

The way forward: active and adaptive forest management

Only healthy forests can supply these multiple forest ecosystem goods and services. Today, forestry in Europe aims at supporting the multiple forest functions by the **sustainable management** of forest resources. Sustainable forest management (SFM) is defined as 'the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems'.

Despite the consensus on guidelines, criteria and indicators, SFM is not implemented consistently

throughout Europe. According to Forest Europe's recent 'State of European Forests' report, there are substantial differences among regions. It is clear that SFM needs to improve the state of Europe's forests and to ensure that they continue to fulfil their multifunctional role, while taking into account regional differences.

As climate change continues to affect Europe's forests, forest management needs to accommodate and prepare for its possible impacts. Research has identified many adaptive measures to respond to climate change. The challenge is to find out how and particularly when management changes should be implemented.



More information

10 messages for 2010 – Forest ecosystems:
<http://www.eea.europa.eu/publications/10-messages-for-2010-2014-3>

EEA technical report on biodiversity baseline:
<http://www.eea.europa.eu/publications/eu-2010-biodiversity-baseline/>

EEA report based on SEBI indicators 'Assessing biodiversity in Europe':
<http://www.eea.europa.eu/publications/assessing-biodiversity-in-europe-84>

Forest Europe – State of Europe's Forests 2011:
http://www.foresteuropa.org/filestore/foresteuropa/Publications/pdf/Forest_Europe_report_2011_web.pdf

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EUROPE'S FORESTS AT A GLANCE

A BREATH OF FRESH AIR IN A CHANGING CLIMATE

Forests do not only provide us food, fibre and medicine, they regulate our climate and improve our quality of life. Human activities and climate change exert increasing pressure on our forest resources and the services they provide. With increasing demand on forests services on the one side, and uncertainty and risks linked to climate change on the other, we need to ensure that forests can continue fulfilling their multifunctional role.



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Forest area on the rise

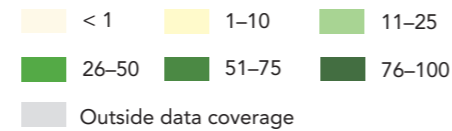
Forests in EEA member countries ⁽¹⁾ have continuously expanded over the last 60 years, and now cover more than 180 million ha, or 34 % of the land area. More than 80 % of the forest area is available for wood supply, while the rest consists of unprofitable or strictly protected forests. The growing stock, i.e. the stem volume of living trees in the forest, has also been increasing during the last few decades, because annual increment exceeded annual fellings. The largest forest areas are found in Sweden (28.6 million ha), Finland (22.1 million ha), Spain (18.2 million ha) and France (16 million ha).

Forests undisturbed by man are rare in Europe (less than 5%), while semi-natural forests — i.e. influenced by human interventions but to a certain extent maintaining the natural characteristics — make up almost 90 %. Plantation forests — a group in particular comprising forests made up by exotic tree species — are overall relatively rare but significant in a few European countries. The protected forest area has increased significantly during recent decades.

Forest distribution in Europe based on Corine Land Cover 2000



European forests Forest proportion (%) per 1 km²



Source: Pan-European Forest/Non-Forest Map 2000. Joint Research Centre, Institute for Environment and Sustainability.

What forests do for us

Forests serve multiple and interrelated social, economic, environmental, and other functions, often at the same time and place. They provide jobs, income, raw material for industry and for renewable energy, and they protect settlements and infrastructure. Rural and mountain forests can protect crops from flood damage and reduce the impacts regarding food security.

Forests also protect soil, regulate freshwater supply and conserve biodiversity. Because of their structural complexity, they provide ideal habitats for a high number of plants, birds and animals.

Moreover, forests are vital for climate regulation. They represent the main carbon sink in Europe and therefore play a crucial role in the fight against climate change. They also regulate local and regional weather.



Throughout history, forests provided us a connection with nature. For Europe's predominantly urban societies, they continue providing recreation services, improving public health and well-being. They improve air quality in urban and rural areas and have positive impacts on life expectancy and quality of life.

Forest species and habitats cry out for help

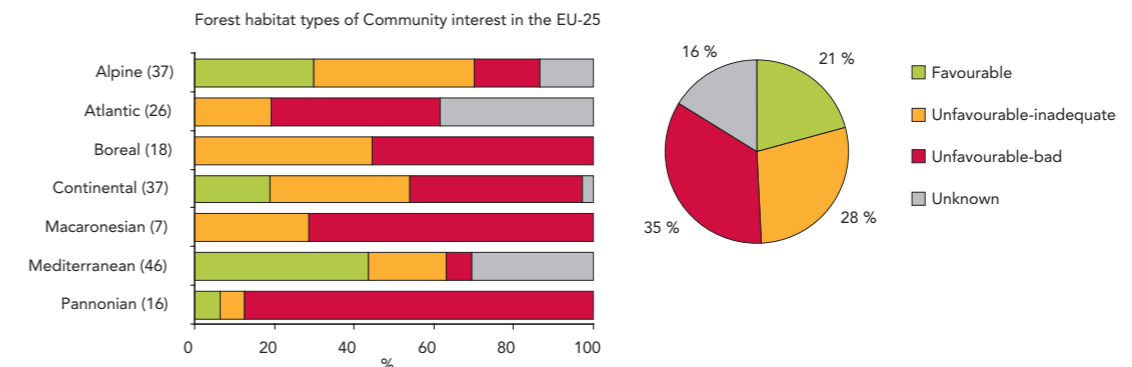
Nearly 170 species of European interest (identified in the EC Habitats Directive) are linked to forest ecosystems. The International Union for Conservation of Nature (IUCN) estimates that 27 % of mammals, 10 % of reptiles and 8 % of amphibians related to forests are threatened with extinction in the EU region (ETC/BD, 2010, based on IUCN, 2009).

EU Member States report that 52 % of species of Community interest that prefer forest ecosystems are in 'unfavourable conservation status'.

Only 15 % of the assessments report a favourable conservation status.

Even more worrying, of the 73 forest habitat types listed in the EC Habitats Directive that were assessed, 63 % held 'unfavourable' conservation status, while just 21 % were 'favourable'. The highest percentage of favourable assessments was in the Mediterranean and the Alpine regions, while there were no favourable assessments reported in the Macaronesian, Boreal and Atlantic regions.

Conservation status of forest-related habitat types of Community interest listed in the EU Habitats Directive in the EU-25



Note: The number of assessments is indicated in brackets.
Source: ETC/BD, 2008.

Europe's forests face multiple challenges

- Development of human infrastructure, changing land use, logging operations and forest fires result in the loss of connectivity between forest areas (fragmentation), reducing species' movements and therefore their ability to survive and to adapt to climate change.
- Climate change affects forest ecosystems by altering species composition and exerts further strains on species' ability to adapt, and increases some forests' exposure to higher storm damage, fires and new pests and diseases.
- Land use change caused mainly by urban sprawl and intensification of agriculture

remove small patches of forest around urban areas, resulting in further fragmentation and reduction of urban residents' access to forests and green spaces.

- Illegal logging leads to loss of habitat and biodiversity, erosion and land degradation, desertification. In Europe illegal logging occurs mainly in South-Eastern Europe.
- Ageing and urban societies are expected to demand greater access to forests and be more dependent on the health benefits linked to forests and green spaces.
- Energy policies targeting higher biofuel consumption are also expected to increase the demand for forest resources and services.

⁽¹⁾ EU-27 together with Iceland, Liechtenstein, Norway, Switzerland and Turkey.