Foreword

This is the fourth enhanced and updated edition of the report *Indicators for the Sustainable Management of French Forests*, which was previously published in 1995, 2000 and 2005.

It is an essential reference to gain further insight into our forests, which cover almost 30% of metropolitan France. It pools the knowledge of managers, ecologists researchers, statisticians, administrators and other stakeholders who are all striving to ensure the sustainable management of French forests, where economic, environmental, landscape and society aspects are crucial in addressing the current challenges facing our country.

French forest policies are formulated on the basis of knowledge and characterization of the country's forests. It is thus essential to have access to regularly updated, reliable and comprehensive data.

The new inventory method that the French National Forest Inventory (NFI) has been implementing since 2005 provides access to comprehensive synchronous inventory data for the entire country, including homogenous annual data, which facilitates monitoring of many indicators.

This report also makes effective use of the new redistribution of forest regions, which makes it easier to account for the ecological conditions in forest ecosystems and to assess the impact of climate change. This new division includes 86 silvoecoregions (SER) grouped in 12 large ecoregions (GRECO).

I would like to thank everyone who contributed to this report. In addition to their enthusiastic interest in forests and their diversity, this active participation reflects a remarkable capacity to adapt to new working methods.

Director General for Agricultural, Agrifood
and Regional Policies

Eric ALLAIN

Production

French National Forest Inventory

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Preface

The United Nations Conference on the Environment and Development (UNCED, Rio de Janeiro, 1992) outlined the main principles for sustainable development. The Pan-European Forest Process (or so-called Helsinki Process) was launched as a follow-up to the Second Ministerial Conference on the Protection of Forests in Europe (Helsinki, 1993) with the aim of applying UNCED principles to European forests. The Third Conference (Lisbon, 1998) defined criteria and indicators for sustainable forest management in Europe that the signatory countries are committed to update and enhance on a regular basis. This commitment was confirmed in the Fourth Conference (Vienna, 2003), which also recommended that the criteria and indicators be integrated in national forest programmes. The Fifth and Sixth Conferences (Warsaw, 2008, and Oslo, 2011) validated the indicators as European forest policy instruments.

France has been publishing *Indicators for the Sustainable Management of French Forests* every 5 years since 1995 to review the progress. This is the fourth edition. It consists of 35 quantitative indicators that were adopted at the Vienna Conference in 2003 and which are classified under the six sustainable management criteria delineated at the Helsinki Conference. The six criteria are key sustainable management topics: forest resources, forest health, production and harvesting, biodiversity, forest protective functions and other services of forests. These key topics are classified by indicators, i.e. quantitative, qualitative or descriptive tools which, when measured and monitored periodically, highlight change trends. With every new edition, this pan-European list has been supplemented with other, sometimes novel, so-called national indicators that are used to assess features specific to French forests. For clarity, the so-called Vienna indicators are presented separately from those specific to the French forest setting: code numbers referring to the French indicators have three digits, whereas those pertaining to European indicators have two digits. Within the current pan-European setting, the present document is focused only on metropolitan French forests, as in the previous editions.

The Direction générale des politiques agricole, agroalimentaire et des territoires (DGPAAT) of the French Ministry of Agriculture, Food, Fisheries, Rural Affairs and Spatial Planning (MAAPRAT) assigned the French National Forest Inventory (NFI) with the task of producing this document. It was coordinated by a steering committee of members from organizations and institutions in the forest-wood sector, and it benefited from the contribution and suggestions of various other stakeholders in this sector and relevant associations.

Cautionary note

European and French indicators

The indicator headings outlined in the 2003 Vienna Conference were copied entirely, even in cases where tables do not fully mesh with the topics, and then a subtitle specifies the scope of the indicator. The codes for indicators defined in the Vienna Conference have two digits, while the specific French indicator codes have three. These latter indicators are attached, where possible, to the most relevant Vienna Conference topics.

French National Forest Inventory (NFI) data

The NFI data presented in this document only refer to forests available for wood supply (FAWS) in metropolitan France. They were calculated with data collected using two different inventory methods* depending on whether they were collected prior to or after 2005.

The adoption of the international definition of forests in 2005 and the national streamlining of inventory implementation conditions during the switch to this new inventory method caused a break in the series of forest area data. This in turn led to a break in all other data series. The 2010 data should thus be considered as a new baseline for the indicators developed on the basis of NFI data. It should also be kept in mind that all comparisons between the 2005 edition of this ISFM report and the new data were affected to different extents. The commentaries generally do not highlight variations between data in the 2005 and present editions. In addition to these changes concerning the entire French forest, there were changes in the definition of some distribution variables. These changes are explained in the text under the concerned indicators.

Data from the 2005 edition of the Indicators for the sustainable management of French forests report

Data indicated under 'retrieval year' 1989, 1994, 1999 and 2004 were calculated using data collected by the former inventory method. These were the most recent data available on 1st January of the corresponding year. Given the frequency of the inventories undertaken in each department with the former method (12 years on average), they correspond to the mean years 1981, 1986, 1991 and 1996, respectively**. These mean inventory years are noted in the tables under the data retrieval years. The impact of the storms of December 1999 was thus only partially taken into account in the 2004 NFI data based on the mean year of 1996.

Data from the 2010 edition of the Indicators for the sustainable management of French forests report

The 2010 data were calculated using data collected under the new NFI inventory method described in Appendix II. These data were pooled from the annual inventory surveys of 2006 to 2009, spanning the period from November 2005 to October 2009. The 2005 inventory data were disregarded since some distribution variables were not available for this inventory. The mean date associated with these results was around late 2007. Moreover, the impact of cyclone Klaus in January 2009 (high volumes of damaged trees were culled) was taken into account for some of these data.

The definition of terms for the NFI data used in this report are summarised in Appendix III. A table summarising the areas calculated by NFI is presented in Appendix IV. These NFI results concern the FAWS area, which includes poplar plantations but not thickets, in compliance with the international forest definition. **Data for the 2005 edition (years 1989 to 2004) do not include poplar plantations, but they take thickets into account**.

The statistical data are presented with a 95% confidence interval***. These were considered significant when the variation coefficient was not over 30% of the estimated value for area data, and 80% of the estimated value for other data (when the first condition on the area was confirmed).

* See Appendix II for a description of the new inventory method.

**Appendix I provides a list of French departments and survey dates used by NFI for the four mentioned dates.

*** Out of 100 samples collected, 95 would have values within this confidence interval while 5 would have values outside of it.

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