productive	plantation	other broadleaves stands	0.52	31.23
	productive	plantation	conifers stands	0.06	71.80
	productive	plantation	others	2.67	87.15
	protective	other	rupicolous forest	19.26	25.84
	protective	other	riparian forest	0.00	0.00

Table 23 Sicilia - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	2.27	6.95
	productive	stands	silver fir	1.84	45.42
	productive	stands	larches	3.89	3.87
	productive	stands	mountain pines	17.58	80.06
	productive	stands	mediterranean pines	30.26	92.12
	productive	stands	other conifers	4.71	54.74
	productive	stands	european beech	17.03	98.98
	productive	stands	turkey oak	5.76	76.16
	productive	stands	other oaks	13.48	61.95
	productive	stands	other broadleaves	20.71	63.48
	productive	coppices	european beech	55.11	48.05
	productive	coppices	sweet chestnut	130.22	92.69
	productive	coppices	hornbeams	71.09	24.50
	productive	coppices	other oaks	133.51	31.04
	productive	coppices	turkey oak	135.91	34.03
	productive	coppices	evergreen oaks	31.67	45.73
	productive	coppices	other broadleaves	155.01	54.50
	productive	coppices	conifers	16.53	46.26
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.28	77.59
	productive	plantation	poplars stands	2.57	43.17
	productive	plantation	other broadleaves stands	0.90	44.59
	productive	plantation	conifers stands	0.34	101.65
	productive	plantation	others	15.97	115.98
	protective	other	rupicolous forest	40.13	43.22
	protective	other	riparian forest	2.87	44.59

Table 24 Toscana - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kha</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	106.74	49.24
	productive	stands	silver fir	21.50	63.26
	productive	stands	larches	59.13	50.54
	productive	stands	mountain pines	35.14	69.17
	productive	stands	mediterranean pines	0.00	0.00
	productive	stands	other conifers	1.07	48.51
	productive	stands	european beech	2.90	67.39
	productive	stands	turkey oak	1.30	58.14
	productive	stands	other oaks	1.56	48.91
	productive	stands	other broadleaves	4.83	51.59
	productive	coppices	european beech	8.04	9.01
	productive	coppices	sweet chestnut	2.68	21.76
	productive	coppices	hornbeams	13.62	7.12
	productive	coppices	other oaks	14.72	8.46
	productive	coppices	turkey oak	4.03	8.11
	productive	coppices	evergreen oaks	0.00	0.00
	productive	coppices	other broadleaves	28.17	14.91
	productive	coppices	conifers	12.51	8.81

productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.00	0.00
productive	plantation	poplars stands	0.00	0.00
productive	plantation	other broadleaves stands	0.00	0.00
productive	plantation	conifers stands	0.01	1.48
productive	plantation	others	0.00	0.00
protective	other	rupicolous forest	36.17	25.91
protective	other	riparian forest	0.00	0.00

Table 25 Trentino - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	0.00	0.00
	productive	stands	silver fir	0.00	0.00
	productive	stands	larches	0.00	0.00
	productive	stands	mountain pines	12.14	72.63
	productive	stands	mediterranean pines	7.55	85.44
	productive	stands	other conifers	0.95	47.63
	productive	stands	european beech	6.61	81.78
	productive	stands	turkey oak	1.90	64.05
	productive	stands	other oaks	4.75	57.08
	productive	stands	other broadleaves	0.93	53.47
	productive	coppices	european beech	13.11	18.06
	productive	coppices	sweet chestnut	5.46	31.86
	productive	coppices	hornbeams	40.36	11.05
	productive	coppices	other oaks	107.68	17.67
	productive	coppices	turkey oak	47.71	14.05
	productive	coppices	evergreen oaks	17.98	17.47
	productive	coppices	other broadleaves	30.70	24.77
	productive	coppices	conifers	3.29	16.39
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.00	5.73
	productive	plantation	poplars stands	0.01	9.70
	productive	plantation	other broadleaves stands	0.00	0.00
	productive	plantation	conifers stands	0.00	1.09
	productive	plantation	others	0.00	0.00
	protective	other	rupicolous forest	12.23	46.80
	protective	other	riparian forest	1.88	50.91

Table 26 Umbria - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	10.96	52.07
	productive	stands	silver fir	1.02	68.79
	productive	stands	larches	29.81	52.66
	productive	stands	mountain pines	14.47	67.12
	productive	stands	mediterranean pines	0.00	0.00
	productive	stands	other conifers	1.05	53.27
	productive	stands	european beech	2.12	100.23
	productive	stands	turkey oak	0.00	0.00
	productive	stands	other oaks	1.07	64.39
	productive	stands	other broadleaves	5.23	67.23
	productive	coppices	european beech	0.97	70.19
	productive	coppices	sweet chestnut	2.58	102.70
	productive	coppices	hornbeams	1.16	28.22
	productive	coppices	other oaks	1.36	37.99
	productive	coppices	turkey oak	0.00	0.00
	productive	coppices	evergreen oaks	0.00	0.00
	productive	coppices	other broadleaves	1.82	59.73
	productive	coppices	conifers	1.20	58.70
	productive	plantation	eucalyptus coppices	0.00	0.00
	productive	plantation	other broadleaves coppices	0.00	0.00
	productive	plantation	poplars stands	0.00	0.00
	productive	plantation	other broadleaves stands	0.00	0.00
	productive	plantation	conifers stands	0.00	0.00
	productive	plantation	others	0.00	0.00
	protective	other	rupicolous forest	10.11	23.48
	protective	other	riparian forest	0.00	0.00

Table 27 Valle d'Aosta - Stratification of FMPs - year 2009

FMP	Function	Structure	Forest type	Area	Aboveground biomass density
				<i>kba</i>	<i>t C ha⁻¹</i>
Forest Management Practice	productive	stands	norway spruce	95.05	51.80
	productive	stands	silver fir	3.99	67.98
	productive	stands	larches	17.43	53.47
	productive	stands	mountain pines	6.24	73.01
	productive	stands	mediterranean pines	1.12	88.89
	productive	stands	other conifers	3.07	56.19
	productive	stands	european beech	8.40	96.26
	productive	stands	turkey oak	2.14	77.16
	productive	stands	other oaks	2.22	61.14
	productive	stands	other broadleaves	6.31	62.78
	productive	coppices	european beech	29.16	63.51
	productive	coppices	sweet chestnut	7.53	83.04
	productive	coppices	hornbeams	37.91	23.20
	productive	coppices	other oaks	7.50	31.12
	productive	coppices	turkey oak	4.61	30.66
	productive	coppices	evergreen oaks	0.00	0.00
	productive	coppices	other broadleaves	44.43	52.52
	productive	coppices	conifers	4.22	47.79

productive	plantation	eucalyptus coppices	0.00	0.00
productive	plantation	other broadleaves coppices	0.02	77.30
productive	plantation	poplars stands	4.43	85.40
productive	plantation	other broadleaves stands	0.04	35.12
productive	plantation	conifers stands	0.03	80.30
productive	plantation	others	1.29	99.30
protective	other	rupicolous forest	22.24	24.43
protective	other	riparian forest	24.17	43.29

Table 28 Veneto - Stratification of FMPs - year 2009

4.1.2 Documentation and justification of the starting year of the FRL projection

The projection starts in the year 2010. This starting date is consistent with the requirement to use the historical period until 2009 to define the current forest management practices to be projected. Further, such starting date makes the treatment of forest land like that applied to any other sector. Indeed, the impact of any change in forest management occurred after the reference period, from 2010 till 2025, is going to be accounted in the period 2021-2025, similarly to all other sectors for which the impact of any change occurred since the base year is going to be accounted for. Thus, the choice of a different starting year would exclude from accounting the impact of changes occurred from the end of the reference period until the starting year of the projection.

4.1.3 Documentation and justification of assumption taken concerning the period 2010 -2025

For the period 2010-2025, the default assumption defined in the EU Regulation is the continuation of the current forest management practices occurred in the reference period 2000-2009.

Consistently:

- ✓ FMPs have been characterized by an FMP-specific annual harvesting ratio, i.e. amount of harvest (m³) to aboveground biomass stock (t C), derived from data collected in the period 2000-2009 (section 3.2.2).
- ✓ Harvest quantities for the period 2010-2025 are calculated for each FMPs in each region/province multiplying the aboveground biomass (t C) of the year by the FMP-specific harvesting ratio (section 4.1.5).
- ✓ HWP have been characterized by an HWP-specific annual inflow ratio, i.e. HWP inflow (t C) to amount of harvest in stands and plantation forests (m³), derived from data collected in the period 2000-2009 (section 4.1.7).
- ✓ HWP inflows for the period 2010-2025 are calculated for each HWP at national level multiplying the total national amount of harvest in stands and plantation forest (t C) of the year by the HWP-specific inflow rate (section 4.1.7).
- ✓ Mortality rates applied in the period 2010-2025 are the same as those applied for the RP, 1.16% for evergreen forests and 1.17% for deciduous forests.

The treatment of disturbances deviates from such approach since actual data on the biomass losses caused by disturbances have been used from 2000 until the latest available year, i.e. 2016. Thereafter, from 2017 to 2025, the BL value (section 4.1.6) has been applied. Such deviation doesn't invalid the general approach since the BL has been estimated using the longer time series available, from 1990 to 2016, in order to have the highest accuracy possible; furthermore, because disturbances are driven by natural factors, their impact are not associated with specific forest management practices³³.

³³ In Italy any prescribed burning of forest is not allowed. Using fire in forests or close to forest is forbidden by law; exceptions are allowed under strict prescriptions and control.

4.1.3.1 Documentation and justification of assumptions taken on MFL area development, and demonstration that the area of strata didn't change since the starting year of the projections

The FRL assumes no area changes for the entire projection period -i.e. 2010-2025. The national area of each FMP across the entire projection period 2010-2025 and the year 2009 is reported in the following table 29.

FMPs			Forest land remaining Forest land – MFL area (kha)																
function	structure	forest type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stands	norway spruce	454	454	454	454	454	454	454	454	454	454	454	454	454	454	454	454	454
productive	stands	silver fir	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
productive	stands	larches	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292
productive	stands	mountain pines	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
productive	stands	mediterranean pines	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133
productive	stands	other conifers	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
productive	stands	european beech	368	368	368	368	368	368	368	368	368	368	368	368	368	368	368	368	368
productive	stands	turkey oak	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
productive	stands	other oaks	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227
productive	stands	other broadleaves	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349
productive	coppices	european beech	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497
productive	coppices	sweet chestnut	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554
productive	coppices	hornbeams	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467
productive	coppices	other oaks	844	844	844	844	844	844	844	844	844	844	844	844	844	844	844	844	844
productive	coppices	turkey oak	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410
productive	coppices	evergreen oaks	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224	224
productive	coppices	other broadleaves	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941
productive	coppices	conifers	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123
productive	plantation	eucalyptus coppices	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
productive	plantation	other broadleaves coppices	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
productive	plantation	poplars stands	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
productive	plantation	other broadleaves stands	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
productive	plantation	conifers stands	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
productive	plantation	others	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
protective	other	rupicolous forest	614	614	614	614	614	614	614	614	614	614	614	614	614	614	614	614	614
protective	other	riparian forest	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
total			7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483	7,483

Table 29 National area of each FMP 2009-2025

4.1.4 Documentation on Increment curves

Biomass increment curves applied to estimate the FRL are the same applied for the Italian national GHG inventory; detailed information are reported in section 3.1.3. The projection of biomass increment quantities for each FMP in each region/province for the period 2010-2025 has been carried out by applying the FMP-specific increment curve to the FMP-specific aboveground biomass stock (section 3.2.2). In the following table 30 the time series of national historical (2000-2009) and projected (2010-2025) quantities of aboveground biomass increment for each FMP, as aggregated at national level, is reported.

Biomass increment (kt C)															
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
productive	stands	norway spruce	637.2	641.8	646.5	651.1	656.0	660.7	665.4	666.8	667.8	669.0	670.4	670.7	671.1
productive	stands	silver fir	137.4	138.6	139.7	140.8	142.1	143.3	144.5	145.5	146.6	147.7	148.9	149.2	149.5
productive	stands	larches	411.7	414.9	417.8	420.8	424.0	427.5	431.1	433.3	435.4	437.9	440.4	442.0	443.5
productive	stands	mountain pines	951.5	965.4	979.5	992.2	1,006.5	1,020.3	1,033.8	1,045.9	1,057.8	1,071.6	1,085.7	1,095.2	1,103.4
productive	stands	mediterranean pines	513.2	518.8	524.8	529.8	535.0	539.7	544.3	548.1	552.7	557.5	561.8	561.7	560.5
productive	stands	other conifers	63.3	64.4	65.5	66.5	67.6	68.6	69.7	70.4	71.2	72.1	73.0	73.5	73.9
productive	stands	european beech	1,066.1	1,077.2	1,088.8	1,099.5	1,111.2	1,123.3	1,135.0	1,141.8	1,151.9	1,162.8	1,173.7	1,176.6	1,178.1
productive	stands	turkey oak	326.7	330.4	334.3	337.9	341.7	345.5	349.3	352.3	356.4	360.6	364.7	365.6	365.5
productive	stands	other oaks	474.5	480.0	485.8	490.7	495.9	500.7	505.4	510.4	515.4	519.6	523.5	522.5	521.1
productive	stands	other broadleaves	711.3	719.5	728.3	736.3	745.1	754.1	763.1	768.3	776.3	785.1	793.7	797.2	798.5
productive	coppices	european beech	937.1	948.1	960.1	971.3	982.8	994.8	1,006.5	1,013.6	1,022.4	1,033.2	1,043.3	1,048.2	1,052.0
productive	coppices	sweet chestnut	2,802.9	2,841.4	2,869.0	2,902.3	2,930.7	2,963.6	2,993.2	3,020.0	3,037.8	3,060.9	3,083.4	3,085.8	3,085.2
productive	coppices	hornbeams	437.8	443.0	447.4	452.3	457.0	461.6	466.0	469.4	471.9	474.1	476.5	475.0	473.6
productive	coppices	other oaks	1,201.3	1,205.9	1,210.2	1,220.4	1,229.0	1,238.1	1,246.7	1,262.6	1,270.3	1,275.5	1,283.0	1,276.2	1,275.4
productive	coppices	turkey oak	508.0	514.2	518.9	524.7	529.9	535.2	539.9	544.7	547.6	550.7	554.3	552.6	551.7
productive	coppices	evergreen oaks	364.9	368.1	371.5	374.4	377.4	380.6	383.9	386.1	388.7	391.4	394.2	394.5	394.5
productive	coppices	other broadleaves	2,702.8	2,715.6	2,726.9	2,734.7	2,740.4	2,743.3	2,743.8	2,733.2	2,720.4	2,705.5	2,689.4	2,650.2	2,611.7
productive	coppices	conifers	261.1	264.3	267.9	270.9	274.2	277.4	280.6	282.7	285.2	287.7	290.2	291.4	292.5
productive	plantation	eucaliptus coppices	3.5	3.4	3.3	3.2	3.1	3.0	2.9	3.2	3.1	3.0	2.9	2.7	2.9
productive	plantation	other broadleaves coppices	11.1	10.8	10.6	10.4	10.2	9.9	9.7	9.8	9.3	9.0	8.6	7.9	7.5
productive	plantation	poplars stands	571.0	552.9	539.5	524.9	509.7	491.6	477.6	445.1	419.2	391.9	370.3	340.9	317.0
productive	plantation	other broadleaves stands	23.7	23.9	24.3	24.5	24.9	25.2	25.6	25.7	26.1	26.3	26.5	26.6	26.7
productive	plantation	conifers stands	44.4	45.6	47.1	48.2	49.6	51.0	52.3	53.0	54.2	55.0	56.0	56.6	57.2
productive	plantation	others	903.5	910.9	917.8	925.0	931.5	937.5	942.3	947.1	949.4	953.0	953.5	948.6	942.9
protective	other	rupicolous forest	1,176.2	1,194.5	1,214.7	1,231.8	1,251.7	1,271.1	1,291.1	1,302.7	1,320.6	1,337.5	1,355.9	1,368.1	1,377.1
protective	other	riparian forest	285.4	287.9	290.4	292.8	295.4	298.0	300.6	302.3	304.0	305.8	307.6	308.4	309.2
		total	17,527.7	17,681.3	17,830.3	17,977.3	18,122.7	18,265.5	18,404.2	18,483.9	18,561.5	18,644.5	18,731.3	18,688.0	18,642.3

Biomass increment (kt C)															
function	structure	forest type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stands	norway spruce	671.4	671.8	672.1	672.4	672.7	673.0	673.3	673.6	673.9	674.1	674.4	674.6	674.9
productive	stands	silver fir	149.9	150.3	150.6	150.9	151.2	151.5	151.8	152.0	152.3	152.5	152.7	152.9	153.1
productive	stands	larches	445.0	446.6	448.0	449.3	450.7	452.1	453.3	454.6	455.8	457.0	458.1	459.2	460.2
productive	stands	mountain pines	1,113.2	1,122.7	1,132.2	1,141.3	1,150.4	1,159.4	1,168.3	1,177.0	1,185.7	1,194.2	1,202.6	1,210.9	1,219.1
productive	stands	mediterranean pines	560.2	559.4	558.7	557.5	556.4	555.2	553.9	552.5	551.1	549.6	548.0	546.4	544.8
productive	stands	other conifers	74.5	75.1	75.6	76.1	76.6	77.1	77.5	77.9	78.4	78.8	79.1	79.5	79.9
productive	stands	european beech	1,182.1	1,186.0	1,189.5	1,193.0	1,196.2	1,199.3	1,202.2	1,205.0	1,207.6	1,210.0	1,212.4	1,214.6	1,216.6
productive	stands	turkey oak	366.6	367.5	368.5	369.3	370.1	370.9	371.6	372.3	373.0	373.6	374.2	374.7	375.3
productive	stands	other oaks	519.3	517.1	515.1	512.4	509.9	507.2	504.4	501.5	498.4	495.3	492.2	488.9	485.7
productive	stands	other broadleaves	802.9	806.9	811.1	814.8	818.5	822.2	825.8	829.2	832.6	835.9	839.1	842.1	845.2
productive	coppices	european beech	1,057.3	1,062.3	1,066.4	1,070.2	1,074.0	1,077.3	1,080.0	1,082.2	1,083.9	1,085.1	1,085.9	1,086.2	1,085.9
productive	coppices	sweet chestnut	3,082.5	3,080.0	3,086.0	3,086.5	3,083.5	3,080.9	3,078.5	3,076.1	3,073.6	3,070.9	3,067.9	3,064.6	3,061.1
productive	coppices	hornbeams	472.0	470.4	469.2	467.9	466.5	465.2	463.9	462.7	461.5	460.4	459.3	458.3	457.3
productive	coppices	other oaks	1,267.2	1,260.7	1,254.9	1,250.8	1,244.8	1,239.2	1,234.0	1,229.2	1,224.7	1,220.5	1,216.7	1,213.2	1,209.9
productive	coppices	turkey oak	549.4	547.4	546.1	544.8	543.0	541.3	539.6	538.1	536.6	535.3	534.0	532.8	531.6
productive	coppices	evergreen oaks	394.9	395.2	395.4	395.6	395.8	396.1	396.3	396.5	396.7	396.9	397.0	397.2	397.3
productive	coppices	other broadleaves	2,571.0	2,529.8	2,492.1	2,454.2	2,416.6	2,380.2	2,345.3	2,311.7	2,279.8	2,249.5	2,220.9	2,194.0	2,168.7
productive	coppices	conifers	293.9	295.3	296.5	297.7	298.9	300.2	301.4	302.6	303.7	304.8	305.9	307.0	308.0
productive	plantation	eucaliptus coppices	2.6	2.5	2.3	2.3	2.2	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.7
productive	plantation	other broadleaves coppices	7.0	6.5	6.3	6.2	6.0	5.9	5.8	5.7	5.7	5.6	5.6	5.6	5.6
productive	plantation	poplars stands	297.1	280.4	266.3	254.4	244.4	236.0	228.9	223.0	218.1	214.0	210.6	207.8	205.4
productive	plantation	other broadleaves stands	26.8	26.9	27.1	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.3	28.5
productive	plantation	conifers stands	57.7	58.2	58.7	59.0	59.3	59.5	59.6	59.6	59.6	59.6	59.5	59.3	59.1
productive	plantation	others	936.6	929.7	922.6	915.9	908.7	901.5	894.4	887.2	880.1	873.1	866.2	859.3	852.6
protective	other	rupicolous forest	1,390.7	1,403.8	1,416.7	1,428.8	1,440.9	1,452.7	1,464.1	1,475.3	1,486.1	1,496.6	1,506.9	1,516.9	1,526.6
protective	other	riparian forest	310.1	311.0	311.8	312.7	313.5	314.2	315.0	315.7	316.4	317.1	317.8	318.5	319.1
		total	18,602.1	18,563.4	18,539.6	18,511.2	18,478.4	18,447.6	18,418.6	18,391.1	18,365.1	18,340.3	18,316.9	18,294.5	18,273.1

Table 30 Aboveground biomass increment for each FMP 2009-2025

4.1.5 Documentation on historical and future harvesting rates (timing and intensity) disaggregated between energy and non-energy uses

The Italian GHG inventory assumes that industrial roundwood is predominantly collected in forest land that have a “stands” structure while fuelwood is collected in forest land that have a “coppices” structure. Consequently, all C stock losses associated with harvesting of industrial roundwood are assigned at the “stands” FMPs and

all C stock losses associated with harvesting of fuelwood are assigned at the “coppices” FMPs (for the stratification of Italian forest land in FMPs see section 3.1.2). Considering that the harvesting ratio has been projected for each FMP (see section 3.2.2) as either the historical average, 2000-2009, or the latest year value, i.e. 2009, the ratio between material use and energy use has not been modified; although changes in the biomass stock to which the harvesting ratios are applied in the projected period may have slightly changed the proportion between the total amount of wood for material use and that one for energy use in the FRL.

Harvest statistics relative to plantation forests, a single item in ISTAT statistics, mix the two uses of wood. However, considering that no trend is projected in the harvesting ratios of plantation forests, the application of such constant rates does not project any changes in the use of wood during the projected period compared to the historical use occurred in the reference period. The projection of harvested quantities for each FMP in each region/province for the period 2010-2025 has been carried out by applying the FMP-specific harvesting ratios to the FMP-specific aboveground biomass stock (section 3.2.2). In protective forests, i.e. rupicolous and riparian forests, no harvest is allowed. In the table 31, the time series of national historical (2000-2009) and projected (2010-2025) quantities of harvest for each FMP, as aggregated at national level, is reported.

Harvest (m ³)			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
function	structure	forest type													
productive	stands	norway spruce	1,362,443	1,241,754	1,213,711	1,381,228	1,142,402	1,327,140	1,457,124	1,399,288	1,956,763	1,480,615	1,431,383	1,430,391	1,428,918
productive	stands	silver fir	350,584	267,782	279,530	292,870	253,769	266,446	268,041	261,775	296,075	260,717	250,588	250,835	250,828
productive	stands	larches	707,226	549,201	572,533	604,723	539,832	539,077	574,012	539,087	654,583	526,100	502,094	503,353	504,421
productive	stands	mountain pines	774,067	683,940	702,085	786,726	718,837	734,792	810,473	773,510	1,015,330	818,651	817,572	832,417	845,130
productive	stands	mediterranean pines	205,607	188,075	197,028	268,238	224,559	243,658	283,019	284,298	345,294	311,384	347,086	352,631	355,818
productive	stands	other conifers	54,798	45,582	46,325	50,415	46,267	51,149	47,974	50,342	64,100	54,363	55,714	56,866	57,881
productive	stands	european beech	671,205	603,453	709,342	768,538	661,391	621,664	701,300	646,697	702,922	547,791	677,516	682,388	681,958
productive	stands	turkey oak	111,893	97,003	117,070	131,688	110,553	118,115	128,614	126,665	124,458	132,966	149,461	150,054	149,595
productive	stands	other oaks	146,543	121,874	129,611	142,998	136,181	139,868	136,275	135,447	159,369	144,123	151,645	153,613	154,707
productive	stands	other broadleaves	533,364	415,482	454,038	476,310	437,935	413,031	428,522	424,195	488,776	418,223	442,441	447,052	449,199
productive	coppices	european beech	1,045,675	993,257	891,466	948,210	1,055,363	960,276	976,993	902,788	917,612	791,353	922,870	924,869	926,429
productive	coppices	sweet chestnut	2,251,967	2,042,217	1,934,199	2,105,854	2,301,095	2,187,901	2,215,850	2,123,818	2,296,251	2,113,315	2,237,949	2,289,548	2,334,737
productive	coppices	hornbeams	647,513	619,904	533,194	602,796	622,887	608,068	595,646	588,743	590,241	554,786	581,162	581,874	582,107
productive	coppices	other oaks	1,235,801	1,187,625	1,131,972	1,446,035	1,493,405	1,386,344	1,364,796	1,487,834	1,385,805	1,296,158	1,375,564	1,385,894	1,394,501
productive	coppices	turkey oak	734,058	699,471	658,658	774,881	791,957	758,339	707,570	725,180	690,813	643,953	698,945	698,104	696,567
productive	coppices	evergreen oaks	344,519	316,215	279,644	372,192	380,330	344,405	336,570	343,557	345,366	308,761	328,023	328,306	327,905
productive	coppices	other broadleaves	1,902,794	1,796,760	1,652,973	1,853,026	1,983,501	1,940,920	1,958,635	1,976,384	2,132,755	1,965,458	2,033,771	2,057,636	2,078,681
productive	coppices	conifers	352,061	316,374	285,761	311,084	323,366	323,660	324,335	314,817	358,382	320,725	336,244	333,169	330,830
productive	plantation	eucalyptus coppices	3,468	2,260	2,418	1,458	2,132	1,083	1,127	1,610	508	354	151	152	153
productive	plantation	other broadleaves coppices	9,651	7,038	8,089	7,537	7,703	6,720	8,181	7,464	5,076	4,481	7,752	7,165	6,753
productive	plantation	poplars stands	1,121,048	746,052	775,075	674,313	716,495	649,023	791,395	692,108	587,128	271,352	342,533	347,298	351,891
productive	plantation	other broadleaves stands	22,322	16,775	18,930	17,899	18,106	15,286	18,078	14,887	11,491	10,319	24,275	21,183	18,920

productive	plantation	conifers stands	22,691	17,598	17,747	16,296	16,287	14,004	15,311	15,823	10,341	11,896	15,557	14,518	13,784
productive	plantation	others	740,244	536,155	614,735	569,565	587,832	501,626	598,881	567,341	373,582	322,739	567,984	519,918	484,599
protective	other	rupicolous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
protective	other	riparian forest	0	0	0	0	0	0	0	0	0	0	0	0	0
total			15,351,540	13,511,846	13,226,133	14,604,878	14,572,184	14,152,595	14,748,721	14,403,658	15,513,020	13,310,583	14,298,276	14,369,235	14,426,312

Harvest (m³)

function	structure	forest type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stands	norway spruce	1,427,713	1,426,715	1,425,860	1,424,903	1,424,195	1,423,379	1,422,601	1,421,859	1,421,152	1,420,479	1,419,837	1,419,227	1,418,647
productive	stands	silver fir	250,811	251,054	251,345	251,557	251,850	252,113	252,380	252,652	252,928	253,208	253,490	253,776	254,063
productive	stands	larches	505,569	506,791	508,061	509,228	510,458	511,698	512,940	514,183	515,426	516,670	517,912	519,154	520,394
productive	stands	mountain pines	855,469	870,280	885,218	899,465	914,264	928,555	942,768	956,900	970,950	984,919	998,806	1,012,610	1,026,331
productive	stands	mediterranean pines	357,570	363,103	369,515	374,845	380,648	385,729	390,614	395,310	399,821	404,152	408,309	412,297	416,120
productive	stands	other conifers	58,797	59,926	61,064	62,144	63,250	64,319	65,373	66,413	67,438	68,448	69,442	70,422	71,387
productive	stands	european beech	679,146	685,063	691,137	696,316	702,050	707,453	712,770	718,003	723,152	728,218	733,202	738,103	742,924
productive	stands	turkey oak	148,493	149,429	150,691	151,697	152,847	153,838	154,803	155,744	156,661	157,554	158,425	159,273	160,101
productive	stands	other oaks	154,886	156,909	158,991	160,876	162,772	164,529	166,215	167,832	169,380	170,862	172,279	173,633	174,927
productive	stands	other broadleaves	449,661	454,589	460,106	464,907	470,156	474,970	479,714	484,387	488,991	493,526	497,993	502,392	506,725
productive	coppices	european beech	925,546	930,609	935,741	939,733	943,911	949,884	956,055	962,372	968,794	975,283	981,806	988,337	994,850
productive	coppices	sweet chestnut	2,374,536	2,424,293	2,472,523	2,511,386	2,551,635	2,595,092	2,637,346	2,678,476	2,718,544	2,757,596	2,795,670	2,832,795	2,868,995
productive	coppices	hornbeams	582,261	584,398	586,818	587,852	589,588	591,945	594,299	596,632	598,927	601,175	603,366	605,494	607,556
productive	coppices	other oaks	1,398,209	1,410,193	1,421,116	1,429,540	1,437,500	1,447,028	1,456,123	1,464,791	1,473,044	1,480,893	1,488,356	1,495,449	1,502,191
productive	coppices	turkey oak	693,470	694,468	695,365	694,747	694,627	695,744	696,916	698,125	699,358	700,602	701,849	703,091	704,322
productive	coppices	evergreen oaks	325,983	327,426	328,709	329,242	329,570	330,907	332,280	333,677	335,094	336,522	337,957	339,393	340,827
productive	coppices	other broadleaves	2,096,777	2,121,171	2,145,406	2,163,609	2,182,639	2,203,036	2,222,454	2,240,863	2,258,254	2,274,631	2,290,009	2,304,412	2,317,873
productive	coppices	conifers	328,829	328,585	329,110	329,566	330,569	332,251	334,239	336,481	338,933	341,559	344,327	347,210	350,186
productive	plantation	eucalyptus coppices	154	155	155	156	156	156	156	156	156	156	156	156	156
productive	plantation	other broadleaves coppices	6,295	6,119	5,951	5,820	5,690	5,621	5,565	5,521	5,485	5,457	5,435	5,417	5,403
productive	plantation	poplars stands	356,034	359,677	362,837	365,555	367,880	369,859	371,539	372,961	374,163	375,176	376,030	376,749	377,353
productive	plantation	other broadleaves stands	16,768	15,740	14,889	14,347	13,885	13,597	13,401	13,272	13,196	13,160	13,154	13,172	13,207
productive	plantation	conifers stands	13,111	12,897	12,769	12,771	12,796	12,907	13,056	13,233	13,431	13,645	13,870	14,102	14,339
productive	plantation	others	450,470	436,840	425,778	419,494	414,076	411,568	410,360	410,123	410,614	411,651	413,095	414,839	416,804
protective	other	rupicolous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
protective	other	riparian forest	0	0	0	0	0	0	0	0	0	0	0	0	0
total			14,456,562	14,576,430	14,699,156	14,799,756	14,907,011	15,026,179	15,143,967	15,259,967	15,373,893	15,485,542	15,594,775	15,701,505	15,805,680

Table 31 National historical (2000-2009) and projected (2010-2025) quantities of harvest for each FMP

In appendix III, time series of harvest quantities are reported for each FMP stratified at regional/provincial level.

4.1.6 Documentation on Treatment of disturbances

In Italy, so far the only significant disturbance is forest fire. Fires have a significant impact on the inter-annual variability of emissions and removals in the LULUCF sector as showed in figure 9.

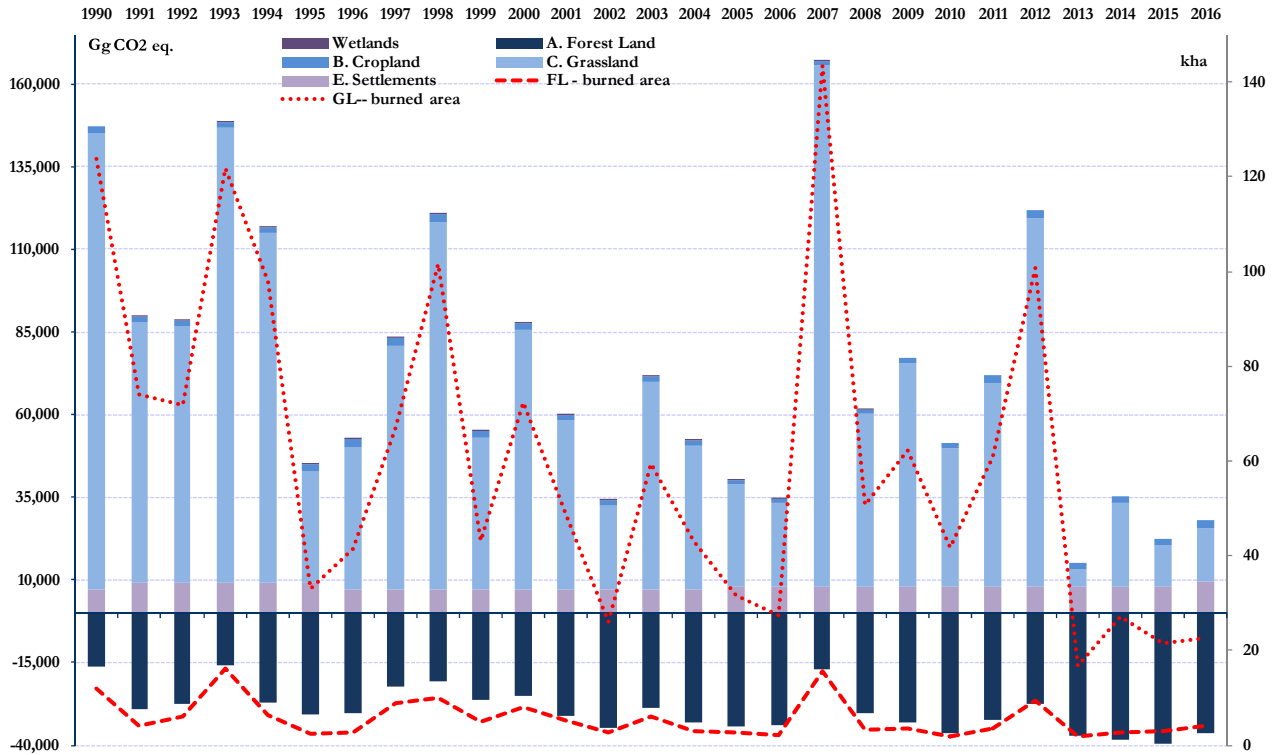


Figure 9 GHG emission/removal from the LULUCF 1990-2016

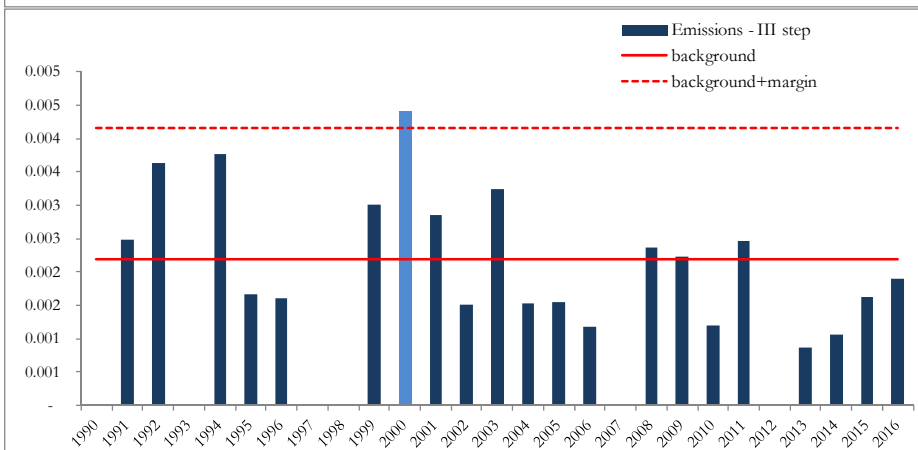
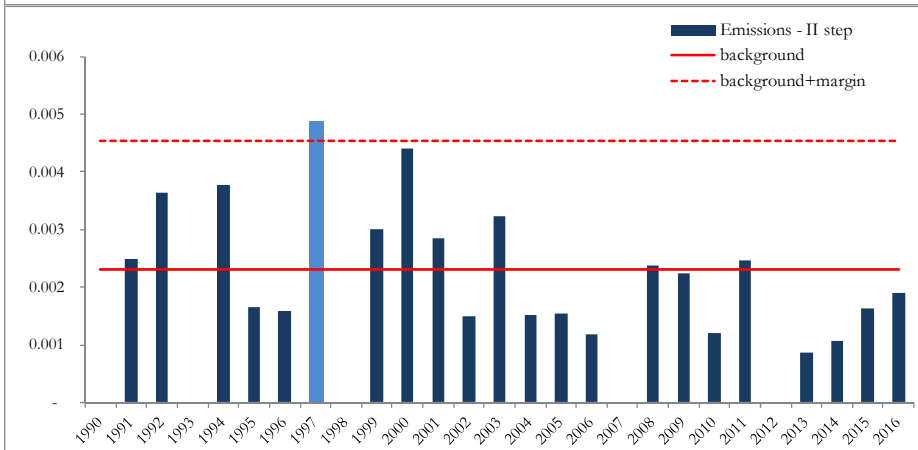
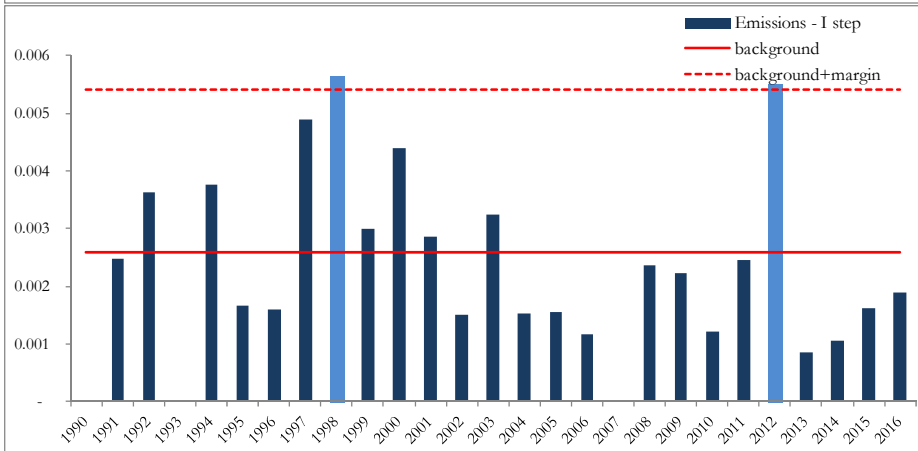
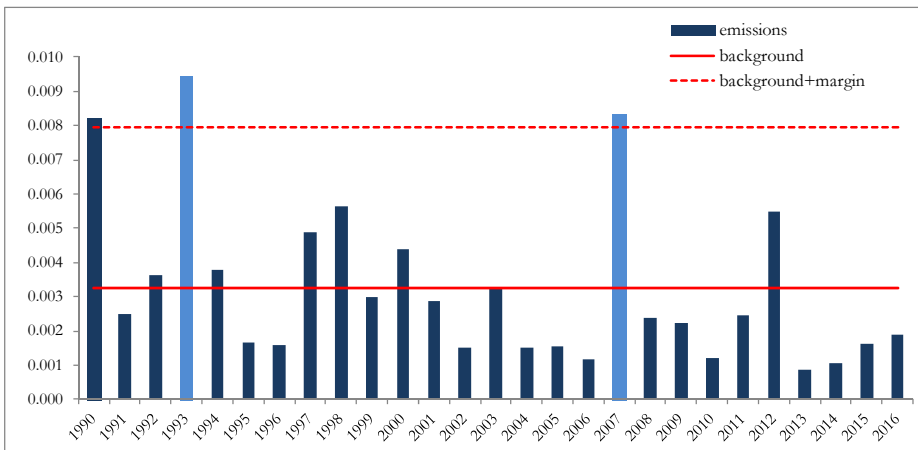
On this basis, consistently with article 10 of the EU regulation 2018/841 and its annex VI, a background level of GHG emissions associated with forest fires has been calculated from the time series 1990-2016 (0.199 Gg CO₂ eq.) to be applied for all the years for which actual data are not available i.e. 2017-2025 (figure 10).

Total and area specific emissions from disturbances for the calibration period for MFL																											
Disturbance type	Inventory year during the calibration period																										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Total annual emission [Gg CO ₂ eq.]																										
Wildfires	6,003	2,017	2,993	7,906	3,031	1,210	1,274	4,185	4,726	2,373	3,744	2,379	1,274	2,739	1,322	1,262	986	7,118	1,435	1,626	818	1,599	4,389	842	1,272	1,349	1,984
Insect attacks and disease infestations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
extreme weather events	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
geological disturbances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM	6,003	2,017	2,993	7,906	3,031	1,210	1,274	4,185	4,726	2,373	3,744	2,379	1,274	2,739	1,322	1,262	986	7,118	1,435	1,626	818	1,599	4,389	842	1,272	1,349	1,984
	Total area [kha]																										
MFL (FLrFL)	7,590	7,668	7,746	7,824	7,902	7,980	8,058	8,136	8,213	8,291	8,369	8,447	8,525	8,603	8,681	8,759	8,837	8,915	8,993	9,071	9,149	9,227	9,305	9,383	9,461	9,539	9,617
	Area-specific emissions (Emissions per unit of MFL area, Mg CO ₂ eq. ha ⁻¹)																										
	0.791	0.263	0.386	1.011	0.384	0.152	0.158	0.514	0.575	0.286	0.447	0.282	0.149	0.318	0.152	0.144	0.112	0.803	0.161	0.181	0.091	0.176	0.480	0.092	0.137	0.145	0.212

Figure 10 Background level of GHG emissions associated with forest fires

However, the *for-est* model uses as input data the burned area as well as information on the level of biomass losses associated with each fire. For such reason a per hectare background area burnt value has been calculated (0.002086, burned area per unit of FL area) with the same time series and modalities applied for calculating the background level of GHG emissions.

Note that both values have been calculated as a per hectare rate in order to remove the impact of the MFL area increase, across the time series 1990-2016, as well as the constrain associated with the projection in the FRL of a constant area from the year 2010 onward. Consequently, the burned area applied in the years 2017-2025 to calculate the FRL is the area BL rate, i.e. 0.002086, multiplied by the MFL area in the year 2009.



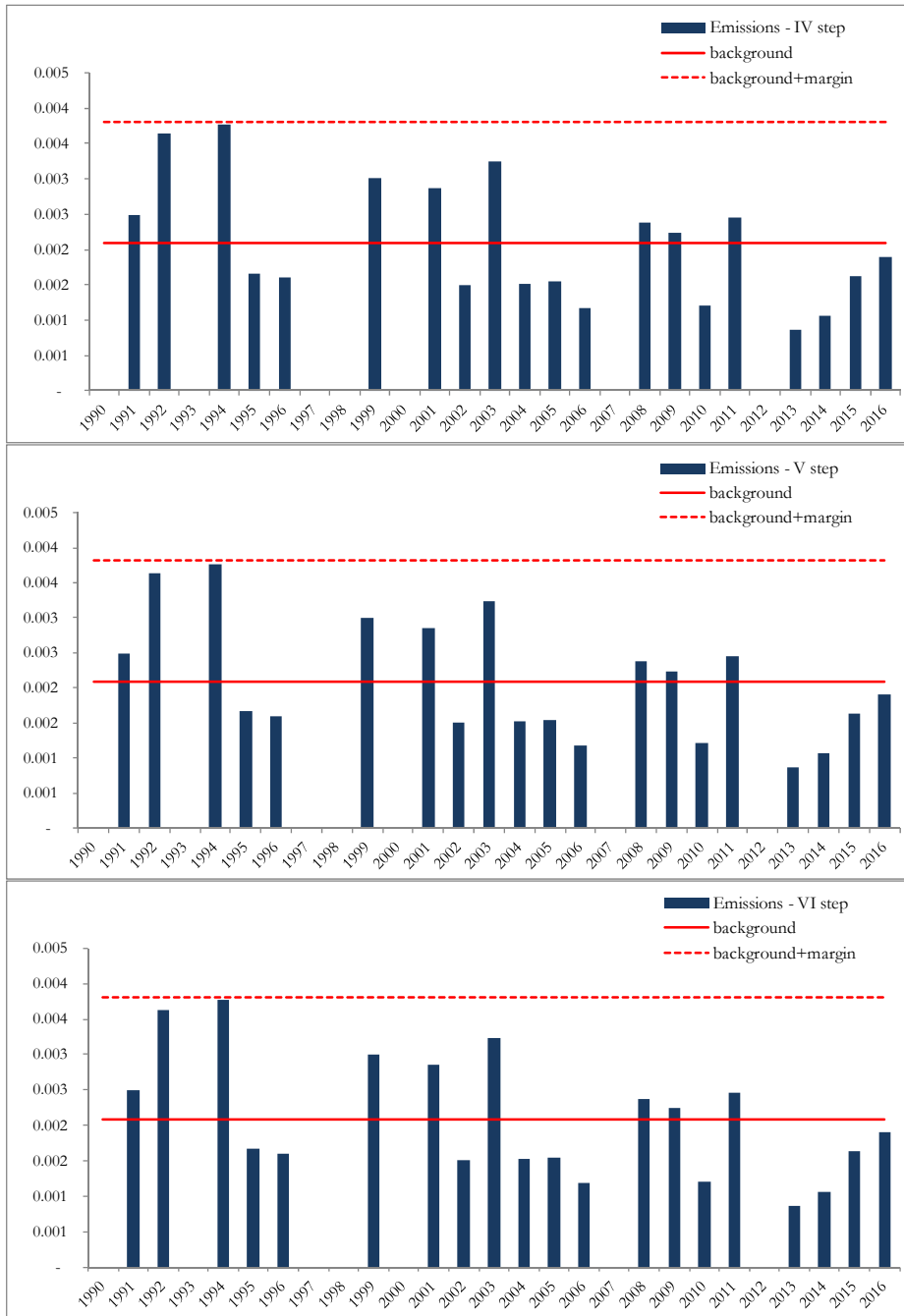


Figure 11 Composition of subsequent steps in the elaboration of the background level

	start	I step	II step	III step	IV step	V step	VI step
background level	0.003261	0.002589	0.002319	0.002197	0.002086	0.002086	0.002086
standard deviation	0.002354	0.001405	0.001116	0.000982	0.000864	0.000864	0.000864
margin	0.004708	0.002810	0.002233	0.001964	0.001728	0.001728	0.001728
background+margin	0.007969	0.005398	0.004552	0.004161	0.003815	0.003815	0.003815

Table 32 Background level, margin and standard deviation for the different steps

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Emissions - I step		0.002	0.004		0.004	0.002	0.002	0.005	0.006	0.003	0.004	0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002	0.005	0.001	0.001	0.002	0.002
Emissions - II step		0.002	0.004		0.004	0.002	0.002	0.005		0.003	0.004	0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002
Emissions - III step		0.002	0.004		0.004	0.002	0.002			0.003	0.004	0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002
Emissions - IV step		0.002	0.004		0.004	0.002	0.002			0.003		0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002
Emissions - V step		0.002	0.004		0.004	0.002	0.002			0.003		0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002
Emissions - VI step		0.002	0.004		0.004	0.002	0.002			0.003		0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002
Emissions - VII step		0.002	0.004		0.004	0.002	0.002			0.003		0.003	0.002	0.003	0.002	0.002	0.001		0.002	0.002	0.001	0.002		0.001	0.001	0.002	0.002

Table 33 Area-specific burnt (burned area per unit of FL area, adimensional) for the different steps

The *for-est* model calculates the entire biomass stock (above and belowground) on the burnt area as lost in the year in which the fire occurs. Non-CO₂ gases are estimated separately from the above-ground biomass loss calculated by the *for-est* model (section 3.3). From the aboveground biomass loss the amount of C directly oxidized during the fire event is estimated using oxidation factors specific of the fire events. CH₄ and N₂O emissions are inferred from the amount of C oxidized during the fire events. To project non-CO₂ emissions in the period 2017-2025 an oxidation rate (t C ha⁻¹) has been calculated as the average oxidation rate observed in the period 1990-2016. The oxidation rate is applied to the area BL rate to derive the total C released in the year by forest fires and consequently to estimate the non-CO₂ emissions.

Italy is aware that according to article 10 of the EU regulation 2018/841 the BL has to be calculated from the time series 2000-2020. For such reason, Italy anticipates that in the accounting year, when reporting for the last year, i.e. 2025, of the first accounting period, a technical correction of the FRL will be applied taking into account the recalculated BL for the years 2021-2025 and the actual GHG emissions occurred in the years 2017-2020.

4.1.7 Documentation on Method applied to the HWP pool

The HWP contribution is estimated using the Production Approach consistently with article 9 of the EU Regulation 2018/841 and its Annex V and according to guidance provided in the 2013 KP Supplement (IPCC, 2014). Historical data for the period 1960-2009 are those used for the Italian GHG inventory. To project the HWP contribution for the period 2010-2025, the following method has been applied:

- ✓ for each HWP category, i.e. Sawnwood, Wood panels, Paper & paperboard, an average ratio between HWP-inflow (t C) and annual harvest (m³) in stands and plantation forests for the reference period has been calculated;
- ✓ for the period 2010-2017, for each HWP category, the HWP-inflow ratio (t C m⁻³) has been multiplied by the annual harvest (m³) of industrial roundwood (i.e. harvest collected in stands and plantation forests) to calculate the annual C inflow.

Table 34 below reports the time series, one for each HWP category, of HWP-inflow ratios for the period 2000-2009 as well as the associated average value; in the table 35 the time series, one for each HWP category, of HWP contribution for the period 2010-2025 is shown.

	Sawnwood - HWP_j	wood panels - HWP_j	<i>Paper & Paperboard</i> - HWP_j	Harvest (stands & plantations)
	m ³	m ³	t	m ³
2000	626,591	2,085,432	400,856	6,837,154
2001	575,347	1,966,249	337,774	5,540,024
2002	573,100	1,996,030	390,200	5,858,267
2003	601,209	2,011,970	442,980	6,190,802
2004	605,408	2,171,038	453,124	5,620,280
2005	615,434	2,144,729	439,192	5,642,683
2006	700,245	2,299,431	454,394	6,268,328
2007	695,204	2,331,386	479,198	5,940,537
2008	636,378	2,361,587	526,238	6,795,796
2009	609,833	2,076,432	436,790	5,316,073
average	623,875	2,144,428	436,075	6,000,994
rate	0.103961897	0.357345512	0.072667065	

Table 34 HWP-inflow ratios for the period 2000-2009 and the associated average value

	Sawnwood -HWPj kt C	wood based panels - HWPj kt C	paper & paperboard -HWPj kt C
2009	139.7	558.56	168.6
2010	137.7	555.97	162.2
2011	137.4	554.63	161.8
2012	137.0	553.16	161.4
2013	136.4	550.89	160.8
2014	137.0	553.23	161.4
2015	137.7	556.03	162.2
2016	138.4	558.88	163.1
2017	139.2	562.05	164.0
2018	140.0	565.25	164.9
2019	140.8	568.51	165.9
2020	141.6	571.81	166.9
2021	142.4	575.12	167.8
2022	143.3	578.42	168.8
2023	144.1	581.70	169.7
2024	144.9	584.96	170.7
2025	145.7	588.18	171.6

Table 35 HWP contribution for the period 2010-2025

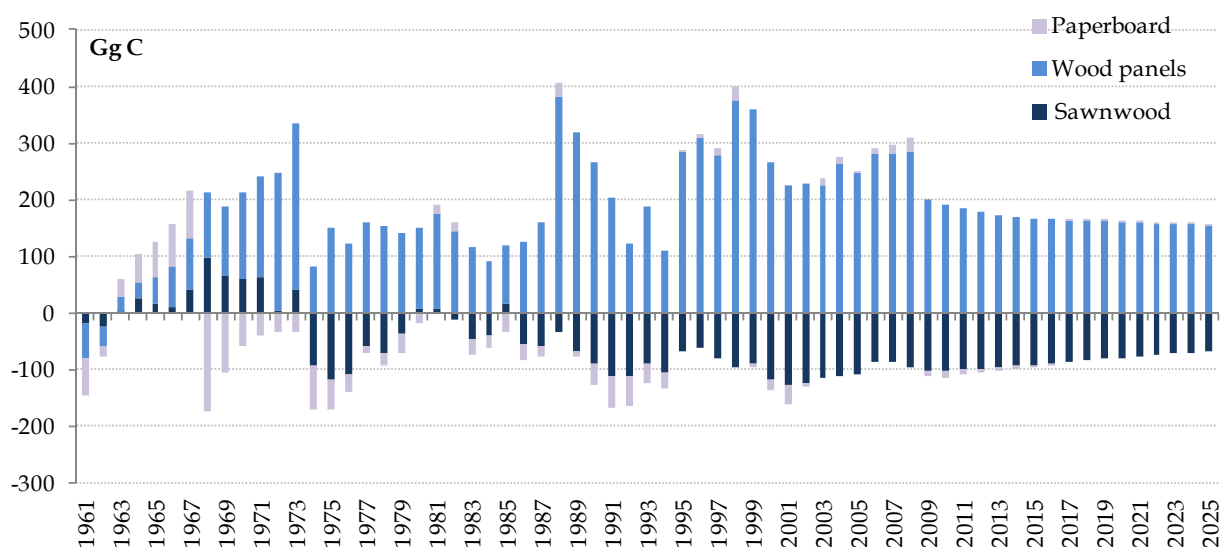


Figure 12 C stock changes for HWP categories (Sawnwood, Wood panels, Paper & paperboard) – 1961-2025

Table 36 below reports the time series of the production, import and export, for the HWP categories, for the period 1961-2009.

	Production			Import			Export		
	<i>t</i>	<i>m3</i>	<i>m3</i>	<i>t</i>	<i>m3</i>	<i>m3</i>	<i>t</i>	<i>m3</i>	<i>t</i>
	<i>Paper and Paperboard</i>	<i>Sawnwood</i>	<i>Wood-Based Panels</i>	<i>Paper and Paperboard</i>	<i>Sawnwood</i>	<i>Wood-Based Panels</i>	<i>Paper and Paperboard</i>	<i>Sawnwood</i>	<i>Wood Pulp</i>
1961	1,599,600	1,971,000	323,000	239,500	2,847,100	25,400	36,100	9,600	28,200
1962	1,761,700	1,934,000	505,000	238,700	3,124,000	29,700	26,400	8,600	33,600
1963	1,926,400	2,016,000	859,000	288,600	3,568,900	43,200	20,700	6,800	34,400
1964	2,045,800	2,108,000	828,000	260,900	3,158,000	28,900	51,700	13,800	55,400
1965	2,208,000	2,045,000	928,000	259,800	2,920,800	22,500	183,300	25,400	186,200
1966	2,524,000	1,869,000	995,000	259,000	3,290,800	36,304	186,900	23,000	219,435
1967	2,851,000	2,145,000	1,165,000	282,900	3,683,600	47,968	197,000	21,500	231,270
1968	3,052,000	2,566,000	1,335,000	334,900	3,949,600	54,784	230,800	21,200	258,354
1969	3,461,000	2,500,000	1,485,000	406,700	4,223,800	68,533	293,200	29,000	288,365
1970	3,549,000	2,411,000	1,640,000	420,200	4,025,100	90,313	320,200	56,800	193,924
1971	3,288,000	2,555,000	1,910,000	467,700	3,760,100	88,939	325,000	31,300	198,233
1972	3,723,000	2,288,000	2,530,000	501,700	4,232,600	238,329	356,400	50,600	220,848
1973	4,100,000	2,700,000	3,050,000	598,800	5,045,500	322,818	336,000	51,500	194,506
1974	4,200,000	2,143,000	2,130,000	675,100	4,068,600	491,884	429,600	69,300	166,829
1975	3,496,000	1,687,000	2,522,000	320,000	3,801,900	199,396	372,500	48,700	163,908
1976	4,499,000	2,006,000	2,697,000	424,000	4,678,700	415,500	441,400	47,100	159,879
1977	4,288,000	2,266,000	2,730,000	448,100	4,599,600	368,800	444,700	45,000	164,000
1978	4,616,000	2,045,000	2,605,000	570,200	4,726,700	333,500	554,300	98,000	201,400
1979	4,756,800	2,345,000	2,531,000	757,600	5,724,000	610,700	620,000	143,600	221,900
1980	4,934,000	2,721,000	2,550,000	860,700	5,773,500	791,000	500,700	82,000	163,600
1981	4,855,000	2,600,000	2,670,000	815,600	5,005,600	683,000	618,500	78,700	177,300
1982	4,503,000	2,330,000	2,392,000	859,100	4,893,300	535,100	449,400	54,400	145,800
1983	4,259,000	2,025,000	2,208,000	1,208,700	4,701,100	552,000	582,600	83,000	178,000
1984	4,722,000	2,234,000	2,205,000	1,407,400	5,187,100	591,000	791,000	113,600	198,000
1985	4,587,000	2,599,000	2,223,000	1,422,000	4,909,000	670,000	768,000	107,000	207,000
1986	4,631,000	1,919,000	2,310,000	1,591,000	4,740,000	650,000	822,000	117,000	223,000
1987	4,882,000	1,905,000	2,637,000	1,884,000	5,305,000	752,000	879,000	111,000	263,000
1988	5,512,000	2,095,000	4,295,000	2,037,000	5,768,000	713,000	1,152,000	86,000	323,000
1989	5,640,000	1,998,000	4,337,000	2,319,000	5,978,000	894,000	1,199,000	92,000	438,000
1990	5,732,000	1,950,000	4,357,000	2,454,000	5,999,000	909,000	1,111,000	63,500	374,000
1991	5,795,000	1,850,000	4,166,000	2,522,000	6,054,000	873,000	1,168,000	56,000	366,000
1992	6,040,000	1,823,000	3,425,000	2,970,210	6,443,592	1,028,818	1,239,316	52,000	375,624
1993	6,019,000	1,700,000	3,420,000	2,989,166	5,975,266	917,259	1,455,052	91,000	585,334
1994	6,705,000	1,808,000	3,351,000	3,495,000	6,578,000	971,000	1,639,000	109,000	679,000
1995	6,810,000	1,850,000	4,183,000	3,218,000	6,406,000	1,128,000	1,707,000	130,000	611,000
1996	6,954,000	1,650,000	3,907,000	3,023,000	5,527,000	1,106,000	1,790,000	99,000	660,000
1997	8,032,000	1,751,000	4,364,000	3,564,000	6,905,000	1,409,000	2,007,000	140,000	880,000
1998	8,253,900	1,600,000	5,320,000	3,386,000	7,295,000	1,539,000	2,047,000	174,000	851,000
1999	8,568,000	1,630,000	5,230,000	4,028,000	7,605,000	1,447,000	2,057,000	212,000	875,000
2000	9,129,317	1,630,000	5,425,000	4,385,000	8,380,000	1,729,000	2,241,000	208,000	1,121,000
2001	8,926,000	1,600,000	5,468,000	4,157,000	7,785,000	1,773,000	2,099,999	197,000	991,000
2002	9,317,261	1,605,000	5,590,000	4,663,736	7,935,707	2,122,789	2,345,001	195,553	1,405,165
2003	9,491,000	1,590,000	5,321,000	4,677,297	7,424,095	2,035,203	2,369,113	150,937	995,800
2004	9,667,000	1,580,000	5,666,000	4,893,375	7,660,755	2,161,165	2,673,632	156,884	1,130,391
2005	9,999,371	1,590,000	5,541,000	4,382,798	7,727,326	2,092,147	2,749,816	160,898	872,409
2006	10,008,360	1,748,000	5,740,000	5,176,460	7,862,757	2,000,501	3,491,234	168,608	1,129,191
2007	10,112,031	1,700,000	5,701,000	5,315,970	8,031,000	2,945,000	3,514,132	435,120	1,523,817
2008	9,467,019	1,384,000	5,136,000	5,048,056	6,733,000	2,287,000	3,388,824	242,951	997,299
2009	8,404,170	1,220,000	4,154,000	4,605,461	5,567,000	1,924,000	3,150,278	194,361	797,839

Table 36 HWP production, import and export for the period 1961-2009

CO ₂ (Living biomass pool)	-20,615.5	-25,373.2	-28,068.4	-22,886.2	-26,230.8	-26,737.6	-26,925.4	-14,372.0	-24,272.8	-26,580.9
CO ₂ (dead mass and litter pools)	-1,012.6	-1,005.2	-997.9	-990.7	-983.7	-976.4	-631.3	-633.8	-636.4	-638.9
CO ₂ (HWP_FOD)	-476.1	-244.6	-357.5	-453.1	-596.0	-531.0	-748.8	-775.0	-774.9	-320.2
CH ₄	449.1	285.3	152.8	328.5	158.6	151.4	118.3	853.8	172.2	195.0
N ₂ O	1.7	1.1	0.6	1.2	0.6	0.6	0.4	3.2	0.6	0.7
Total CO₂ eq. (HWP_FOD)	-21,653.4	-26,336.6	-29,270.4	-24,000.3	-27,651.3	-28,093.1	-28,186.7	-14,923.9	-25,511.4	-27,344.4
<i>Total CO₂ eq. (HWP_LO)</i>	-21,177.3	-26,092.0	-28,912.9	-23,547.2	-27,055.4	-27,562.1	-27,437.8	-14,148.9	-24,736.4	-27,024.1

Table 37 CO₂ eq. emissions and removals reported in 2018 GHG Inventory and FRL

4.3 Calculated C pools and GHG for the FRL: the 5-year average of projected values for the periods 2021-2025

Pools included are the aboveground and belowground biomass pools. GHG included are all those reported in the LULUCF sector, namely carbon dioxide, methane and nitrous oxide. Table 38 reports the annual values and the calculated average FRL equal to **-19,656.1** kt CO₂ eq. yr⁻¹.

<i>G_g CO₂ eq.</i>	2021	2022	2023	2024	2025	average
CO ₂ (Living biomass pool)	-20,525.7	-19,985.7	-19,460.9	-18,950.9	-18,454.8	-19,475.6
CO ₂ (dead mass and litter pools)	0.0	0.0	0.0	0.0	0.0	0.0
CO ₂ (HWP_FOD)	-311.2	-316.3	-321.0	-325.4	-329.6	-320.7
CH ₄	139.7	139.7	139.7	139.7	139.7	139.7
N ₂ O	0.5	0.5	0.5	0.5	0.5	0.5
Total CO₂ eq. (HWP_FOD)	-20,696.7	-20,161.8	-19,641.8	-19,136.2	-18,644.2	-19,656.1
<i>Total CO₂ eq. (HWP_LO)</i>	-20,385.5	-19,845.5	-19,320.8	-18,810.7	-18,314.7	-19,335.4

Table 38 CO₂ eq. emissions and removals reported in 2018 GHG Inventory and FRL

4.3.1 Documentation on technical correction applied and justification of its application as well as on the recalibration of the model (to show consistency among FRL_{corr} and NIR estimates)

No technical correction to the FRL is applied in this Plan, future technical corrections will be documented in the annual report, if any.

4.3.1.1 Documentation on differences in increment curves applied to FRL and those recalculated in consequence of actual measurements during the accounting period (AP); a revision of increment functions

Biomass increment curves in forest land applied for the projection of the FRL are the same as applied for the national GHG inventory; consequently, no there are not differences.

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Appendix A

This appendix contains the parameters of the aboveground biomass increment curves applied for each forest type in each region.

Abruzzo						
inventory typology		a	v	k	y0	
stands	norway spruce	978.65	- 0.28	0.01	0.06	
	silver fir	1,413.99	- 0.37	0.02	0.46	
	larches	-	-	-	-	
	mountain pines	983.26	- 0.38	0.03	0.30	
	mediterranean pines	544.15	- 0.18	0.04	0.94	
	other conifers	1,564.83	- 0.41	0.01	0.15	
	europaean beech	854.61	0.00	0.02	0.28	
	turkey oak	576.32	- 0.35	0.01	0.94	
	other oaks	185.51	1.30	0.08	1.62	
	other broadleaves	1,539.30	- 0.33	0.01	1.62	
	europaean beech	289.02	0.66	0.04	0.67	
coppices	sweet chestnut	479.33	1.52	0.12	2.85	
	hornbeams	132.25	- 0.88	0.02	0.76	
	other oaks	117.20	- 0.70	0.07	0.76	
	turkey oak	132.25	- 0.39	0.05	0.60	
	evergreen oaks	287.29	0.03	0.01	2.06	
	other broadleaves	185.51	1.30	0.08	3.89	
	conifers	1,564.83	- 0.41	0.01	0.15	
	eucaliptuses coppices	-	-	-	-	
	other broadleaves coppices	216.20	2.08	0.27	4.22	
	poplars stands	259.00	0.76	0.55	1.38	
plantations	other broadleaves stands	1,539.30	- 0.33	0.01	1.62	
	conifers stands	1,221.84	0.24	0.06	0.89	
	others	894.56	- 0.39	0.04	0.01	
	protective	rupicolous forest	823.17	0.11	0.03	0.69
		riparian forest	960.07	- 0.11	0.03	0.71
Alto_Adige						
inventory typology		a	v	k	y0	
stands	norway spruce	978.65	- 0.28	0.01	0.06	
	silver fir	1,106.84	- 0.25	0.02	0.03	
	larches	446.19	0.49	0.03	0.22	
	mountain pines	2,468.19	0.40	0.03	0.07	
	mediterranean pines	-	-	-	-	
	other conifers	1,564.83	- 0.41	0.01	0.15	
	europaean beech	1,268.40	- 0.09	0.02	0.06	
	turkey oak	699.33	- 0.54	0.01	0.94	
	other oaks	185.51	1.30	0.08	1.62	
	other broadleaves	1,539.30	- 0.33	0.01	1.62	
coppices	europaean beech	903.79	0.55	0.04	1.15	
	sweet chestnut	834.70	0.00	0.04	4.11	
	hornbeams	132.25	- 0.88	0.02	0.76	

	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	-	-	-	-
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	-	-	-	-
	poplars stands	-	-	-	-
	other broadleaves stands	-	-	-	-
	conifers stands	1,221.84	0.24	0.06	0.89
	others	-	-	-	-
protective	rupicolous forest	1,090.53	0.03	0.02	0.15
	riparian forest	1,139.69	0.03	0.02	0.53
Basilicata					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	754.23	- 0.01	0.03	0.40
	larches	-	-	-	-
	mountain pines	1,030.03	- 0.45	0.02	0.48
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	928.89	- 0.41	0.02	0.36
	turkey oak	1,371.74	- 0.52	0.01	0.26
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	272.32	1.04	0.05	0.67
	sweet chestnut	654.41	0.39	0.03	6.77
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	117.20	- 0.70	0.07	0.76
	turkey oak	317.57	- 0.79	0.01	1.34
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	1,083.68	- 0.13	0.02
protective	riparian forest	989.83	- 0.13	0.03	0.73
Calabria					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	754.23	- 0.01	0.03	0.40

	larches	-	-	-	-
	mountain pines	1,030.03	- 0.45	0.02	0.48
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	849.31	0.00	0.03	0.25
	turkey oak	1,371.74	- 0.52	0.01	0.26
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	272.32	1.04	0.05	0.67
	sweet chestnut	779.98	0.11	0.03	6.77
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	117.20	- 0.70	0.07	0.76
	turkey oak	317.57	- 0.79	0.01	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	210.80	2.99	0.27	5.79
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	999.62	- 0.10	0.02	0.84
	riparian forest	979.89	- 0.07	0.03	0.71

Campania

inventory typology	a	v	k	y0	
	norway spruce	-	-	-	-
	silver fir	754.23	- 0.01	0.03	0.40
	larches	-	-	-	-
	mountain pines	976.81	- 0.38	0.03	0.48
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	914.71	- 0.42	0.02	0.14
	turkey oak	549.62	- 0.33	0.01	1.36
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	272.32	1.04	0.05	0.67
	sweet chestnut	779.98	0.11	0.03	6.77
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	174.08	0.00	0.02	0.71
	turkey oak	317.57	- 0.79	0.01	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
plantations	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22

	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	471.58	0.08	0.04	1.71
	riparian forest	878.64	- 0.10	0.03	0.84
Emilia Romagna					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,413.99	- 0.37	0.02	0.46
	larches	446.19	0.49	0.03	0.22
	mountain pines	983.26	- 0.38	0.03	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,255.36	- 0.23	0.02	0.18
	turkey oak	656.18	- 0.45	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	154.48	0.54	0.05	1.99
	sweet chestnut	1,387.81	0.21	0.04	2.85
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	138.88	3.39	0.06	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	rupicolous forest	1,007.26	- 0.12	0.02	0.79
protective	riparian forest	956.74	- 0.08	0.03	0.65
Friuli Venezia Giulia					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	699.33	- 0.54	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62

coppices	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	903.79	0.55	0.04	1.15
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	-	-	-	-
	evergreen oaks	-	-	-	-
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
plantations	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	586.86	0.24	0.17	4.17
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	1,279.01	- 0.05	0.02	0.25
	riparian forest	1,080.14	0.01	0.03	0.57
Lazio					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	-	-	-	-
	larches	-	-	-	-
	mountain pines	983.26	- 0.38	0.03	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	440.26	0.19	0.03	0.56
	turkey oak	412.20	0.21	0.02	1.63
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	308.01	0.00	0.02	1.99
	sweet chestnut	416.91	0.51	0.26	3.44
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	87.52	2.24	0.17	1.16
	turkey oak	100.24	- 0.49	0.07	1.34
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	604.30	0.17	0.03
riparian forest		873.95	0.02	0.03	1.08
Liguria					

inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,413.99	- 0.37	0.02	0.46
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,255.36	- 0.23	0.02	0.18
	turkey oak	656.18	- 0.45	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	251.97	12.28	0.47	0.82
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	112.04	0.09	0.09	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	1,258.80	0.00	0.03
protective	riparian forest	1,105.23	- 0.01	0.03	0.63
Lombardia					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	-	-	-	-
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	699.33	- 0.54	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	549.11	0.03	0.03	0.31
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	-	-	-	-

plantations	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucalyptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	586.86	0.24	0.17	4.17
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	1,126.27	- 0.01	0.02
riparian forest		1,139.69	0.03	0.02	0.53

Marche

inventory typology	a	v	k	y0	
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,413.99	- 0.37	0.02	0.46
	larches	-	-	-	-
	mountain pines	1,669.71	- 0.75	0.01	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	europaean beech	257.28	0.42	0.02	0.74
	turkey oak	576.32	- 0.35	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	europaean beech	308.01	0.00	0.02	1.99
	sweet chestnut	1,387.81	0.21	0.04	2.85
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	97.57	- 0.77	0.02	1.09
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucalyptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	826.35	- 0.04	0.02
riparian forest		969.97	- 0.10	0.02	0.76

Molise

inventory typology	a	v	k	y0	
stands	norway spruce	-	-	-	-
	silver fir	754.23	- 0.01	0.03	0.40
	larches	-	-	-	-
	mountain pines	1,554.63	- 0.71	0.01	0.30
	mediterranean pines	-	-	-	-

coppices	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	986.83	- 0.24	0.02	0.25
	turkey oak	692.86	- 0.37	0.02	0.45
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	289.02	0.66	0.04	0.67
	sweet chestnut	479.33	1.52	0.12	2.85
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	117.20	- 0.70	0.07	0.76
	turkey oak	132.25	- 0.39	0.05	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
plantations	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	935.32	- 0.22	0.02
riparian forest	1,039.74	- 0.11	0.02	0.68	
Piemonte					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	-	-	-	-
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	656.18	- 0.45	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	251.97	12.28	0.47	0.82
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	coppices	other oaks	427.06	- 0.77	0.01
turkey oak		102.11	0.01	0.01	2.37
evergreen oaks		-	-	-	-
other broadleaves		185.51	1.30	0.08	3.89
conifers		1,564.83	- 0.41	0.01	0.15
eucaliptuses coppices		-	-	-	-
plantations	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	586.86	0.24	0.17	4.17
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62

	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	1,114.90	0.18	0.02	0.61
	riparian forest	1,134.90	0.04	0.02	0.53
Puglia					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	-	-	-	-
	larches	-	-	-	-
	mountain pines	1,597.42	- 0.72	0.01	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,236.32	- 0.10	0.02	0.21
	turkey oak	1,042.19	- 0.81	0.01	0.97
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	289.02	0.66	0.04	0.67
	sweet chestnut	779.98	0.11	0.03	6.77
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	174.08	0.00	0.02	0.71
	turkey oak	132.25	- 0.39	0.05	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	210.80	2.99	0.27	5.79
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	rupicolous forest	1,025.43	- 0.19	0.03	1.15
riparian forest	1,101.39	- 0.18	0.03	0.83	
Sardegna					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	-	-	-	-
	larches	-	-	-	-
	mountain pines	1,501.88	- 0.70	0.01	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	-	-	-	-
	turkey oak	412.20	0.21	0.02	1.63
	other oaks	184.78	1.83	0.06	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppice	european beech	-	-	-	-

	sweet chestnut	563.79	0.28	0.12	3.96
	hornbeams	-	-	-	-
	other oaks	199.54	1.75	0.06	0.54
	turkey oak	132.25	- 0.39	0.05	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	210.80	2.99	0.27	5.79
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	451.94	1.13	0.05	1.45
	riparian forest	821.02	0.06	0.02	0.89
Sicilia					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	-	-	-	-
	larches	-	-	-	-
	mountain pines	739.05	0.47	0.04	2.14
	mediterranean pines	1,170.83	- 0.44	0.01	0.62
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	849.31	0.00	0.03	0.25
	turkey oak	1,371.74	- 0.52	0.01	0.26
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	289.02	0.66	0.04	0.67
	sweet chestnut	779.98	0.11	0.03	6.77
coppices	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	117.20	- 0.70	0.07	0.76
	turkey oak	132.25	- 0.39	0.05	0.60
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	210.80	2.99	0.27	5.79
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	964.72	0.20	0.03	1.30
	riparian forest	1,060.08	0.01	0.03	0.95
Toscana					
inventory typology		a	v	k	y0

stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,413.99	- 0.37	0.02	0.46
	larches	446.19	0.49	0.03	0.22
	mountain pines	983.26	- 0.38	0.03	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,255.36	- 0.23	0.02	0.18
	turkey oak	656.18	- 0.45	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	308.01	0.00	0.02	1.99
	sweet chestnut	1,387.81	0.21	0.04	2.85
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
plantations	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
	protective	rupicolous forest	912.24	- 0.08	0.03
protective	riparian forest	956.74	- 0.08	0.03	0.65
Trentino					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	-	-	-	-
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	699.33	- 0.54	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
coppices	european beech	903.79	0.55	0.04	1.15
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	-	-	-	-
	other broadleaves	185.51	1.30	0.08	3.89

plantations	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	-	-	-	-
	poplars stands	-	-	-	-
	other broadleaves stands	-	-	-	-
	conifers stands	1,221.84	0.24	0.06	0.89
	others	-	-	-	-
protective	rupicolous forest	1,090.53	0.03	0.02	0.15
	riparian forest	1,139.69	0.03	0.02	0.53
Umbria					
inventory typology		a	v	k	y0
stands	norway spruce	-	-	-	-
	silver fir	-	-	-	-
	larches	-	-	-	-
	mountain pines	983.26	- 0.38	0.03	0.30
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,255.36	- 0.23	0.02	0.18
	turkey oak	656.18	- 0.45	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	308.01	0.00	0.02	1.99
	sweet chestnut	1,387.81	0.21	0.04	2.85
coppices	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	88.33	- 0.71	0.06	1.64
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	287.29	0.03	0.01	2.06
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
plantations	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	259.00	0.76	0.55	1.38
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89
	others	894.56	- 0.39	0.04	0.01
protective	rupicolous forest	843.81	- 0.08	0.03	0.66
	riparian forest	961.22	- 0.10	0.03	0.82
Valle D'Aosta					
inventory typology		a	v	k	y0
stands	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	-	-	-	-
	other conifers	1,564.83	- 0.41	0.01	0.15

	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	-	-	-	-
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	251.97	12.28	0.47	0.82
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	-	-	-	-
	evergreen oaks	-	-	-	-
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	-	-	-	-
	poplars stands	-	-	-	-
	other broadleaves stands	-	-	-	-
	conifers stands	-	-	-	-
	others	-	-	-	-
	rupicolous forest	1,117.61	0.24	0.03	0.28
	riparian forest	1,194.74	0.10	0.03	0.48
	Veneto				
	inventory typology	a	v	k	y0
	norway spruce	978.65	- 0.28	0.01	0.06
	silver fir	1,106.84	- 0.25	0.02	0.03
	larches	446.19	0.49	0.03	0.22
	mountain pines	2,468.19	0.40	0.03	0.07
	mediterranean pines	544.15	- 0.18	0.04	0.94
	other conifers	1,564.83	- 0.41	0.01	0.15
	european beech	1,268.40	- 0.09	0.02	0.06
	turkey oak	699.33	- 0.54	0.01	0.94
	other oaks	185.51	1.30	0.08	1.62
	other broadleaves	1,539.30	- 0.33	0.01	1.62
	european beech	903.79	0.55	0.04	1.15
	sweet chestnut	834.70	0.00	0.04	4.11
	hornbeams	132.25	- 0.88	0.02	0.76
	other oaks	427.06	- 0.77	0.01	0.54
	turkey oak	102.11	0.01	0.01	2.37
	evergreen oaks	-	-	-	-
	other broadleaves	185.51	1.30	0.08	3.89
	conifers	1,564.83	- 0.41	0.01	0.15
	eucaliptuses coppices	-	-	-	-
	other broadleaves coppices	216.20	2.08	0.27	4.22
	poplars stands	586.86	0.24	0.17	4.17
	other broadleaves stands	1,539.30	- 0.33	0.01	1.62
	conifers stands	1,221.84	0.24	0.06	0.89

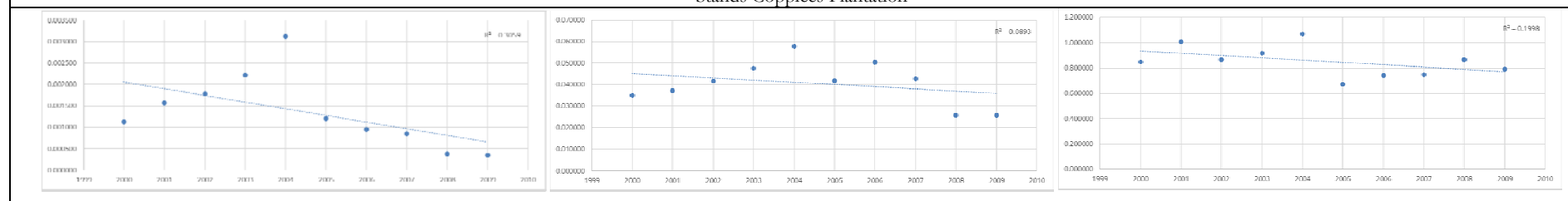
protective	others	894.56	- 0.39	0.04	0.01
	rupicolous forest	1,016.03	- 0.13	0.02	0.19
	riparian forest	1,080.14	0.01	0.03	0.57

Appendix B

This appendix contains the time series of values of harvesting ratios, for each FMP in each region/province, is reported, for the reference period. Each green shadowed cell contains the value of the harvest ratio used as indicator for the respective FMP.

Abruzzo region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.001799	0.002503	0.002831	0.003544	0.005007	0.001926	0.001534	0.001363	0.000609	0.000569	0.002168
	silver fir	0.001812	0.002516	0.002840	0.003549	0.005006	0.001923	0.001529	0.001357	0.000605	0.000565	0.002170
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.001478	0.002053	0.002318	0.002897	0.004087	0.001570	0.001249	0.001108	0.000494	0.000461	0.001772
	mediterranean pines	0.001138	0.001581	0.001785	0.002232	0.003150	0.001210	0.000963	0.000854	0.000381	0.000356	0.001365
	other conifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	europaean beech	0.001133	0.001571	0.001772	0.002213	0.003120	0.001197	0.000952	0.000844	0.000376	0.000351	0.001353
	turkey oak	0.000943	0.001308	0.001476	0.001843	0.002597	0.000997	0.000792	0.000702	0.000313	0.000292	0.001126
	other oaks	0.000986	0.001368	0.001544	0.001928	0.002719	0.001044	0.000830	0.000736	0.000328	0.000306	0.001179
	other broadleaves	0.001202	0.001667	0.001881	0.002349	0.003312	0.001271	0.001010	0.000896	0.000400	0.000373	0.001436
coppices	europaean beech	0.034723	0.037036	0.041117	0.047187	0.057191	0.041311	0.049730	0.042141	0.025359	0.025430	0.040122
	sweet chestnut	0.042831	0.045748	0.050859	0.058443	0.070915	0.051290	0.061816	0.052419	0.031591	0.031726	0.049764
	hornbeams	0.034101	0.036364	0.040364	0.046313	0.056114	0.040528	0.048779	0.041312	0.024866	0.024940	0.039368
	other oaks	0.031424	0.033539	0.037258	0.042778	0.051854	0.037480	0.045136	0.038220	0.023033	0.023129	0.036385
	turkey oak	0.033982	0.036234	0.040217	0.046141	0.055899	0.040373	0.048591	0.041141	0.024769	0.024850	0.039220
	evergreen oaks	0.027440	0.029270	0.032498	0.037298	0.045207	0.032657	0.039315	0.033313	0.020050	0.020110	0.031716
	other broadleaves	0.034648	0.037008	0.041143	0.047273	0.057349	0.041475	0.049978	0.042361	0.025532	0.025642	0.040241
	conifers	0.047733	0.050944	0.056591	0.064983	0.078801	0.056952	0.068595	0.058149	0.035013	0.035130	0.055289
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.705807	0.837697	0.720082	0.758195	0.877376	0.547228	0.601389	0.602400	0.694154	0.632918	0.697725
	poplars stands	1.406747	1.662603	1.439791	1.521657	1.761878	1.114448	1.236154	1.217752	1.446790	1.325835	1.413365
	other broadleaves stands	0.691383	0.812228	0.691417	0.724206	0.831393	0.518947	0.570096	0.571643	0.655631	0.597967	0.666491
	conifers stands	0.946406	1.126455	0.966857	1.021445	1.186292	0.737617	0.809032	0.811526	0.931011	0.846443	0.938308
	others	0.794690	0.938822	0.802615	0.844690	0.976301	0.608452	0.668327	0.670895	0.770400	0.702025	0.777722
stands	0.001133	0.001573	0.001775	0.002218	0.003128	0.001201	0.000955	0.000847	0.000378	0.000353	0.001356	
coppices	0.034947	0.037312	0.041464	0.047629	0.057772	0.041770	0.050325	0.042662	0.025704	0.025806	0.040539	
plantation	0.846440	1.006071	0.866974	0.918275	1.067673	0.671007	0.742020	0.746135	0.867020	0.793558	0.852517	

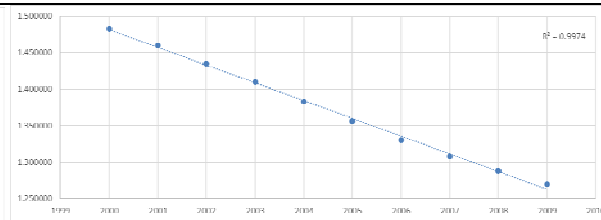
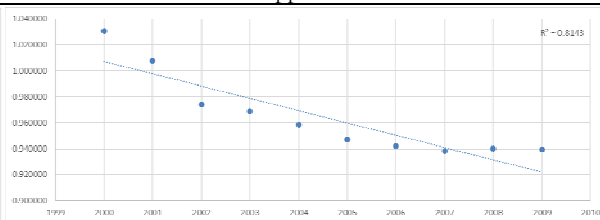
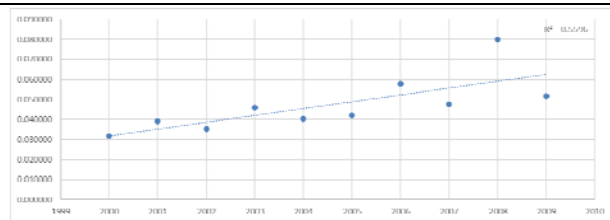
Stands Coppices Plantation



Harvesting ratios - Abruzzo

Alto Adige/Sud Tirolo province inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.036215	0.044643	0.040462	0.052642	0.046226	0.048202	0.066227	0.054746	0.091933	0.059479	0.054077
	silver fir	0.034797	0.042895	0.038878	0.050583	0.044418	0.046318	0.063639	0.052608	0.088345	0.057159	0.051964
	larches	0.025947	0.031986	0.028992	0.037721	0.033125	0.034543	0.047463	0.039237	0.065893	0.042634	0.038754
	mountain pines	0.027791	0.034268	0.031068	0.040432	0.035514	0.037043	0.050911	0.042091	0.070698	0.045747	0.041556
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	0.029312	0.036159	0.032797	0.042698	0.037518	0.039148	0.053818	0.044521	0.074810	0.048434	0.043922
	european beech	0.020944	0.025828	0.023417	0.030477	0.026772	0.027926	0.038382	0.031738	0.053314	0.034504	0.031330
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other oaks	0.018126	0.022367	0.020293	0.026425	0.023226	0.024240	0.033329	0.027586	0.046369	0.030035	0.027200
other broadleaves	0.022141	0.027313	0.024772	0.032251	0.028338	0.029568	0.040648	0.033626	0.056501	0.036579	0.033174	
coppices	european beech	1.027668	0.996220	0.951864	0.935259	0.914744	0.894754	0.882955	0.874169	0.871906	0.868478	0.921802
	sweet chestnut	1.190547	1.168574	1.132814	1.129422	1.119432	1.107296	1.102434	1.098354	1.100572	1.099906	1.124935
	hornbeams	0.885747	0.870599	0.846767	0.847792	0.843956	0.838192	0.837465	0.837781	0.841851	0.842998	0.849315
	other oaks	0.841865	0.826398	0.802160	0.801331	0.795980	0.789025	0.787067	0.785822	0.788634	0.789054	0.800734
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.926692	0.911840	0.887013	0.887777	0.883269	0.876716	0.875478	0.875090	0.878898	0.879827	0.888260
	conifers	1.426848	1.400829	1.355095	1.345529	1.326239	1.303363	1.288646	1.272745	1.265507	1.256206	1.324101
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	poplars stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.482372	1.459868	1.434750	1.409868	1.383236	1.356416	1.330062	1.307752	1.288027	1.270095	1.372245
others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
stands	0.031736	0.039087	0.035397	0.046013	0.040371	0.042063	0.057746	0.047697	0.080032	0.051738	0.047188	
coppices	1.030819	1.007854	0.973986	0.968800	0.958599	0.947060	0.942098	0.938436	0.940140	0.939379	0.964717	
plantation	1.482372	1.459868	1.434750	1.409868	1.383236	1.356416	1.330062	1.307752	1.288027	1.270095	1.372245	

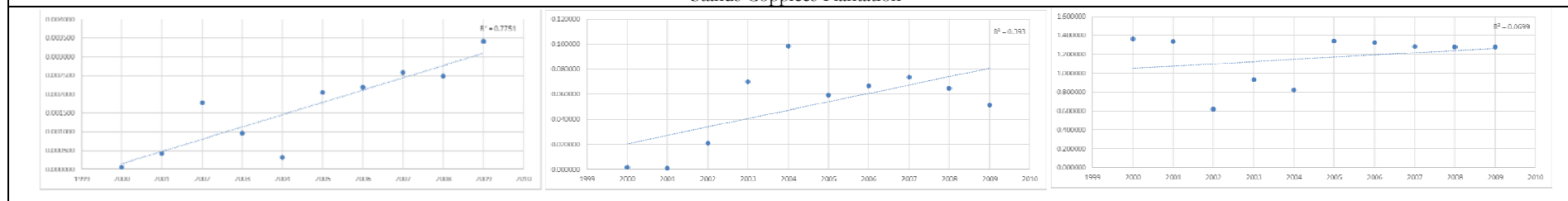
Stands Coppices Plantation



Harvesting ratios - Alto Adige/Sud Tirolo

Basilicata region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	0.000099	0.000721	0.003002	0.001615	0.000529	0.003477	0.003695	0.004374	0.004214	0.005777	0.002750
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.000081	0.000588	0.002450	0.001318	0.000432	0.002838	0.003017	0.003571	0.003441	0.004718	0.002245
	mediterranean pines	0.000062	0.000451	0.001881	0.001012	0.000332	0.002183	0.002321	0.002749	0.002650	0.003634	0.001727
	other conifers	0.000086	0.000623	0.002593	0.001395	0.000457	0.003004	0.003192	0.003779	0.003641	0.004992	0.002376
	europaean beech	0.000062	0.000449	0.001869	0.001005	0.000329	0.002162	0.002296	0.002717	0.002617	0.003586	0.001709
	turkey oak	0.000051	0.000370	0.001541	0.000829	0.000271	0.001783	0.001894	0.002242	0.002160	0.002960	0.001410
	other oaks	0.000054	0.000390	0.001623	0.000873	0.000286	0.001879	0.001997	0.002363	0.002277	0.003121	0.001486
	other broadleaves	0.000066	0.000475	0.001977	0.001063	0.000348	0.002287	0.002430	0.002876	0.002770	0.003797	0.001809
coppices	europaean beech	0.001725	0.001001	0.021430	0.071238	0.100016	0.060362	0.067822	0.074546	0.065579	0.051906	0.051562
	sweet chestnut	0.002140	0.001244	0.026682	0.088783	0.124724	0.075350	0.084735	0.093178	0.082022	0.064982	0.064384
	hornbeams	0.001687	0.000980	0.020985	0.069747	0.097870	0.059068	0.066361	0.072900	0.064114	0.050757	0.050447
	other oaks	0.001562	0.000908	0.019487	0.064784	0.090892	0.054888	0.061685	0.067748	0.059593	0.047208	0.046875
	turkey oak	0.001683	0.000977	0.020932	0.069575	0.097646	0.058936	0.066217	0.072753	0.063991	0.050660	0.050337
	evergreen oaks	0.001368	0.000794	0.017001	0.056510	0.079318	0.047868	0.053779	0.059094	0.051977	0.041141	0.040885
	other broadleaves	0.001714	0.000997	0.021405	0.071244	0.100096	0.060494	0.068046	0.074826	0.065877	0.052210	0.051691
	conifers	0.002365	0.001374	0.029449	0.097956	0.137588	0.083091	0.093412	0.102712	0.090398	0.071594	0.070994
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	1.127013	1.118284	0.514538	0.768190	0.674615	1.090564	1.061103	1.010767	0.998645	0.996068	0.935979
	poplars stands	2.308803	2.218919	1.015376	1.519417	1.347538	2.177812	2.132610	2.099033	2.073603	2.053757	1.894687
	other broadleaves stands	1.111400	1.081659	0.497395	0.737162	0.644975	1.034342	1.003624	0.947035	0.933555	0.922160	0.891331
	conifers stands	1.501367	1.489257	0.686607	1.027673	0.904439	1.479259	1.460160	1.396185	1.387368	1.373914	1.270623
others	1.271998	1.245426	0.573743	0.854266	0.749871	1.215259	1.191726	1.135265	1.127274	1.118669	1.048350	
stands	0.000059	0.000425	0.001772	0.000953	0.000312	0.002051	0.002180	0.002580	0.002485	0.003407	0.001622	
coppices	0.001681	0.000978	0.020992	0.069873	0.098175	0.059336	0.066748	0.073407	0.064634	0.051230	0.050705	
plantation	1.362495	1.340060	0.620477	0.930572	0.823429	1.342758	1.325487	1.281800	1.279909	1.277680	1.158467	

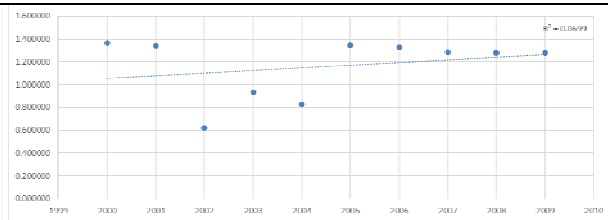
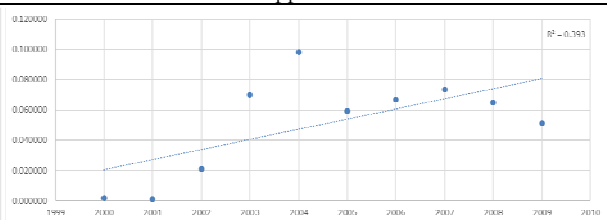
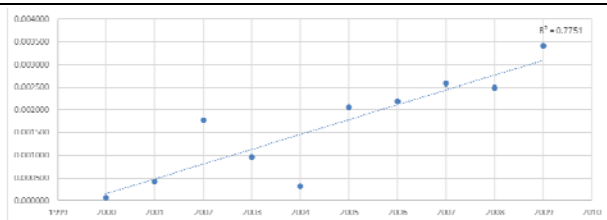
Stands Coppices Plantation



Harvesting ratios - Basilicata

Calabria region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	0.034020	0.032602	0.032317	0.030130	0.030396	0.025693	0.026356	0.028283	0.043802	0.036041	0.031964
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.027745	0.026592	0.026362	0.024580	0.024799	0.020966	0.021508	0.023075	0.035733	0.029402	0.026076
	mediterranean pines	0.021205	0.020338	0.020177	0.018827	0.019007	0.016080	0.016506	0.017707	0.027426	0.022576	0.019985
	other conifers	0.029288	0.028072	0.027831	0.025951	0.026184	0.022137	0.022710	0.024371	0.037744	0.031060	0.027535
	europaean beech	0.021065	0.020181	0.019998	0.018638	0.018797	0.015884	0.016289	0.017477	0.027059	0.022259	0.019765
	turkey oak	0.017395	0.016666	0.016517	0.015396	0.015529	0.013125	0.013460	0.014442	0.022361	0.018396	0.016329
	other oaks	0.018333	0.017567	0.017413	0.016234	0.016377	0.013846	0.014204	0.015223	0.023563	0.019384	0.017214
other broadleaves	0.022357	0.021420	0.021228	0.019787	0.019957	0.016866	0.017297	0.018559	0.028736	0.023641	0.020985	
coppices	europaean beech	0.024064	0.024107	0.026537	0.044793	0.054488	0.047131	0.047336	0.045577	0.065555	0.016859	0.039645
	sweet chestnut	0.029861	0.029958	0.033023	0.055811	0.067962	0.058857	0.059171	0.056959	0.081943	0.021096	0.049464
	hornbeams	0.023446	0.023500	0.025881	0.043703	0.053173	0.046016	0.046227	0.044450	0.063889	0.016440	0.038673
	other oaks	0.021564	0.021659	0.023899	0.040417	0.049228	0.042659	0.042895	0.041196	0.059200	0.015253	0.035797
	turkey oak	0.023546	0.023591	0.025972	0.043843	0.053332	0.046138	0.046340	0.044575	0.064076	0.016482	0.038790
	evergreen oaks	0.019085	0.019120	0.021048	0.035529	0.043217	0.037385	0.037547	0.036134	0.051956	0.013363	0.031438
	other broadleaves	0.023810	0.023911	0.026382	0.044622	0.054373	0.047125	0.047405	0.045612	0.065619	0.016905	0.039577
	conifers	0.032992	0.033079	0.036442	0.061559	0.074933	0.064864	0.065188	0.062773	0.090314	0.023242	0.054539
plantations	eucalyptuses coppices	0.039107	0.039605	0.037007	0.032809	0.036979	0.019961	0.025105	0.025994	0.010752	0.000000	0.026732
	other broadleaves coppices	0.036469	0.036921	0.034488	0.030567	0.034445	0.018587	0.023375	0.024216	0.010015	0.000000	0.024908
	poplars stands	0.077819	0.079747	0.074465	0.066109	0.074255	0.040233	0.050268	0.050370	0.021393	0.000000	0.053466
	other broadleaves stands	0.034506	0.034946	0.032620	0.028901	0.032488	0.017483	0.021898	0.022813	0.009437	0.000000	0.023509
	conifers stands	0.045039	0.045666	0.042676	0.037852	0.042597	0.022950	0.028775	0.029997	0.012419	0.000000	0.030797
	others	0.039885	0.040408	0.037733	0.033445	0.037610	0.020251	0.025374	0.026420	0.010930	0.000000	0.027206
stands	0.022999	0.022050	0.021866	0.020393	0.020581	0.017404	0.017859	0.019167	0.029690	0.024436	0.021644	
coppices	0.025187	0.025291	0.027903	0.047196	0.057518	0.049852	0.050157	0.048315	0.069555	0.017920	0.041889	
plantation	0.041589	0.042154	0.039343	0.034856	0.039173	0.021088	0.026401	0.027425	0.011368	0.000000	0.028340	

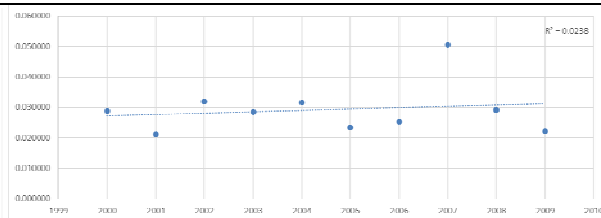
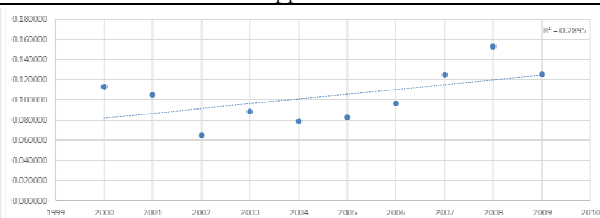
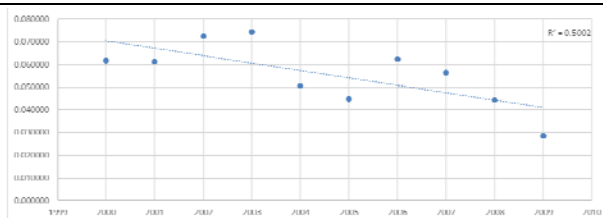
Stands Coppices Plantation



Harvesting ratios - Calabria

Campania region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	0.100424	0.099622	0.118114	0.121200	0.082284	0.072824	0.101504	0.091880	0.072192	0.046156	0.090620
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.079744	0.079227	0.094059	0.096632	0.065693	0.058218	0.081236	0.073595	0.057886	0.037044	0.072333
	mediterranean pines	0.061872	0.061458	0.072948	0.074928	0.050931	0.045130	0.062963	0.057031	0.044853	0.028700	0.056081
	other conifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	european beech	0.062248	0.061728	0.073157	0.075039	0.050928	0.045059	0.062784	0.056811	0.044625	0.028522	0.056090
	turkey oak	0.051749	0.051311	0.060806	0.062364	0.042322	0.037441	0.052164	0.047198	0.037070	0.023692	0.046612
	other oaks	0.053729	0.053299	0.063189	0.064833	0.044020	0.038964	0.054309	0.049152	0.038623	0.024694	0.048481
other broadleaves	0.065895	0.065356	0.077472	0.079480	0.053951	0.047741	0.066532	0.060213	0.047303	0.030239	0.059418	
coppices	european beech	0.107865	0.099784	0.061423	0.084014	0.074753	0.078299	0.090912	0.117712	0.144158	0.118039	0.097696
	sweet chestnut	0.132926	0.123106	0.075923	0.103959	0.092631	0.097153	0.112928	0.146053	0.178943	0.146628	0.121025
	hornbeams	0.104686	0.096812	0.059638	0.081558	0.072595	0.076063	0.088327	0.114042	0.139574	0.114267	0.094756
	other oaks	0.097551	0.090255	0.055591	0.076050	0.067695	0.070933	0.082384	0.106561	0.130489	0.106857	0.088437
	turkey oak	0.104906	0.097012	0.059741	0.081694	0.072700	0.076159	0.088427	0.114245	0.139829	0.114466	0.094918
	evergreen oaks	0.085167	0.078765	0.048494	0.066316	0.059008	0.061809	0.071762	0.092784	0.113576	0.092975	0.077066
	other broadleaves	0.106113	0.098324	0.060680	0.083124	0.074105	0.077760	0.090422	0.116911	0.143266	0.117424	0.096813
	conifers	0.147515	0.136540	0.084129	0.115137	0.102523	0.107462	0.124851	0.161572	0.197924	0.162131	0.133978
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.025105	0.018573	0.028002	0.025236	0.027837	0.020613	0.022328	0.045944	0.025436	0.019226	0.025830
	poplars stands	0.054166	0.040207	0.060778	0.054215	0.060078	0.044476	0.048127	0.094703	0.055127	0.041541	0.055342
	other broadleaves stands	0.023950	0.017543	0.026508	0.023684	0.026274	0.019413	0.020996	0.042031	0.024231	0.018389	0.024302
	conifers stands	0.031256	0.022923	0.034676	0.031017	0.034446	0.025479	0.027585	0.055269	0.031893	0.024224	0.031877
	others	0.027672	0.020281	0.030659	0.027405	0.030413	0.022481	0.024323	0.048690	0.028077	0.021309	0.028131
stands	0.061689	0.061197	0.072557	0.074451	0.050549	0.044740	0.062362	0.056448	0.044355	0.028360	0.055671	
coppices	0.113112	0.104814	0.064673	0.088600	0.078984	0.082878	0.096378	0.124705	0.152852	0.125299	0.103229	
plantation	0.028816	0.021130	0.031919	0.028512	0.031620	0.023363	0.025264	0.050524	0.029136	0.022100	0.029239	

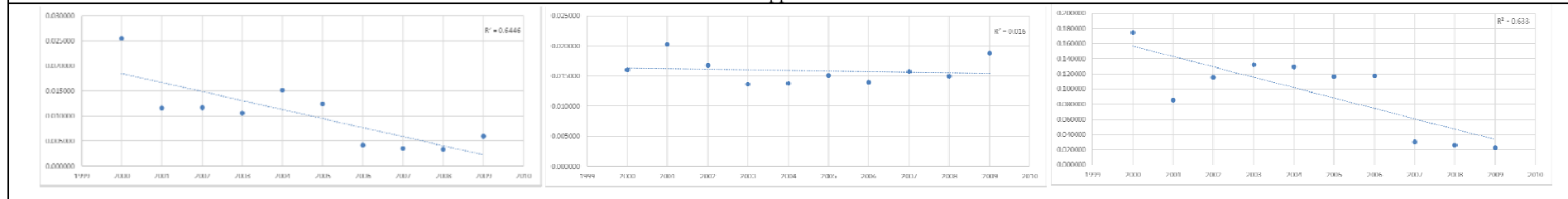
Stands Coppices Plantation



Harvesting ratios - Campania

Emilia_Romagna region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.038354	0.017526	0.017586	0.015850	0.022804	0.018754	0.006326	0.005404	0.005150	0.008937	0.015669
	silver fir	0.037854	0.017282	0.017327	0.015603	0.022432	0.018434	0.006214	0.005305	0.005053	0.008764	0.015427
	larches	0.028040	0.012797	0.012825	0.011545	0.016592	0.013631	0.004593	0.003919	0.003731	0.006469	0.011414
	mountain pines	0.031213	0.014244	0.014276	0.012852	0.018470	0.015174	0.005114	0.004365	0.004157	0.007208	0.012707
	mediterranean pines	0.024214	0.011049	0.011073	0.009967	0.014323	0.011766	0.003965	0.003384	0.003223	0.005589	0.009855
	other conifers	0.033418	0.015237	0.015259	0.013726	0.019713	0.016185	0.005451	0.004650	0.004425	0.007669	0.013573
	european beech	0.023922	0.010903	0.010913	0.009813	0.014088	0.011563	0.003893	0.003319	0.003158	0.005471	0.009704
	turkey oak	0.020035	0.009128	0.009135	0.008212	0.011787	0.009671	0.003255	0.002775	0.002640	0.004572	0.008121
	other oaks	0.020899	0.009528	0.009540	0.008580	0.012321	0.010115	0.003406	0.002906	0.002766	0.004794	0.008485
other broadleaves	0.025550	0.011644	0.011655	0.010479	0.015043	0.012346	0.004156	0.003544	0.003371	0.005840	0.010363	
coppices	european beech	0.015604	0.019680	0.016320	0.013191	0.013346	0.014599	0.013461	0.015214	0.014409	0.018037	0.015386
	sweet chestnut	0.019224	0.024278	0.020159	0.016313	0.016523	0.018093	0.016700	0.018891	0.017905	0.022431	0.019052
	hornbeams	0.015321	0.019325	0.016028	0.012955	0.013108	0.014339	0.013222	0.014944	0.014153	0.017716	0.015111
	other oaks	0.014120	0.017822	0.014790	0.011961	0.012109	0.013252	0.012226	0.013824	0.013097	0.016400	0.013960
	turkey oak	0.015312	0.019314	0.016018	0.012946	0.013099	0.014328	0.013212	0.014931	0.014140	0.017698	0.015100
	evergreen oaks	0.012178	0.015370	0.012755	0.010315	0.010441	0.011428	0.010542	0.011919	0.011292	0.014139	0.012038
	other broadleaves	0.015591	0.019700	0.016366	0.013250	0.013426	0.014708	0.013580	0.015370	0.014576	0.018268	0.015484
	conifers	0.021428	0.027048	0.022448	0.018156	0.018381	0.020120	0.018563	0.020989	0.019886	0.024902	0.021192
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.104798	0.051174	0.069385	0.079629	0.078119	0.070394	0.070898	0.018236	0.015908	0.013727	0.057227
	poplars stands	0.225251	0.110360	0.149453	0.171169	0.167807	0.151222	0.152277	0.039433	0.034491	0.029745	0.123121
	other broadleaves stands	0.100464	0.048901	0.066201	0.075943	0.074466	0.067030	0.067461	0.017253	0.014990	0.012885	0.054559
	conifers stands	0.131058	0.063862	0.086546	0.099380	0.097542	0.087884	0.088530	0.022663	0.019710	0.016958	0.071413
	others	0.115860	0.056419	0.076399	0.087656	0.085967	0.077400	0.077915	0.019942	0.017339	0.014914	0.062981
stands	0.025509	0.011652	0.011689	0.010532	0.015150	0.012458	0.004202	0.003590	0.003421	0.005937	0.010414	
coppices	0.016028	0.020247	0.016817	0.013613	0.013793	0.015109	0.013951	0.015789	0.014973	0.018767	0.015909	
plantation	0.174636	0.085334	0.115464	0.132241	0.129595	0.116680	0.117403	0.030215	0.026285	0.022559	0.095041	

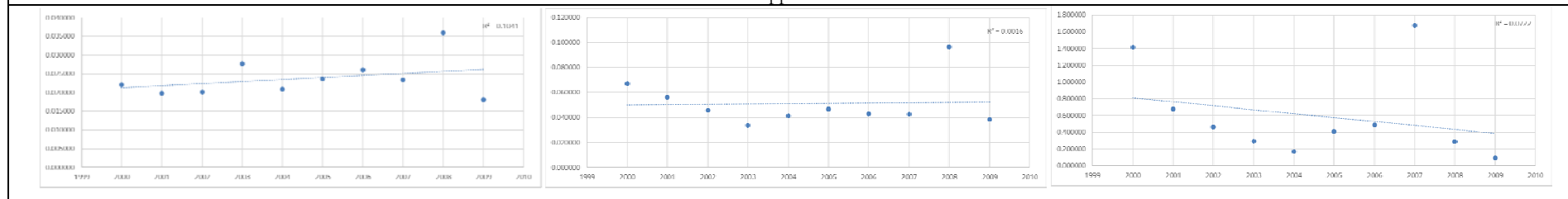
Stands Coppices Plantation



Harvesting ratios – Emilia Romagna

Friuli_Venezia_Giulia region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.030280	0.027101	0.027552	0.037982	0.028747	0.032405	0.035809	0.032133	0.049522	0.024858	0.032639
	silver fir	0.029164	0.026102	0.026535	0.036580	0.027685	0.031207	0.034484	0.030944	0.047688	0.023937	0.031432
	larches	0.021713	0.019434	0.019758	0.027239	0.020616	0.023241	0.025683	0.023048	0.035521	0.017831	0.023408
	mountain pines	0.023269	0.020832	0.021183	0.029212	0.022114	0.024935	0.027561	0.024737	0.038132	0.019144	0.025112
	mediterranean pines	0.017822	0.015972	0.016256	0.022431	0.016996	0.019179	0.021212	0.019055	0.029394	0.014769	0.019309
	other conifers	0.024569	0.022005	0.022386	0.030878	0.023384	0.026376	0.029163	0.026185	0.040377	0.020279	0.026560
	european beech	0.017699	0.015843	0.016109	0.022211	0.016812	0.018955	0.020948	0.018801	0.028978	0.014548	0.019090
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other oaks	0.015352	0.013748	0.013984	0.019283	0.014602	0.016468	0.018204	0.016345	0.025202	0.012658	0.016585
other broadleaves	0.018768	0.016803	0.017086	0.023560	0.017836	0.020110	0.022228	0.019951	0.030755	0.015441	0.020254	
coppices	european beech	0.062144	0.051874	0.042159	0.030883	0.038017	0.042908	0.039424	0.039136	0.088402	0.035302	0.047025
	sweet chestnut	0.077982	0.065166	0.053023	0.038886	0.047922	0.054139	0.049791	0.049478	0.111807	0.044691	0.059289
	hornbeams	0.061992	0.051719	0.042015	0.030768	0.037865	0.042721	0.039241	0.038950	0.087916	0.035105	0.046829
	other oaks	0.057244	0.047786	0.038842	0.028459	0.035039	0.039552	0.036346	0.036089	0.081500	0.032554	0.043341
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.063004	0.052651	0.042843	0.031425	0.038731	0.043759	0.040248	0.040002	0.090366	0.036127	0.047916
	conifers	0.086922	0.072572	0.058995	0.043227	0.053227	0.060088	0.055222	0.054833	0.123862	0.049475	0.065842
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.832153	0.396270	0.264867	0.167979	0.094280	0.228399	0.269293	0.937098	0.160128	0.052171	0.340264
	poplars stands	1.714416	0.820108	0.551619	0.352224	0.199931	0.486558	0.575357	1.982495	0.340996	0.111933	0.713564
	other broadleaves stands	0.815203	0.386744	0.258413	0.164314	0.092042	0.222729	0.262438	0.905496	0.154865	0.050523	0.331277
	conifers stands	1.110435	0.527090	0.351123	0.222191	0.123715	0.298820	0.351861	1.230177	0.209175	0.067754	0.449234
others	0.935728	0.444432	0.296983	0.188771	0.105692	0.255869	0.301663	1.044667	0.178478	0.058165	0.381045	
stands	0.022082	0.019752	0.020069	0.027651	0.020916	0.023566	0.026028	0.023345	0.035962	0.018043	0.023742	
coppices	0.067171	0.056121	0.045655	0.033479	0.041254	0.046603	0.042858	0.042588	0.096229	0.038465	0.051042	
plantation	1.414850	0.680280	0.459591	0.294717	0.167378	0.408063	0.483446	1.672825	0.287986	0.094524	0.596366	

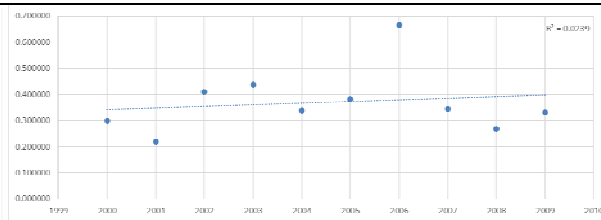
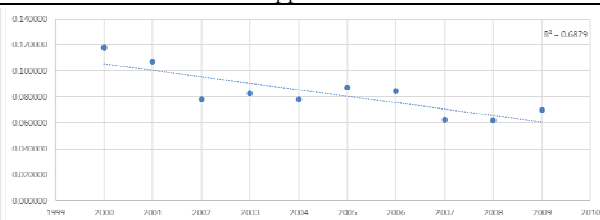
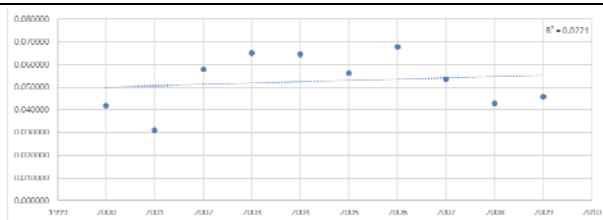
Stands Coppices Plantation



Harvesting ratios – Friuli Venezia Giulia

Lazio region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.054341	0.040332	0.075409	0.084625	0.084233	0.073106	0.088508	0.069627	0.055830	0.059719	0.068573
	mediterranean pines	0.041838	0.031060	0.058086	0.065191	0.064900	0.056336	0.068215	0.053668	0.043041	0.046046	0.052838
	other conifers	0.057948	0.042989	0.080346	0.090147	0.089704	0.077828	0.094201	0.074092	0.059391	0.063508	0.073015
	european beech	0.042072	0.031187	0.058247	0.065314	0.064952	0.056317	0.068123	0.053552	0.042900	0.045847	0.052851
	turkey oak	0.034937	0.025897	0.048367	0.054236	0.053935	0.046763	0.056565	0.044465	0.035619	0.038064	0.043885
	other oaks	0.036139	0.026803	0.050081	0.056165	0.055871	0.048463	0.058641	0.046108	0.036953	0.039508	0.045473
other broadleaves	0.044291	0.032842	0.061357	0.068819	0.068456	0.059371	0.071836	0.056484	0.045260	0.048382	0.055710	
coppices	european beech	0.113295	0.102615	0.074709	0.078756	0.074503	0.082961	0.080343	0.059192	0.058736	0.066057	0.079117
	sweet chestnut	0.140660	0.127603	0.093315	0.098544	0.093481	0.104238	0.101163	0.074600	0.074273	0.083694	0.099157
	hornbeams	0.110782	0.100311	0.073044	0.076996	0.072846	0.081117	0.078569	0.057888	0.057465	0.064646	0.077366
	other oaks	0.101584	0.092095	0.067145	0.070858	0.067113	0.074807	0.072529	0.053485	0.053145	0.059839	0.071260
	turkey oak	0.110289	0.099822	0.072705	0.076631	0.072513	0.080746	0.078225	0.057637	0.057244	0.064419	0.077023
	evergreen oaks	0.089807	0.081344	0.059226	0.062438	0.059069	0.065778	0.063706	0.046937	0.046579	0.052388	0.062727
	other broadleaves	0.112233	0.101821	0.074281	0.078433	0.074325	0.082888	0.080398	0.059313	0.058952	0.066395	0.078904
	conifers	0.155719	0.141158	0.102853	0.108511	0.102726	0.114472	0.110936	0.081786	0.081205	0.091381	0.109075
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.241320	0.176473	0.330530	0.353487	0.272121	0.307190	0.534421	0.276117	0.212179	0.261257	0.296510
	poplars stands	0.515187	0.379930	0.704509	0.739762	0.575068	0.647505	1.105628	0.571235	0.452479	0.558972	0.625027
	other broadleaves stands	0.238021	0.173220	0.324405	0.347612	0.266526	0.299598	0.523439	0.269126	0.207681	0.254602	0.290423
	conifers stands	0.311683	0.227100	0.426236	0.457929	0.351707	0.396119	0.695166	0.358018	0.276407	0.339206	0.383957
	others	0.272571	0.198460	0.371590	0.398058	0.305307	0.343287	0.599625	0.308484	0.238235	0.292243	0.332786
stands	0.041711	0.030945	0.057841	0.064905	0.064594	0.056048	0.067847	0.053371	0.042786	0.045758	0.052581	
coppices	0.118131	0.107173	0.078243	0.082609	0.078295	0.087291	0.084662	0.062431	0.062066	0.069885	0.083079	
plantation	0.298880	0.218475	0.409198	0.438278	0.338074	0.381337	0.665977	0.344533	0.268292	0.330266	0.369331	

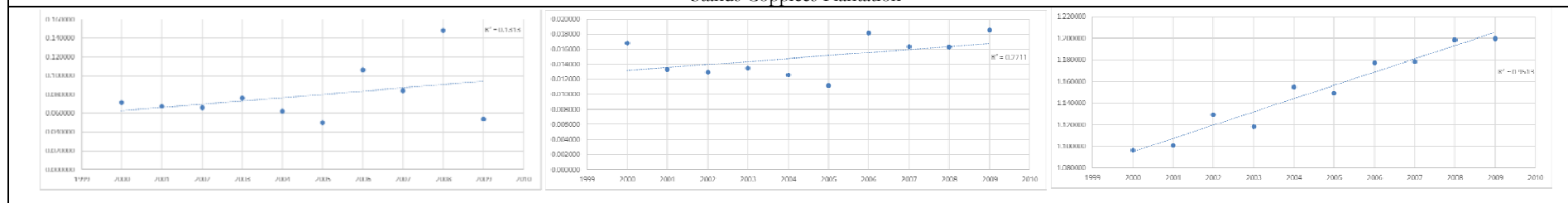
Stands Coppices Plantation



Harvesting ratios – Lazio

Liguria region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.104578	0.098669	0.096814	0.112127	0.091755	0.074272	0.158012	0.124733	0.220373	0.080436	0.116177
	silver fir	0.105951	0.099725	0.097624	0.112836	0.092151	0.074456	0.158131	0.124621	0.219842	0.080123	0.116546
	larches	0.076719	0.072297	0.070849	0.081975	0.067007	0.054190	0.115184	0.090847	0.160399	0.058495	0.084796
	mountain pines	0.087336	0.082169	0.080371	0.092904	0.075823	0.061258	0.130063	0.102476	0.180831	0.065872	0.095910
	mediterranean pines	0.065694	0.061894	0.060661	0.070151	0.057345	0.046361	0.098525	0.077693	0.137089	0.049997	0.072541
	other conifers	0.091124	0.085782	0.083986	0.097087	0.079298	0.064080	0.136110	0.107279	0.189272	0.068988	0.100301
	europaean beech	0.065429	0.061561	0.060236	0.069610	0.056826	0.045904	0.097464	0.076791	0.135454	0.049351	0.071863
	turkey oak	0.054629	0.051386	0.050272	0.058073	0.047400	0.038278	0.081254	0.064004	0.112855	0.041112	0.059926
	other oaks	0.056699	0.053363	0.052237	0.060369	0.049301	0.039830	0.084586	0.066657	0.117572	0.042849	0.062346
other broadleaves	0.069813	0.065682	0.064269	0.074258	0.060620	0.048964	0.103954	0.081899	0.144437	0.052624	0.076652	
coppices	europaean beech	0.014927	0.011814	0.011418	0.011877	0.011052	0.009829	0.015917	0.014277	0.014203	0.016194	0.013151
	sweet chestnut	0.018755	0.014866	0.014391	0.014989	0.013969	0.012439	0.020168	0.018104	0.018026	0.020569	0.016627
	hornbeams	0.014862	0.011763	0.011371	0.011829	0.011010	0.009793	0.015861	0.014224	0.014149	0.016130	0.013099
	other oaks	0.013731	0.010882	0.010534	0.010968	0.010222	0.009100	0.014751	0.013233	0.013171	0.015021	0.012161
	turkey oak	0.014861	0.011762	0.011369	0.011825	0.011006	0.009788	0.015851	0.014215	0.014139	0.016118	0.013093
	evergreen oaks	0.011974	0.009477	0.009161	0.009531	0.008870	0.007889	0.012777	0.011460	0.011400	0.012997	0.010554
	other broadleaves	0.015129	0.011998	0.011621	0.012108	0.011291	0.010058	0.016315	0.014646	0.014586	0.016645	0.013440
	conifers	0.020791	0.016466	0.015926	0.016576	0.015436	0.013736	0.022257	0.019971	0.019875	0.022669	0.018370
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.900146	0.894500	0.907799	0.891359	0.915097	0.905446	0.911847	0.900091	0.914678	0.910332	0.905129
	poplars stands	1.800277	1.814523	1.827807	1.840216	1.851812	1.862635	1.872716	1.880941	1.888540	1.895539	1.853501
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.138711	1.109766	1.156353	1.070618	1.135792	1.063939	1.155443	1.144477	1.162503	1.131488	1.126909
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.071452	0.067222	0.065779	0.075998	0.062044	0.050113	0.106396	0.083824	0.147826	0.053861	0.078451	
coppices	0.016817	0.013339	0.012922	0.013469	0.012561	0.011192	0.018159	0.016310	0.016249	0.018551	0.014957	
plantation	1.096357	1.100991	1.129418	1.118097	1.154772	1.149343	1.177417	1.178233	1.198475	1.199549	1.150265	

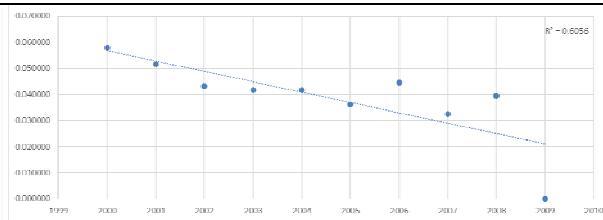
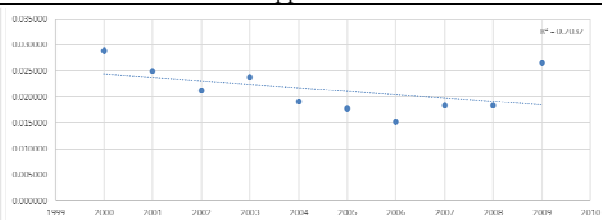
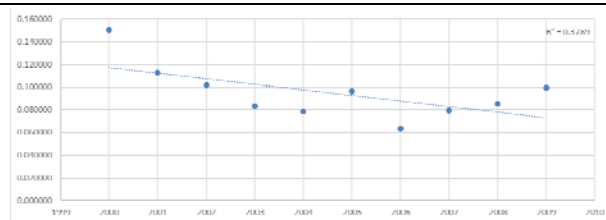
Stands Coppices Plantation



Harvesting ratios – Liguria

Lombardia region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.182618	0.136541	0.123670	0.101020	0.095226	0.117391	0.077232	0.096211	0.103632	0.121244	0.115479
	silver fir	0.176158	0.131703	0.119281	0.097429	0.091836	0.113205	0.074474	0.092770	0.099920	0.116896	0.111367
	larches	0.131086	0.098020	0.088787	0.072529	0.068372	0.084292	0.055456	0.069087	0.074419	0.087071	0.082912
	mountain pines	0.141028	0.105480	0.095568	0.078082	0.073618	0.090778	0.059730	0.074422	0.080179	0.093829	0.089271
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	0.147947	0.110694	0.100328	0.082014	0.077368	0.095437	0.062835	0.078328	0.084422	0.098824	0.093820
	european beech	0.106496	0.079644	0.072153	0.058950	0.055580	0.068531	0.045095	0.056187	0.060532	0.070833	0.067400
	turkey oak	0.088410	0.066108	0.059883	0.048924	0.046128	0.056872	0.037426	0.046632	0.050237	0.058781	0.055940
	other oaks	0.091274	0.068302	0.061916	0.050624	0.047766	0.058931	0.038809	0.048388	0.052162	0.061068	0.057924
other broadleaves	0.113105	0.084588	0.076634	0.062617	0.059045	0.072807	0.047916	0.059708	0.064331	0.075281	0.071603	
coppices	european beech	0.026564	0.022831	0.019463	0.021729	0.017425	0.016164	0.013851	0.016679	0.016622	0.024061	0.019539
	sweet chestnut	0.033125	0.028508	0.024333	0.027198	0.021837	0.020279	0.017395	0.020968	0.020916	0.030302	0.024486
	hornbeams	0.026341	0.022634	0.019290	0.021530	0.017263	0.016011	0.013718	0.016516	0.016457	0.023818	0.019358
	other oaks	0.024292	0.020884	0.017808	0.019886	0.015952	0.014801	0.012686	0.015280	0.015231	0.022052	0.017887
	turkey oak	0.026256	0.022562	0.019230	0.021465	0.017211	0.015963	0.013677	0.016468	0.016410	0.023751	0.019299
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.026861	0.023118	0.019734	0.022059	0.017712	0.016451	0.014113	0.017013	0.016972	0.024586	0.019862
	conifers	0.036853	0.031686	0.027022	0.030179	0.024210	0.022466	0.019257	0.023197	0.023124	0.033483	0.027148
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.030077	0.026861	0.022470	0.021653	0.021649	0.018730	0.023077	0.016878	0.020464	0.000000	0.020186
	poplars stands	0.063419	0.056752	0.047462	0.045884	0.045933	0.039780	0.049071	0.035889	0.043567	0.000000	0.042776
	other broadleaves stands	0.028492	0.025366	0.021169	0.020362	0.020320	0.017564	0.021614	0.015786	0.019144	0.000000	0.018982
	conifers stands	0.037189	0.033149	0.027697	0.026672	0.026648	0.023059	0.028407	0.020770	0.025216	0.000000	0.024881
	others	0.032939	0.029342	0.024500	0.023578	0.023540	0.020356	0.025060	0.018311	0.022214	0.000000	0.021984
stands	0.150726	0.112606	0.101912	0.083182	0.078353	0.096521	0.063455	0.078994	0.085030	0.099416	0.095020	
coppices	0.028950	0.024924	0.021282	0.023798	0.019115	0.017759	0.015241	0.018379	0.018341	0.026583	0.021437	
plantation	0.057714	0.051647	0.043201	0.041744	0.041767	0.036154	0.044566	0.032571	0.039510	0.000000	0.038887	

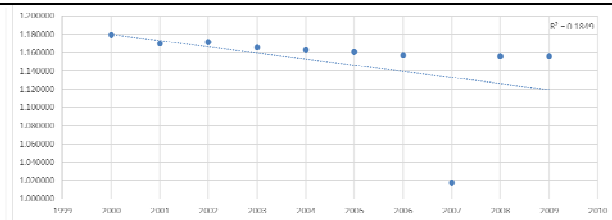
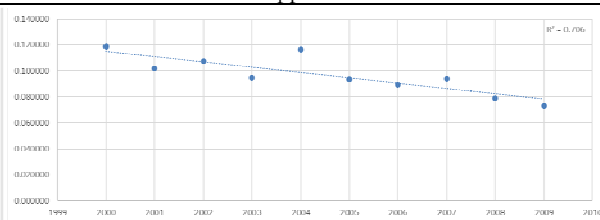
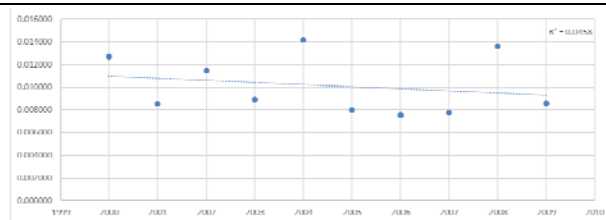
Stands Coppices Plantation



Harvesting ratios – Lombardia

Marche region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.019036	0.012803	0.017177	0.013315	0.021190	0.011931	0.011263	0.011605	0.020330	0.012794	0.015144
	silver fir	0.018277	0.012305	0.016523	0.012818	0.020413	0.011500	0.010862	0.011191	0.019616	0.012351	0.014586
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.015235	0.010251	0.013756	0.010665	0.016972	0.009556	0.009021	0.009284	0.016267	0.010238	0.012125
	mediterranean pines	0.011873	0.007980	0.010699	0.008289	0.013183	0.007419	0.007000	0.007202	0.012614	0.007937	0.009420
	other conifers	0.016408	0.011018	0.014760	0.011425	0.018158	0.010211	0.009629	0.009910	0.017343	0.010904	0.012977
	european beech	0.011883	0.007972	0.010670	0.008253	0.013106	0.007364	0.006939	0.007141	0.012487	0.007845	0.009366
	turkey oak	0.009784	0.006567	0.008792	0.006802	0.010805	0.006073	0.005724	0.005889	0.010302	0.006475	0.007721
	other oaks	0.010221	0.006863	0.009192	0.007115	0.011308	0.006359	0.005996	0.006168	0.010795	0.006788	0.008080
other broadleaves	0.012478	0.008377	0.011219	0.008682	0.013795	0.007755	0.007311	0.007524	0.013164	0.008274	0.009858	
coppices	european beech	0.124763	0.106816	0.112898	0.099167	0.121878	0.097982	0.093375	0.097979	0.082044	0.075952	0.101285
	sweet chestnut	0.154203	0.132209	0.139927	0.123064	0.151440	0.121888	0.116283	0.122137	0.102362	0.094836	0.125835
	hornbeams	0.120777	0.103486	0.109456	0.096226	0.118326	0.095207	0.090806	0.095366	0.079948	0.074092	0.098369
	other oaks	0.111893	0.095949	0.101556	0.089341	0.109920	0.088492	0.084444	0.088725	0.074414	0.068990	0.091372
	turkey oak	0.122367	0.104751	0.110700	0.097231	0.119480	0.096054	0.091540	0.096060	0.080455	0.074498	0.099314
	evergreen oaks	0.098554	0.084394	0.089216	0.078382	0.096349	0.077475	0.073848	0.077506	0.064918	0.060113	0.080076
	other broadleaves	0.122338	0.105046	0.111325	0.098040	0.120761	0.097307	0.092934	0.097718	0.082002	0.076067	0.100354
	conifers	0.170485	0.146142	0.154646	0.135990	0.167316	0.134649	0.128441	0.134894	0.113048	0.104732	0.139034
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.939984	0.931289	0.927404	0.920626	0.918114	0.915310	0.912843	0.900873	0.914559	0.914833	0.919583
	poplars stands	1.981543	1.976503	1.972222	1.968575	1.965463	1.962807	1.960538	1.960857	1.961141	1.961395	1.967104
	other broadleaves stands	0.892760	0.879766	0.880174	0.873687	0.870821	0.869348	0.866607	0.718341	0.868684	0.869428	0.858962
	conifers stands	1.309635	1.280206	1.268386	1.246146	1.229698	1.216415	1.202858	0.989574	1.189606	1.185112	1.211764
	others	1.080758	1.064311	1.062544	1.051499	1.044336	1.038694	1.031616	0.851035	1.025139	1.022737	1.027267
stands	0.012676	0.008533	0.011457	0.008888	0.014154	0.007975	0.007533	0.007763	0.013610	0.008571	0.010116	
coppices	0.118665	0.101728	0.107652	0.094682	0.116488	0.093765	0.089466	0.093992	0.078816	0.073063	0.096832	
plantation	1.179336	1.169811	1.171820	1.165932	1.162847	1.160619	1.156953	1.017413	1.156324	1.156214	1.149727	

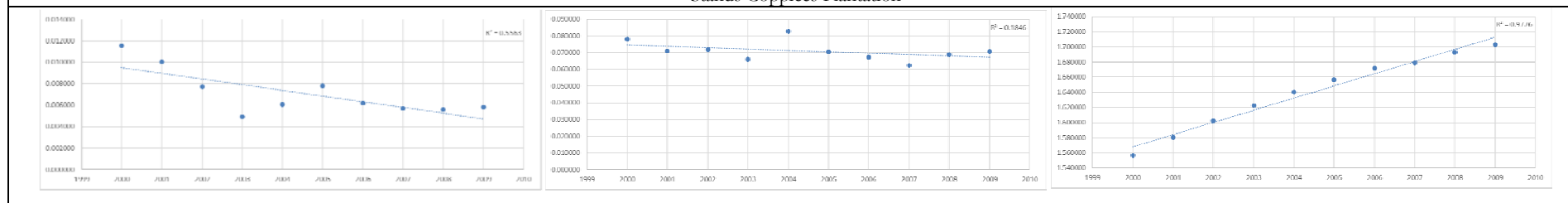
Stands Coppices Plantation



Harvesting ratios – Marche

Molise region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	0.018905	0.016375	0.012606	0.008097	0.009922	0.012760	0.010070	0.009263	0.009119	0.009492	0.011661
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.015146	0.013130	0.010115	0.006502	0.007973	0.010260	0.008102	0.007455	0.007342	0.007645	0.009367
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	european beech	0.011592	0.010040	0.007729	0.004964	0.006083	0.007822	0.006173	0.005678	0.005590	0.005818	0.007149
	turkey oak	0.009564	0.008285	0.006379	0.004098	0.005022	0.006459	0.005097	0.004689	0.004617	0.004805	0.005902
	other oaks	0.010058	0.008715	0.006712	0.004313	0.005287	0.006801	0.005369	0.004937	0.004860	0.005058	0.006211
	other broadleaves	0.012246	0.010609	0.008168	0.005247	0.006431	0.008271	0.006528	0.006006	0.005914	0.006156	0.007558
coppices	european beech	0.082303	0.074702	0.075555	0.069367	0.087028	0.073888	0.070538	0.065529	0.072101	0.074118	0.074513
	sweet chestnut	0.101137	0.091920	0.093094	0.085585	0.107503	0.091385	0.087352	0.081218	0.089448	0.092036	0.092068
	hornbeams	0.079924	0.072570	0.073429	0.067448	0.084635	0.071883	0.068653	0.063756	0.070146	0.072107	0.072455
	other oaks	0.073548	0.066902	0.067804	0.062375	0.078351	0.066621	0.063696	0.059163	0.065120	0.066969	0.067055
	turkey oak	0.080237	0.072827	0.073662	0.067641	0.084848	0.072043	0.068790	0.063858	0.070237	0.072180	0.072632
	evergreen oaks	0.064929	0.058938	0.059618	0.054745	0.068685	0.058322	0.055686	0.051724	0.056908	0.058498	0.058805
	other broadleaves	0.080692	0.073432	0.074456	0.068524	0.086139	0.073284	0.070103	0.065194	0.071823	0.073924	0.073757
	conifers	0.112470	0.102174	0.103431	0.095043	0.119329	0.101391	0.096870	0.090035	0.099121	0.101950	0.102182
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.903206	0.906932	0.911442	0.910725	0.911616	0.910473	0.912250	0.884770	0.904512	0.906810	0.906274
	poplars stands	1.792346	1.806118	1.818924	1.830859	1.841993	1.852377	1.862047	1.868970	1.875405	1.881376	1.843042
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.157120	1.158103	1.161024	1.161867	1.163216	1.163874	1.163835	1.146206	1.146679	1.154763	1.157669
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.011553	0.010009	0.007706	0.004951	0.006067	0.007804	0.006159	0.005666	0.005579	0.005808	0.007130	
coppices	0.077990	0.070855	0.071732	0.065926	0.082758	0.070321	0.067193	0.062408	0.068678	0.070614	0.070848	
plantation	1.556320	1.580342	1.602701	1.622150	1.640364	1.656697	1.672163	1.678870	1.692976	1.703245	1.640583	

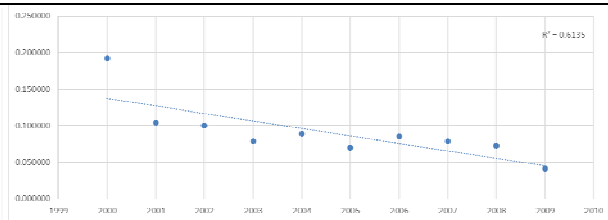
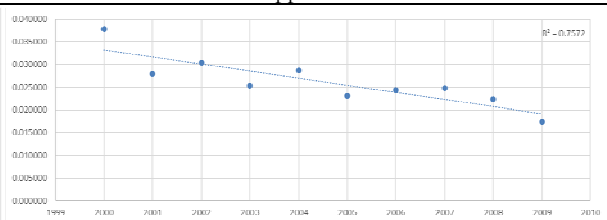
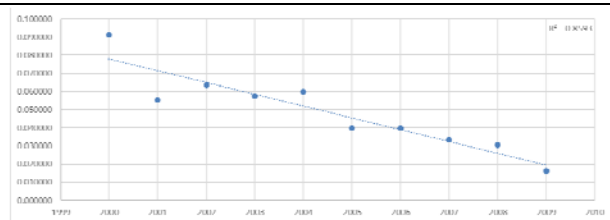
Stands Coppices Plantation



Harvesting ratios – Molise

Piemonte region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.129360	0.078293	0.090288	0.081333	0.084725	0.056419	0.056342	0.047216	0.043640	0.023009	0.069062
	silver fir	0.124954	0.075619	0.087196	0.078540	0.081808	0.054471	0.054392	0.045578	0.042122	0.022207	0.066689
	larches	0.093097	0.056345	0.064977	0.058533	0.060973	0.040600	0.040542	0.033971	0.031395	0.016550	0.049698
	mountain pines	0.100349	0.060741	0.070057	0.063117	0.065757	0.043788	0.043729	0.036642	0.033863	0.017851	0.053589
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	0.104818	0.063499	0.073290	0.066075	0.068886	0.045910	0.045885	0.038485	0.035601	0.018786	0.056124
	european beech	0.075832	0.045901	0.052938	0.047693	0.049686	0.033089	0.033046	0.027694	0.025598	0.013497	0.040497
	turkey oak	0.062786	0.038007	0.043836	0.039494	0.041147	0.027406	0.027375	0.022947	0.021216	0.011190	0.033540
	other oaks	0.065266	0.039531	0.045617	0.041119	0.042861	0.028563	0.028545	0.023942	0.022148	0.011688	0.034928
other broadleaves	0.080329	0.048633	0.056099	0.050549	0.052671	0.035085	0.035048	0.029382	0.027166	0.014329	0.042929	
coppices	european beech	0.034182	0.025238	0.027374	0.022770	0.025708	0.020739	0.021846	0.022125	0.019936	0.015481	0.023540
	sweet chestnut	0.042574	0.031490	0.034206	0.028495	0.032218	0.026027	0.027453	0.027843	0.025126	0.019541	0.029497
	hornbeams	0.033694	0.024886	0.026997	0.022461	0.025366	0.020469	0.021568	0.021853	0.019703	0.015310	0.023231
	other oaks	0.031037	0.022941	0.024904	0.020733	0.023428	0.018916	0.019941	0.020215	0.018233	0.014173	0.021452
	turkey oak	0.033778	0.024942	0.027051	0.022501	0.025406	0.020497	0.021593	0.021874	0.019717	0.015318	0.023268
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.034319	0.025393	0.027591	0.022990	0.026002	0.021011	0.022168	0.022491	0.020304	0.015798	0.023807
	conifers	0.047353	0.034989	0.037974	0.031607	0.035709	0.028825	0.030383	0.030792	0.027767	0.021580	0.032698
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.109092	0.058816	0.056481	0.044376	0.049799	0.039284	0.048048	0.044334	0.041089	0.023408	0.051473
	poplars stands	0.231693	0.125762	0.120863	0.095038	0.107034	0.084310	0.103159	0.094939	0.088078	0.050127	0.110100
	other broadleaves stands	0.107229	0.057598	0.054936	0.042959	0.047977	0.037585	0.045788	0.041990	0.038779	0.021979	0.049682
	conifers stands	0.140570	0.075505	0.072020	0.056325	0.062917	0.049299	0.060079	0.055112	0.050916	0.028869	0.065161
	others	0.122880	0.066087	0.063106	0.049402	0.055228	0.043308	0.052804	0.048466	0.044797	0.025413	0.057149
stands	0.091504	0.055358	0.063814	0.057463	0.059838	0.039832	0.039764	0.033312	0.030780	0.016224	0.048789	
coppices	0.037788	0.027959	0.030381	0.025317	0.028635	0.023140	0.024416	0.024771	0.022360	0.017395	0.026216	
plantation	0.192307	0.104467	0.100462	0.079037	0.088917	0.069968	0.085501	0.078574	0.072736	0.041290	0.091326	

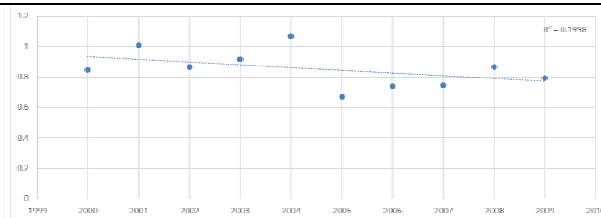
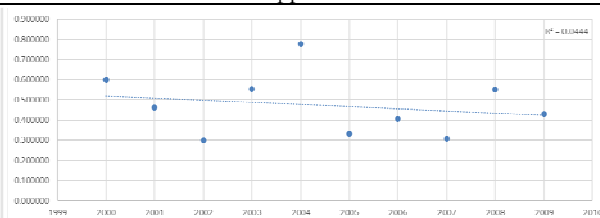
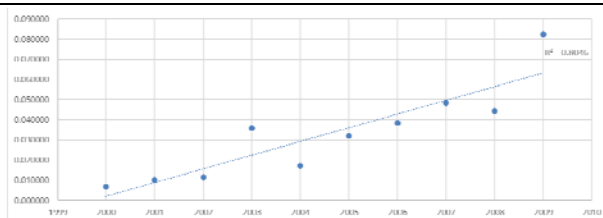
Stands Coppices Plantation



Harvesting ratios – Piemonte

Puglia region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.008737	0.013099	0.014871	0.046278	0.022188	0.041402	0.049864	0.062767	0.057496	0.107585	0.042429
	mediterranean pines	0.007063	0.010542	0.011916	0.036958	0.017664	0.032874	0.039502	0.049658	0.045415	0.084860	0.033645
	other conifers	0.008994	0.013493	0.015325	0.047729	0.022898	0.042760	0.051539	0.064971	0.059576	0.111595	0.043888
	europaean beech	0.006823	0.010180	0.011499	0.035656	0.017033	0.031691	0.038071	0.047915	0.043841	0.081967	0.032468
	turkey oak	0.005715	0.008529	0.009639	0.029893	0.014285	0.026582	0.031937	0.040147	0.036714	0.068596	0.027204
	other oaks	0.005984	0.008930	0.010091	0.031294	0.014953	0.027828	0.033436	0.042053	0.038468	0.071898	0.028494
other broadleaves	0.007394	0.011027	0.012452	0.038598	0.018433	0.034284	0.041173	0.051782	0.047356	0.088490	0.035099	
coppices	europaean beech	0.668661	0.515750	0.336031	0.621344	0.878470	0.372585	0.457663	0.344516	0.621019	0.482888	0.529893
	sweet chestnut	0.793192	0.608863	0.397732	0.731680	1.023723	0.436937	0.538581	0.406285	0.731472	0.572012	0.624048
	hornbeams	0.606729	0.464270	0.303687	0.556807	0.774219	0.331804	0.409670	0.309160	0.555485	0.435331	0.474716
	other oaks	0.578306	0.444284	0.289873	0.533772	0.748616	0.318812	0.392503	0.295893	0.532951	0.416189	0.455120
	turkey oak	0.621285	0.476053	0.310401	0.570334	0.798053	0.339950	0.418498	0.315441	0.568058	0.443716	0.486179
	evergreen oaks	0.506329	0.387890	0.252732	0.463882	0.647261	0.275635	0.339029	0.255214	0.458336	0.357925	0.394423
	other broadleaves	0.621897	0.478231	0.313246	0.577164	0.808382	0.345925	0.427240	0.322822	0.581958	0.455761	0.493263
	conifers	0.889823	0.685182	0.446985	0.825455	1.164547	0.495278	0.609800	0.460161	0.831732	0.649184	0.705815
plantations	eucalyptuses coppices	0.856448	0.895710	0.954637	0.948289	0.965127	0.956932	0.954553	0.782988	0.904799	0.959389	0.917887
	other broadleaves coppices	0.796518	0.833252	0.888257	0.882496	0.898284	0.890747	0.888603	0.729031	0.842535	0.893413	0.854314
	poplars stands	1.789775	1.803416	1.816091	1.827898	1.838909	1.849177	1.858742	1.866716	1.874117	1.880971	1.840581
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.102855	1.095671	1.152475	1.134387	1.149008	1.147946	1.155799	1.014857	1.084624	1.118583	1.115621
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.006857	0.010236	0.011571	0.035896	0.017158	0.031939	0.038385	0.048279	0.044168	0.082559	0.032705	
coppices	0.599773	0.460647	0.300723	0.553451	0.775080	0.330389	0.406911	0.306766	0.552147	0.431367	0.471725	
plantation	1.191614	1.233818	1.287591	1.302806	1.329845	1.343097	1.358473	1.290573	1.360591	1.397451	1.309586	

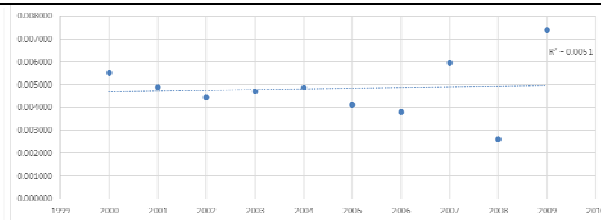
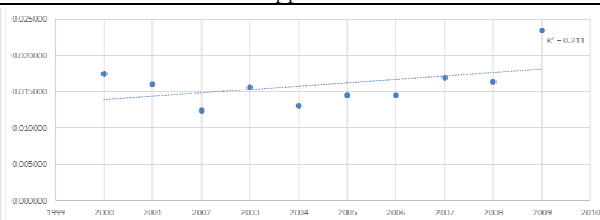
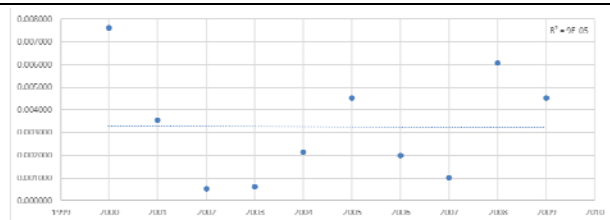
Stands Coppices Plantation



Harvesting ratios – Puglia

Sardegna region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.010423	0.004868	0.000706	0.000824	0.002938	0.006230	0.002727	0.001404	0.008381	0.006245	0.004475
	mediterranean pines	0.008146	0.003798	0.000550	0.000641	0.002282	0.004836	0.002115	0.001089	0.006494	0.004837	0.003479
	other conifers	0.011120	0.005183	0.000750	0.000874	0.003112	0.006591	0.002882	0.001483	0.008846	0.006588	0.004743
	european beech	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	turkey oak	0.006765	0.003147	0.000454	0.000529	0.001880	0.003976	0.001737	0.000893	0.005318	0.003956	0.002866
	other oaks	0.007142	0.003322	0.000480	0.000558	0.001983	0.004193	0.001831	0.000941	0.005604	0.004169	0.003022
other broadleaves	0.008532	0.003974	0.000575	0.000669	0.002381	0.005040	0.002203	0.001133	0.006754	0.005028	0.003629	
coppices	european beech	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	sweet chestnut	0.023103	0.021260	0.016515	0.020809	0.017321	0.019289	0.019280	0.022481	0.021794	0.031153	0.021300
	hornbeams	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other oaks	0.016871	0.015460	0.011965	0.015027	0.012470	0.013851	0.013809	0.016065	0.015537	0.022182	0.015324
	turkey oak	0.018241	0.016726	0.012952	0.016273	0.013510	0.015012	0.014973	0.017425	0.016862	0.024074	0.016605
	evergreen oaks	0.014876	0.013624	0.010538	0.013228	0.010973	0.012182	0.012141	0.014120	0.013652	0.019484	0.013482
	other broadleaves	0.018464	0.016964	0.013160	0.016565	0.013775	0.015329	0.015312	0.017846	0.017291	0.024719	0.016943
	conifers	0.025812	0.023655	0.018308	0.022997	0.019087	0.021203	0.021143	0.024600	0.023797	0.033979	0.023458
plantations	eucalyptuses coppices	0.005224	0.004654	0.004281	0.004462	0.004697	0.003963	0.003657	0.005617	0.002511	0.007052	0.004612
	other broadleaves coppices	0.004869	0.004336	0.003988	0.004156	0.004374	0.003691	0.003405	0.005229	0.002337	0.006565	0.004295
	poplars stands	0.010519	0.009354	0.008581	0.008927	0.009393	0.007924	0.007317	0.011218	0.005031	0.014042	0.009231
	other broadleaves stands	0.004614	0.004093	0.003711	0.003922	0.004066	0.003432	0.003171	0.004991	0.002178	0.006177	0.004036
	conifers stands	0.006020	0.005346	0.004854	0.005135	0.005330	0.004504	0.004166	0.006563	0.002867	0.008137	0.005292
	others	0.005327	0.004728	0.004290	0.004536	0.004705	0.003974	0.003674	0.005782	0.002525	0.007160	0.004670
stands	0.007616	0.003550	0.000514	0.000599	0.002133	0.004517	0.001976	0.001017	0.006067	0.004519	0.003251	
coppices	0.017444	0.016037	0.012448	0.015676	0.013042	0.014518	0.014506	0.016908	0.016383	0.023423	0.016039	
plantation	0.005519	0.004897	0.004445	0.004693	0.004870	0.004111	0.003799	0.005970	0.002610	0.007394	0.004831	

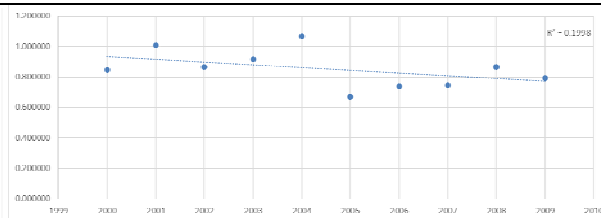
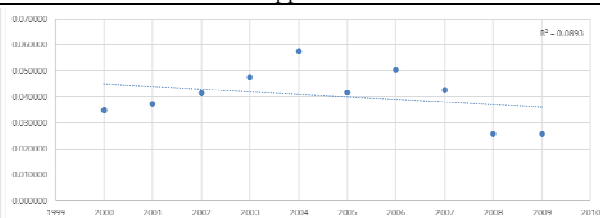
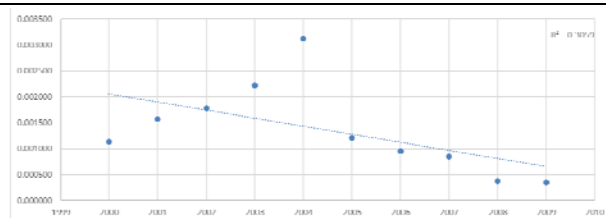
Stands Coppices Plantation



Harvesting ratios – Sardegna

Sicilia region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹	
stands	norway spruce	0.001799	0.002503	0.002831	0.003544	0.005007	0.001926	0.001534	0.001363	0.000609	0.000569	0.002168	
	silver fir	0.001812	0.002516	0.002840	0.003549	0.005006	0.001923	0.001529	0.001357	0.000605	0.000565	0.002170	
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	mountain pines	0.001478	0.002053	0.002318	0.002897	0.004087	0.001570	0.001249	0.001108	0.000494	0.000461	0.001772	
	mediterranean pines	0.001138	0.001581	0.001785	0.002232	0.003150	0.001210	0.000963	0.000854	0.000381	0.000356	0.001365	
	other conifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	european beech	0.001133	0.001571	0.001772	0.002213	0.003120	0.001197	0.000952	0.000844	0.000376	0.000351	0.001353	
	turkey oak	0.000943	0.001308	0.001476	0.001843	0.002597	0.000997	0.000792	0.000702	0.000313	0.000292	0.001126	
	other oaks	0.000986	0.001368	0.001544	0.001928	0.002719	0.001044	0.000830	0.000736	0.000328	0.000306	0.001179	
other broadleaves	0.001202	0.001667	0.001881	0.002349	0.003312	0.001271	0.001010	0.000896	0.000400	0.000373	0.001436		
coppices	european beech	0.034723	0.037036	0.041117	0.047187	0.057191	0.041311	0.049730	0.042141	0.025359	0.025430	0.040122	
	sweet chestnut	0.042831	0.045748	0.050859	0.058443	0.070915	0.051290	0.061816	0.052419	0.031591	0.031726	0.049764	
	hornbeams	0.034101	0.036364	0.040364	0.046313	0.056114	0.040528	0.048779	0.041312	0.024866	0.024940	0.039368	
	other oaks	0.031424	0.033539	0.037258	0.042778	0.051854	0.037480	0.045136	0.038220	0.023033	0.023129	0.036385	
	turkey oak	0.033982	0.036234	0.040217	0.046141	0.055899	0.040373	0.048591	0.041141	0.024769	0.024850	0.039220	
	evergreen oaks	0.027440	0.029270	0.032498	0.037298	0.045207	0.032657	0.039315	0.033313	0.020050	0.020110	0.031716	
	other broadleaves	0.034648	0.037008	0.041143	0.047273	0.057349	0.041475	0.049978	0.042361	0.025532	0.025642	0.040241	
	conifers	0.047733	0.050944	0.056591	0.064983	0.078801	0.056952	0.068595	0.058149	0.035013	0.035130	0.055289	
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	other broadleaves coppices	0.705807	0.837697	0.720082	0.758195	0.877376	0.547228	0.601389	0.602400	0.694154	0.632918	0.697725	
	poplars stands	1.406747	1.662603	1.439791	1.521657	1.761878	1.114448	1.236154	1.217752	1.446790	1.325835	1.413365	
	other broadleaves stands	0.691383	0.812228	0.691417	0.724206	0.831393	0.518947	0.570096	0.571643	0.655631	0.597967	0.666491	
	conifers stands	0.946406	1.126455	0.966857	1.021445	1.186292	0.737617	0.809032	0.811526	0.931011	0.846443	0.938308	
	others	0.794690	0.938822	0.802615	0.844690	0.976301	0.608452	0.668327	0.670895	0.770400	0.702025	0.777722	
stands	0.001133	0.001573	0.001775	0.002218	0.003128	0.001201	0.000955	0.000847	0.000378	0.000353	0.001356		
coppices	0.034947	0.037312	0.041464	0.047629	0.057772	0.041770	0.050325	0.042662	0.025704	0.025806	0.040539		
plantation	0.846440	1.006071	0.866974	0.918275	1.067673	0.671007	0.742020	0.746135	0.867020	0.793558	0.852517		

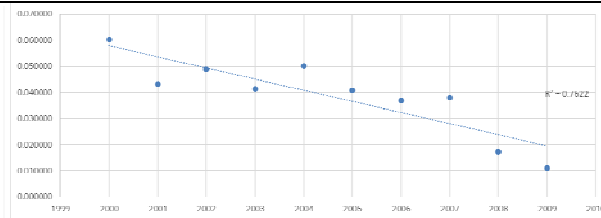
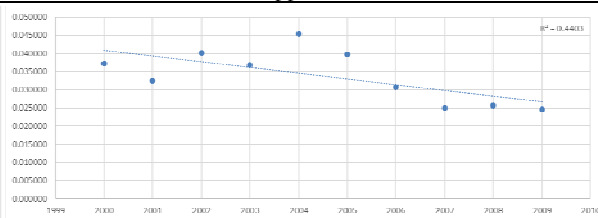
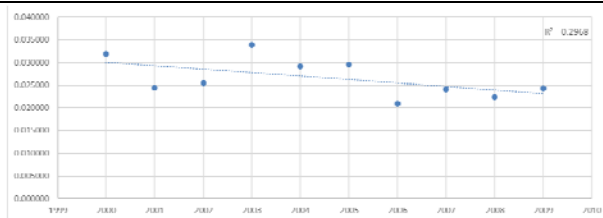
Stands Coppices Plantation



Harvesting ratios – Sicilia

Toscana region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.047849	0.036721	0.038396	0.051250	0.044027	0.044756	0.031704	0.036626	0.033938	0.037045	0.040231
	silver fir	0.048202	0.036917	0.038526	0.051335	0.044026	0.044685	0.031608	0.036464	0.033744	0.036788	0.040229
	larches	0.035047	0.026859	0.028046	0.037392	0.032084	0.032578	0.023052	0.026602	0.024624	0.026853	0.029314
	mountain pines	0.039452	0.030215	0.031532	0.042012	0.036030	0.036568	0.025866	0.029840	0.027614	0.030104	0.032923
	mediterranean pines	0.030560	0.023404	0.024423	0.032537	0.027903	0.028318	0.020031	0.023108	0.021384	0.023311	0.025498
	other conifers	0.042066	0.032201	0.033589	0.044739	0.038353	0.038911	0.027513	0.031728	0.029350	0.031988	0.035044
	european beech	0.030157	0.023076	0.024062	0.032040	0.027457	0.027848	0.019684	0.022692	0.020985	0.022865	0.025087
	turkey oak	0.025227	0.019299	0.020119	0.026784	0.022948	0.023269	0.016444	0.018953	0.017524	0.019090	0.020966
	other oaks	0.026375	0.020182	0.021045	0.028014	0.024007	0.024349	0.017213	0.019846	0.018356	0.019999	0.021939
other broadleaves	0.032144	0.024596	0.025646	0.034148	0.029263	0.029679	0.020978	0.024183	0.022363	0.024366	0.026737	
coppices	european beech	0.035303	0.030756	0.037912	0.034699	0.042738	0.037283	0.028768	0.023405	0.023929	0.022961	0.031775
	sweet chestnut	0.043688	0.038103	0.047017	0.043075	0.053105	0.046369	0.035812	0.029161	0.029838	0.028654	0.039482
	hornbeams	0.034639	0.030181	0.037206	0.034054	0.041945	0.036593	0.028240	0.022980	0.023499	0.022552	0.031189
	other oaks	0.031872	0.027792	0.034285	0.031402	0.038703	0.033785	0.026087	0.021239	0.021728	0.020862	0.028776
	turkey oak	0.034762	0.030281	0.037322	0.034154	0.042060	0.036687	0.028306	0.023028	0.023543	0.022589	0.031273
	evergreen oaks	0.027971	0.024370	0.030042	0.027498	0.033871	0.029550	0.022803	0.018553	0.018969	0.018203	0.025183
	other broadleaves	0.035207	0.030734	0.037953	0.034793	0.042919	0.037497	0.028979	0.023615	0.024181	0.023237	0.031911
	conifers	0.048519	0.042301	0.052179	0.047788	0.058897	0.051411	0.039693	0.032312	0.033053	0.031732	0.043788
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.051997	0.037487	0.042382	0.035766	0.043645	0.035582	0.032178	0.033067	0.014988	0.009616	0.033671
	poplars stands	0.112318	0.080866	0.091266	0.076841	0.093809	0.076486	0.069168	0.071068	0.032265	0.020709	0.072480
	other broadleaves stands	0.049265	0.035430	0.039981	0.033857	0.041090	0.033492	0.030265	0.031061	0.014049	0.009038	0.031753
	conifers stands	0.064291	0.046290	0.052295	0.044331	0.053859	0.043946	0.039752	0.040839	0.018491	0.011908	0.041600
	others	0.056918	0.040952	0.046231	0.039160	0.047542	0.038766	0.035043	0.035979	0.016282	0.010479	0.036735
stands	0.031813	0.024373	0.025445	0.033915	0.029096	0.029542	0.020903	0.024123	0.022331	0.024353	0.026589	
coppices	0.037245	0.032514	0.040157	0.036822	0.045435	0.039706	0.030693	0.025015	0.025620	0.024625	0.033783	
plantation	0.060185	0.043276	0.048819	0.041308	0.050150	0.040865	0.036919	0.037882	0.017134	0.011017	0.038756	

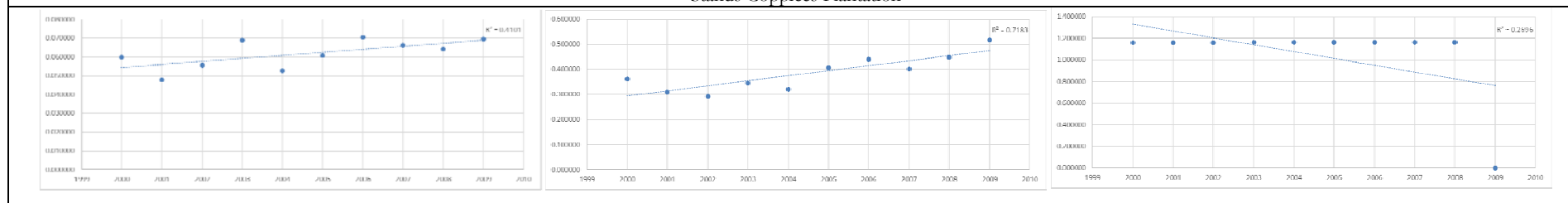
Stands Coppices Plantation



Harvesting ratios – Toscana

Trentino province inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.068800	0.054858	0.064007	0.079304	0.060876	0.070115	0.081163	0.076448	0.074111	0.080384	0.071007
	silver fir	0.066193	0.052779	0.061580	0.076296	0.058567	0.067455	0.078083	0.073546	0.071296	0.077330	0.068313
	larches	0.049306	0.039316	0.045876	0.056841	0.043635	0.050260	0.058181	0.054804	0.053131	0.057631	0.050898
	mountain pines	0.052824	0.042131	0.049172	0.060942	0.046794	0.053911	0.062426	0.058821	0.057042	0.061892	0.054595
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	0.055687	0.044436	0.051884	0.064324	0.049411	0.056945	0.065956	0.062156	0.060286	0.065420	0.057650
	european beech	0.039931	0.031848	0.037171	0.046067	0.035372	0.040751	0.047185	0.044456	0.043108	0.046768	0.041266
	turkey oak	0.033215	0.026491	0.030917	0.038312	0.029417	0.033888	0.039235	0.036960	0.035835	0.038872	0.034314
	other oaks	0.034430	0.027482	0.032095	0.039798	0.030579	0.035248	0.040831	0.038481	0.037324	0.040504	0.035677
	other broadleaves	0.042452	0.033863	0.039525	0.048987	0.037618	0.043341	0.050185	0.047283	0.045849	0.049743	0.043885
coppices	european beech	0.347374	0.298743	0.281697	0.333621	0.309265	0.392375	0.427401	0.389986	0.436093	0.505372	0.372193
	sweet chestnut	0.424814	0.365634	0.345141	0.408911	0.379392	0.481229	0.523939	0.478129	0.534545	0.619025	0.456076
	hornbeams	0.332690	0.285671	0.269139	0.318079	0.294582	0.372533	0.404267	0.368000	0.410174	0.473081	0.352822
	other oaks	0.309043	0.265642	0.250480	0.296341	0.274658	0.347771	0.377899	0.344330	0.384236	0.443848	0.329425
	turkey oak	0.337049	0.289270	0.272338	0.321759	0.297796	0.376604	0.408729	0.371948	0.414536	0.478228	0.356826
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.340417	0.293011	0.276621	0.327705	0.304061	0.385560	0.419601	0.382807	0.427773	0.494975	0.365253
	conifers	0.478769	0.411671	0.388181	0.459608	0.426056	0.540318	0.588286	0.536726	0.600107	0.695370	0.512509
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	poplars stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.159408	1.161173	1.161660	1.163347	1.164084	1.164748	1.165262	1.163570	1.162947	0.000000	1.046620
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.059809	0.047656	0.055568	0.068802	0.052781	0.060753	0.070282	0.066159	0.064098	0.069483	0.061539	
coppices	0.360175	0.309593	0.291878	0.345362	0.320045	0.405386	0.440692	0.401565	0.448197	0.517977	0.384087	
plantation	1.159408	1.161173	1.161660	1.163347	1.164084	1.164748	1.165262	1.163570	1.162947	0.000000	1.046620	

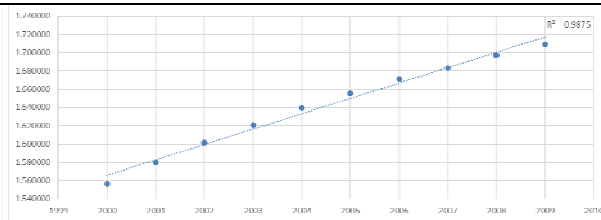
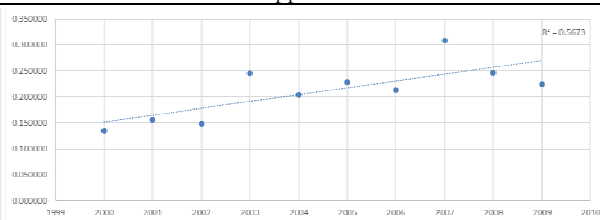
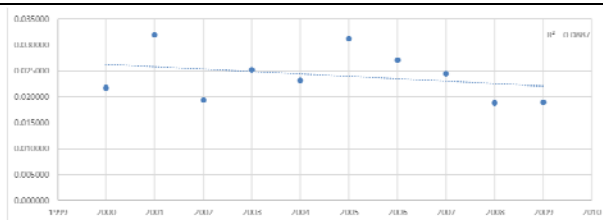
Stands Coppices Plantation



Harvesting ratios – Trentino

Umbria region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	silver fir	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	larches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	mountain pines	0.026123	0.038447	0.023234	0.030257	0.027759	0.037434	0.032501	0.029280	0.022563	0.022631	0.029023
	mediterranean pines	0.020240	0.029787	0.018001	0.023441	0.021506	0.029000	0.025178	0.022681	0.017478	0.017530	0.022484
	other conifers	0.027883	0.041013	0.024768	0.032236	0.029559	0.039842	0.034576	0.031136	0.023984	0.024046	0.030904
	europaean beech	0.019985	0.029383	0.017736	0.023075	0.021150	0.028498	0.024722	0.022255	0.017137	0.017176	0.022112
	turkey oak	0.016725	0.024582	0.014835	0.019295	0.017682	0.023819	0.020659	0.018593	0.014314	0.014344	0.018485
	other oaks	0.017444	0.025652	0.015490	0.020157	0.018481	0.024906	0.021611	0.019458	0.014987	0.015025	0.019321
other broadleaves	0.021315	0.031336	0.018915	0.024607	0.022554	0.030388	0.026362	0.023730	0.018272	0.018313	0.023579	
coppices	europaean beech	0.141905	0.165244	0.156949	0.259259	0.215568	0.241108	0.224847	0.325322	0.259906	0.237498	0.222760
	sweet chestnut	0.175119	0.204236	0.194270	0.321439	0.267679	0.299868	0.280065	0.405989	0.324872	0.297295	0.277083
	hornbeams	0.137572	0.160215	0.152217	0.251169	0.208779	0.233381	0.217600	0.314296	0.251011	0.229411	0.215565
	other oaks	0.126229	0.147242	0.140124	0.231177	0.192316	0.215069	0.200688	0.289648	0.231483	0.211790	0.198577
	turkey oak	0.139158	0.161989	0.153817	0.253876	0.210985	0.235834	0.219827	0.317692	0.253668	0.231726	0.217857
	evergreen oaks	0.112348	0.130830	0.124269	0.205250	0.170653	0.190853	0.177972	0.257420	0.205632	0.187896	0.176312
	other broadleaves	0.139566	0.162884	0.155053	0.256437	0.213573	0.239217	0.223433	0.323535	0.258844	0.236898	0.220944
	conifers	0.194483	0.226719	0.215567	0.356499	0.296746	0.332281	0.310209	0.449445	0.359493	0.328854	0.307030
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.907950	0.907230	0.910558	0.908972	0.911882	0.911057	0.912455	0.905540	0.912336	0.912779	0.910076
	poplars stands	1.791711	1.805450	1.818222	1.830125	1.841228	1.851581	1.861225	1.870056	1.878245	1.885816	1.843366
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	1.152081	1.152757	1.160978	1.158127	1.162055	1.160957	1.162735	1.157818	1.160954	1.163799	1.159226
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.021735	0.032010	0.019356	0.025223	0.023155	0.031244	0.027142	0.024465	0.018863	0.018929	0.024212	
coppices	0.134073	0.156291	0.148628	0.245416	0.204151	0.228361	0.213059	0.307900	0.246037	0.224975	0.210889	
plantation	1.556356	1.579284	1.601569	1.620673	1.639352	1.655650	1.671083	1.683467	1.697241	1.708804	1.641348	

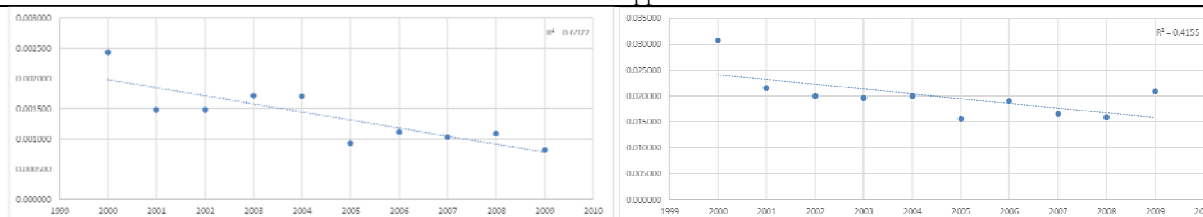
Stands Coppices Plantation



Harvesting ratios – Umbria

Valle_D'Aosta region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.003205	0.001955	0.001954	0.002256	0.002248	0.001223	0.001469	0.001364	0.001435	0.001078	0.001819
	silver fir	0.003086	0.001882	0.001882	0.002172	0.002164	0.001177	0.001414	0.001313	0.001381	0.001038	0.001751
	larches	0.002296	0.001401	0.001400	0.001616	0.001611	0.000876	0.001053	0.000978	0.001028	0.000773	0.001303
	mountain pines	0.002461	0.001501	0.001501	0.001733	0.001727	0.000940	0.001129	0.001049	0.001103	0.000829	0.001397
	mediterranean pines	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other conifers	0.002596	0.001584	0.001585	0.001831	0.001826	0.000994	0.001195	0.001111	0.001169	0.000879	0.001477
	european beech	0.001876	0.001144	0.001144	0.001321	0.001317	0.000716	0.000861	0.000799	0.000841	0.000632	0.001065
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other oaks	0.001631	0.000995	0.000996	0.001150	0.001147	0.000624	0.000750	0.000697	0.000734	0.000551	0.000927
other broadleaves	0.001991	0.001215	0.001215	0.001402	0.001398	0.000760	0.000914	0.000849	0.000893	0.000671	0.001131	
coppices	european beech	0.026669	0.018646	0.017334	0.016954	0.017275	0.013434	0.016409	0.014238	0.013643	0.017907	0.017251
	sweet chestnut	0.033557	0.023491	0.021862	0.021398	0.021827	0.016991	0.020774	0.018047	0.017311	0.022743	0.021800
	hornbeams	0.026634	0.018617	0.017302	0.016914	0.017231	0.013397	0.016362	0.014198	0.013605	0.017857	0.017212
	other oaks	0.024590	0.017197	0.015990	0.015639	0.015939	0.012398	0.015147	0.013148	0.012603	0.016547	0.015920
	turkey oak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.027145	0.019006	0.017690	0.017313	0.017662	0.013750	0.016813	0.014610	0.014018	0.018419	0.017642
	conifers	0.037329	0.026109	0.024279	0.023751	0.024209	0.018832	0.023010	0.019975	0.019148	0.025142	0.024178
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	poplars stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	conifers stands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	others	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
stands	0.002433	0.001483	0.001483	0.001711	0.001705	0.000927	0.001114	0.001035	0.001088	0.000817	0.001380	
coppices	0.030732	0.021519	0.020032	0.019614	0.020012	0.015582	0.019056	0.016558	0.015887	0.020877	0.019987	
plantation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

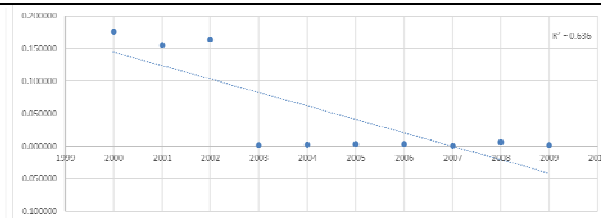
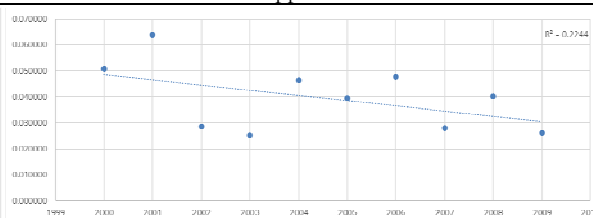
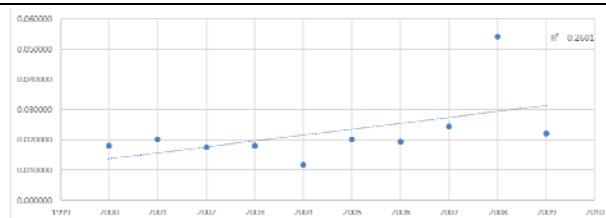
Stands Coppices



Harvesting ratios – Valle D'Aosta

Veneto region inventory typology		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	average m ³ tC ⁻¹ ha ⁻¹ yr ⁻¹
stands	norway spruce	0.020649	0.023117	0.020166	0.020708	0.013526	0.023134	0.022274	0.028187	0.062250	0.025469	0.025948
	silver fir	0.019877	0.022252	0.019411	0.019933	0.013019	0.022267	0.021439	0.027130	0.059915	0.024514	0.024976
	larches	0.014800	0.016569	0.014455	0.014845	0.009696	0.016585	0.015969	0.020210	0.044634	0.018262	0.018603
	mountain pines	0.015861	0.017761	0.015497	0.015918	0.010399	0.017790	0.017132	0.021685	0.047902	0.019602	0.019955
	mediterranean pines	0.012123	0.013591	0.011873	0.012208	0.007984	0.013672	0.013178	0.016697	0.036906	0.015117	0.015335
	other conifers	0.016776	0.018793	0.016405	0.016856	0.011017	0.018853	0.018161	0.022996	0.050811	0.020800	0.021147
	europaean beech	0.012076	0.013521	0.011797	0.012116	0.007915	0.013538	0.013036	0.016499	0.036443	0.014912	0.015185
	turkey oak	0.010055	0.011257	0.009820	0.010085	0.006587	0.011267	0.010849	0.013730	0.030322	0.012407	0.012638
	other oaks	0.010479	0.011738	0.010245	0.010526	0.006879	0.011771	0.011338	0.014357	0.031714	0.012983	0.013203
other broadleaves	0.012803	0.014337	0.012510	0.012850	0.008395	0.014362	0.013831	0.017508	0.038673	0.015827	0.016110	
coppices	europaean beech	0.049027	0.061568	0.027499	0.024284	0.044582	0.037882	0.045896	0.026817	0.038536	0.024928	0.038102
	sweet chestnut	0.061384	0.077173	0.034518	0.030526	0.056102	0.047725	0.057876	0.033860	0.048711	0.031546	0.047942
	hornbeams	0.048851	0.061308	0.027377	0.024173	0.044363	0.037687	0.045643	0.026672	0.038326	0.024795	0.037920
	other oaks	0.045162	0.056711	0.025336	0.022381	0.041093	0.034923	0.042313	0.024733	0.035551	0.023005	0.035121
	turkey oak	0.048899	0.061367	0.027399	0.024190	0.044389	0.037706	0.045663	0.026679	0.038330	0.024793	0.037942
	evergreen oaks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves	0.049680	0.062448	0.027933	0.024706	0.045403	0.038624	0.046836	0.027408	0.039432	0.025543	0.038801
	conifers	0.068783	0.086381	0.038589	0.034085	0.062582	0.053185	0.064442	0.037663	0.054133	0.035025	0.053487
plantations	eucalyptuses coppices	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	other broadleaves coppices	0.094646	0.083067	0.088080	0.000712	0.001099	0.001697	0.001575	0.000604	0.003422	0.001044	0.027595
	poplars stands	0.200463	0.176154	0.186744	0.001511	0.002337	0.003605	0.003344	0.001282	0.007262	0.002216	0.058492
	other broadleaves stands	0.091825	0.080266	0.084654	0.000680	0.001044	0.001602	0.001479	0.000565	0.003186	0.000969	0.026627
	conifers stands	0.119836	0.104852	0.110689	0.000890	0.001367	0.002099	0.001940	0.000741	0.004186	0.001275	0.034787
	others	0.105568	0.092337	0.097439	0.000783	0.001204	0.001849	0.001709	0.000653	0.003688	0.001123	0.030635
stands	0.018062	0.020207	0.017616	0.018078	0.011801	0.020171	0.019409	0.024548	0.054182	0.022156	0.022623	
coppices	0.050826	0.063873	0.028557	0.025245	0.046383	0.039445	0.047822	0.027972	0.040231	0.026049	0.039640	
plantation	0.175707	0.154604	0.164041	0.001327	0.002051	0.003162	0.002930	0.001122	0.006343	0.001932	0.051322	

Stands Coppices Plantation



Harvesting ratios – Veneto

Basilicata		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology		<i>t C ha-1</i>																											
stands	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	silver fir	30.7	31.4	32.2	33.0	33.8	34.7	35.5	35.9	36.5	37.2	38.3	39.3	40.2	41.3	42.4	43.5	44.6	45.7	46.8	47.9	49.0	50.0	51.1	52.1	53.2	54.2		
	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	mountain pines	52.4	53.4	54.7	56.0	57.3	58.5	59.7	60.3	61.2	62.2	63.9	65.3	66.6	68.2	69.9	71.5	73.1	74.6	76.2	77.7	79.2	80.6	82.1	83.5	84.9	86.3		
	mediterranean pines	72.6	74.3	76.6	78.7	80.9	82.9	84.9	86.0	87.4	88.9	91.5	93.6	95.5	97.9	100.3	102.5	104.7	106.8	108.8	110.8	112.7	114.5	116.3	118.0	119.7	121.3		
	other conifers	44.4	45.2	46.4	47.6	48.8	49.9	51.0	51.6	52.5	53.4	55.0	56.3	57.5	59.1	60.6	62.2	63.7	65.2	66.7	68.2	69.7	71.1	72.6	74.1	75.5	76.9		
	european beech	85.5	85.7	86.5	87.3	88.1	88.8	89.5	89.3	89.5	90.0	91.4	92.5	93.3	94.7	96.2	97.5	98.9	100.2	101.5	102.7	104.0	105.2	106.4	107.6	108.8	109.9		
	turkey oak	82.7	83.3	84.5	85.7	86.9	88.0	89.1	89.3	89.9	90.7	92.5	94.0	95.1	97.0	98.8	100.5	102.3	104.0	105.6	107.3	109.0	110.6	112.2	113.8	115.4	116.9		
	other oaks	56.4	56.8	57.6	58.4	59.1	59.8	60.4	60.4	60.7	61.1	62.2	63.0	63.6	64.6	65.5	66.4	67.2	68.0	68.7	69.3	70.0	70.6	71.1	71.7	72.1	72.6		
	other broadleaves	52.7	53.1	54.0	54.8	55.6	56.5	57.2	57.5	57.9	58.5	59.8	60.8	61.7	62.9	64.2	65.4	66.7	67.9	69.1	70.2	71.4	72.6	73.8	74.9	76.1	77.2		
	european beech	37.2	37.6	37.9	37.4	36.6	36.4	36.0	35.2	34.7	34.6	34.8	35.0	35.0	35.3	35.5	35.7	35.9	36.1	36.3	36.6	36.8	37.0	37.2	37.4	37.5	37.7		
coppices	sweet chestnut	59.9	62.1	64.2	65.0	65.1	66.2	66.8	66.8	67.2	68.3	70.2	71.8	73.1	74.8	76.6	78.0	79.5	81.0	82.5	83.9	85.3	86.6	87.9	89.1	90.3	91.5		
	hornbeams	20.2	20.5	20.7	20.6	20.2	20.2	20.1	19.7	19.5	19.6	19.8	20.0	20.1	20.4	20.6	20.7	20.9	21.1	21.3	21.4	21.6	21.7	21.8	22.0	22.1	22.2		
	other oaks	30.1	30.8	31.4	31.3	31.0	31.1	31.0	30.7	30.6	30.8	31.3	31.7	32.0	32.4	32.8	33.1	33.4	33.7	34.0	34.2	34.4	34.6	34.8	35.0	35.1	35.2		
	turkey oak	35.2	35.8	36.3	36.0	35.4	35.4	35.1	34.5	34.2	34.3	34.8	35.1	35.3	35.7	36.1	36.4	36.8	37.1	37.4	37.7	38.0	38.3	38.5	38.8	39.0	39.3		
	evergreen oaks	38.3	38.8	39.1	38.7	37.9	37.8	37.4	36.6	36.1	36.1	36.4	36.7	36.8	37.1	37.4	37.6	37.9	38.2	38.4	38.7	38.9	39.2	39.4	39.6	39.8	40.0		
	other broadleaves	39.4	41.0	42.4	43.0	43.1	43.8	44.3	44.3	44.5	45.3	46.5	47.5	48.3	49.3	50.4	51.2	52.0	52.9	53.6	54.3	55.0	55.6	56.2	56.7	57.2	57.7		
	conifers	31.2	32.2	33.1	33.4	33.4	33.8	34.1	33.9	34.0	34.5	35.4	36.2	36.8	37.6	38.5	39.2	40.0	40.8	41.5	42.3	43.0	43.7	44.5	45.2	45.8	46.5		
plantations	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	other broadleaves coppices	23.9	19.0	18.6	16.7	15.7	13.0	11.1	9.6	8.6	7.8	7.3	6.8	6.5	6.3	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7		
	poplars stands	28.6	25.2	26.7	26.1	26.2	23.5	21.5	20.0	18.8	17.8	17.5	17.3	17.1	16.9	16.7	16.6	16.5	16.4	16.3	16.3	16.2	16.1	16.1	16.1	16.0	16.0		
	other broadleaves stands	8.4	6.6	6.3	5.6	5.2	4.4	3.8	3.4	3.1	2.9	2.7	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4		
	conifers stands	13.7	10.4	9.7	8.4	7.4	5.8	4.6	3.8	3.1	2.6	2.2	1.8	1.6	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0		
protected	others	25.0	19.6	18.9	16.9	15.6	12.9	10.8	9.3	8.1	7.3	6.5	5.9	5.4	5.1	4.8	4.6	4.4	4.2	4.1	4.0	3.9	3.9	3.8	3.8	3.7	3.7		
	rupicolous forest	31.2	31.7	32.4	33.0	33.7	34.3	34.9	35.2	35.6	36.1	37.0	37.8	38.5	39.4	40.3	41.1	42.0	42.8	43.6	44.4	45.2	46.0	46.7	47.5	48.2	48.9		
	riparian forest	46.1	45.8	45.9	45.9	46.0	46.1	46.1	45.8	45.6	45.6	46.0	46.3	46.5	47.0	47.4	47.9	48.3	48.7	49.1	49.5	49.9	50.2	50.6	50.9	51.3	51.6		

Calabria		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology		<i>t C ha-1</i>																											
stands	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	silver fir	34.3	34.9	35.4	36.1	36.7	37.5	38.0	37.1	37.1	37.3	38.1	38.6	38.6	39.4	40.2	40.9	41.6	42.3	43.0	43.7	44.4	45.0	45.7	46.4	47.0	47.6		
	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	mountain pines	56.7	57.5	58.3	59.3	60.2	61.5	62.1	60.6	60.4	60.7	61.9	62.6	62.5	63.7	64.8	65.8	66.9	67.9	68.9	69.8	70.7	71.6	72.5	73.4	74.2	75.1		
	mediterranean pines	72.6	74.3	76.0	77.8	79.6	81.8	83.1	81.5	81.6	82.5	84.5	85.9	86.0	87.9	89.8	91.4	93.2	94.7	96.2	97.6	99.0	100.4	101.7	102.9	104.1	105.2		
	other conifers	44.5	45.3	46.2	47.1	48.1	49.3	50.0	48.9	48.9	49.4	50.5	51.3	51.3	52.5	53.5	54.6	55.7	56.7	57.7	58.6	59.6	60.6	61.5	62.4	63.3	64.2		
	european beech	87.7	88.0	88.5	89.2	89.8	91.0	91.2	88.2	87.3	87.2	88.2	88.6	87.9	89.0	90.0	90.9	91.9	92.8	93.7	94.6	95.4	96.2	97.0	97.8	98.6	99.4		
	turkey oak	78.6	79.2	79.9	80.8	81.6	82.9	83.3	80.9	80.2	80.3	81.5	82.1	81.6	82.8	84.0	85.0	86.2	87.2	88.2	89.1	90.1	91.0	91.9	92.9	93.7	94.6		
	other oaks	56.8	57.1	57.5	58.0	58.5	59.2	59.4	57.5	57.0	57.0	57.7	58.1	57.6	58.4	59.1	59.7	60.3	60.9	61.4	61.9	62.3	62.8	63.2	63.6	63.9	64.3		
	other broadleaves	53.6	54.0	54.4	55.0	55.5	56.4	56.7	55.0	54.5	54.6	55.4	55.8	55.4	56.2	57.0	57.7	58.5	59.2	59.9	60.5	61.2	61.8	62.5	63.1	63.7	64.3		
	european beech	43.4	43.4	43.4	43.3	43.0	43.1	42.6	40.5	39.2	39.3	39.5	39.3	38.5	38.9	39.2	39.2	39.0	39.1	39.3	39.4	39.6	39.7	39.8	40.0	40.1	40.2		
	coppices	sweet chestnut	64.1	65.8	67.6	69.1	70.2	71.9	72.5	70.5	69.8	71.3	73.2	74.2	74.1	76.0	77.8	79.0	79.9	81.3	82.7	84.1	85.4	86.7	87.9	89.1	90.3	91.4	
		hornbeams	20.2	20.4	20.6	20.7	20.9	20.7	19.9	19.4	19.6	19.9	20.0	19.7	20.0	20.3	20.4	20.5	20.7	20.8	21.0	21.2	21.3	21.5	21.6	21.7	21.9		
other oaks		28.5	29.2	29.8	30.3	30.6	31.1	31.1	30.1	29.7	30.2	30.8	31.1	30.9	31.5	32.0	32.3	32.5	32.8	33.2	33.4	33.7	34.0	34.2	34.4	34.6	34.8		
turkey oak		33.8	33.9	34.1	34.1	33.9	34.0	33.7	32.2	31.3	31.5	31.8	31.8	31.3	31.7	32.0	32.1	32.1	32.3	32.5	32.7	32.9	33.0	33.2	33.4	33.5	33.7		
evergreen oaks		42.6	42.6	42.7	42.7	42.4	42.5	42.1	40.1	38.9	39.0	39.4	39.2	38.5	39.0	39.3	39.4	39.3	39.5	39.7	39.9	40.1	40.3	40.5	40.6	40.8	41.0		
other broadleaves		39.2	40.5	41.8	43.0	43.8	45.0	45.6	44.4	44.1	45.2	46.4	47.2	47.1	48.4	49.6	50.3	50.8	51.7	52.5	53.3	54.0	54.7	55.3	55.9	56.4	56.9		
conifers		34.1	34.8	35.6	36.3	36.8	37.6	37.8	36.7	36.2	36.9	37.8	38.3	38.2	39.1	40.0	40.6	41.1	41.8	42.5	43.2	43.9	44.6	45.3	46.0	46.6	47.3		
eucaliptuses coppices		68.0	68.5	69.1	69.8	70.2	71.1	70.9	68.6	68.5	69.3	70.8	71.4	71.0	72.3	73.1	73.3	73.2	73.6	73.8	74.0	74.2	74.3	74.3	74.4	74.4			
other broadleaves coppices		72.8	73.3	73.8	74.6	75.0	76.0	75.7	73.2	73.1	73.9	75.6	76.2	75.8	77.2	78.1	78.4	78.3	78.8	79.1	79.3	79.5	79.6	79.7	79.7	79.8	79.8		
plantations		poplars stands	43.1	43.1	43.1	43.1	43.1	43.2	42.9	42.7	42.7	42.8	43.3	43.6	43.7	43.7	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8		
other broadleaves stands	40.7	41.2	41.7	42.3	42.9	44.0	44.4	43.4	43.7	44.4	45.7	46.7	47.1	48.4	49.7	50.9	52.2	53.5	54.7	55.9	57.1	58.3	59.5	60.7	61.8	63.0			
conifers stands	75.7	78.6	81.7	85.0	88.2	92.3	95.3	94.9	97.4	101.0	105.8	109.8	112.4	117.2	122.0	126.6	131.5	136.0	140.5	145.0	149.3	153.6	157.8	162.0	166.0	169.9			
others	104.5	105.8	107.3	109.0	110.5	113.2	114.3	111.6	112.4	114.2	117.5	119.8	120.5	123.7	126.6	129.4	132.3	134.9	137.4	139.8	142.2	144.4	146.6	148.8	150.8	152.8			
protected	rupicolous forest	30.2	30.9	31.5	32.2	32.9	33.8	34.3	33.6	33.8	34.2	35.0	35.6	35.7	36.5	37.3	38.1	38.9	39.6	40.3	41.0	41.7	42.4	43.0	43.7	44.3	44.9		
	riparian forest	44.8	44.8	44.9	45.1	45.2	45.6	45.5	43.9	43.4	43.3	43.7	43.8	43.3	43.7	44.1	44.5	44.9	45.2	45.5	45.8	46.1	46.4	46.7	47.0	47.2	47.5		

Campania	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology	<i>t C ha-1</i>																											
stands	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	silver fir	28.1	28.3	28.4	28.4	28.6	29.0	29.3	29.2	29.5	29.7	30.0	29.7	29.6	30.0	30.5	30.8	31.2	31.6	32.0	32.4	32.7	33.1	33.4	33.8	34.1	34.5	
	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	mountain pines	42.0	43.3	44.4	45.3	46.7	48.2	49.5	50.2	51.5	52.6	53.9	54.2	54.7	56.2	57.6	58.9	60.2	61.5	62.8	64.0	65.2	66.4	67.5	68.6	69.7	70.7	
	mediterranean pines	53.8	55.1	56.2	57.2	58.6	60.2	61.6	62.2	63.5	64.6	66.0	66.2	66.5	68.0	69.5	70.8	72.2	73.5	74.8	76.0	77.1	78.3	79.3	80.4	81.4	82.3	
	other conifers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	european beech	68.6	68.1	67.5	66.8	66.6	66.8	66.7	65.9	65.8	65.6	65.8	64.6	63.8	64.1	64.5	64.8	65.1	65.4	65.7	65.9	66.2	66.5	66.8	67.0	67.3	67.5	
	turkey oak	59.2	58.6	57.9	57.1	56.8	56.8	56.6	55.7	55.6	55.3	55.2	54.2	53.3	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.8	55.0	55.1	55.2	
	other oaks	44.5	44.6	44.6	44.5	44.9	45.3	45.7	45.4	45.7	45.9	46.3	45.9	45.6	46.1	46.7	47.1	47.6	48.0	48.5	48.9	49.3	49.7	50.1	50.4	50.8	51.1	
	other broadleaves	41.9	41.9	41.7	41.5	41.6	41.9	42.1	41.7	41.9	41.9	42.2	41.6	41.2	41.6	42.0	42.4	42.7	43.0	43.4	43.7	44.0	44.3	44.6	44.9	45.2	45.5	
	coppices	european beech	33.2	32.4	32.2	31.6	31.2	30.9	30.6	28.4	27.5	26.9	26.7	26.4	25.9	25.8	25.7	25.3	25.0	24.8	24.6	24.5	24.3	24.1	24.0	23.8	23.7	23.5
		sweet chestnut	51.1	51.6	53.1	53.6	54.7	55.7	56.6	54.1	53.9	54.1	55.2	56.0	56.6	57.7	58.8	59.1	59.7	60.5	61.2	62.0	62.7	63.4	64.0	64.6	65.2	65.8
		hornbeams	17.3	17.1	17.3	17.1	17.1	17.2	17.2	16.2	15.9	15.8	15.9	16.0	16.0	16.1	16.2	16.2	16.3	16.4	16.4	16.5	16.5	16.6	16.6	16.7	16.7	16.8
other oaks		15.0	14.8	15.0	14.9	15.0	15.1	14.2	14.0	13.8	13.9	14.0	14.0	14.1	14.2	14.2	14.2	14.3	14.3	14.4	14.5	14.5	14.6	14.6	14.7	14.7	14.8	
turkey oak		26.6	26.1	26.3	26.0	25.9	25.9	25.9	24.3	23.8	23.5	23.6	23.6	23.6	23.7	23.9	23.7	23.7	23.8	23.8	23.9	23.9	24.0	24.1	24.1	24.2	24.2	
evergreen oaks		32.2	31.6	31.6	31.2	31.0	30.9	30.7	28.8	28.1	27.6	27.7	27.6	27.4	27.5	27.6	27.3	27.2	27.2	27.2	27.2	27.3	27.3	27.3	27.3	27.3	27.3	
other broadleaves		33.1	33.6	34.7	35.3	36.1	36.9	37.6	36.1	36.1	36.3	37.2	37.8	38.3	39.1	39.9	40.2	40.6	41.1	41.7	42.2	42.7	43.1	43.6	44.0	44.3	44.7	
conifers		27.2	27.2	27.8	27.9	28.2	28.6	28.9	27.5	27.2	27.1	27.5	27.8	27.9	28.4	28.8	28.9	29.0	29.3	29.6	29.9	30.2	30.5	30.8	31.0	31.3	31.5	
eucaliptuses coppices		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
plantations		other broadleaves coppices	71.8	72.7	73.6	73.8	74.3	74.9	75.7	72.7	73.7	74.5	75.5	76.1	76.3	77.0	77.6	77.3	77.3	77.6	77.8	78.0	78.1	78.2	78.2	78.3	78.3	
	poplars stands	42.7	42.8	42.8	42.8	42.8	42.8	43.0	42.9	43.0	43.1	43.3	43.3	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4		
	other broadleaves stands	39.4	40.1	40.8	41.4	42.0	42.8	43.7	43.6	44.1	44.3	45.1	45.1	45.1	46.1	47.0	47.8	48.7	49.5	50.4	51.2	52.1	52.9	53.7	54.5	55.3	56.1	
	conifers stands	73.3	76.7	80.0	83.3	86.4	90.0	93.8	95.5	98.5	100.8	104.5	106.2	108.1	112.0	116.0	119.6	123.3	127.0	130.7	134.3	137.8	141.3	144.6	147.9	151.2	154.3	
	others	101.5	103.6	105.5	107.3	108.8	110.8	113.1	112.8	114.0	114.5	116.5	116.2	116.3	118.6	120.8	122.7	124.6	126.5	128.3	130.1	131.8	133.4	134.9	136.4	137.9	139.3	
protected	ruricolous forest	31.1	31.8	32.4	33.0	33.6	34.2	35.0	35.2	35.7	35.8	36.5	36.5	36.5	37.3	38.1	38.7	39.4	40.1	40.8	41.4	42.0	42.6	43.2	43.8	44.3	44.9	
	riparian forest	45.1	45.1	45.2	45.2	45.2	45.3	45.6	45.2	45.1	44.6	44.9	44.3	43.9	44.3	44.7	45.0	45.3	45.7	46.0	46.3	46.6	46.9	47.2	47.5	47.8	48.1	

Emilia_Romagna		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology		<i>t C ha-1</i>																											
stands	norway spruce	4.0	4.3	4.6	4.9	5.2	5.6	6.0	6.4	6.8	7.2	7.7	8.2	8.7	9.2	9.7	10.3	10.8	11.4	12.0	12.6	13.2	13.8	14.4	15.0	15.7	16.3		
	silver fir	22.8	23.9	25.0	26.1	27.1	28.2	29.6	31.0	32.4	33.8	35.4	37.0	38.5	40.2	41.8	43.4	45.0	46.6	48.3	49.9	51.5	53.1	54.7	56.3	57.9	59.5		
	larches	2.4	2.5	2.6	2.8	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.6	4.8	5.1	5.4	5.6	5.9	6.2	6.6	6.9	7.2	7.5	7.9	8.3	8.6		
	mountain pines	51.9	53.7	55.5	57.3	59.0	60.7	63.1	65.4	67.7	70.0	72.5	75.0	77.5	80.0	82.5	84.9	87.3	89.6	92.0	94.3	96.5	98.7	100.9	103.0	105.1	107.1		
	mediterranean pines	65.3	67.3	69.2	71.0	72.8	74.5	77.1	79.5	81.9	84.2	86.9	89.5	92.0	94.5	96.9	99.3	101.6	103.9	106.0	108.1	110.2	112.2	114.1	115.9	117.7	119.5		
	other conifers	36.8	37.8	38.7	39.7	40.5	41.5	42.8	44.2	45.6	46.9	48.5	50.0	51.6	53.1	54.7	56.3	57.8	59.4	61.0	62.5	64.1	65.6	67.1	68.7	70.2	71.7		
	european beech	64.5	65.5	66.6	67.6	68.6	69.6	71.4	73.2	75.0	76.7	78.8	80.8	82.9	85.0	87.1	89.2	91.3	93.3	95.4	97.5	99.5	101.6	103.6	105.6	107.6	109.6		
	turkey oak	56.5	56.8	57.1	57.5	57.8	58.1	59.1	60.0	60.9	61.8	63.0	64.1	65.2	66.3	67.5	68.6	69.7	70.8	71.9	72.9	74.0	75.0	76.0	77.0	78.0	79.0		
	other oaks	49.4	50.1	50.8	51.5	52.1	52.7	53.9	55.0	56.1	57.1	58.3	59.5	60.6	61.8	62.8	63.8	64.8	65.7	66.6	67.4	68.2	69.0	69.7	70.3	70.9	71.5		
	other broadleaves	45.2	45.7	46.3	46.9	47.5	48.1	49.2	50.2	51.3	52.4	53.7	54.9	56.2	57.5	58.8	60.0	61.3	62.6	63.8	65.1	66.3	67.6	68.8	70.0	71.3	72.5		
coppices	european beech	46.6	46.4	46.3	46.3	46.3	46.2	46.6	46.8	47.1	47.4	47.9	48.3	48.8	49.2	49.6	50.0	50.4	50.7	51.0	51.3	51.6	51.9	52.2	52.4	52.7	52.9		
	sweet chestnut	71.1	73.3	75.6	78.0	80.4	82.7	85.8	88.7	91.8	94.7	98.2	101.7	105.2	108.7	112.2	115.7	119.1	122.6	126.1	129.5	132.9	136.3	139.6	142.9	146.2	149.4		
	hornbeams	26.0	25.9	25.9	25.9	25.9	26.1	26.3	26.5	26.7	27.0	27.3	27.5	27.8	28.1	28.3	28.6	28.8	29.1	29.3	29.5	29.7	29.9	30.1	30.3	30.5			
	other oaks	30.6	30.9	31.3	31.7	32.1	32.4	33.0	33.6	34.2	34.7	35.4	36.2	36.9	37.5	38.2	38.9	39.5	40.1	40.8	41.4	42.0	42.5	43.1	43.7	44.2	44.7		
	turkey oak	34.7	34.6	34.5	34.5	34.5	34.5	34.7	34.9	35.1	35.3	35.7	36.1	36.4	36.8	37.1	37.5	37.8	38.1	38.4	38.7	39.0	39.2	39.5	39.8	40.0	40.3		
	evergreen oaks	33.4	33.8	34.3	34.8	35.3	35.8	36.5	37.3	38.0	38.7	39.6	40.5	41.4	42.3	43.1	44.0	44.8	45.7	46.5	47.3	48.0	48.8	49.6	50.3	51.0	51.7		
	other broadleaves	48.3	49.3	50.3	51.4	52.3	53.2	54.5	55.7	56.8	57.8	59.1	60.3	61.4	62.5	63.5	64.4	65.2	66.0	66.7	67.4	68.0	68.5	69.0	69.5	69.9	70.3		
	conifers	42.5	43.3	44.1	44.9	45.7	46.5	47.7	48.8	50.0	51.1	52.5	53.9	55.2	56.6	58.0	59.3	60.6	62.0	63.3	64.6	65.9	67.2	68.5	69.8	71.0	72.3		
	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	other broadleaves coppices	68.5	69.4	69.8	70.0	70.1	70.4	71.2	72.9	74.3	75.5	76.7	77.7	78.4	78.9	79.3	79.6	79.8	79.9	80.0	80.1	80.2	80.2	80.2	80.3	80.3	80.3		
plantations	poplars stands	41.3	41.6	41.6	41.5	41.5	41.6	41.9	42.5	42.8	43.0	43.3	43.5	43.5	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6		
	other broadleaves stands	34.4	34.7	34.8	34.7	34.7	34.8	35.1	36.1	37.2	38.2	39.5	40.8	42.0	43.2	44.5	45.7	47.0	48.2	49.4	50.7	51.9	53.1	54.3	55.5	56.7	57.9		
	conifers stands	64.1	66.4	68.3	70.0	71.7	73.5	76.0	79.8	83.8	87.9	92.5	97.1	101.6	106.3	111.0	115.7	120.3	125.0	129.6	134.1	138.6	143.1	147.5	151.8	156.0	160.1		
	others	90.4	91.6	92.1	92.3	92.5	93.1	94.2	97.1	100.0	102.9	106.3	109.6	112.7	115.9	118.9	121.9	124.8	127.6	130.3	132.9	135.5	137.9	140.3	142.6	144.8	147.0		
protected	rupicolous forest	30.5	31.1	31.6	32.2	32.7	33.3	34.1	34.8	35.6	36.3	37.3	38.2	39.1	40.0	40.9	41.7	42.6	43.5	44.3	45.1	45.9	46.7	47.5	48.3	49.0	49.8		
	riparian forest	43.4	43.2	43.1	42.9	42.8	42.7	42.9	43.1	43.2	43.4	43.8	44.2	44.6	45.0	45.3	45.7	46.1	46.4	46.7	47.1	47.4	47.7	48.0	48.3	48.6	48.9		

Lazio		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
inventory typology		<i>t C ha-1</i>																										
stands	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	mountain pines	55.1	56.2	57.0	57.0	57.5	58.2	58.8	59.0	59.8	60.7	61.9	62.8	63.1	64.5	65.8	67.0	68.2	69.5	70.7	71.9	73.0	74.1	75.2	76.2	77.2	78.2	
	mediterranean pines	60.5	61.8	62.8	62.9	63.6	64.5	65.1	65.5	66.5	67.5	68.9	69.9	70.2	71.8	73.3	74.7	76.0	77.4	78.7	80.0	81.2	82.3	83.5	84.5	85.6	86.6	
	other conifers	35.9	36.4	36.7	36.6	36.7	37.0	37.2	37.2	37.6	38.0	38.7	39.1	39.2	40.0	40.7	41.4	42.1	42.8	43.5	44.2	44.9	45.6	46.2	46.9	47.5	48.1	
	european beech	59.9	59.3	58.5	57.0	56.1	55.4	54.6	53.5	53.1	52.8	52.7	52.4	51.6	51.8	51.9	52.0	52.1	52.3	52.4	52.6	52.7	52.9	53.0	53.1	53.2	53.4	
	turkey oak	53.0	52.4	51.5	50.1	49.2	48.5	47.7	46.7	46.2	45.8	45.7	45.4	44.6	44.7	44.7	44.7	44.8	44.8	44.9	44.9	45.0	45.0	45.1	45.1	45.2	45.2	
	other oaks	46.0	46.3	46.3	45.8	45.6	45.7	45.6	45.3	45.5	45.7	46.2	46.5	46.3	46.9	47.5	48.0	48.6	49.1	49.7	50.2	50.6	51.1	51.6	52.0	52.4	52.8	
	other broadleaves	43.4	43.5	43.3	42.7	42.4	42.3	42.1	41.7	41.7	41.8	42.1	42.3	42.0	42.5	42.9	43.3	43.7	44.2	44.6	45.0	45.4	45.8	46.2	46.6	47.0	47.4	
coppices	european beech	33.7	32.9	32.7	32.1	31.8	31.4	31.2	30.8	30.9	30.9	31.1	31.2	31.4	31.6	31.9	32.0	32.1	32.4	32.6	32.9	33.1	33.4	33.6	33.8	34.0	34.2	
	sweet chestnut	103.6	103.8	105.3	105.7	106.6	106.9	107.7	107.8	109.1	109.8	111.4	112.2	113.0	114.1	114.9	114.8	115.1	115.7	116.1	116.4	116.6	116.8	117.0	117.1	117.2	117.2	
	hornbeams	18.1	17.8	17.8	17.6	17.5	17.4	17.3	17.2	17.3	17.4	17.6	17.7	17.9	18.1	18.3	18.4	18.5	18.7	18.9	19.1	19.2	19.4	19.5	19.7	19.8	19.9	
	other oaks	23.8	23.8	24.1	24.2	24.5	24.6	24.9	25.0	25.4	25.8	26.3	26.7	27.2	27.7	28.2	28.4	28.7	29.1	29.5	29.8	30.1	30.4	30.6	30.8	31.0	31.2	
	turkey oak	26.2	25.8	25.8	25.6	25.6	25.5	25.5	25.4	25.6	25.8	26.1	26.3	26.6	26.9	27.3	27.3	27.5	27.8	28.0	28.2	28.4	28.6	28.8	28.9	29.1	29.2	
	evergreen oaks	32.0	31.3	31.1	30.7	30.4	30.1	29.9	29.6	29.7	29.7	30.0	30.1	30.3	30.6	31.0	31.0	31.2	31.5	31.8	32.0	32.3	32.6	32.8	33.0	33.3	33.5	
	other broadleaves	34.3	34.6	35.4	35.9	36.6	37.1	37.7	38.2	39.1	39.8	40.9	41.8	42.7	43.8	44.8	45.4	46.2	47.1	47.9	48.7	49.4	50.1	50.8	51.4	52.0	52.5	
	conifers	27.8	27.7	28.0	28.1	28.3	28.4	28.7	28.8	29.3	29.7	30.4	30.9	31.5	32.2	32.9	33.3	33.9	34.5	35.2	35.8	36.5	37.1	37.7	38.3	38.9	39.5	
	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	other broadleaves coppices	49.8	50.6	48.9	46.8	46.4	45.4	41.6	41.2	42.2	42.5	42.6	42.5	42.5	42.7	42.9	42.8	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.8	43.9	44.0	
plantations	poplars stands	38.8	39.2	38.1	37.3	37.5	37.3	35.4	36.3	37.4	37.7	38.0	38.2	38.3	38.3	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.5	38.5	38.5	38.5	
	other broadleaves stands	19.5	19.1	17.9	16.6	15.9	15.2	13.5	13.1	13.0	12.8	12.5	12.1	11.7	11.5	11.4	11.2	11.1	11.0	10.9	10.8	10.7	10.7	10.6	10.5	10.5	10.4	
	conifers stands	35.4	35.6	34.1	32.1	31.4	30.4	27.3	26.6	26.7	26.4	26.0	25.4	24.6	24.4	24.1	23.9	23.6	23.4	23.2	23.0	22.8	22.6	22.5	22.3	22.2	22.0	
	others	55.2	54.8	51.9	48.6	47.2	45.5	40.9	39.9	40.1	39.7	39.2	38.4	37.4	37.2	36.9	36.7	36.5	36.3	36.2	36.1	35.9	35.8	35.7	35.6	35.5	35.5	
protected	rupicolous forest	24.0	24.1	24.4	24.4	24.6	24.8	25.1	25.1	25.3	25.5	25.9	26.2	26.3	26.8	27.3	27.7	28.2	28.7	29.1	29.6	30.1	30.5	31.0	31.4	31.9	32.3	
	riparian forest	42.0	41.7	41.6	41.2	41.1	41.0	41.0	40.6	40.4	40.4	40.6	40.7	40.4	40.9	41.3	41.6	42.0	42.4	42.8	43.1	43.5	43.8	44.2	44.5	44.9	45.2	

Piemonte		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
inventory typology		<i>t C ha-1</i>																										
stands	norway spruce	26.4	26.4	26.3	26.2	26.2	26.3	26.6	26.9	27.3	27.7	28.4	29.0	29.6	30.1	30.8	31.3	31.9	32.5	33.1	33.7	34.2	34.8	35.4	36.0	36.5	37.1	
	silver fir	40.5	40.3	40.0	39.7	39.5	39.5	39.8	40.1	40.5	41.1	41.8	42.6	43.3	44.1	44.8	45.5	46.2	47.0	47.7	48.4	49.1	49.8	50.5	51.2	51.9	52.6	
	larches	28.9	28.8	28.7	28.5	28.4	28.5	28.8	29.1	29.4	29.9	30.5	31.2	31.8	32.4	33.0	33.7	34.3	34.9	35.5	36.2	36.8	37.4	38.1	38.7	39.3	40.0	
	mountain pines	34.2	34.5	34.7	34.9	35.2	35.7	36.4	37.2	38.0	39.1	40.3	41.6	42.9	44.2	45.6	47.0	48.4	49.9	51.3	52.9	54.4	56.0	57.6	59.2	60.9	62.6	
	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	other conifers	28.9	29.5	30.1	30.7	31.3	32.1	33.1	34.1	35.1	36.4	37.8	39.2	40.6	42.0	43.4	44.8	46.2	47.6	49.0	50.4	51.8	53.2	54.6	56.0	57.3	58.7	
	europaean beech	48.9	49.0	49.1	49.1	49.2	49.6	50.4	51.2	52.0	53.2	54.5	55.9	57.3	58.6	60.1	61.4	62.8	64.2	65.6	67.0	68.4	69.7	71.1	72.5	73.9	75.3	
	turkey oak	42.1	42.3	42.3	42.4	42.5	42.9	43.5	44.2	45.0	45.9	47.1	48.2	49.3	50.4	51.6	52.6	53.7	54.7	55.8	56.8	57.8	58.8	59.8	60.8	61.8	62.8	
	other oaks	37.4	38.0	38.4	38.9	39.4	40.2	41.2	42.2	43.2	44.5	45.9	47.3	48.6	49.9	51.3	52.5	53.7	54.9	56.0	57.1	58.2	59.2	60.2	61.1	62.0	62.9	
	other broadleaves	36.6	36.9	37.1	37.3	37.5	38.0	38.7	39.5	40.3	41.3	42.4	43.6	44.8	45.9	47.1	48.2	49.3	50.4	51.6	52.7	53.8	54.9	56.0	57.1	58.2	59.3	
	europaean beech	50.6	51.1	51.5	51.9	52.4	52.9	53.8	54.6	55.6	56.7	58.1	59.6	61.0	62.5	64.0	65.4	66.9	68.4	70.0	71.6	73.2	74.8	76.4	78.1	79.7	81.3	
	coppices	sweet chestnut	67.5	69.8	71.8	73.8	75.9	78.0	80.6	83.0	85.6	88.4	91.5	94.6	97.5	100.5	103.4	106.0	108.8	111.4	114.0	116.6	119.0	121.4	123.8	126.1	128.3	130.4
hornbeams		21.5	21.7	21.7	21.8	22.0	22.1	22.4	22.6	22.9	23.2	23.6	24.0	24.4	24.8	25.2	25.5	25.8	26.1	26.4	26.7	27.0	27.3	27.5	27.8	28.0	28.3	
other oaks		24.8	25.3	25.8	26.2	26.7	27.1	27.8	28.3	29.0	29.7	30.5	31.3	32.1	32.8	33.6	34.3	35.0	35.7	36.4	37.0	37.7	38.3	38.9	39.5	40.1	40.7	
turkey oak		29.6	29.7	29.7	29.7	29.8	29.9	30.2	30.4	30.7	31.1	31.6	32.0	32.5	33.0	33.4	33.8	34.2	34.6	34.9	35.3	35.7	36.0	36.3	36.7	37.0	37.3	
evergreen oaks		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
other broadleaves		42.8	44.1	45.2	46.3	47.4	48.4	49.8	51.0	52.3	53.6	55.1	56.5	57.9	59.1	60.3	61.3	62.3	63.3	64.1	65.0	65.7	66.4	67.0	67.6	68.1	68.6	
conifers		36.6	37.4	38.1	38.8	39.6	40.4	41.5	42.5	43.6	44.8	46.2	47.6	48.9	50.3	51.7	53.0	54.3	55.6	57.0	58.3	59.6	60.9	62.1	63.4	64.7	65.9	
eucaliptuses coppices		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
other broadleaves coppices		46.9	50.2	53.2	56.3	59.1	61.8	64.4	66.7	68.8	70.9	73.0	74.6	75.8	76.8	77.5	77.9	78.4	78.7	78.9	79.0	79.1	79.2	79.3	79.3	79.4	79.4	
plantations	poplars stands	52.0	55.7	59.2	62.6	65.5	68.4	71.1	73.6	75.9	78.3	80.7	82.8	84.6	86.1	87.4	88.5	89.4	90.2	90.8	91.3	91.8	92.1	92.4	92.7	92.9	93.1	
	other broadleaves stands	17.4	18.1	18.8	19.5	20.2	21.0	21.8	22.7	23.6	24.6	25.8	26.9	28.0	29.2	30.3	31.5	32.6	33.7	34.9	36.0	37.1	38.2	39.4	40.5	41.6	42.7	
	conifers stands	30.7	32.6	34.6	36.8	39.0	41.4	44.1	46.8	49.7	53.0	56.6	60.4	64.2	68.2	72.2	76.3	80.3	84.5	88.8	93.0	97.3	101.6	105.9	110.1	114.4	118.6	
	others	51.1	53.6	56.0	58.6	61.1	63.7	66.6	69.4	72.2	75.5	79.1	82.7	86.1	89.5	92.9	96.1	99.2	102.3	105.3	108.2	111.0	113.8	116.5	119.1	121.6	124.0	
	protec	rupicolous forest	22.6	22.8	23.0	23.1	23.2	23.4	23.7	24.0	24.3	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.3	27.7	28.1	28.5	28.9	29.3	29.6	30.0	30.4	30.7
riparian forest		40.6	40.4	40.2	39.9	39.7	39.6	39.6	39.7	39.7	39.8	40.0	40.3	40.5	40.7	41.0	41.2	41.3	41.6	41.8	42.0	42.2	42.4	42.6	42.8	43.0	43.1	

Toscana		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
inventory typology		<i>t C ha-1</i>																										
stands	norway spruce	4.0	4.3	4.6	4.9	5.2	5.5	5.9	6.2	6.6	6.9	7.4	7.8	8.2	8.6	9.1	9.5	10.0	10.5	11.0	11.4	11.9	12.4	12.9	13.4	13.9	14.4	
	silver fir	36.8	37.8	38.7	39.4	40.3	41.2	42.4	43.5	44.6	45.4	46.7	47.9	48.9	50.2	51.4	52.6	53.8	55.0	56.1	57.3	58.4	59.5	60.6	61.7	62.8	63.8	
	larches	2.5	2.7	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.4	5.6	5.9	6.1	6.4	6.6	6.9	7.2	7.5	7.7	
	mountain pines	67.7	69.1	70.6	71.4	72.7	74.0	75.7	77.3	78.9	80.1	81.9	83.6	85.0	86.8	88.5	90.1	91.7	93.3	94.8	96.3	97.7	99.1	100.5	101.8	103.1	104.4	
	mediterranean pines	80.4	81.8	83.3	83.9	85.2	86.4	88.1	89.6	91.1	92.1	93.9	95.5	96.8	98.5	100.1	101.6	103.0	104.4	105.8	107.0	108.3	109.4	110.6	111.7	112.7	113.7	
	other conifers	47.9	48.7	49.5	49.8	50.5	51.2	52.2	53.1	54.1	54.7	55.9	56.9	57.8	58.9	60.1	61.1	62.2	63.2	64.3	65.3	66.3	67.3	68.2	69.2	70.2	71.1	
	european beech	94.2	94.7	95.3	94.9	95.4	95.8	96.8	97.7	98.6	99.0	100.2	101.3	102.2	103.4	104.6	105.8	107.0	108.1	109.2	110.3	111.3	112.4	113.4	114.4	115.4	116.4	
	turkey oak	78.1	77.8	77.6	76.6	76.3	76.0	76.2	76.3	76.4	76.2	76.6	76.8	76.9	77.3	77.7	78.1	78.5	78.8	79.1	79.4	79.7	80.0	80.3	80.6	80.9	81.2	
	other oaks	60.5	60.7	60.8	60.4	60.6	60.7	61.1	61.5	61.9	61.9	62.5	63.0	63.3	63.8	64.3	64.8	65.2	65.6	66.0	66.3	66.6	66.9	67.2	67.5	67.7	68.0	
	other broadleaves	61.0	61.2	61.5	61.2	61.5	61.7	62.3	62.8	63.3	63.5	64.2	64.9	65.4	66.1	66.8	67.5	68.2	68.9	69.6	70.2	70.8	71.5	72.1	72.7	73.3	73.9	
coppices	european beech	47.1	47.1	47.0	46.9	46.8	46.8	47.0	47.4	47.7	48.0	48.5	48.8	49.2	49.6	49.9	50.3	50.6	51.0	51.3	51.6	51.9	52.2	52.5	52.8	53.1	53.3	
	sweet chestnut	71.6	73.9	75.9	77.9	79.8	81.9	84.5	87.2	89.9	92.7	95.6	98.5	101.3	104.2	107.0	109.9	112.6	115.4	118.1	120.8	123.5	126.2	128.8	131.4	133.9	136.4	
	hornbeams	23.7	23.7	23.7	23.7	23.7	23.7	23.9	24.1	24.3	24.5	24.7	24.9	25.1	25.3	25.5	25.7	25.9	26.1	26.2	26.4	26.5	26.7	26.8	26.9	27.1	27.2	
	other oaks	26.8	27.3	27.7	28.1	28.4	28.8	29.3	29.9	30.5	31.0	31.6	32.2	32.8	33.3	33.9	34.4	34.9	35.4	35.9	36.4	36.8	37.3	37.7	38.2	38.6	39.0	
	turkey oak	34.1	34.1	33.9	33.7	33.5	33.4	33.5	33.7	33.9	34.0	34.2	34.4	34.6	34.8	35.0	35.1	35.3	35.5	35.6	35.7	35.9	36.0	36.2	36.3	36.4	36.5	
	evergreen oaks	44.0	44.1	44.2	44.2	44.1	44.2	44.5	44.9	45.3	45.7	46.2	46.7	47.1	47.5	47.9	48.3	48.7	49.1	49.5	49.9	50.3	50.6	51.0	51.3	51.6	52.0	
	other broadleaves	44.7	46.0	47.0	48.0	48.9	49.8	51.0	52.2	53.4	54.5	55.7	56.7	57.7	58.6	59.5	60.4	61.1	61.8	62.5	63.1	63.6	64.2	64.6	65.1	65.5	65.8	
	conifers	38.6	39.4	40.1	40.8	41.4	42.2	43.1	44.2	45.2	46.3	47.4	48.5	49.5	50.6	51.7	52.7	53.8	54.8	55.8	56.8	57.8	58.8	59.8	60.7	61.7	62.6	
	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	other broadleaves coppices	73.6	74.2	74.5	74.8	75.0	75.3	75.9	76.3	77.0	77.6	78.4	79.0	79.4	79.8	80.0	80.2	80.3	80.4	80.4	80.5	80.5	80.5	80.5	80.5	80.6	80.6	
plantations	poplars stands	42.5	42.6	42.5	42.6	42.6	42.6	42.8	42.9	43.0	43.2	43.4	43.5	43.6	43.6	43.6	43.6	43.6	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	
	other broadleaves stands	38.8	39.4	39.9	40.2	40.7	41.3	42.0	42.7	43.7	44.6	45.9	47.1	48.2	49.5	50.8	52.1	53.4	54.6	55.9	57.1	58.3	59.6	60.8	62.0	63.2	64.4	
	conifers stands	72.3	75.3	78.2	80.8	83.7	86.9	90.4	93.8	97.9	101.6	106.5	111.1	115.5	120.3	125.1	129.8	134.5	139.1	143.7	148.2	152.6	156.9	161.1	165.3	169.4	173.3	
	others	100.5	102.1	103.6	104.6	105.9	107.5	109.5	111.4	113.9	116.0	119.2	122.1	124.7	127.6	130.5	133.3	135.9	138.5	141.0	143.4	145.7	147.9	150.1	152.2	154.2	156.1	
	rupicolous forest	35.0	35.9	36.9	37.6	38.5	39.4	40.5	41.5	42.4	43.2	44.4	45.5	46.5	47.6	48.8	49.9	50.9	52.0	53.0	54.0	55.0	56.0	57.0	57.9	58.8	59.7	
protected	riparian forest	44.5	44.4	44.4	44.1	44.2	44.2	44.4	44.5	44.7	44.6	45.0	45.2	45.4	45.8	46.2	46.5	46.8	47.1	47.4	47.7	48.0	48.2	48.5	48.8	49.0	49.3	

Umbria		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
inventory typology		<i>t C ha-1</i>																										
stands	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	mountain pines	57.8	59.3	61.3	63.0	64.7	66.2	67.8	69.3	71.0	72.6	74.7	76.6	77.6	79.6	81.5	83.5	85.3	87.2	88.9	90.7	92.4	94.0	95.6	97.2	98.8	100.3	
	mediterranean pines	70.4	72.0	74.0	75.8	77.6	79.1	80.7	82.1	83.8	85.4	87.5	89.4	90.2	92.2	94.1	96.0	97.8	99.5	101.1	102.7	104.2	105.7	107.1	108.5	109.8	111.0	
	other conifers	39.3	40.1	41.2	42.1	43.1	44.0	44.8	45.7	46.6	47.6	48.9	50.1	50.6	51.8	53.1	54.3	55.5	56.7	57.9	59.1	60.2	61.4	62.5	63.6	64.7	65.8	
	european beech	73.1	73.9	75.1	76.0	77.1	77.9	78.8	79.6	80.7	81.8	83.3	84.7	85.1	86.6	88.2	89.7	91.2	92.6	94.1	95.5	96.9	98.3	99.6	101.0	102.3	103.7	
	turkey oak	61.9	61.9	62.3	62.6	62.9	63.0	63.2	63.3	63.7	64.1	64.7	65.4	65.2	65.9	66.6	67.3	68.0	68.6	69.2	69.9	70.5	71.1	71.6	72.2	72.8	73.3	
	other oaks	52.1	52.5	53.3	53.9	54.5	55.0	55.5	55.9	56.5	57.1	57.9	58.7	58.8	59.6	60.4	61.1	61.9	62.5	63.1	63.7	64.3	64.8	65.3	65.8	66.2	66.6	
	other broadleaves	48.5	48.9	49.6	50.2	50.8	51.2	51.7	52.2	52.8	53.5	54.4	55.3	55.4	56.3	57.3	58.2	59.1	60.0	60.8	61.7	62.5	63.3	64.2	65.0	65.8	66.6	
coppices	european beech	26.9	26.1	25.5	24.1	23.1	22.0	21.2	19.6	18.7	18.1	17.5	17.1	16.6	16.2	15.8	15.5	15.2	14.9	14.7	14.5	14.2	14.0	13.9	13.7	13.5	13.4	
	sweet chestnut	37.4	37.6	37.9	36.8	36.3	35.6	35.0	33.2	32.4	31.9	31.6	31.3	31.0	30.7	30.5	30.3	30.1	29.9	29.7	29.6	29.4	29.2	29.1	29.0	28.8	28.7	
	hornbeams	14.3	14.1	13.9	13.3	13.0	12.6	12.3	11.6	11.3	11.1	10.9	10.8	10.7	10.7	10.6	10.5	10.5	10.4	10.4	10.3	10.3	10.3	10.3	10.2	10.2	10.2	
	other oaks	20.1	20.1	20.2	19.6	19.4	19.1	18.9	18.1	17.8	17.7	17.7	17.7	17.7	17.8	17.8	17.8	17.8	17.8	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	
	turkey oak	20.2	19.7	19.3	18.2	17.6	16.8	16.2	15.1	14.5	14.0	13.7	13.5	13.2	12.9	12.7	12.6	12.4	12.3	12.1	12.0	11.9	11.8	11.7	11.6	11.6	11.5	
	evergreen oaks	25.2	24.6	24.1	22.8	22.0	21.0	20.2	18.8	18.0	17.5	17.0	16.6	16.2	15.9	15.6	15.4	15.1	14.9	14.7	14.5	14.4	14.2	14.1	13.9	13.8	13.7	
	other broadleaves	27.3	27.6	28.0	27.4	27.2	26.8	26.6	25.4	25.0	24.8	24.8	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	
	conifers	20.7	20.6	20.5	19.8	19.4	18.8	18.4	17.3	16.8	16.4	16.1	15.9	15.6	15.4	15.3	15.1	14.9	14.8	14.6	14.5	14.3	14.2	14.1	14.0	13.9	13.8	
	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	other broadleaves coppices	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.0	6.0	6.0	6.0
plantations	poplars stands	5.8	6.3	6.8	7.3	7.7	8.2	8.6	9.0	9.4	9.7	10.3	10.9	11.4	11.9	12.4	12.8	13.2	13.5	13.8	14.1	14.3	14.6	14.7	14.9	15.1	15.2	
	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	conifers stands	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
protected	rupicolous forest	38.1	39.1	40.2	41.2	42.2	43.2	44.1	45.0	45.9	46.8	48.0	49.2	49.7	50.9	52.1	53.3	54.4	55.5	56.6	57.6	58.7	59.7	60.7	61.6	62.6	63.5	
	riparian forest	50.2	50.2	50.3	50.4	50.6	50.7	50.7	50.8	50.8	50.9	51.3	51.7	51.5	52.0	52.4	52.9	53.3	53.7	54.1	54.4	54.8	55.2	55.5	55.8	56.2	56.5	

Veneto		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology		<i>t C ha-1</i>																											
stands	norway spruce	52.3	52.1	51.9	51.8	51.8	51.6	51.8	51.9	51.6	51.8	52.2	52.5	53.3	53.7	54.0	54.4	54.7	55.1	55.4	55.8	56.1	56.5	56.8	57.1	57.4			
	silver fir	69.0	68.7	68.4	68.2	68.1	67.9	68.1	68.2	67.8	68.0	68.5	68.9	69.3	69.8	70.2	70.7	71.1	71.5	71.9	72.4	72.8	73.2	73.6	74.0	74.3	74.7		
	larches	52.9	52.8	52.8	52.8	52.9	52.8	53.2	53.4	53.2	53.5	54.0	54.4	54.9	55.4	55.9	56.4	56.9	57.3	57.8	58.3	58.7	59.2	59.6	60.0	60.4	60.9		
	mountain pines	62.3	63.3	64.3	65.4	66.6	67.7	69.2	70.6	71.5	73.0	74.9	76.7	78.6	80.5	82.5	84.5	86.5	88.6	90.6	92.7	94.8	96.9	99.1	101.2	103.4	105.6		
	mediterranean pines	73.0	74.7	76.5	78.3	80.1	81.8	83.9	85.8	87.0	88.9	91.1	93.3	95.4	97.5	99.5	101.4	103.3	105.1	106.9	108.6	110.2	111.8	113.3	114.8	116.2	117.6		
	other conifers	47.8	48.6	49.5	50.4	51.4	52.2	53.4	54.4	55.1	56.2	57.5	58.8	60.2	61.5	62.8	64.2	65.5	66.7	68.0	69.3	70.6	71.8	73.0	74.2	75.5	76.6		
	european beech	91.9	92.1	92.5	92.8	93.4	93.7	94.6	95.4	95.4	96.3	97.5	98.7	99.9	101.2	102.4	103.7	104.9	106.1	107.3	108.5	109.6	110.8	112.0	113.1	114.2	115.3		
	turkey oak	76.5	76.4	76.3	76.3	76.4	76.4	76.8	77.1	76.8	77.2	77.9	78.5	79.2	79.9	80.5	81.2	81.8	82.5	83.1	83.7	84.3	84.9	85.4	86.0	86.5	87.1		
	other oaks	56.8	57.2	57.7	58.1	58.6	59.0	59.8	60.4	60.5	61.1	62.0	62.8	63.6	64.3	65.1	65.7	66.4	67.0	67.6	68.1	68.6	69.1	69.5	69.9	70.3	70.7		
	other broadleaves	58.0	58.4	58.9	59.3	59.9	60.3	61.1	61.8	62.0	62.8	63.8	64.8	65.8	66.8	67.8	68.7	69.7	70.7	71.6	72.6	73.5	74.4	75.3	76.2	77.1	78.0		
coppices	european beech	55.8	55.9	56.7	57.7	58.2	58.9	59.8	61.1	62.1	63.5	64.9	66.2	67.5	68.9	70.3	71.6	73.0	74.3	75.7	77.0	78.3	79.6	81.0	82.3	83.6	84.9		
	sweet chestnut	64.6	65.9	68.0	70.3	72.0	73.8	75.8	78.4	80.5	83.0	85.5	87.9	90.3	92.6	94.8	97.0	99.2	101.3	103.3	105.3	107.2	109.0	110.8	112.5	114.2	115.9		
	hornbeams	22.7	22.5	22.5	22.6	22.5	22.5	22.6	22.8	23.0	23.2	23.4	23.6	23.8	24.0	24.2	24.4	24.5	24.7	24.9	25.0	25.1	25.3	25.4	25.5	25.7	25.8		
	other oaks	28.2	28.2	28.5	28.9	29.1	29.3	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.0	34.4	34.9	35.3	35.7	36.1	36.4	36.8	37.2	37.5	37.8		
	turkey oak	30.6	30.2	30.2	30.2	30.1	30.0	30.0	30.3	30.4	30.7	30.9	31.1	31.3	31.6	31.8	32.0	32.2	32.4	32.5	32.7	32.9	33.0	33.2	33.3	33.5	33.6		
	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	other broadleaves	43.7	44.3	45.4	46.5	47.3	48.1	49.1	50.4	51.3	52.5	53.6	54.7	55.7	56.6	57.5	58.3	59.1	59.8	60.5	61.1	61.6	62.1	62.6	63.1	63.5	63.9		
	conifers	42.1	42.2	42.8	43.5	43.9	44.4	45.1	46.1	46.8	47.8	48.8	49.7	50.6	51.6	52.5	53.4	54.3	55.2	56.0	56.9	57.7	58.6	59.4	60.2	61.0	61.8		
	eucaliptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	plantations	other broadleaves coppices	61.4	62.9	64.1	66.9	69.4	71.4	73.5	75.1	76.3	77.3	78.4	79.1	79.7	80.2	80.5	80.7	80.8	80.9	81.0	81.1	81.1	81.1	81.2	81.2	81.2	81.2	
poplars stands		62.4	64.6	66.5	70.1	73.2	76.0	78.9	81.4	83.5	85.4	87.4	89.1	90.5	91.7	92.7	93.5	94.2	94.8	95.3	95.7	96.0	96.3	96.5	96.7	96.9	97.0		
other broadleaves stands		26.5	26.7	26.9	28.0	29.1	30.1	31.4	32.6	33.9	35.1	36.6	37.9	39.4	40.8	42.3	43.7	45.2	46.6	48.1	49.5	51.0	52.4	53.9	55.3	56.8	58.2		
conifers stands		49.1	50.8	52.5	56.0	59.6	63.3	67.4	71.6	75.9	80.3	85.2	90.0	95.1	100.1	105.3	110.4	115.6	120.8	126.0	131.1	136.2	141.3	146.3	151.3	156.2	161.0		
others		72.9	74.0	75.0	78.4	81.7	84.9	88.6	92.3	95.8	99.3	103.2	107.0	110.7	114.4	118.0	121.5	125.0	128.3	131.6	134.8	137.8	140.8	143.7	146.5	149.3	151.9		
protected	rupicolous forest	22.7	22.8	23.0	23.1	23.2	23.4	23.6	23.9	24.2	24.4	24.8	25.1	25.5	25.9	26.2	26.6	26.9	27.3	27.6	27.9	28.3	28.6	28.9	29.2	29.5	29.8		
	riparian forest	43.3	43.2	43.0	42.9	42.8	42.7	42.8	43.0	43.1	43.3	43.6	43.9	44.3	44.6	44.9	45.2	45.6	45.9	46.2	46.4	46.7	47.0	47.3	47.6	47.8	48.1		

Appendix II

This appendix contains data in format tables of the aboveground biomass increments (t C) in the period 2000-2025 for each FMP of each region/province.

Abruzzo			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.8
productive	stand	silver fir	2.5	2.6	2.6	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	32.5	33.1	33.6	34.2	34.7	35.3	35.8	36.1	36.5	36.9	37.2	37.2	37.2	37.2	37.1	37.0	37.0	36.9	36.7	36.6	36.5	36.3	36.2	36.0	35.9	
productive	stand	mediterranean pines	5.0	5.1	5.2	5.2	5.3	5.3	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8
productive	stand	other conifers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	european beech	229.6	233.1	237.0	240.8	244.6	248.5	252.3	253.8	256.9	260.0	263.1	264.3	265.4	266.5	267.6	268.5	269.4	270.2	270.9	271.5	272.1	272.7	273.1	273.5	273.9	274.2
productive	stand	turkey oak	19.7	20.0	20.2	20.5	20.8	21.1	21.4	21.6	21.8	22.0	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
productive	stand	other oaks	45.6	46.1	46.5	46.9	47.2	47.6	47.9	48.8	48.7	48.7	48.6	47.8	46.9	46.0	45.0	44.1	43.1	42.2	41.3	40.4	39.5	38.6	37.8	37.0	36.3	35.5
productive	stand	other broadleaves	32.8	33.3	33.9	34.5	35.1	35.7	36.3	36.5	37.0	37.5	37.9	38.2	38.4	38.6	38.8	39.0	39.2	39.4	39.6	39.8	40.0	40.2	40.4	40.5	40.7	40.8
productive	coppice	european beech	88.4	89.5	90.6	91.7	92.7	93.8	94.8	95.1	96.0	96.9	97.7	97.8	98.0	98.1	98.2	98.3	98.4	98.5	98.6	98.7	98.8	98.9	99.0	99.0	99.1	99.2
productive	coppice	sweet chestnut	35.8	36.5	37.2	37.8	38.5	39.1	39.7	40.0	40.5	40.8	41.1	41.0	40.8	40.6	40.3	39.9	39.5	39.1	38.6	38.2	37.7	37.2	36.8	36.3	35.8	35.4
productive	coppice	hornbeams	10.7	10.9	11.1	11.3	11.5	11.7	12.0	12.2	12.3	12.3	12.5	12.4	12.4	12.3	12.3	12.2	12.2	12.1	12.1	12.1	12.0	12.0	12.0	12.0	12.0	11.9
productive	coppice	other oaks	51.0	51.5	52.0	52.7	53.6	54.1	54.8	56.2	55.7	55.2	55.1	54.0	53.1	52.1	51.2	50.4	49.7	49.0	48.4	47.8	47.3	46.8	46.4	46.0	45.6	45.3
productive	coppice	turkey oak	6.6	6.8	6.9	7.1	7.2	7.4	7.5	7.7	7.8	7.8	7.8	7.8	7.7	7.6	7.6	7.5	7.5	7.4	7.4	7.3	7.3	7.2	7.2	7.2	7.1	7.1
productive	coppice	evergreen oaks	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
productive	coppice	other broadleaves	66.8	67.5	68.1	68.8	69.6	70.2	70.9	71.7	71.7	71.6	71.7	70.8	69.9	68.9	68.0	67.1	66.1	65.2	64.4	63.5	62.7	61.9	61.2	60.5	59.9	59.2
productive	coppice	conifers	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.3	6.4	6.5	6.6	6.7	6.7	6.8	6.8	6.8	6.9	6.9	6.9	7.0	7.0	7.0	7.1	7.1	7.1	7.2
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
productive	plantation	poplars stands	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
productive	plantation	other broadleaves stands	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
productive	plantation	conifers stands	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	8.2	7.7	7.5	7.2	6.8	6.9	6.9	6.8	6.6	6.6	6.5	6.3	6.2	6.1	6.0	5.9	5.9	5.8	5.8	5.7	5.7	5.6	5.6	5.6	5.6	5.5
protective	other	rupicolous forest	52.5	53.5	54.7	55.8	57.0	58.2	59.4	59.6	60.7	61.8	62.9	63.7	64.5	65.3	66.1	66.9	67.6	68.4	69.1	69.8	70.5	71.2	71.8	72.4	73.1	73.7
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Alto Adige																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	199.7	201.1	202.5	203.9	205.3	206.7	208.0	206.4	204.7	203.1	201.5	201.4	201.4	201.3	201.3	201.2	201.1	201.1	201.0	201.0	200.9	200.9	200.8	200.8	200.7	200.7	
productive	stand	silver fir	7.9	8.0	8.0	8.1	8.1	8.2	8.2	8.2	8.1	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
productive	stand	larches	82.0	82.6	83.2	83.8	84.4	85.0	85.5	85.0	84.2	83.6	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.1
productive	stand	mountain pines	158.5	161.4	164.4	167.1	170.1	172.9	175.3	177.3	178.1	179.8	181.5	183.7	185.8	187.9	190.0	192.1	194.2	196.3	198.3	200.4	202.4	204.4	206.4	208.4	210.4	212.3	
productive	stand	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other conifers	5.1	5.2	5.3	5.3	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.8	5.8	5.8	5.8	5.8	
productive	stand	european beech	11.0	11.2	11.3	11.5	11.6	11.7	11.9	11.9	11.9	11.9	11.9	12.0	12.0	12.1	12.2	12.2	12.3	12.4	12.4	12.5	12.5	12.6	12.6	12.7	12.7	12.8	
productive	stand	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other oaks	8.0	8.1	8.1	8.2	8.2	8.3	8.3	8.2	8.1	8.0	7.8	7.8	7.7	7.7	7.6	7.6	7.5	7.5	7.4	7.4	7.3	7.3	7.2	7.2	7.1	7.1	
productive	stand	other broadleaves	8.2	8.4	8.5	8.6	8.7	8.8	8.9	8.9	8.9	8.9	8.8	8.9	8.9	9.0	9.0	9.1	9.1	9.1	9.2	9.2	9.2	9.3	9.3	9.3	9.4	9.4	
productive	coppice	european beech	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
productive	coppice	sweet chestnut	7.0	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.6	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.3	
productive	coppice	hornbeams	3.4	3.5	3.5	3.5	3.5	3.5	3.6	3.5	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	
productive	coppice	other oaks	3.8	3.8	3.8	3.8	3.8	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
productive	coppice	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	other broadleaves	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	
productive	coppice	conifers	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	poplars stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	conifers stands	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
protective	other	rupicolous forest	49.7	50.3	50.9	51.4	52.0	52.6	53.2	53.5	53.8	54.0	54.2	54.6	55.0	55.4	55.8	56.1	56.5	56.8	57.2	57.5	57.9	58.2	58.5	58.9	59.2	59.5	
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Aboveground biomass increments (t C) in the period 2000-2025

Basilicata																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	9.3	9.5	9.6	9.7	9.8	10.0	10.1	10.2	10.3	10.5	10.6	10.6	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.8	10.8	10.8	10.8
productive	stand	mediterranean pines	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.1	14.0	13.9	13.8	13.7	13.5	13.4	13.3	13.1	13.0	12.9	12.7	12.6	12.5	12.3
productive	stand	other conifers	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1
productive	stand	european beech	81.3	82.0	82.8	83.6	84.4	85.2	86.0	86.9	87.9	88.8	89.8	89.8	89.9	90.0	90.0	90.0	90.1	90.1	90.1	90.1	90.1	90.1	90.0	90.0	89.9	
productive	stand	turkey oak	109.6	110.7	112.1	113.4	114.7	116.1	117.4	118.7	120.1	121.5	123.0	123.4	123.7	124.1	124.5	124.9	125.2	125.6	125.9	126.2	126.5	126.7	127.0	127.2	127.5	127.7
productive	stand	other oaks	44.7	44.9	44.9	45.0	44.9	44.9	44.9	45.3	45.6	45.8	46.0	45.3	44.8	44.0	43.2	42.4	41.6	40.8	40.0	39.3	38.6	37.9	37.2	36.5	35.9	35.3
productive	stand	other broadleaves	68.6	69.4	70.3	71.2	72.2	73.1	74.1	75.0	75.9	76.9	78.0	78.3	78.6	79.1	79.5	79.9	80.3	80.7	81.0	81.4	81.7	82.1	82.4	82.7	83.0	83.3
productive	coppice	european beech	7.4	7.5	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	8.0	8.1	8.1	8.1	8.1
productive	coppice	sweet chestnut	30.0	30.5	31.0	31.3	31.6	32.0	32.3	32.7	33.0	33.5	33.9	34.0	34.1	34.2	34.3	34.3	34.4	34.5	34.5	34.5	34.5	34.6	34.6	34.6	34.6	34.6
productive	coppice	hornbeams	5.2	5.2	5.2	5.3	5.4	5.4	5.5	5.6	5.7	5.7	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
productive	coppice	other oaks	59.3	58.4	57.7	58.3	59.6	59.8	60.4	61.8	62.7	62.9	63.0	62.0	61.5	60.4	59.4	58.8	58.0	57.3	56.7	56.1	55.6	55.1	54.7	54.3	53.9	53.6
productive	coppice	turkey oak	15.4	15.5	15.6	15.8	15.9	16.1	16.2	16.4	16.6	16.8	17.0	17.0	16.9	16.9	16.9	16.9	16.8	16.8	16.8	16.8	16.7	16.7	16.7	16.7	16.6	16.6
productive	coppice	evergreen oaks	16.9	17.1	17.3	17.4	17.5	17.7	17.8	18.0	18.1	18.3	18.5	18.5	18.5	18.5	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.7	18.7
productive	coppice	other broadleaves	41.6	42.0	42.2	42.6	42.9	43.2	43.5	44.0	44.4	44.7	45.0	44.7	44.5	44.2	43.8	43.5	43.1	42.7	42.3	41.9	41.5	41.2	40.8	40.5	40.1	39.8
productive	coppice	conifers	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.3
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	poplars stands	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
productive	plantation	other broadleaves stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	3.4	3.0	3.0	2.9	2.8	2.6	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3
protective	other	rupicolous forest	68.4	69.5	70.8	72.2	73.5	74.8	76.2	77.3	78.5	79.9	81.3	82.1	82.7	83.6	84.5	85.3	86.1	86.8	87.5	88.2	88.9	89.6	90.2	90.8	91.4	92.0
protective	other	riparian forest	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0

Aboveground biomass increments (t C) in the period 2000-2025

Campania																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.3	7.4	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.7	7.8	7.8	7.8	7.8
productive	stand	mediterranean pines	5.5	5.6	5.6	5.7	5.8	5.8	5.9	5.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
productive	stand	other conifers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	european beech	127.8	128.7	129.5	130.2	131.1	132.2	133.1	133.3	133.8	134.3	134.8	134.3	133.9	134.1	134.3	134.4	134.5	134.6	134.7	134.8	134.9	135.0	135.1	135.2	135.3	135.4
productive	stand	turkey oak	18.6	18.7	18.8	18.9	19.1	19.2	19.3	19.4	19.4	19.5	19.6	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.6	19.6	19.6	19.6	19.6
productive	stand	other oaks	12.8	12.9	13.0	13.1	13.3	13.4	13.5	13.5	13.6	13.6	13.7	13.7	13.7	13.7	13.7	13.7	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.5	13.5
productive	stand	other broadleaves	25.1	25.3	25.5	25.6	25.8	26.1	26.3	26.3	26.5	26.6	26.7	26.6	26.5	26.6	26.7	26.7	26.8	26.9	26.9	27.0	27.0	27.1	27.2	27.2	27.3	27.3
productive	coppice	european beech	13.9	13.9	14.0	13.9	13.9	14.0	14.0	13.5	13.3	13.2	13.2	13.1	13.0	12.9	12.9	12.8	12.7	12.6	12.6	12.5	12.5	12.4	12.4	12.3	12.3	12.2
productive	coppice	sweet chestnut	145.1	146.5	148.6	150.0	151.8	153.5	155.0	154.2	154.7	155.5	156.6	157.1	157.4	158.0	158.5	158.7	159.0	159.4	159.8	160.1	160.4	160.7	161.0	161.2	161.5	161.7
productive	coppice	hornbeams	20.1	20.3	20.4	20.6	20.8	20.9	21.1	21.5	21.7	21.8	21.9	21.8	21.8	21.8	21.7	21.8	21.8	21.7	21.7	21.7	21.7	21.6	21.6	21.6	21.6	21.6
productive	coppice	other oaks	44.9	45.2	45.7	45.9	46.3	46.7	47.1	46.5	46.5	46.8	46.8	46.8	46.9	47.0	47.0	47.0	47.1	47.1	47.1	47.2	47.3	47.3	47.4	47.4	47.5	47.5
productive	coppice	turkey oak	30.6	30.9	31.1	31.4	31.7	31.9	32.2	32.4	32.6	32.7	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.8	32.8	32.8	32.8
productive	coppice	evergreen oaks	15.1	15.1	15.3	15.3	15.5	15.6	15.7	15.6	15.6	15.6	15.7	15.7	15.7	15.7	15.7	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.7	15.7	15.7
productive	coppice	other broadleaves	143.5	144.9	146.8	148.2	149.7	151.1	152.4	152.5	153.1	153.8	154.7	154.9	155.0	155.1	155.2	155.2	155.1	155.1	155.0	154.9	154.7	154.6	154.4	154.2	154.0	153.8
productive	coppice	conifers	10.3	10.4	10.6	10.7	10.8	10.9	11.1	10.9	10.9	10.9	11.0	11.0	11.1	11.1	11.2	11.2	11.2	11.3	11.3	11.4	11.4	11.5	11.5	11.5	11.6	11.6
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8
productive	plantation	poplars stands	3.2	3.0	3.1	3.1	3.2	3.1	3.1	3.3	3.1	2.8	2.8	2.6	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
productive	plantation	other broadleaves stands	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
productive	plantation	conifers stands	2.5	2.6	2.6	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
productive	plantation	others	108.4	109.0	109.6	110.1	110.7	111.1	111.6	112.1	112.3	112.6	112.7	112.8	112.7	112.2	111.6	111.1	110.5	110.0	109.4	108.8	108.3	107.7	107.1	106.6	106.1	105.5
protective	other	rupicolous forest	63.7	64.6	65.6	66.5	67.5	68.4	69.3	69.7	70.3	70.7	71.3	71.3	71.4	71.8	72.3	72.7	73.1	73.4	73.8	74.1	74.4	74.7	75.0	75.2	75.4	75.7
protective	other	riparian forest	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7

Aboveground biomass increments (t C) in the period 2000-2025

Friuli Venezia Giulia																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	48.6	49.0	49.5	49.9	50.3	50.8	51.2	51.4	51.7	51.9	52.2	52.2	52.2	52.3	52.3	52.4	52.4	52.4	52.5	52.5	52.5	52.6	52.6	52.6	52.6		
productive	stand	silver fir	12.4	12.5	12.7	12.8	12.9	13.0	13.1	13.2	13.2	13.3	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	
productive	stand	larches	13.5	13.6	13.8	13.9	14.0	14.1	14.3	14.3	14.4	14.5	14.5	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	
productive	stand	mountain pines	51.8	53.0	54.0	54.9	56.0	57.1	58.2	59.3	60.2	61.3	62.4	63.4	64.3	65.2	66.2	67.2	68.2	69.2	70.1	71.1	72.0	72.9	73.8	74.7	75.6	76.5	
productive	stand	mediterranean pines	4.2	4.3	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.1	4.1	4.0	4.0	
productive	stand	other conifers	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
productive	stand	european beech	130.8	132.3	133.7	134.8	136.3	137.7	139.0	140.0	140.9	141.9	142.9	143.5	144.0	144.4	144.9	145.4	145.9	146.4	146.8	147.2	147.6	148.0	148.4	148.7	149.1	149.4	
productive	stand	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other oaks	4.5	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.5	4.5	4.4	4.4	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.0	4.0	4.0	
productive	stand	other broadleaves	24.8	25.1	25.4	25.7	26.0	26.3	26.5	26.7	26.9	27.1	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0	28.0	28.1	28.2	28.3	28.3	28.4	28.5	28.5	
productive	coppice	european beech	33.8	34.2	34.8	35.4	36.0	36.5	37.1	37.6	37.7	38.3	38.7	39.1	39.4	39.6	40.0	40.4	40.7	41.0	41.3	41.6	41.9	42.2	42.5	42.8	43.0	43.3	
productive	coppice	sweet chestnut	33.0	33.5	34.0	34.5	35.0	35.4	35.9	36.2	36.4	36.7	36.9	37.0	37.0	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.0	37.0	37.0	36.9
productive	coppice	hornbeams	12.5	12.6	12.8	12.9	13.0	13.2	13.3	13.3	13.5	13.5	13.6	13.6	13.5	13.5	13.5	13.5	13.5	13.4	13.4	13.4	13.4	13.4	13.3	13.3	13.3	13.3	
productive	coppice	other oaks	5.4	5.5	5.5	5.6	5.6	5.7	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	
productive	coppice	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	other broadleaves	105.7	106.4	107.0	107.4	107.8	108.2	108.4	108.0	108.5	107.9	107.5	106.3	105.4	104.5	103.3	102.1	101.0	100.0	99.0	98.0	97.1	96.2	95.4	94.6	93.9	93.2	
productive	coppice	conifers	22.1	22.4	22.7	23.1	23.4	23.8	24.1	24.4	24.5	24.7	25.0	25.1	25.2	25.3	25.5	25.6	25.7	25.9	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
productive	plantation	poplars stands	9.7	10.0	10.5	11.0	11.6	11.8	12.1	11.6	12.0	12.3	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	
productive	plantation	other broadleaves stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	others	4.4	4.5	4.6	4.8	5.0	5.2	5.2	4.9	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	
protective	other	rupicolous forest	113.5	115.3	117.0	118.4	120.2	122.0	123.7	125.2	126.8	128.3	129.9	131.1	132.3	133.4	134.6	135.8	137.0	138.1	139.2	140.2	141.3	142.3	143.3	144.3	145.3	146.2	
protective	other	riparian forest	30.7	31.0	31.2	31.4	31.7	32.0	32.3	32.5	32.7	32.9	33.1	33.2	33.3	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0	34.0	34.1	34.2	34.3	34.3	

Aboveground biomass increments (t C) in the period 2000-2025

Lazio																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	16.4	16.6	16.9	17.1	17.3	17.6	17.8	18.0	18.2	18.5	18.7	18.8	18.8	18.9	18.9	19.0	19.0	19.0	19.1	19.1	19.1	19.1	19.1	19.2	19.2	19.2
productive	stand	mediterranean pines	17.7	18.0	18.3	18.5	18.7	19.0	19.2	19.4	19.6	19.9	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.0	20.0	20.0	20.0	19.9	19.9	19.8	19.8
productive	stand	other conifers	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
productive	stand	european beech	81.8	82.7	83.5	84.1	84.8	85.6	86.3	86.9	87.6	88.4	89.0	88.9	88.6	88.6	88.7	88.7	88.8	88.9	88.9	89.0	89.0	89.1	89.1	89.2	89.2	89.3
productive	stand	turkey oak	18.5	18.7	18.9	19.0	19.1	19.3	19.5	19.6	19.7	19.9	20.0	20.0	19.9	19.9	19.9	19.9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
productive	stand	other oaks	17.7	17.9	18.2	18.4	18.6	18.8	19.1	19.3	19.5	19.7	19.9	19.9	19.9	19.9	19.8	19.8	19.8	19.8	19.8	19.7	19.7	19.6	19.6	19.6	19.5	19.5
productive	stand	other broadleaves	19.8	20.0	20.2	20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	21.9	21.8	21.9	22.0	22.0	22.1	22.2	22.2	22.3	22.4	22.4	22.5	22.5	22.6	22.6
productive	coppice	european beech	66.6	67.2	67.9	68.6	69.3	70.0	70.7	71.4	72.1	72.9	73.6	73.6	73.7	73.8	73.9	73.9	73.9	74.0	74.1	74.2	74.3	74.3	74.4	74.4	74.5	74.6
productive	coppice	sweet chestnut	276.0	277.9	269.9	270.1	266.3	266.9	264.5	265.9	257.4	253.7	251.5	243.7	235.3	224.8	215.9	217.1	213.9	208.0	203.4	199.9	197.2	195.2	193.6	192.4	191.5	190.9
productive	coppice	hornbeams	72.1	73.4	74.3	75.4	76.4	77.5	78.5	79.4	80.1	80.9	81.6	81.5	81.3	81.0	80.7	80.6	80.5	80.2	80.0	79.7	79.5	79.3	79.1	78.9	78.8	78.6
productive	coppice	other oaks	104.3	105.6	106.8	108.0	109.2	110.4	111.5	112.5	113.3	114.0	114.7	114.0	113.1	111.9	110.5	109.8	108.8	107.4	106.0	104.6	103.3	102.1	100.9	99.8	98.8	97.8
productive	coppice	turkey oak	76.4	78.5	79.4	81.0	82.0	83.4	84.3	85.5	85.7	86.2	86.8	86.1	85.3	84.3	83.2	82.9	82.4	81.5	80.7	80.0	79.3	78.7	78.2	77.7	77.2	76.8
productive	coppice	evergreen oaks	46.2	46.6	47.1	47.6	48.1	48.6	49.2	49.6	50.1	50.7	51.2	51.2	51.3	51.3	51.4	51.4	51.4	51.5	51.6	51.6	51.7	51.7	51.8	51.8	51.9	51.9
productive	coppice	other broadleaves	138.3	140.2	142.3	144.2	146.2	148.0	149.9	151.6	153.3	154.9	156.4	156.3	156.0	155.6	155.0	154.7	154.1	153.4	152.6	151.7	150.9	150.0	149.1	148.2	147.3	146.5
productive	coppice	conifers	10.2	10.3	10.4	10.6	10.7	10.9	11.1	11.2	11.4	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.8	12.9	13.0
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
productive	plantation	poplars stands	5.1	4.9	5.7	6.3	6.2	6.4	7.5	7.2	6.6	6.5	6.7	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3
productive	plantation	other broadleaves stands	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
productive	plantation	conifers stands	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
productive	plantation	others	32.0	32.4	32.3	32.1	32.3	32.3	31.6	31.7	32.1	32.3	32.4	32.2	31.9	31.8	31.7	31.7	31.6	31.5	31.5	31.5	31.5	31.4	31.4	31.4	31.3	31.3
protective	other	rupicolous forest	42.5	43.1	43.9	44.4	45.2	45.9	46.7	47.2	47.9	48.6	49.2	49.5	49.6	50.0	50.5	50.9	51.4	51.8	52.2	52.7	53.1	53.5	53.8	54.2	54.6	54.9
protective	other	riparian forest	2.5	2.5	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9

Aboveground biomass increments (t C) in the period 2000-2025

Aboveground biomass increments (t C) in the period 2000-2025

Liguria																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
productive	stand	silver fir	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8
productive	stand	larches	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8
productive	stand	mountain pines	20.4	20.4	20.6	20.3	20.4	20.3	20.2	20.3	20.0	20.2	20.4	20.4	20.5	20.7	20.9	21.0	21.1	21.3	21.4	21.6	21.7	21.8	22.0	22.1	22.3	22.4
productive	stand	mediterranean pines	65.6	65.9	66.4	66.5	66.9	67.0	67.2	67.7	68.1	68.8	69.4	69.6	69.7	69.9	70.1	70.2	70.3	70.4	70.4	70.5	70.5	70.5	70.5	70.5	70.5	70.5
productive	stand	other conifers	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
productive	stand	european beech	4.9	4.9	5.0	4.9	5.0	4.9	4.9	5.0	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.3
productive	stand	turkey oak	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
productive	stand	other oaks	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
productive	stand	other broadleaves	20.2	20.2	20.3	20.2	20.3	20.2	20.2	20.3	20.3	20.5	20.6	20.6	20.7	20.8	20.8	20.9	20.9	21.0	21.0	21.1	21.1	21.2	21.2	21.3	21.3	21.3
productive	coppice	european beech	53.7	54.5	55.5	56.2	57.3	58.3	59.2	60.0	61.1	62.0	63.1	63.8	64.4	64.8	64.9	64.6	64.0	63.0	61.5	59.6	57.3	54.7	52.1	49.4	47.0	44.8
productive	coppice	sweet chestnut	408.5	410.0	411.4	412.2	413.0	413.5	413.6	416.1	418.5	420.7	422.8	421.9	420.8	419.4	417.9	416.3	414.6	412.7	410.7	408.6	406.5	404.3	402.1	399.8	397.5	395.1
productive	coppice	hornbeams	9.5	9.5	9.5	9.4	9.4	9.3	9.3	9.4	9.4	9.5	9.5	9.5	9.4	9.4	9.3	9.3	9.2	9.2	9.1	9.1	9.1	9.0	9.0	8.9	8.9	8.9
productive	coppice	other oaks	61.3	60.0	58.4	57.5	55.7	54.4	53.1	53.3	52.8	52.6	52.1	50.8	49.7	48.4	47.2	46.2	45.4	44.5	43.7	43.0	42.4	41.8	41.2	40.7	40.2	39.8
productive	coppice	turkey oak	9.3	9.3	9.2	9.2	9.2	9.2	9.1	9.2	9.3	9.3	9.4	9.3	9.3	9.3	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.0	9.0	9.0	8.9	8.9
productive	coppice	evergreen oaks	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.1	11.2	11.3	11.3	11.3	11.3	11.3	11.3	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
productive	coppice	other broadleaves	152.8	151.0	148.5	146.5	143.6	140.8	138.0	137.3	135.8	134.7	133.1	129.8	126.7	123.3	120.0	117.2	114.5	111.8	109.3	106.9	104.7	102.6	100.6	98.8	97.1	95.6
productive	coppice	conifers	13.6	13.7	13.8	13.9	14.0	14.1	14.3	14.4	14.6	14.7	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.6	15.7	15.8	15.8	15.9	16.0	16.0	16.1
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	poplars stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
protective	other	rupicolous forest	51.8	52.5	53.5	53.8	54.6	54.8	55.8	56.8	58.0	58.9	60.2	60.9	61.7	62.8	63.8	64.6	65.5	66.3	67.2	68.0	68.8	69.5	70.3	71.0	71.7	72.4
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Lombardia																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	80.5	80.5	80.6	80.8	81.1	81.3	81.7	81.9	82.1	82.1	82.2	82.1	82.0	81.9	81.8	81.7	81.6	81.5	81.4	81.4	81.3	81.2	81.1	81.0	80.9	80.9
productive	stand	silver fir	19.4	19.4	19.4	19.5	19.5	19.5	19.6	19.7	19.7	19.7	19.7	19.7	19.7	19.6	19.6	19.6	19.5	19.5	19.5	19.4	19.4	19.4	19.3	19.3	19.3	19.3
productive	stand	larches	44.8	44.7	44.7	44.8	44.9	44.9	45.2	45.3	45.3	45.3	45.2	45.2	45.1	45.0	44.9	44.9	44.8	44.7	44.7	44.6	44.6	44.5	44.4	44.4	44.3	
productive	stand	mountain pines	44.6	44.8	45.0	45.5	46.0	46.4	47.1	47.6	48.1	48.3	48.7	49.0	49.3	49.7	50.0	50.3	50.7	51.0	51.3	51.6	52.0	52.3	52.6	52.9	53.2	53.6
productive	stand	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	other conifers	8.4	8.5	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.2	9.3	9.3	9.4	9.4	9.4	9.5	9.5	9.6	9.6	9.6	9.7	9.7	9.7	9.8	9.8
productive	stand	european beech	13.3	13.3	13.3	13.4	13.5	13.6	13.7	13.8	13.9	13.9	14.0	14.0	14.0	14.0	14.1	14.1	14.1	14.1	14.2	14.2	14.2	14.2	14.3	14.3	14.3	14.3
productive	stand	turkey oak	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
productive	stand	other oaks	6.6	6.6	6.7	6.7	6.8	6.9	6.9	7.0	7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1
productive	stand	other broadleaves	35.7	35.9	36.0	36.3	36.5	36.7	37.0	37.3	37.5	37.6	37.8	37.8	37.9	38.0	38.0	38.1	38.1	38.2	38.2	38.2	38.3	38.3	38.4	38.4	38.5	38.6
productive	coppice	european beech	52.2	52.6	52.9	53.3	53.6	54.0	54.4	54.7	55.0	55.3	55.6	55.7	55.8	55.9	56.0	56.1	56.2	56.2	56.3	56.3	56.4	56.4	56.4	56.5	56.5	56.5
productive	coppice	sweet chestnut	273.2	275.6	277.8	279.8	281.8	283.6	285.2	286.5	287.5	288.5	289.3	288.8	288.2	287.4	286.5	285.6	284.6	283.5	282.3	281.1	279.8	278.5	277.2	275.9	274.5	273.2
productive	coppice	hornbeams	34.0	34.2	34.4	34.6	34.8	34.9	35.0	35.1	35.2	35.3	35.4	35.3	35.1	35.0	34.9	34.8	34.7	34.6	34.5	34.4	34.3	34.2	34.1	34.0	34.0	33.9
productive	coppice	other oaks	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0	26.1	26.2	26.3	26.2	26.2	26.1	26.1	26.1	26.0	26.0	26.0	25.9	25.9	25.9	25.8	25.8	25.8	25.8
productive	coppice	turkey oak	10.0	10.0	10.1	10.1	10.2	10.2	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.0	10.0	10.0	10.0	9.9
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	coppice	other broadleaves	361.6	358.9	356.1	352.8	348.9	344.7	340.0	335.3	330.5	326.8	322.4	315.1	308.1	301.1	294.4	288.8	283.2	277.8	272.8	268.1	263.7	259.7	255.9	252.4	249.2	246.2
productive	coppice	conifers	39.1	39.6	40.0	40.4	40.9	41.3	41.8	42.2	42.6	42.9	43.3	43.6	43.8	44.0	44.2	44.4	44.6	44.8	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
productive	plantation	poplars stands	197.5	186.5	175.7	165.9	157.1	148.9	142.6	135.2	129.7	120.6	112.9	103.3	95.1	88.1	82.2	77.3	73.1	69.6	66.7	64.3	62.3	60.6	59.3	58.1	57.2	56.4
productive	plantation	other broadleaves stands	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
productive	plantation	conifers stands	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
productive	plantation	others	35.1	35.2	35.3	35.3	35.3	35.3	35.4	35.3	35.3	35.2	35.0	34.7	34.3	34.0	33.6	33.3	32.9	32.5	32.1	31.8	31.4	31.0	30.7	30.3	29.9	29.6
protective	other	rupicolous forest	45.1	45.6	46.1	46.6	47.1	47.6	48.1	48.6	49.1	49.6	50.1	50.5	50.9	51.2	51.6	52.0	52.4	52.7	53.1	53.4	53.8	54.1	54.4	54.8	55.1	55.4
protective	other	riparian forest	47.5	47.7	47.9	48.1	48.3	48.5	48.7	48.9	49.1	49.3	49.5	49.5	49.6	49.7	49.8	49.8	49.9	50.0	50.1	50.1	50.2	50.3	50.4	50.4	50.5	50.5

Aboveground biomass increments (t C) in the period 2000-2025

Marche																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.2
productive	stand	silver fir	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.8
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	19.8	20.2	20.6	21.0	21.4	21.7	22.1	22.1	22.3	22.4	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.5	
productive	stand	mediterranean pines	12.9	13.1	13.4	13.6	13.8	14.1	14.3	14.3	14.4	14.5	14.5	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.9	13.8	13.7	13.5	13.4	13.3	13.2	
productive	stand	other conifers	2.1	2.2	2.2	2.3	2.3	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	3.0
productive	stand	european beech	8.4	8.5	8.7	8.9	9.0	9.2	9.4	9.3	9.4	9.5	9.6	9.7	9.7	9.8	9.9	10.0	10.0	10.1	10.2	10.2	10.3	10.3	10.4	10.5	10.5	10.6
productive	stand	turkey oak	6.5	6.6	6.7	6.8	7.0	7.1	7.2	7.2	7.3	7.3	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.8	7.8
productive	stand	other oaks	4.9	5.0	5.1	5.1	5.2	5.3	5.4	5.4	5.4	5.4	5.5	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.6	
productive	stand	other broadleaves	5.7	5.8	6.0	6.1	6.2	6.4	6.5	6.5	6.5	6.6	6.7	6.8	6.8	6.9	7.0	7.0	7.1	7.1	7.2	7.3	7.3	7.4	7.4	7.5	7.5	7.5
productive	coppice	european beech	29.9	30.3	30.7	31.1	31.4	31.9	32.3	32.4	32.6	32.8	33.0	33.1	33.2	33.3	33.4	33.4	33.5	33.6	33.6	33.7	33.8	33.8	33.9	33.9	34.0	34.0
productive	coppice	sweet chestnut	15.0	15.4	15.7	16.1	16.5	16.9	17.3	17.6	18.0	18.4	18.8	19.2	19.5	19.9	20.2	20.5	20.9	21.2	21.5	21.8	22.0	22.3	22.6	22.8	23.1	23.3
productive	coppice	hornbeams	34.6	35.1	35.6	36.1	36.6	37.0	37.5	37.6	37.6	37.6	37.6	37.4	37.2	37.1	36.9	36.8	36.6	36.5	36.4	36.2	36.1	36.0	35.9	35.8	35.7	35.6
productive	coppice	other oaks	118.5	120.1	121.7	123.2	124.9	126.4	127.9	128.1	128.1	128.0	128.0	127.3	126.7	126.1	125.5	125.0	124.4	123.9	123.4	123.0	122.5	122.1	121.7	121.3	121.0	120.6
productive	coppice	turkey oak	15.2	15.4	15.7	15.9	16.1	16.4	16.6	16.7	16.7	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.7	16.7	16.7	16.7	16.7	16.7	16.6	16.6	16.6
productive	coppice	evergreen oaks	12.5	12.7	12.9	13.0	13.2	13.4	13.6	13.6	13.7	13.8	13.9	13.9	14.0	14.0	14.0	14.1	14.1	14.1	14.1	14.2	14.2	14.2	14.2	14.3	14.3	14.3
productive	coppice	other broadleaves	38.1	39.0	39.8	40.7	41.5	42.3	43.2	43.6	44.1	44.5	44.9	45.1	45.2	45.3	45.3	45.3	45.3	45.2	45.0	44.9	44.7	44.5	44.4	44.1	43.9	43.7
productive	coppice	conifers	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.2
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
productive	plantation	poplars stands	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
productive	plantation	other broadleaves stands	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
protective	other	rupicolous forest	16.0	16.3	16.6	17.0	17.3	17.6	18.0	17.7	18.0	18.2	18.5	18.7	18.8	19.0	19.2	19.4	19.6	19.8	20.0	20.1	20.3	20.5	20.6	20.8	20.9	21.0
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Molise																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	3.7	3.8	3.8	3.8	3.8	3.9	3.9	4.0	4.0	4.1	4.2	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.0	4.0
productive	stand	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	other conifers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	european beech	21.8	22.0	22.1	22.3	22.5	22.6	22.8	23.1	23.5	23.9	24.3	24.3	24.4	24.4	24.4	24.4	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.6	24.6	24.6
productive	stand	turkey oak	20.5	20.6	20.8	20.9	21.0	21.2	21.3	21.7	22.1	22.5	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.5
productive	stand	other oaks	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6
productive	stand	other broadleaves	6.4	6.5	6.5	6.6	6.7	6.7	6.8	6.9	7.0	7.1	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.5	7.5	7.5	7.5	7.6	7.6	7.6	7.6
productive	coppice	european beech	12.2	12.3	12.3	12.4	12.4	12.4	12.5	12.6	12.7	12.8	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
productive	coppice	sweet chestnut	4.2	4.3	4.4	4.5	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.1	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
productive	coppice	hornbeams	6.8	6.8	6.8	6.9	6.9	7.0	7.0	7.1	7.3	7.4	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.3	7.3
productive	coppice	other oaks	75.0	74.5	74.1	73.6	73.6	73.3	73.0	74.8	76.1	77.5	78.7	77.6	76.6	75.6	74.6	74.0	73.2	72.5	71.9	71.3	70.8	70.3	69.9	69.5	69.2	68.8
productive	coppice	turkey oak	27.8	28.0	28.3	28.4	28.7	29.0	29.1	30.0	30.7	31.4	32.0	31.9	31.8	31.7	31.5	31.5	31.4	31.3	31.2	31.1	31.0	31.0	30.9	30.8	30.8	30.7
productive	coppice	evergreen oaks	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
productive	coppice	other broadleaves	4.8	4.8	4.9	4.9	5.0	5.0	5.0	5.1	5.2	5.3	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.1	5.1	5.1
productive	coppice	conifers	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	poplars stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
protective	other	rupicolous forest	17.7	18.0	18.2	18.5	18.7	19.0	19.2	19.5	19.9	20.2	20.6	20.7	20.9	21.0	21.2	21.3	21.5	21.6	21.7	21.9	22.0	22.1	22.2	22.3	22.4	22.5
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Puglia																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	mountain pines	8.4	8.6	8.7	8.9	9.0	9.2	9.3	9.4	9.6	9.7	9.8	9.9	9.9	9.9	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.1	10.1	10.1	10.1	10.1	
productive	stand	mediterranean pines	74.3	75.1	75.9	76.7	77.4	78.1	78.7	79.8	80.8	81.8	82.9	82.8	82.8	82.8	82.9	82.9	82.9	82.9	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	
productive	stand	other conifers	1.2	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	
productive	stand	european beech	8.3	8.6	8.9	9.1	9.4	9.6	9.9	9.9	10.0	10.1	10.2	10.2	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.0	11.1	11.1	11.2	11.3	11.4
productive	stand	turkey oak	32.7	33.0	33.4	33.7	34.0	34.3	34.6	35.0	35.5	35.9	36.4	36.4	36.3	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	
productive	stand	other oaks	14.5	14.8	15.1	15.3	15.6	15.8	16.0	16.1	16.3	16.5	16.6	16.6	16.6	16.7	16.7	16.8	16.8	16.9	16.9	17.0	17.0	17.0	17.0	17.0	17.0	17.1	
productive	stand	other broadleaves	40.6	41.1	41.8	42.2	42.9	43.4	44.0	44.1	44.5	44.8	45.1	45.0	44.7	44.7	44.8	44.8	44.9	45.0	45.0	45.1	45.1	45.2	45.2	45.2	45.3	45.3	
productive	coppice	european beech	1.3	1.2	1.2	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	
productive	coppice	sweet chestnut	5.5	5.5	5.5	5.4	5.3	5.3	5.4	5.4	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	
productive	coppice	hornbeams	4.2	4.2	4.2	4.3	4.3	4.4	4.4	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	
productive	coppice	other oaks	25.1	24.4	24.5	23.8	22.7	22.9	22.8	22.5	22.6	22.6	22.4	22.2	22.1	22.0	22.0	21.9	21.8	21.8	21.8	21.7	21.7	21.7	21.7	21.7	21.7	21.7	
productive	coppice	turkey oak	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
productive	coppice	evergreen oaks	10.9	10.8	10.9	10.8	10.6	10.7	10.7	10.8	10.8	10.9	11.0	11.0	11.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	
productive	coppice	other broadleaves	3.6	3.5	3.6	3.5	3.4	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	
productive	coppice	conifers	1.2	1.2	1.2	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	
productive	plantation	eucalyptus coppices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	other broadleaves coppic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	poplars stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
protective	other	rupicolous forest	3.0	3.0	3.1	3.2	3.2	3.3	3.4	3.4	3.4	3.5	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.8	3.8	3.8	3.9	3.9	3.9	4.0	4.0	4.0	
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Aboveground biomass increments (t C) in the period 2000-2025

Sardegna																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	9.3	9.5	9.7	9.9	10.1	10.2	10.4	10.5	10.5	10.6	10.7	10.7	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
productive	stand	mediterranean pines	48.1	49.3	50.5	51.5	52.6	53.6	54.5	54.9	55.4	55.8	56.3	56.4	56.4	56.4	56.4	56.2	56.1	55.8	55.6	55.3	55.0	54.6	54.2	53.8	53.4	52.9
productive	stand	other conifers	1.8	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	3.0
productive	stand	european beech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	turkey oak	3.6	3.7	3.7	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.6	4.6
productive	stand	other oaks	86.0	87.5	89.4	90.8	92.7	94.5	96.4	97.0	98.3	99.1	100.4	101.2	102.0	102.7	103.4	104.1	104.6	105.1	105.5	105.8	106.0	106.2	106.3	106.3	106.3	106.1
productive	stand	other broadleaves	13.5	13.8	14.2	14.5	14.9	15.2	15.6	15.7	16.0	16.2	16.5	16.7	16.9	17.1	17.3	17.5	17.6	17.8	18.0	18.2	18.3	18.5	18.7	18.8	19.0	19.1
productive	coppice	european beech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	coppice	sweet chestnut	35.7	35.5	35.1	34.7	34.2	33.6	33.0	32.2	31.2	30.6	29.7	28.5	27.3	26.2	25.2	24.2	23.4	22.6	21.9	21.2	20.7	20.1	19.7	19.3	18.9	18.5
productive	coppice	hornbeams	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	coppice	other oaks	12.4	12.7	13.1	13.4	13.8	14.2	14.6	14.9	15.2	15.5	15.9	16.2	16.6	16.9	17.3	17.6	18.0	18.3	18.7	19.1	19.4	19.8	20.1	20.5	20.9	21.2
productive	coppice	turkey oak	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.8	4.7	4.6	4.6	4.5	4.5	4.5	4.4	4.4
productive	coppice	evergreen oaks	114.3	115.8	117.2	118.7	120.1	121.5	122.9	123.7	124.6	125.3	126.1	126.4	126.7	126.9	127.2	127.4	127.6	127.8	128.0	128.1	128.3	128.4	128.6	128.7	128.8	128.9
productive	coppice	other broadleaves	177.5	181.3	184.7	187.7	190.4	192.8	194.8	195.4	195.5	195.6	195.0	193.0	190.6	187.8	184.8	181.4	178.1	174.5	170.9	167.3	163.7	160.1	156.6	153.2	149.9	146.8
productive	coppice	conifers	11.4	11.7	12.0	12.3	12.5	12.8	13.1	13.3	13.6	13.7	14.0	14.2	14.3	14.5	14.7	14.8	15.0	15.1	15.2	15.4	15.5	15.6	15.7	15.9	16.0	16.1
productive	plantation	eucalyptus coppices	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
productive	plantation	other broadleaves coppic	3.4	3.2	3.1	3.1	3.0	3.0	2.9	2.8	2.6	2.7	2.5	2.3	2.1	2.0	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
productive	plantation	poplars stands	6.6	6.6	6.6	6.6	6.7	6.7	6.7	6.0	5.5	5.5	5.4	4.7	4.3	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
productive	plantation	other broadleaves stands	9.0	9.1	9.3	9.4	9.6	9.8	9.9	10.0	10.1	10.2	10.3	10.4	10.4	10.5	10.6	10.7	10.7	10.8	10.9	10.9	11.0	11.1	11.1	11.2	11.3	11.3
productive	plantation	conifers stands	32.8	33.8	35.0	36.0	37.1	38.3	39.4	39.8	40.7	41.3	42.0	42.6	43.0	43.4	43.8	44.1	44.3	44.5	44.6	44.7	44.7	44.6	44.6	44.4	44.3	44.1
productive	plantation	others	373.5	376.9	379.6	382.9	385.3	387.5	389.6	391.4	391.0	392.0	391.6	389.1	386.5	383.9	381.0	377.8	375.1	371.9	368.7	365.5	362.3	359.1	355.9	352.8	349.7	346.6
protective	other	rupicolous forest	102.1	103.2	104.9	105.8	107.5	109.3	111.0	110.8	112.2	112.6	113.9	114.8	115.7	116.5	117.5	118.5	119.3	120.3	121.2	122.2	123.1	124.0	124.9	125.8	126.6	127.5
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Sicilia																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	stand	mountain pines	18.8	19.5	20.3	21.0	21.7	22.4	23.2	23.4	24.2	25.1	25.8	26.5	26.4	27.1	27.5	28.3	28.7	29.3	29.8	30.4	30.9	31.4	31.9	32.4	32.8	33.3
productive	stand	mediterranean pines	57.1	58.4	59.8	61.1	62.3	63.6	64.9	65.3	66.8	68.3	69.6	70.3	69.9	70.8	71.3	72.1	72.5	73.1	73.7	74.2	74.7	75.2	75.7	76.1	76.6	77.0
productive	stand	other conifers	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.9	4.9	5.0	5.1	5.1	5.2	5.2	5.3	5.4	5.4	5.5	5.5	5.6	5.6
productive	stand	european beech	7.0	7.2	7.5	7.7	8.0	8.2	8.5	8.5	8.8	9.1	9.3	9.5	9.5	9.7	9.9	10.1	10.3	10.5	10.7	10.9	11.0	11.2	11.4	11.6	11.8	11.9
productive	stand	turkey oak	34.9	35.6	36.5	37.2	37.9	38.7	39.4	39.6	40.5	41.4	42.2	42.6	42.3	42.8	43.1	43.6	43.8	44.2	44.5	44.9	45.2	45.5	45.8	46.1	46.3	46.6
productive	stand	other oaks	92.6	94.5	96.6	98.3	100.1	101.8	103.4	104.1	106.1	108.1	109.8	110.4	110.0	110.7	111.0	111.4	111.5	111.6	111.7	111.6	111.4	111.2	110.8	110.4	110.0	109.5
productive	stand	other broadleaves	71.7	73.2	74.9	76.3	77.8	79.3	80.8	81.2	82.9	84.8	86.3	87.2	86.6	87.7	88.2	89.3	89.8	90.6	91.3	92.0	92.8	93.4	94.1	94.8	95.4	96.0
productive	coppice	european beech	24.3	24.5	24.8	25.0	25.2	25.5	25.7	25.8	26.1	26.5	26.6	26.5	25.7	25.7	25.6	25.6	25.3	25.3	25.2	25.2	25.2	25.1	25.1	25.1	25.0	25.0
productive	coppice	sweet chestnut	14.1	14.3	14.6	14.8	15.0	15.2	15.4	15.5	15.8	16.0	16.2	16.2	16.1	16.1	16.1	16.2	16.2	16.2	16.2	16.3	16.3	16.3	16.3	16.3	16.4	16.4
productive	coppice	hornbeams	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
productive	coppice	other oaks	55.3	55.2	54.4	54.5	54.5	54.6	54.8	56.2	56.5	56.2	58.0	57.7	62.1	60.9	61.0	59.9	61.0	60.3	59.6	59.0	58.5	58.0	57.6	57.2	56.8	56.5
productive	coppice	turkey oak	13.4	13.6	13.7	13.9	14.2	14.4	14.7	15.2	15.4	15.5	16.1	16.1	17.0	16.9	17.0	16.9	17.2	17.1	17.1	17.0	17.0	17.0	16.9	16.9	16.9	16.8
productive	coppice	evergreen oaks	15.4	15.5	15.7	15.9	16.1	16.2	16.4	16.6	16.8	17.0	17.2	17.2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
productive	coppice	other broadleaves	7.9	8.0	8.2	8.3	8.4	8.5	8.5	8.7	8.8	8.8	8.9	8.9	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	8.8	8.8	8.8	8.7	8.7	8.6
productive	coppice	conifers	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3
productive	plantation	eucalyptus coppices	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.8
productive	plantation	other broadleaves coppic	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
productive	plantation	poplars stands	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	1.5	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
productive	plantation	other broadleaves stands	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
productive	plantation	conifers stands	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
productive	plantation	others	15.4	15.6	15.8	16.0	16.2	16.4	16.5	16.7	17.0	17.2	17.0	16.3	15.0	14.1	13.1	12.3	11.4	10.7	10.1	9.6	9.1	8.8	8.4	8.1	7.9	7.6
protective	other	rupicolous forest	42.3	43.2	44.4	45.2	46.2	47.1	48.1	47.9	49.0	50.3	51.2	51.9	51.0	52.0	52.4	53.4	53.7	54.4	55.1	55.7	56.3	56.9	57.5	58.1	58.7	59.3
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aboveground biomass increments (t C) in the period 2000-2025

Toscana																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1	
productive	stand	silver fir	4.1	4.2	4.2	4.3	4.3	4.4	4.5	4.5	4.6	4.6	4.7	4.7	4.8	4.8	4.8	4.8	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.0	5.1	5.1	
productive	stand	larches	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	
productive	stand	mountain pines	65.9	66.6	67.2	67.8	68.5	69.1	69.7	70.1	70.5	70.8	71.2	71.2	71.2	71.2	71.2	71.2	71.1	71.0	71.0	70.9	70.8	70.7	70.6	70.4	70.3	70.2	
productive	stand	mediterranean pines	125.4	126.1	126.8	127.6	128.3	128.9	129.5	129.6	129.6	129.9	129.9	129.9	129.3	128.7	128.0	127.2	126.5	125.7	125.0	124.3	123.5	122.8	122.1	121.4	120.7	120.0	119.3
productive	stand	other conifers	11.1	11.3	11.4	11.5	11.7	11.8	12.0	12.1	12.2	12.3	12.4	12.5	12.5	12.6	12.7	12.7	12.8	12.9	12.9	13.0	13.0	13.1	13.1	13.2	13.2	13.2	
productive	stand	european beech	61.1	61.7	62.3	62.7	63.2	63.8	64.4	64.8	65.3	65.6	66.1	66.2	66.4	66.6	66.8	67.0	67.1	67.3	67.5	67.6	67.7	67.9	68.0	68.1	68.3	68.4	
productive	stand	turkey oak	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.4	13.5	13.5	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
productive	stand	other oaks	28.6	28.7	28.9	29.3	29.4	29.6	29.7	29.7	29.6	29.7	29.7	29.5	29.3	29.0	28.8	28.5	28.3	28.0	27.8	27.6	27.4	27.2	27.0	26.8	26.7	26.5	
productive	stand	other broadleaves	46.6	47.0	47.5	47.7	48.2	48.6	49.0	49.3	49.7	49.9	50.3	50.4	50.5	50.6	50.8	50.9	51.1	51.2	51.3	51.4	51.6	51.7	51.8	51.9	52.0	52.1	
productive	coppice	european beech	92.0	92.7	93.4	94.1	94.8	95.5	96.2	96.6	97.1	97.5	97.9	97.9	97.8	97.8	97.8	97.7	97.7	97.7	97.6	97.6	97.5	97.5	97.5	97.4	97.4	97.3	
productive	coppice	sweet chestnut	629.4	643.4	656.5	669.1	681.3	694.0	707.7	720.4	732.9	745.1	756.2	764.9	772.9	780.8	788.2	795.2	801.8	808.0	813.8	819.3	824.4	829.2	833.6	837.8	841.6	845.1	
productive	coppice	hornbeams	63.1	63.5	64.0	64.5	65.0	65.5	65.8	65.8	65.9	65.9	66.0	65.7	65.5	65.2	64.9	64.7	64.5	64.2	64.0	63.8	63.6	63.4	63.2	63.0	62.8	62.7	
productive	coppice	other oaks	192.0	193.5	195.0	196.4	197.9	199.4	200.8	201.7	202.5	203.4	204.2	204.1	204.0	203.9	203.7	203.6	203.5	203.3	203.2	203.0	202.8	202.7	202.5	202.3	202.2	202.0	
productive	coppice	turkey oak	148.7	150.0	151.4	152.8	154.3	155.6	156.7	157.2	157.6	158.1	158.7	158.3	158.1	157.7	157.4	157.1	156.8	156.5	156.3	156.0	155.8	155.5	155.3	155.0	154.8	154.6	
productive	coppice	evergreen oaks	52.7	53.1	53.5	53.9	54.3	54.7	55.1	55.4	55.7	56.0	56.2	56.3	56.3	56.3	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.5	56.5	56.5	56.5	56.5	
productive	coppice	other broadleaves	445.8	446.6	447.3	447.8	448.3	448.1	447.0	443.3	439.2	434.7	431.0	423.9	417.0	409.7	402.6	395.6	389.0	382.5	376.3	370.4	364.7	359.4	354.4	349.6	345.2	341.1	
productive	coppice	conifers	36.4	37.0	37.5	38.0	38.5	39.0	39.6	40.1	40.6	41.1	41.5	41.9	42.1	42.4	42.7	43.0	43.2	43.5	43.7	43.9	44.2	44.4	44.6	44.8	45.0	45.1	
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
productive	plantation	poplars stands	4.1	4.0	4.1	4.0	4.1	4.0	3.9	3.7	3.2	2.8	2.7	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
productive	plantation	other broadleaves stands	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	
productive	plantation	conifers stands	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	
productive	plantation	others	87.4	87.9	88.4	89.0	89.5	89.9	90.3	90.5	90.4	90.4	90.3	89.7	89.1	88.4	87.6	86.8	86.1	85.3	84.5	83.8	83.0	82.2	81.5	80.7	80.0	79.3	
protective	other	rupicolous forest	118.4	120.8	123.2	125.3	127.7	130.1	132.4	134.5	136.6	138.3	140.3	141.8	143.1	144.6	146.1	147.4	148.8	150.0	151.2	152.3	153.4	154.4	155.4	156.4	157.3	158.2	
protective	other	riparian forest	7.0	7.1	7.1	7.2	7.2	7.3	7.3	7.4	7.4	7.4	7.5	7.5	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.7	7.7	

Aboveground biomass increments (t C) in the period 2000-2025

Trentino																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	146.4	147.2	147.9	148.5	149.2	149.8	150.4	151.8	153.1	154.5	155.8	155.8	155.7	155.7	155.6	155.6	155.5	155.5	155.4	155.4	155.4	155.3	155.3	155.2	155.2	155.1	
productive	stand	silver fir	37.7	37.9	38.0	38.2	38.4	38.6	38.7	39.1	39.5	39.8	40.2	40.2	40.2	40.2	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.0	40.0	
productive	stand	larches	90.1	90.5	91.0	91.4	91.8	92.2	92.6	93.4	94.2	95.0	95.8	95.8	95.8	95.8	95.8	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	96.0	
productive	stand	mountain pines	104.1	105.8	107.3	108.6	110.3	111.8	113.1	114.6	116.3	117.8	119.5	120.9	122.3	123.7	125.1	126.5	127.9	129.2	130.6	132.0	133.3	134.7	136.0	137.3	138.7	140.0	
productive	stand	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other conifers	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	
productive	stand	european beech	7.7	7.8	7.8	7.9	8.0	8.0	8.1	8.2	8.3	8.3	8.4	8.5	8.5	8.5	8.6	8.6	8.7	8.7	8.7	8.8	8.8	8.8	8.9	8.9	8.9	8.9	
productive	stand	turkey oak	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
productive	stand	other oaks	3.6	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.8	3.8	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.6	
productive	stand	other broadleaves	10.1	10.2	10.3	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.1	11.1	11.2	11.2	11.2	11.3	11.3	11.3	11.4	11.4	11.4	11.4	11.4	11.5	11.5
productive	coppice	european beech	11.5	11.2	10.9	10.6	10.3	9.9	9.5	9.2	8.8	8.4	8.0	7.6	7.2	7.0	6.7	6.5	6.3	6.2	6.1	5.9	5.9	5.8	5.7	5.7	5.6	5.6	
productive	coppice	sweet chestnut	9.7	9.7	9.7	9.7	9.7	9.6	9.5	9.4	9.3	9.2	9.0	8.8	8.6	8.5	8.3	8.2	8.1	8.0	7.9	7.8	7.8	7.7	7.7	7.6	7.6	7.5	
productive	coppice	hornbeams	14.6	14.7	14.8	14.9	15.0	15.2	15.3	15.5	15.8	16.0	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	
productive	coppice	other oaks	19.6	19.6	19.7	19.7	19.8	19.8	19.8	19.9	20.0	20.1	20.1	19.9	19.8	19.7	19.6	19.5	19.4	19.3	19.3	19.2	19.2	19.2	19.1	19.1	19.1	19.1	
productive	coppice	turkey oak	4.8	4.8	4.8	4.8	4.9	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	other broadleaves	69.1	69.3	69.6	69.5	69.7	69.3	68.7	68.8	68.6	68.0	67.4	66.4	65.5	64.8	64.2	63.6	63.2	62.8	62.5	62.2	62.0	61.8	61.6	61.5	61.3	61.2	
productive	coppice	conifers	17.9	17.7	17.6	17.3	17.1	16.7	16.2	15.9	15.5	15.0	14.4	13.8	13.2	12.7	12.3	11.9	11.5	11.2	10.9	10.6	10.4	10.2	10.0	9.8	9.6	9.5	
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	poplars stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
protective	other	rupicolous forest	53.0	53.5	54.1	54.7	55.3	55.8	56.4	57.1	57.8	58.5	59.3	59.7	60.2	60.7	61.1	61.5	62.0	62.4	62.8	63.2	63.7	64.1	64.5	64.8	65.2	65.6	
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Aboveground biomass increments (t C) in the period 2000-2025

Umbria																												
FMPs																												
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
productive	stand	norway spruce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	silver fir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	mountain pines	44.7	45.3	45.8	46.4	46.9	47.4	47.8	48.3	48.8	49.3	49.7	49.8	49.9	49.9	50.0	50.0	50.0	50.0	50.0	50.0	49.9	49.9	49.8	49.7	49.6	49.6
productive	stand	mediterranean pines	31.7	31.9	32.1	32.3	32.5	32.7	32.9	33.1	33.2	33.4	33.5	33.4	33.3	33.1	32.9	32.8	32.6	32.4	32.2	31.9	31.7	31.5	31.3	31.1	30.9	30.7
productive	stand	other conifers	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7
productive	stand	european beech	22.0	22.2	22.5	22.8	23.1	23.3	23.6	23.8	24.1	24.4	24.7	24.8	24.9	25.0	25.1	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0	26.1	26.2	26.3
productive	stand	turkey oak	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
productive	stand	other oaks	11.0	11.1	11.1	11.1	11.2	11.2	11.2	11.3	11.3	11.3	11.3	11.2	11.2	11.1	11.0	10.9	10.8	10.6	10.5	10.4	10.3	10.2	10.1	10.0	9.9	9.8
productive	stand	other broadleaves	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
productive	coppice	european beech	20.9	20.9	21.0	20.9	20.9	20.8	20.8	20.6	20.5	20.5	20.5	20.4	20.2	20.1	20.0	19.9	19.8	19.7	19.6	19.6	19.5	19.4	19.4	19.3	19.3	19.2
productive	coppice	sweet chestnut	19.1	19.3	19.5	19.4	19.4	19.3	19.3	18.9	18.8	18.7	18.7	18.6	18.5	18.4	18.4	18.3	18.2	18.2	18.1	18.1	18.0	18.0	17.9	17.9	17.8	17.8
productive	coppice	hornbeams	42.3	42.8	43.1	43.8	44.3	44.8	45.3	46.0	46.5	47.0	47.4	47.5	47.5	47.6	47.6	47.6	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.8	47.8
productive	coppice	other oaks	198.5	199.7	200.4	205.0	207.6	211.0	213.5	219.4	222.5	224.7	226.8	226.7	226.8	226.6	226.4	226.3	226.2	226.1	226.1	226.0	226.0	225.9	225.9	225.9	225.9	225.8
productive	coppice	turkey oak	58.1	58.6	59.1	59.6	60.1	60.5	61.0	61.4	61.8	62.3	62.7	62.6	62.6	62.5	62.5	62.5	62.4	62.4	62.4	62.3	62.3	62.3	62.3	62.2	62.2	62.2
productive	coppice	evergreen oaks	28.2	28.3	28.5	28.4	28.4	28.4	28.5	28.4	28.4	28.4	28.5	28.4	28.3	28.2	28.1	28.0	28.0	27.9	27.8	27.8	27.7	27.7	27.6	27.6	27.6	27.5
productive	coppice	other broadleaves	84.8	85.7	86.6	86.7	87.2	87.5	87.9	87.5	87.8	88.2	88.7	88.7	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
productive	coppice	conifers	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.5	5.5	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.1	5.1	5.0
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	other broadleaves coppice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	poplars stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	other broadleaves stand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
productive	plantation	conifers stands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
protective	other	rupicolous forest	39.2	39.9	40.7	41.4	42.2	42.9	43.6	44.3	45.0	45.8	46.4	46.9	47.1	47.6	48.0	48.4	48.8	49.2	49.5	49.8	50.2	50.5	50.7	51.0	51.3	51.5
protective	other	riparian forest	5.4	5.4	5.5	5.5	5.5	5.6	5.6	5.7	5.7	5.8	5.8	5.8	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.0	6.0	6.0

Aboveground biomass increments (t C) in the period 2000-2025

Valle_D_Aosta																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	15.0	15.2	15.4	15.5	15.7	15.8	16.0	16.1	16.2	16.4	16.5	16.5	16.6	16.6	16.6	16.6	16.7	16.7	16.7	16.7	16.8	16.8	16.8	16.8	16.8	16.8	
productive	stand	silver fir	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
productive	stand	larches	44.9	45.4	46.0	46.5	47.1	47.6	48.2	48.6	48.9	49.3	49.7	49.9	50.0	50.2	50.3	50.4	50.5	50.6	50.7	50.7	50.8	50.8	50.9	50.9	50.9	50.9	
productive	stand	mountain pines	37.8	38.9	40.1	41.1	42.3	43.4	44.6	45.8	47.0	48.2	49.4	50.6	51.8	53.0	54.2	55.4	56.6	57.8	59.0	60.2	61.4	62.6	63.8	65.0	66.2	67.4	
productive	stand	mediterranean pines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other conifers	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1	
productive	stand	european beech	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.1	7.2	7.3	7.4	7.4	7.4	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.8	7.8	7.9	
productive	stand	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	stand	other oaks	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	
productive	stand	other broadleaves	11.6	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.8	13.0	13.1	13.2	13.2	13.3	13.3	13.4	13.5	13.5	13.6	13.6	13.6	13.7	13.7	13.8	13.8	13.9	13.9
productive	coppice	european beech	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.3	3.2	3.1	3.0	2.8
productive	coppice	sweet chestnut	12.7	12.9	13.0	13.2	13.3	13.5	13.6	13.7	13.8	13.9	13.9	13.9	13.9	13.8	13.8	13.7	13.7	13.6	13.6	13.5	13.4	13.4	13.3	13.2	13.1	13.1	
productive	coppice	hornbeams	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	
productive	coppice	other oaks	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
productive	coppice	turkey oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	other broadleaves	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.8	4.7	4.7	4.6	4.4	4.3	4.2	4.1	4.0	3.9	3.9	3.8	3.7	3.6	3.6	3.5	3.4	3.4	
productive	coppice	conifers	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.5	
productive	plantation	eucaliptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	poplars stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	conifers stands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
protective	other	rupicolous forest	13.7	13.9	14.1	14.3	14.4	14.6	14.8	14.9	15.1	15.3	15.5	15.6	15.8	15.9	16.0	16.2	16.3	16.5	16.6	16.7	16.9	17.0	17.1	17.3	17.4	17.5	
protective	other	riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Aboveground biomass increments (t C) in the period 2000-2025

Veneto																													
FMPs																													
function	structure	forest type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
productive	stand	norway spruce	139.1	140.6	142.1	143.6	145.2	146.7	148.2	149.0	149.6	150.3	151.1	151.3	151.5	151.7	151.9	152.0	152.2	152.4	152.5	152.7	152.8	152.9	153.1	153.2	153.3	153.4	
productive	stand	silver fir	7.5	7.6	7.7	7.7	7.8	7.9	8.0	8.0	8.1	8.1	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
productive	stand	larches	28.3	28.6	28.9	29.3	29.6	29.9	30.2	30.4	30.5	30.7	30.9	30.9	31.0	31.1	31.1	31.2	31.2	31.2	31.3	31.3	31.3	31.4	31.4	31.4	31.5	31.5	
productive	stand	mountain pines	19.3	19.8	20.2	20.7	21.3	21.7	22.2	22.7	23.0	23.5	24.0	24.4	24.8	25.3	25.7	26.2	26.6	27.1	27.5	27.9	28.4	28.8	29.3	29.7	30.1	30.6	
productive	stand	mediterranean pines	4.9	5.0	5.0	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.7	4.7	4.7	
productive	stand	other conifers	7.6	7.8	7.9	8.0	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.8	8.9	8.9	9.0	9.0	9.1	9.1	9.2	9.2	9.3	9.3	9.3	9.4	9.4	9.4	
productive	stand	european beech	27.5	27.9	28.2	28.6	28.9	29.3	29.7	29.9	30.0	30.3	30.5	30.6	30.8	30.9	31.0	31.1	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0	32.1	32.2	
productive	stand	turkey oak	5.0	5.0	5.1	5.1	5.2	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
productive	stand	other oaks	5.2	5.2	5.2	5.3	5.3	5.3	5.4	5.3	5.4	5.3	5.3	5.2	5.2	5.1	5.0	5.0	4.9	4.8	4.7	4.7	4.6	4.6	4.5	4.5	4.4	4.4	
productive	stand	other broadleaves	14.7	14.9	15.1	15.3	15.6	15.8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.6	16.7	16.8	16.8	16.9	16.9	17.0	17.1	17.1	17.2	17.2	17.3	17.3	
productive	coppice	european beech	91.7	92.9	94.7	96.8	98.4	100.1	101.7	103.5	105.0	106.9	108.4	109.7	110.9	112.2	113.4	114.6	115.8	116.9	118.1	119.2	120.2	121.3	122.3	123.3	124.3	125.3	
productive	coppice	sweet chestnut	37.6	38.2	38.9	39.6	40.2	40.9	41.4	41.9	42.2	42.6	42.9	43.0	43.1	43.1	43.2	43.2	43.2	43.2	43.2	43.2	43.1	43.1	43.0	43.0	42.9	42.8	42.7
productive	coppice	hornbeams	36.0	36.6	37.0	37.3	37.8	38.2	38.6	38.7	38.7	38.7	38.8	38.7	38.5	38.4	38.2	38.1	38.0	37.9	37.7	37.6	37.5	37.4	37.3	37.2	37.1	37.0	
productive	coppice	other oaks	11.3	11.5	11.6	11.7	11.8	12.0	12.1	12.2	12.2	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.2	12.2	12.2	12.2	12.2	
productive	coppice	turkey oak	5.5	5.6	5.6	5.7	5.8	5.8	5.9	5.9	5.9	6.0	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	
productive	coppice	evergreen oaks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	coppice	other broadleaves	134.7	136.0	136.9	137.6	138.4	139.1	139.9	139.1	138.4	137.3	136.5	134.6	132.7	130.8	128.9	127.0	125.1	123.4	121.6	120.0	118.4	116.9	115.5	114.1	112.8	111.7	
productive	coppice	conifers	10.1	10.2	10.4	10.6	10.7	10.9	11.0	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8	11.8	11.9	12.0	12.0	12.1	12.1	12.2	12.2	12.3	12.3	12.3	
productive	plantation	eucalyptus coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
productive	plantation	other broadleaves coppic	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
productive	plantation	poplars stands	28.8	28.3	27.8	26.5	25.1	23.7	22.3	20.6	19.0	17.6	16.3	14.8	13.5	12.4	11.4	10.6	9.9	9.3	8.8	8.4	8.0	7.8	7.5	7.3	7.2	7.0	
productive	plantation	other broadleaves stands	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
productive	plantation	conifers stands	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
productive	plantation	others	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.9	7.8	7.8	7.7	7.6	7.5	7.5	7.4	7.3	7.2	7.2	7.1	7.0	
protective	other	rupicolous forest	34.1	34.6	35.1	35.6	36.1	36.6	37.1	37.5	37.9	38.3	38.7	39.0	39.3	39.6	39.9	40.2	40.5	40.8	41.1	41.3	41.6	41.9	42.1	42.3	42.6	42.8	
protective	other	riparian forest	60.0	60.6	61.2	61.7	62.3	63.0	63.6	64.0	64.4	64.8	65.2	65.4	65.6	65.9	66.1	66.3	66.5	66.7	66.9	67.1	67.3	67.5	67.6	67.8	68.0	68.1	

Aboveground biomass increments (t C) in the period 2000-2025

Sicilia		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Inventory typology		m ³																									
inventor typology																											
inventor species																											
silver fir																											
larches																											
stands																											
mountain pines																											
mediterranean pines																											
other conifers																											
European beech																											
turkey oak																											
other broadleaves																											
sweet chestnut																											
hornbeams																											
other oaks																											
turkey oak																											
evergreen oaks																											
other broadleaves																											
conifers																											
eucalyptus coppices																											
other broadleaves coppices																											
other stands																											
other broadleaves stands																											
conifers stands																											
others																											
rhopidolous forest																											
riparian forest																											
total (m ³)		80,729	63,128	40,908	58,916	59,267	67,799	52,483	60,827	50,506	32,543	399,360	341,151	306,642	282,740	235,108	217,421	207,977	195,329	189,151	184,389	180,752	177,959	175,818	174,182	172,939	172,006

Harvest quantities (m3) in the period 2000-2025

Toscana		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Inventory typology		m ³																									
inventor typology																											
inventor species																											
silver fir																											
larches																											
stands																											
mountain pines																											
mediterranean pines																											
other conifers																											
European beech																											
turkey oak																											
other oaks																											
other broadleaves																											
sweet chestnut																											
hornbeams																											
other oaks																											
turkey oak																											
evergreen oaks																											
other broadleaves																											
conifers																											
eucalyptus coppices																											
other broadleaves coppices																											
other stands																											
other broadleaves stands																											
conifers stands																											
others																											
rhopidolous forest																											
riparian forest																											
total (m ³)		1,006,819	1,389,701	1,703,650	1,689,642	1,995,622	1,812,748	1,427,776	1,277,291	1,266,688	1,260,473	1,659,567	1,094,290	1,727,338	1,758,221	1,790,798	1,822,739	1,853,600	1,883,436	1,912,729	1,941,334	1,969,259	1,996,518	2,023,120	2,040,079	2,074,408	2,099,117

Harvest quantities (m3) in the period 2000-2025

Appendix IV

This appendix contains data in format tables of the C stocks (kt C) in the aboveground and belowground biomass pools in the period 2010-2025 for each FMP of each region/province.

Abruzzo	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
inventory typology	<i>kt C</i>																											
norway spruce	15	16	18	19	21	22	24	25	27	29	31	33	35	37	39	41	43	46	48	50	53	55	58	60	63	66		
silver fir	56	58	60	63	65	68	70	71	74	77	79	82	85	87	90	93	95	98	101	103	106	109	111	114	116	119		
larches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
mountain pines	776	805	837	869	901	934	968	978	1,011	1,046	1,079	1,111	1,143	1,175	1,207	1,238	1,269	1,300	1,330	1,359	1,388	1,417	1,444	1,472	1,499	1,525		
mediterranean pines	110	114	119	123	128	133	138	139	144	149	154	158	163	167	172	176	180	184	188	192	195	199	202	206	209	212		
other conifers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
european beech	7,577	7,712	7,884	8,053	8,224	8,403	8,585	8,557	8,742	8,932	9,115	9,288	9,462	9,645	9,829	10,003	10,184	10,361	10,537	10,712	10,885	11,057	11,226	11,395	11,561	11,726		
turkey oak	766	776	790	803	817	831	845	839	854	869	883	896	910	924	938	951	965	978	992	1,005	1,018	1,031	1,043	1,056	1,068	1,080		
other oaks	1,425	1,452	1,486	1,520	1,553	1,587	1,621	1,617	1,652	1,687	1,720	1,750	1,779	1,808	1,837	1,862	1,887	1,911	1,934	1,955	1,974	1,993	2,010	2,027	2,042	2,056		
other broadleaves	1,003	1,024	1,050	1,076	1,102	1,129	1,157	1,156	1,184	1,213	1,241	1,267	1,294	1,322	1,350	1,377	1,405	1,433	1,460	1,487	1,514	1,541	1,568	1,595	1,621	1,648		
european beech	3,226	3,235	3,246	3,251	3,244	3,258	3,264	3,208	3,245	3,284	3,305	3,325	3,341	3,361	3,381	3,397	3,415	3,432	3,449	3,466	3,482	3,497	3,513	3,527	3,542	3,556		
sweet chestnut	668	692	717	741	761	786	809	816	846	876	902	926	949	972	994	1,014	1,034	1,052	1,070	1,086	1,102	1,116	1,129	1,142	1,154	1,164		
hornbeams	395	397	399	400	400	403	404	399	404	410	414	417	420	423	426	429	431	434	436	439	441	443	445	447	449	451		
other oaks	1,263	1,285	1,308	1,328	1,342	1,366	1,385	1,379	1,411	1,443	1,466	1,487	1,505	1,523	1,540	1,554	1,568	1,580	1,591	1,602	1,611	1,620	1,628	1,635	1,642	1,648		
turkey oak	231	232	234	235	236	238	239	236	240	244	247	249	251	253	256	257	259	261	262	264	265	266	267	268	269	270		
evergreen oaks	100	101	102	103	103	104	105	103	105	107	108	109	110	111	112	113	114	115	116	116	117	118	119	120	120	121		
other broadleaves	1,330	1,369	1,408	1,443	1,473	1,512	1,545	1,550	1,597	1,644	1,682	1,717	1,748	1,780	1,810	1,836	1,862	1,885	1,907	1,928	1,946	1,964	1,980	1,995	2,009	2,022		
conifers	134	137	140	143	145	149	152	152	156	160	164	167	171	174	178	181	184	188	191	194	197	200	203	206	209	212		
eucalyptuses coppices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
other broadleaves coppices	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
poplars stands	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
other broadleaves stands	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
conifers stands	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
others	58	51	47	43	38	38	38	36	35	35	33	32	31	30	29	28	28	27	27	26	26	26	26	25	25	25		
protective																												
ruplicolous forest	959	982	1,009	1,036	1,063	1,091	1,120	1,120	1,149	1,178	1,207	1,234	1,261	1,290	1,318	1,345	1,373	1,401	1,428	1,455	1,482	1,508	1,534	1,560	1,586	1,611		
riparian forest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
total (kt C)	20,106	20,451	20,866	21,259	21,626	22,063	22,479	22,394	22,889	23,393	23,840	24,261	24,666	25,094	25,517	25,905	26,308	26,697	27,077	27,449	27,814	28,170	28,519	28,861	29,195	29,522		

C stocks (kt C) in the aboveground and belowground biomass pools in the period 2010-2025

Appendix V

Following the submission of the NFAPs and in accordance with Article 8(6) of the LULUCF Regulation, the Commission, in consultation with experts appointed by the Member States, stakeholders and the civil society, undertook a technical assessment of the NFAPs. The Commission has formulated the following technical recommendations on the submitted Italian NFAP. This appendix contains responses to the received recommendations.

Technical recommendations	MS response	Chapter/section in the NFAP	
Article 8(5) Principles	1) Demonstrate how dynamic age-related forest characteristics have been taken into account and revise the FRL, if applicable. Specifically, demonstrate the linkage between biomass density and age-class distribution. Provide additional information on forest management practices, including rotation length and thinning intensity and demonstrate how these have been taken into account.	The FRL has been estimated using the <i>for-est</i> model; the model estimates the annual growing stock per hectare, adding to the final growing stock volume of the previous year the increment calculated for the current year and subtracting the losses occurred in the year as due to harvest, fires and mortality. Information related to rotation length and thinning intensity have not been explicitly taken into account. Additional information are provided in the relevant section of NFAP	Chapter 3, paragraph 3.3. Appendix A, B, I, II, III, IV
	a) Demonstrate how the goal of achieving a balance between anthropogenic emissions and removals will be achieved in the second half of the century. Provide qualitative and quantitative information until at least 2050 consistent with the long-term strategy required under Regulation (EU) 2018/1999.	Addressed. The requested information has been included in NFAP.	Chapter 1, paragraph 1.2, criterion (a)
Annex IV, Section A Criteria	f) Provide additional information on existing biodiversity goals and strategies, including on protected areas and endangered endemic species.	Addressed. The relevant information and references are included in NFAP.	Chapter 1, paragraph 1.2, criterion (f)
	g) Demonstrate the consistency with the national projections of anthropogenic greenhouse gas emissions reported under Regulation (EU) No 525/2013. Provide explanations for possible differences between national projections and the proposed FRL.	Addressed. The requested information has been included in NFAP.	Chapter 1, paragraph 1.2, criterion (g)
	h) Estimate the FRL based on the area under forest management as indicated in Annex IV, Section B (e) i. Estimate the FRL based on carbon pools and greenhouse gases as indicated in Annex IV, Section B (b).	Addressed. The FRL has been assessed on the area under forest management and on carbon pools and GHG gases, as indicated in Annex IV, Section B (e) i, and Annex IV, Section B (b).	NFAP
	b) Include the carbon pools and greenhouse gases consistent with those applied in the latest national GHG inventory.	Addressed. The FRL includes the same carbon pools and GHG gases applied in the national GHG inventory.	NFAP
Annex IV, Section B Elements	e) i Provide the area under forest management consistent with Table 4.A (“Forest land remaining Forest land”) from the latest national	Addressed. The area under forest management	NFAP

Technical recommendations	MS response	Chapter/section in the NFAP
GHG inventory using the year preceding the starting point of the projection.	has been provided consistently with the forest land remaining forest land area reported in the CRT table 4.A (submission year 2018, reporting year 2009)	
e) ii Include a description of imports and exports in the HWP pool and apply changes to the FRL, if applicable. Assure consistency for carbon stock change in living biomass derived from table 6 and final FRL estimates. Correct editorial mistakes in table 7, 36 and 37 of the NFAP. Provide national totals and units in tables of NFAP.	<p>Addressed.</p> <p>The time series of HWP, produced, imported and exported, has been included. No changes affected the FRL, since the same data has been used.</p> <p>Editorial mistakes have been fixed. The national totals, as well as the regional ones, have been added in each reported table.</p>	<p>Chapter 4, paragraph 4.1., table 36</p> <p>NFAP tables</p>
e) iii Provide information on age-class structure and additional information on rotation length.	Not applicable	