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Natura 2000 and Forests

Part I-II

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Natura 2000 and Forests

Part I-II

TABLE OF CONTENTS

PART I - An introduction to Natura 2000, the EU forest policy and funding opportunities for forest in Natura 2000

PURPOSE OF THIS DOCUMENT	1
Why a new document on Natura 2000 and forests?	1
Why is there a need for a constructive dialogue?	2
What is the objective of this document? Who is it for?	4
What can you find in this document?	5
1. FORESTS AND THE EU POLICY CONTEXT	8
1.1 State of the EU's forests	8
1.1.1 Ecological background of forest habitats	9
1.1.2 Multifunctionality - a key principle in EU forests	9
1.1.3 Ecosystem services provided by EU forests to society	10
1.1.4 Forest ownership	11
1.1.5 Key threats and pressures	11
1.1.6 Natural forest ecology and Sustainable Forest Management (SFM) in Europe	12
1.2 EU policy context for forests	13
1.2.1 The new EU Forest Strategy	13
1.2.2 EU financial support for forests	14
1.2.3 LIFE +	16
2. THE EU BIRDS AND HABITATS DIRECTIVES	19
2.1 The EU's commitment to preserving Europe's biodiversity	19
2.2 The Birds and Habitats Directives	20
2.3 The conservation status of EU protected species and habitats	21
2.4 Main pressures and threats on forest habitats and species of EU Importance	22
2.5 The Natura 2000 Network	25
2.6 The protection and management of Natura 2000 sites	27
2.6.1 Setting conservation objectives	29
2.6.2 Establishing the necessary conservation measures	29
2.6.3 Natura 2000 management planning instruments	30
2.6.4 Avoiding deterioration and preventing adverse effects	30
2.6.5 Improving connectivity of the Natura 2000 network	31
2.7 Financing the management of Natura 2000 sites	31
2.8 Species protection across the EU territory	32
2.9 Tackling non-native species across the EU	33
3. FORESTS IN NATURA 2000: AN OVERVIEW	34
3.1 European forests and their importance for biodiversity	34
3.2 Forests designated for Natura 2000	34

PART II

4. FREQUENTLY ASKED QUESTIONS	38
4.1 Introduction	38
4.2 Designating sites for Natura 2000	39
4.3 Setting conservation objectives for Natura 2000 sites	41
4.4 Implementing conservation measures for forest habitats/species in Natura 2000 sites	44
4.5 Ensuring the non-deterioration of Natura 2000 sites	55
4.6 Forest management practices and Natura 2000 requirements	58
4.7 Financing the conservation and management of Natura 2000 sites	69
4.8 New activities in Natura 2000 sites	76
4.9 Monitoring and evaluation	83
4.10 Communication, co-operation, active involvement of stakeholders.....	85
4.11 The protection of species and habitats of EU importance across their range, outside Natura 2000 sites.....	88

ANNEXES

Annex 1: Glossary and acronyms	90
Annex 2: List of forest habitat types and species of Community interest that require the designation of special areas of conservation and/or which require strict protection in accordance with the Habitats Directive, and bird species that shall be the subject of special conservation measures in accordance with the Birds Directives	97
Annex 3: Main pressures and threats on EU forests	104

PART III

Good practice experiences from different Member States in managing forests in Natura 2000

PURPOSE OF THIS DOCUMENT

Why a new document on Natura 2000 and forests?

This document has been produced in response to concerns raised by both forest owners and managers, and nature conservationists, over the management of forests in Natura 2000 sites and to take account of the new threats and opportunities that have become apparent since the last guidance¹ was published. To address these concerns, the Commission services of DG Environment and DG Agriculture set up an ad-hoc working group in 2012 to bring together different stakeholders and allow for a full and frank discussion on the aims of Natura 2000 and its implications for landowners and managers whose forests are included in Natura 2000.

This has led to the elaboration of the present document. Its aim is to outline, in an easily understandable way the key provisions of Natura 2000 in the context of other relevant EU policies and initiatives concerning forests (in particular the new EU Forest Strategy and the Common Agricultural Policy with its new Rural Development Regulation for 2014-2020); and to answer a number of questions and concerns that are frequently raised by stakeholders as regards the management of forests in Natura 2000. The document also aims at promoting the integration of Natura 2000 conservation objectives into the management of Natura 2000 forests while insisting on the importance of mutual information, understanding and cooperation between all parties affected by or involved in the management of forests in Natura 2000.

In this way, the document should help optimizing the management of Natura 2000 forests with a view to achieving the goal of favourable conservation status of forest related habitats and species covered by Natura 2000 which will be a key contribution to meeting the EU 2020 targets on halting and reversing the decline of biodiversity within the EU.

It cannot be overstated how important Europe's diverse forest ecosystems are to conserving the EU's rich but increasingly threatened biodiversity. This is also reflected in the fact that forests make up about half of the Natura 2000 Network and that these forests are generally in a better state of conservation compared to other key habitat groups like grasslands and wetlands.

There have been, and still are, many misunderstandings about the nature and purpose of Natura 2000 when it comes to the motivation, ambitions and objectives of different actors involved. This has led to a number of false perceptions and 'myths' that tend to mask some very legitimate concerns from different sides. As a result, many of these concerns have gone unanswered due to the lack of a proper dialogue between the different interest groups.

The ad-hoc working group on Forests and Natura 2000 provided an opportunity to air these different views and clarify certain misperceptions in a balanced and pragmatic way. Thanks to these efforts it is expected that the present document will lead to a better understanding of what Natura 2000 aims to achieve with the cooperation of all actors involved. This document reflects much of the working group's discussion and highlights the opportunities for all actors involved to develop new synergies through confidence building, mutual understanding and cooperation. Exchanges of views on how to best implement Natura 2000 in forests will continue in the context of the ad-hoc working group and as a result the present document may be reviewed in the future according to new developments and experience.

¹ http://ec.europa.eu/environment/nature/info/pubs/docs/nat2000/n2kforest_en.pdf

Natura 2000 is about nature *and* people, not nature *without* people. Only by working together we will be able to fully benefit from the multiple functions and services that forests in Natura 2000 can offer society and ensure that we safeguard – and, where necessary, restore – Europe’s rich biodiversity and unique natural heritage.

The authors would like to thank all those who participated in the elaboration of this document for their valuable contributions and points of view.

Why is there a need for a constructive dialogue?

In order to be able to fully achieve the objectives of Natura 2000 it is necessary to further develop partnerships and synergies between different interest groups, such as for example the forestry and the nature conservation communities. There is a large variety of different players that can join efforts to optimize the contribution of forests in Natura 2000 to achieving the EU biodiversity conservation and restoration targets.

Most Natura 2000 forests have long been used by their owners for producing multiple benefits also for society in general. The fact that these forests have been included in the Natura 2000 network as areas with high biodiversity value or at least potential shows that in most cases traditional forestry is not only compatible with biodiversity conservation, but that it can also actively contribute to this objective. On the other hand, the nature conservation community has developed significant knowledge of the conservation status of species and habitats and on ways how to maintain or restore a favorable conservation status.

There is not something as the typical forest owner or nature conservationist. Both communities have extremely rich variety of members and interests. Across the EU, forest ownership varies from many very small and fragmented private-owned to large scale state-owned forests, and from small family owned holdings to large estates owned by private companies. A recent research carried out in 10 EU Member States has aimed to better characterize forest owners and managers in the EU. As a result, distinct types of forest owners and forest managers with different objectives and socio-economic characteristics could be identified across Europe. For instance, some forest owners are primarily interested in the economic aspects of forestry, preferring a more intense wood processing oriented forest management, while others practice ‘close-to-nature’ ecological forest management. Other forest owners and forest managers emphasize recreational aspects. Similarly, the nature conservation community in the large sense is composed by members with different types of interests, knowledge, degree of organization and objectives (Sotirov et al. 2014²).

Implementing conservation and restoration measures in Natura 2000 forests will only be successful if the different players involved join their respective knowledge, know-how and experience when addressing such complex ecosystems as are forests. In order to do this, it is necessary that all parties involved further develop the mutual understanding of their respective mindsets and priorities. This can only be achieved through a permanent and constructive dialogue.

To illustrate the different views and better understand the concerns of different parties, some experts among those players, all members of the ad-hoc working group, have been asked to express their expectations regarding the present document.

² . Sotirov, S. Storch, L. Cappelmann, M. Sotomayor, M., A. Sergent, P. Deuffic; D. Kleinschmit, P. Edwards; A. Dhubhain; M. Favero, D. Pettenella; B. Arts, M. Hoogstra-Klein; A. Riemer; C. McDermott (2014): Synthesis report on barriers and drivers of integrated forest management in Europe. A report delivered to DG Research, European Commission on 30th April 2014. Freiburg: University of Freiburg. www.integral-project.eu

Some experts' views and expectations regarding the present document

"The development of this document has been a mature exercise of dialogue between stakeholders, who realized that there are many convergent truths. The aim of better explaining and promoting synergies between biodiversity conservation and sustainable forest management has been achieved in a very balanced way, which is providing a very useful tool for planners, managers and forest holders in Natura 2000 sites."

Enrique Valero Gutiérrez del Olmo, Chair of the Copa-Cogeca Working Party on Forestry, Brussels, Belgium

"Our hopes for this publication were that they would contribute to an increased understanding of the requirements of the directive, and the need of strengthened conservation efforts and biodiversity consideration in forested Natura 2000 areas if they are to contribute to FCS. We also hoped it would highlight the need for increased levels of structures and functions fundamental for annex II or red-listed forest species, like old-growth forest, deadwood and old trees."

Anna Lindhagen and Erik Hellberg, Swedish Environmental Protection Agency, Stockholm, Sweden

"I see forests as a long-term dynamic reality, where management and conservation issues are indeed two sides of the same token. So I expected for this document a flexible and prudent approach, and I guess it has been fulfilled. The dialogue between different interest groups involved has been enhanced and needs to continue. This document is a good frame for it."

Francisco Javier Ezquerro Boticario, Forest Management Service, Junta de Castilla y León, Valladolid, Spain

"The Confederation of European Forest Owners (CEPF) welcomes this process for developing a new document on Natura 2000 and forests. The complex and – in some cases - controversial context provided a challenging task for the Working Group. Making Natura 2000 a success, Europe's forest owners remain key partners in managing Natura 2000 forests."

Clemens v. Doderer, Confederation of European Forest Owners, Brussels, Belgium

"Thanks to the well managed interactive process of establishing a new document on Natura 2000 and Forests we have been able both to learn from other interest groups and to contribute with the results of our own analysis not only to describe – for the very first time – very concrete problems and needs with regard to forest management and Natura 2000, but also to present possible solutions. We hope that this process will stimulate further communication between all stakeholder groups to manage and protect our forest resources as the basis for a bio-diverse environment and a viable green economy."

Roland Kautz, European State Forest Association, Brussels, Belgium

"A guidance note on Natura 2000 sites and forests from the European Commission is timely. Forest owners and managers play a key role in delivering the practical implementation of nature conservation objectives in Natura forest sites and information on sharing of good practices is welcomed. Where management for Natura objectives involves special approaches or other conditions, forest managers and owners should be recognised and rewarded where possible for delivering these important ecosystem services."

Pat Neville, Coillte Forest, Newtownmountkennedy, Co Wicklow, Ireland Ireland

"Forests are home to a large and essential part of our biodiversity, with many rare, specialized and threatened species and at the same time a resource for sustainable use, delivering benefits such as wood and many important ecosystem services. Views and terminology in forestry and nature conservation are differing and the current open exchange and process with all stakeholders produced a guideline for a better joint understanding and future management of Natura 2000-forests, sustainable both in its products and its biodiversity."

Axel Ssymanck, Federal Nature Conservation Agency, Bonn, Germany

What is the objective of this document? Who is it for?

This document should assist competent authorities and key stakeholder responsible for forest management and nature conservation groups, in developing and promoting management systems and practices - especially within Natura 2000 areas - that will help maintain or, where appropriate, restore habitats and species of EU importance to a favourable conservation status across the European Union. The document may also provide support to Member States and regions in the elaboration of Natura 2000 oriented measures under the Common Agricultural Policy and under the LIFE Programme during the new programming period 2014-2020.

In particular the document aims to:

- **Facilitate the practical implementation** of the nature protection directives by answering a series of frequently asked questions on the management and conservation of forests in Natura 2000;
- **Promote the integration of Natura 2000** conservation objectives into wider forestry/silvicultural policies and practices;
- **Highlight the importance of mutual information, understanding and cooperation and of sharing good practices** between all parties affected by or involved in the establishment and implementation of conservation measures in Natura 2000, especially between different competent authorities, land owners and managers and the nature conservation community;
- Underline the **multiple benefits that forests**, especially those in Natura 2000, can bring to society.

The Birds and Habitats Directives are enshrined in the principle of subsidiarity and it is for Member States to determine the measures to be taken to manage their Natura 2000 sites in accordance with those Directives. This document provides an overview of how the nature directives can best be implemented in forests and offers a range of practical ideas and examples based on good practice experiences from across the EU. The main focus of the document is on Natura 2000 and forests and the related provisions of the Birds and Habitats Directives.

This document is for information purposes only and is not legally binding. It has been prepared through active dialogue with key stakeholders (forest and environmental authorities, forest owners associations, forest management organisations, environmental NGOs, scientists, etc.) in order to ensure it is user-friendly and fit for purpose, and to strengthen the partnership approach. The present document is not prescriptive in its intent, but rather aims to offer a useful source of information and advice to help authorities, site managers and civil society to better implement the provisions of the Habitats and Birds Directives. It may be updated in the future in the light of new experience and best practice.

What can you find in this document?

The document is presented in three parts.

- Part I (chapters 1, 2, 3) provides a concise overview of Natura 2000 in the context of forests. It explains what the Natura 2000 network is, how areas are selected for designation as Natura 2000 sites and how these sites are to be managed, in accordance with EU nature legislation. It also outlines the aims of the new EU Forest Strategy and the EU funds available for forests, such as LIFE+ and the new Rural Development Regulation (2014-2020).
- Part II (chapter 4), which is the core of the document, offers more targeted explanations to some of the most frequently asked questions about forests in Natura 2000. For instance, it aims to explain what the legal provisions for Natura 2000 can mean in practice for the forest owner or manager, and how the latter may seek support from other stakeholders and interested parties – be they authorities, NGOs or the public at large – for their work in managing their forests for the benefit, among others, of Natura 2000.
- Part III: is presented in a separate accompanying document that provides a number of good practice examples and experiences from different Member States in managing forests in Natura 2000 across the EU

The document is further complemented by a series of annexes:

- Annex 1: Glossary of key terms and acronyms.
- Annex 2: provides a list of the forest habitat types and species of EU importance that require the designation of Natura 2000 sites and/or which require strict protection in accordance with the Habitats and Birds Directives.
- Annex 3: describes the main threats and pressures on EU forests.

The reader, who is not familiar with Natura 2000, or with the new EU Forest Strategy or EU funding instruments, is recommended to read Part I first in order to get an overview of the key requirements and opportunities for forests in Natura 2000. Those who are already well versed on this issue may, however, wish to go straight to the FAQs in Part II instead.

PART I:

An introduction to Natura 2000, the EU forest policy and funding opportunities for forest in Natura 2000

1. FORESTS AND THE EU POLICY CONTEXT

1.1 State of the EU's forests³

Forests and other wooded land within the EU-28 currently cover 176 million ha which represents around 42 % of EU land area. Forest cover varies significantly across Europe. Member States with the largest proportions of wooded area are Finland and Sweden, where approximately three quarters of the land area is covered with forests or other wooded land. The least densely wooded Member States are Malta, the Netherlands, Ireland and the United Kingdom.

The forest area in Europe has increased steadily since 1990, as a result of afforestation programs and natural succession of vegetation after abandonment of farming or grazing. The biodiversity value of the EU forests varies a lot in relation to their management, history, age, structure, composition, etc.

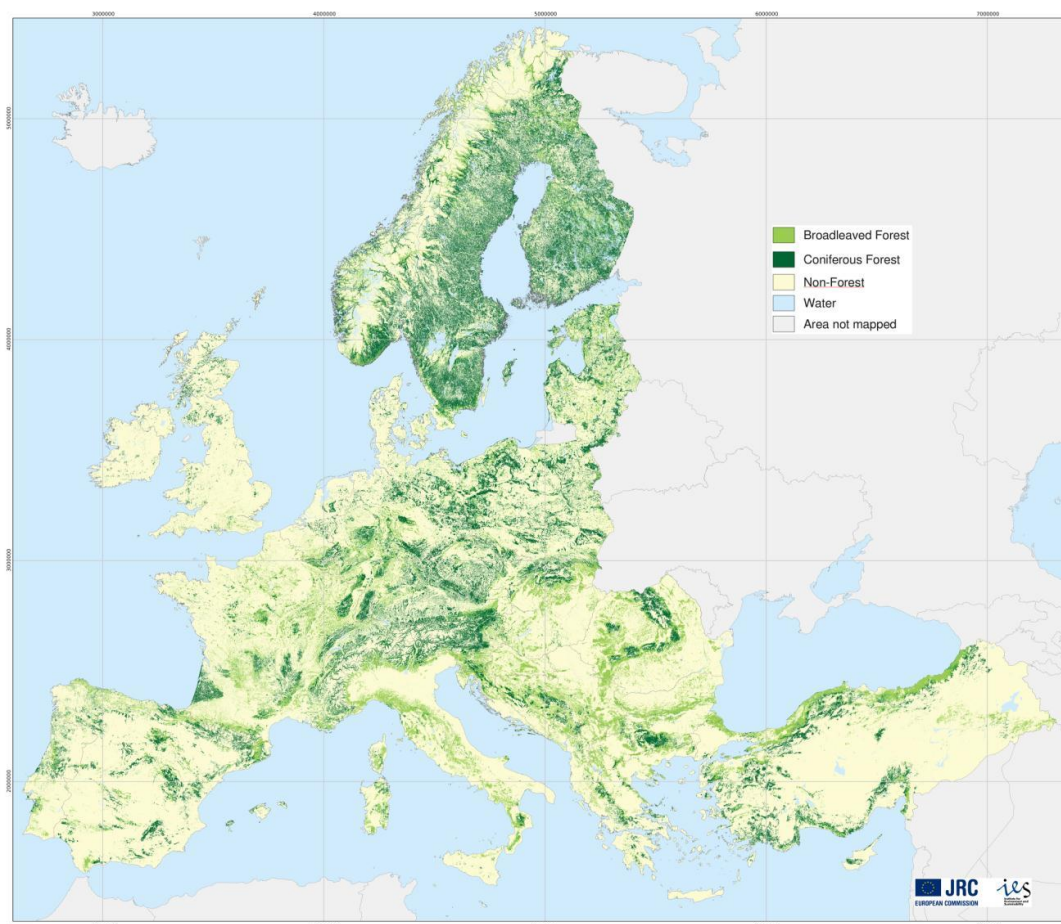


Figure 1. European Forest Map, 2006: JRC – EFDAC.

Available at: <http://forest.jrc.ec.europa.eu/activities/forest-mapping>

³ Source: Commission Staff Working Document: A new EU Forest Strategy: for forests and the forest based sector SWD (2013) 342 final. 20.9.2013

1.1.1. Ecological background for forest habitats in Europe

In natural conditions, forests would be, with some regional exceptions, the prevailing kind of vegetation cover in Europe. Many European forests ecosystems are not management-dependent and can be driven only by natural dynamics including natural regeneration and development phases, as well as large-scale disturbance dynamics driven by fires, windstorms or insect outbreaks. On the other hand many forest habitat types have been created by former management and are still management-dependent (e.g. the Mediterranean *dehesa* and the Fennoscandian wooded pastures).

The original natural forests of Europe were characterised by different patterns of natural dynamics. Small-scale gaps dynamics and middle-scale mosaic of different development phases were typical for most of deciduous forests, while large-scale natural disturbances were probably typical for coniferous ones. The natural dynamics processes normally shaped forest as a mosaic of different microhabitats, supporting rich forests biodiversity.

1.1.2 Multifunctional forestry - a key principle in EU forests

For a long time, forests in Europe have been used for their multiple functions, delivering multiple economic, environmental and cultural benefits. They supply renewable and environmentally friendly raw materials and play an important role in the economic development, employment and prosperity in Europe, in particular in rural areas. They have a high biodiversity value or, where existing pressures need to be addressed, at least a high biodiversity restoration potential (see Chapter 2).

Forests also make a positive contribution to the quality of life, providing a pleasant living environment, opportunities for recreation and preventive healthcare, whilst maintaining and enhancing environmental amenities and ecological values. Moreover, forests retain much of the spiritual and cultural heritage that defines Europe.

Sustainable forest management contributes simultaneously to achieving economic, environmental and social objectives. Sustainably managed forests can be used for the production of wood and non-wood products, recreation, hunting, etc. while at the same time delivering public amenity value of forests or achieving environmental objectives such as improving forest health, biodiversity, climate change resilience, protection of water and soil.

In terms of timber production, forest productivity varies significantly among Member States. On average, 60-70% of the annual increment is harvested, which means that the growing stock of wood is still continuously increasing. However, the net annual increment is just one indication of forest productivity. When estimating future wood availability other factors such as age class distribution or accessibility of forests need also to be considered..

Europe's forests, especially in the Mediterranean region, are also an important source of non-wood products such as cork. Last but not least, they are a predominant source of biomass for domestic heating and electricity generation. According to recent estimates their overall share of the total biomass available as a renewable energy source is expected to rise to 66% by 2020. This is also reflected in the significant proportion (42% -see graph) of wood resources that are used for energy.

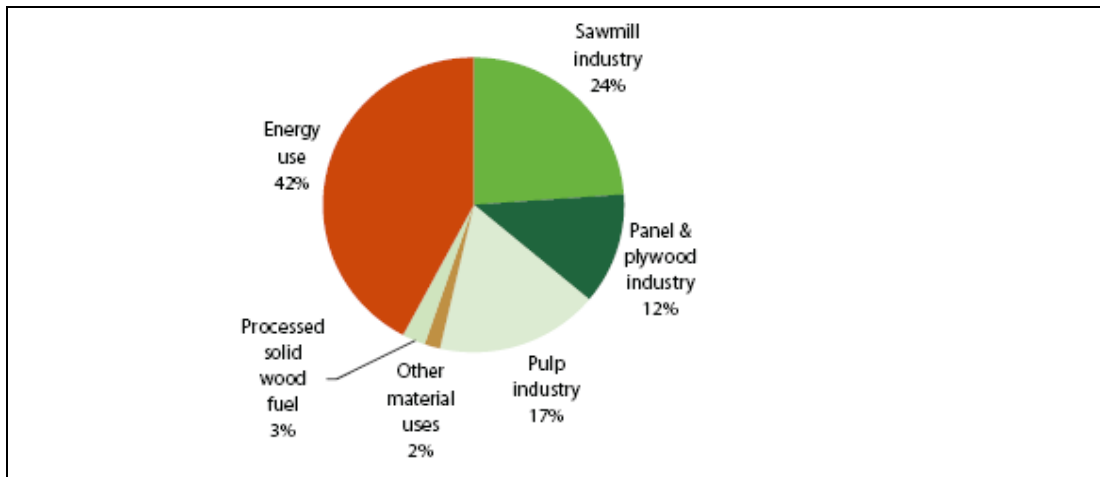


Figure 2. Wood resources in EU27 in 2010; Source EUwood, 2010

1.1.3 Ecosystem services provided by EU forests to society

In addition to being a source of direct revenue from wood and other products (food, fuel, game, resin, cork, etc.), and hosting a significant proportion of Europe's rich biodiversity, forests provide a wealth of other important benefits to society and the economy via the provision of ecosystem services.

For instance, they protect soils from erosion, and regulate watersheds and local hydrological systems by maintaining water flows. They regulate the local, regional and global climate, store carbon, protect valuable pollinators, purify air and freshwater and generally protect us against natural disasters such as avalanches, landslides, droughts and floods. They also support recreation, tourism and education.

While some forest functions, goods and services have a direct monetary value (e.g. wood), there are other ecosystem services which have still to be properly 'valued' and sometimes paid for (e.g. recreation, cultural heritage, water and soil quality and quantity). A number of economic studies are underway to estimate the values of ecosystem-services.

A significant proportion of healthy ecosystems in Europe are situated within Natura 2000. According to recent Commission studies, the benefits that flow specifically from areas in the Natura 2000 network are estimated to be in the order of €200 to 300 billion/year. The total carbon value alone of all Natura 2000 habitats is significantly higher, with forest habitats in Natura 2000 containing the highest carbon values of all, ranging between € 318.3 and 610.1 billion in 2010 (Source IEEP)⁴.

⁴ Factsheet on Natura 2000:

http://ec.europa.eu/environment/nature/natura2000/financing/index_en.htm

1.1.4 Forest ownership

Around 40 % of the forest area in the EU is publicly owned. Public ownership (Commune, Region/Province, State, etc.) dominates in most of the Eastern and South-Eastern EU Member States. The average size of public forest holdings in the EU is more than 1000 ha, with considerable variations among countries.

Around 60% of the EU's forests are in private hands, with about 16 million private forest owners. Private forest holdings have an average size of 13 ha, but the majority of privately owned forests are smaller than 5 ha⁵. The average size of the forest under private ownership varies considerably among Member States, from 0.7 ha per holding in Bulgaria to 130 ha per holding in Slovakia⁶.

It is important to be aware of these major variations in both productivity and ownership of forests across the EU as they are also reflected in forests that have been designated under the Natura 2000 network and can therefore have a significant influence on the way in which these 'Natura 2000 forests' are managed in practice.

1.1.5 Key threats and pressures

Forests are subject to multiple natural and human-induced pressures and suffer damages from both biotic and abiotic sources.

The main threats and pressures on forests in the EU vary significantly from one region to another and from the perspective taken (forestry activities or forest ecology and nature conservation) but typically they could include one or more of the following: forest fires, windstorms, water or air pollution, drought, invasive alien species, pests, disease, habitat fragmentation, other land use developments, lack of structural and species diversity, unsustainable management, lack of management, etc. Further information on threats and pressures on EU forests is available in Annex 3.

These threats have, in many cases, an impact on forest biodiversity. According to current knowledge, IUCN estimates that 27 % of mammals, 27% of saproxylic beetles, 10 % of reptiles and 8 % of amphibians related to forests are threatened with extinction in the EU (ETC/BD, 2010, based on IUCN, 2009).

Nevertheless, the state of biodiversity in forest habitats is estimated to be still generally better than in other major habitat groups like grasslands and wetlands across Europe, as witnessed by the trend in common birds in Europe (see Figure 3).

The effect of climate change, which will have a clear latitudinal effect through the increase of temperatures and drought in southern Europe, is already noticeable in the altitudinal gradient. Species at the lower altitudes of mountains in Europe are already suffering from decreased precipitation and increased temperature⁷.

These changes could reduce the resilience and health of the forest ecosystems and lead to an increase of biotic disturbances, such as from pest species or invasive alien species.

⁵ Source: The EU Forest Action Plan 2007-2011

⁶ State of Europe's Forests 201. Available at: http://www.foresteurope.org/full_SoEF

⁷ Source: MOTIVE and Trees4Future FP7 projects

Forests may also become more susceptible to abiotic disturbances produced by more frequent windstorms, droughts and forest fires.

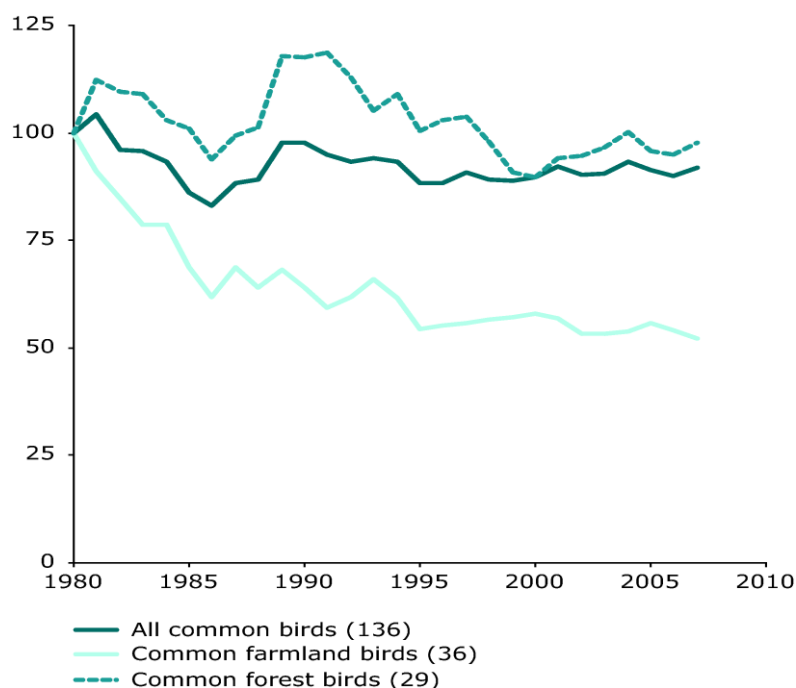


Figure 3. Common birds in Europe – population index (1980 = 100)

Source: EEA (<http://www.eea.europa.eu/data-and-maps/figures/common-birds-in-europe-2014-population-index-1980>)

1.1.6 Sustainable Forest Management (SFM) in Europe

Presently, around 87 % of Europe's forests are subject to some degree of human intervention (EEA, 2008). Most forests are managed in accordance with sustainable forest management (SFM) principles, as defined and developed by the Forest Europe process (former Ministerial Conference on the Protection of Forests in Europe - MCPFE), which are in most cases complemented by national or regional forest policies or programmes.

Sustainable Forest Management 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 fulfill, 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 ecosystems⁸.

There are several initiatives across the EU to promote and assess sustainable forest management. Also, criteria and indicators have been developed by 'Forest Europe' for the pan-European region to report on the implementation of sustainable forest management by countries.

⁸ Source: Second Ministerial Conference on the Protection of Forests in Europe, 16-17 June 1993, "Resolution H1 - General Guidelines for the Sustainable Management of Forests in Europe"

The six pan-European criteria for reporting SFM are:

- Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles;
- Maintenance of forest ecosystems' health and vitality;
- Maintenance and encouragement of productive functions of forests (wood and non-wood);
- Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems;
- Maintenance, conservation and appropriate enhancement of protective functions in forest management (notably soil and water); and
- Maintenance of other socio-economic functions and conditions.

In general, forest management policies or programmes focus on the reduction of threats, protection and recovery measures, promoting sustainable use as well as management of genetic resources. In this respect, **forest management plans (FMP) or equivalent instruments** are an important tool for the implementation of SFM at the operational level. FMP contain information (text, maps, tables and graphs...) collected during periodic forest inventories at operational forest unit level (stands, compartments) and operations planned for individual stands or compartments to reach the management goals. Forest management plans at holding level are thus strategic and operative tools for forest owners and managers.

Forest certification is also one of the tools to document the sustainability of forest management. It relies on voluntary commitments to observe SFM principles as applied in certain areas. Looking at the number of hectares certified and products carrying a logo of certification, it is clear that certification has gained importance, year after year. In the EU around 50% of forests and other wooded land are certified by FSC⁹ or PEFC¹⁰ although there are large differences between countries.

1.2 EU policy context for forests

1.2.1 The new EU Forest Strategy

Despite the absence of a common forest policy, other EU policies such as those on rural development, employment, climate change, energy, water and biodiversity all influence Member States' decisions on forests. That is why a first EU Forestry Strategy¹¹ was adopted in 1998. Working from the principle of subsidiarity and the concept of shared responsibility, it established a framework for forest-related actions in support of SFM. The Forest Action Plan¹² covering the period 2007-2011 was the main instrument for its implementation.

Since its adoption 15 years ago, significant societal and political changes have been affecting forests as well as an increasing number of forest-related policies, which together have contributed to creating a more complex forest-policy environment. To respond to these new challenges, the European Commission adopted a **new EU Forest Strategy**¹³ on 20 September 2013.

⁹ Forest Stewardship Council: <https://ic.fsc.org/>

¹⁰ Programme for the Endorsement of Forest Certification Schemes: <http://www.pefc.org/>

¹¹ Council Resolution of 15 December 1998 on a forestry strategy for the EU

¹² http://ec.europa.eu/agriculture/fore/action_plan/com_en.pdf

¹³ COM (2013) 659 final, 20.9.2013

The EU Forest Strategy has the following priority areas:

Sustainable forest management contributes to major societal objectives.

1. Supporting our rural and urban communities.
2. Fostering the competitiveness and sustainability of the EU's forest based Industries, bio-energy and the wider green economy.
3. Forests in a changing climate.
4. Protecting forests and enhancing ecosystem services.

Improving the knowledge base

5. What forests do we have and how are they changing?
6. New and innovative forest and added-value products.

Fostering coordination and communication

7. Working together to coherently manage and better understand our forests.
8. Forestry from a global perspective.

Priority 4 "forest protection and enhancement of ecosystem services" refers to Natura 2000 underlining that Member States "should achieve a significant and measurable improvement in the conservation status of forest species and habitats by fully implementing EU nature legislation and ensuring that national forest plans contribute to the adequate management of the Natura 2000 network by 2020. The present document is considered a reference that can be used in order to achieve this objective.

1.2.2 EU financial support for forests

Another major EU-level influence on forests and forest management comes from the Rural Development Policy. Forests and the forest sector currently receive significant EU funding accessible to different extent to different ownership types. Forestry measures under the Rural Development Regulation are the Forest Strategy's resource backbone (90% of total EU forestry funding) and the main EU resources for forests and forestry. According to recent figures, €5.4 billion from the European Agricultural Fund for Rural Development (EAFRD) had been earmarked for forestry measures in 2007-2013.

Although it will depend on Member States' Rural Development Programmes, a similar level of spending can be expected for 2014-2020. This spending should be dedicated to contributing to the objectives of the new EU Forest Strategy, and in particular to ensuring that EU forests are demonstrably managed according to sustainable forest management principles.

1.2.2.1 Past experiences with EU forest funding under the EAFRD

The previous EAFRD for the period 2007-2013 offered Member States 8 measures specifically targeting forests and 7 others that could be used, inter alia, for forest related activities. The funding initially earmarked for forestry-specific (€ 6 billion) and forestry-related measures (€ 1-2 billion) under the EAFRD was € 8 billion. However, the implementation of forestry measures started slowly and, according to recent figures, the allocation for the above 8 forestry specific measures was modified to €5.4 billion.

According to recent data, two environmentally focused measures performed very much under the average; namely **payments for the forest-environment and Natura 2000 measures** where less than 14% of the updated plan (2011) were spent. The implementation of afforestation of agricultural land performed the best (40%). The measure for restoring forestry

potential and prevention against fires and natural disasters also reached a 40% implementation level.

In reviews of the funding of forest measures, Member States and stakeholders indicated that they had problems in interpreting a number of the requirements and considered that the high administrative burden (including additional requirements at national or regional level) and the low fund contributions were the main causes for the low level of uptake.

Examples of how the Rural Development Programme has been used for financing management measures in forests designated as Natura 2000 sites are provided in Part 3.

1.2.2.2 Financial support available for the period 2014-2020

For the **current financial period 2014-2020**, the EAFRD¹⁴ is divided into six priorities linked to the EU's 2020 strategy. The Rural Development Regulation covers forests and forestry in the majority of these six priority areas, which include:

- knowledge transfer and innovation in forestry (priority 1),
- promoting sustainable management of forests (priority 2),
- restoring, preserving and enhancing ecosystems related to agriculture and forestry, considering Natura 2000 as focus areas (priority 4) and
- also promoting resource efficiency, low-carbon / climate-resilient economy in agriculture, food and forestry sectors (priority 5).

There is now also a general requirement that support for holdings above a certain size (to be determined by the Member States in their Rural Development Programmes) is conditional upon the forest being managed in line with SFM principles (as evidenced by presentation of the relevant information from a forest management plan or equivalent instruments). This requirement gives Member States the possibility to set an appropriate threshold for forest management plans which reflects their socio-bio-geographic specificities, whilst, at the same time, acknowledging the importance of proper planning and results achieved in this field.

The following main forestry related measures are now available under the new Regulation:

- Article 21: Investments in forest area development and improvement of the viability of forests, including:
 - afforestation and creation of woodland (art. 22)
 - establishment of agroforestry systems (art. 23)
 - prevention and restoration of damage to forests from forest fires and natural disasters, including pest and disease outbreaks, catastrophic events and climate related threats (art. 24)
 - investments improving the resilience and environmental value as well as the mitigation potential of forest ecosystems (art. 25)
 - investments in forestry technologies and in processing, mobilising and marketing of forest products (art. 26)
- Article 30: Natura 2000 and Water Framework Directive payments.
- Article 34: Forest environmental and climate services and forest conservation.
- Article 35: Cooperation.

¹⁴ See EU Regulation N° 1305/2013:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0487:0548:EN:PDF>

1.2.2.3. EU Cohesion policy support to forestry

In addition to the EAFRD, Member States and their regions can also benefit from the support of the European Regional Development Fund (ERDF) and European Social Fund (ESF). The ERDF¹⁵ co-finances programmes and projects that might be directly or indirectly linked to forests and the forestry sector, in the framework of measures aimed at territorial development. Some examples that can be linked to forests and the forestry area are: investments of the ERDF in Natura 2000 and the promotion of biodiversity and ecosystem services and the support to SME's and innovation.

The ERDF also co-finances cross-border, transnational and interregional cooperation programmes¹⁶ (INTERREG) that can support projects which relate to forests and forestry. Projects can include the following fields of intervention: monitoring and information systems as well as networks linked to forest fires, sustainable land management, information sharing on climate change adaptation, carbon sequestration and risk reduction, biodiversity, policies against depopulation in mountain areas, favouring bio-energy use, cooperation for use of renewables and energy efficiency and sustainable development of regions through SMEs.

1.2.3 LIFE

Another important source of funding for forests comes from the EU LIFE Instrument which remains to this day the only EU instrument exclusively dedicated to financing environment and climate-related projects. Around 50% of the budget is dedicated specifically to nature and biodiversity. Since the programme began in 1992, it has funded over 300 projects for the management and restoration of forest habitats and species in Natura 2000 for a total budget of several tens of millions of €. A LIFE brochure is specifically dedicated to forests¹⁷.

Typical actions under ongoing LIFE+ Nature and Biodiversity projects include: removing invasive alien species, drawing up management plans and agreeing on appropriate management regimes for forest habitats with local stakeholders, funding restoration projects to improve the structural diversity of forests, kick starting forest-environment schemes under RDP by means of demonstration and best practice projects. The LIFE Instrument also helped to elaborate guidelines and tools to promote forestry management that benefits biodiversity.

¹⁵ See EU Regulation N° 1301/2013:

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R1301>

¹⁶ See EU Regulation N° 1299/2013:

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R1299>

¹⁷ Further information can be found in the publication "LIFE and European forests" by the European Commission, available at:

http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/documents/forest_lr.pdf.

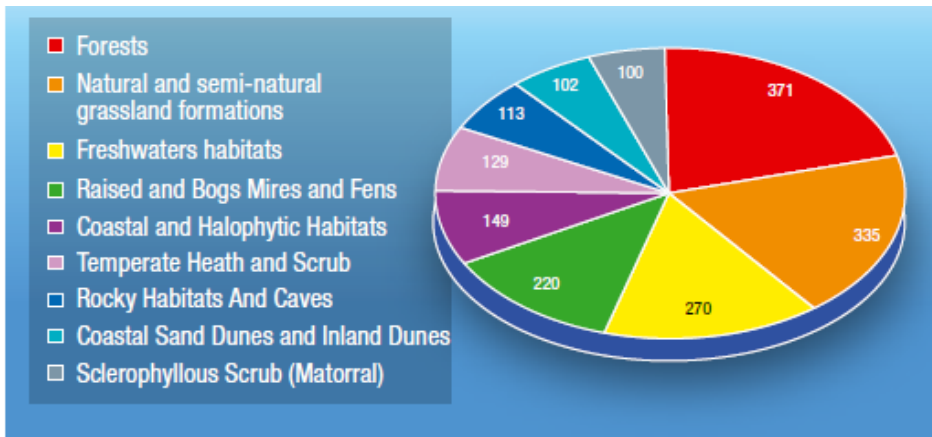


Figure 4. Habitat types targeted by LIFE projects (number of projects 1992-2008)

Source: Life projects database

LIFE Project for managing Natura 2000 in Finland's private forests

Central Finland is at the heart of the country's timber industry. Here most of the forests are in private hands, each landowner owning relatively small plots of forests. In order to overcome the concern that Natura 2000 designation would restrict all activities, the local conservation authority launched a LIFE-Nature project to raise awareness for Natura 2000 and what it means in practice for private landowners. One of the project's key actions was to offer each owner within a pilot area the option of having a forest management plan drawn up for their land.

These plans examined both the economic potential of the forest and its conservation requirements. In this way, the owners not only had a clear idea of the consequences of Natura 2000 for their forests, but also received suggestions on how to earn money from their forests in a sustainable way that is compatible with the Natura 2000 conservation objectives. The scheme proved to be very popular. Few owners would have invested in such forest plans otherwise.

LIFE project to restore Steppe oak woods in Hungary¹⁸

Steppe oak woods are unique habitats in Hungary, which have been used for livestock grazing and commercial logging over centuries. Most of them were converted to treeless pastures or plough-land. Further, during the afforestation of the Great Hungarian Plain, non-native forest plantations were established. Today, only a small number of patches of the original forest cover have survived. The steppe oak woods of the city of Nagykőrös are one of the biggest among them.

The Municipality of Nagykőrös, together with the The Danube-Ipoly National Park Directorate and WWF developed a LIFE-Nature project to restore the steppe oak woods habitat within the project area, which involved the elimination of non-native invasive plants and planting forest native species. The usage rights of privately owned forests formerly used for timber production were leased by the National Park for 90 years using an innovative contract, on areas including privately owned steppe oak patches of best conservation value, where conservation-oriented management was implemented. The owners were compensated for their income loss due to the cessation of commercial logging in those areas, and the timber from the removed invasive species (e.g. Locust or Black Cherry) was given to forest managers.

A long-term management plan for the Natura 2000 site has also been elaborated and a strong partnership with the forest owners has been developed through the implementation of the project.

¹⁸ <http://www.pusztaitolgyesek.hu/index.php?page=home>

A new LIFE Instrument¹⁹ came into force in January 2014. It is split into two distinct sub-programmes: one for environment (around € 2.1 billion for action grants) and one for climate action (around € 700 million). Just over half of the budget for action grants under the Environment Sub-Programme is earmarked for nature and biodiversity action grants, with particular emphasis on Natura 2000. This translates into **€ 1.22 billion** in total for Nature and Biodiversity for the seven-year period.

In addition to co-funding 'traditional' projects as in the past, a new type of intervention has been created: the 'integrated' project. These are intended to encourage a more strategic programmatic approach towards the implementation of EU environmental legislation. In particular, they should help to catalyze the full implementation of the Member States' Prioritised Action Frameworks (PAFs) for their share of the Natura 2000 network, e.g. by supporting the management and restoration of Natura 2000 sites across a broad geographical area, such as an entire region or country (see Section 2 for details on PAFs).

A first multiannual work programme²⁰ was adopted in March 2014. It identifies certain priority areas for funding over the next four years under each of the thematic priorities. The following are some of the project topics that are particularly relevant to forests:

Under the "Nature" priority:

- Projects aimed at improving the conservation status of habitat types or species (including bird species) of Community Interest, targeting the **Natura 2000 sites** proposed or designated for these habitat types or species.
- Projects implementing one or several actions foreseen in the relevant **Prioritised Action Framework** (PAF), as updated by the Member States or concrete actions identified, recommended or agreed in the framework of the Natura 2000 bio-geographical seminars.
- Projects targeting **invasive alien species**, where these are likely to deteriorate the conservation status of species (including birds) or habitat types of Community Interest in support of the Natura 2000 network.

Under the "Resource Efficiency" priority:

- Activities for **forest monitoring and information systems**, and to prevent forest fires. Projects under this heading can implement advanced methodologies to demonstrate sustainable forest management at regional, national or supra-national level according to agreed (Forest Europe) criteria and indicators following the objectives of the new EU Forest Strategy and the EU Biodiversity Strategy 2020. It also includes projects that use new information about forests to increase their resilience to threats arising from population changes related to urbanisation, land abandonment or loss of traditional land management skills.

Under the "Environmental Governance and Information" priority:

- **Capacity building campaigns** to allow for coordination and guidance on relevant and EU representative forest and forest fire information.
- Projects supporting the **exchange of best practice and development of skills** of Natura 2000 site managers, following recommendations from the new Natura 2000 bio-geographical seminars.

¹⁹ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE)

²⁰ http://ec.europa.eu/environment/life/about/documents/mawp_annex.pdf

2. THE EU BIRDS AND HABITATS DIRECTIVES

2.1 The EU's commitment to preserving Europe's biodiversity

As indicated in the previous chapter, the new EU Forest Strategy has "*forest protection and enhancement of ecosystem services*" as one of its priorities, stating that Member States "*should achieve a significant and measurable improvement in the conservation status of forest species and habitats by fully implementing EU nature legislation and ensuring that national forest plans contribute to the adequate management of the Natura 2000 network by 2020*".

This is directly in line with the commitments made by EU Member States in 2010 to 'halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss'²¹.

The **EU Biodiversity Strategy**²², adopted in May 2011, lays down the policy framework for achieving this overall objective. Several targets of the strategy have a direct relevance for forests, including Target 1 which call on Member States 'to fully implement the Birds and Habitats Directives and in particular to halt the deterioration in the status of all species and habitats covered by EU nature legislation, and achieve a significant and measurable improvement in their status by 2020, compared to current assessments.'

The EU Biodiversity Strategy set the following ambitious target:

To halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status so that, by 2020, compared to current assessments:

- (i) *100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and*
- (ii) *50% more species assessments under the Birds Directive show a secure or improved status.*

Forests have a particularly important role to play in helping to achieve this target. Not only do they harbour a very significant proportion of Europe's threatened biodiversity but they also cover around half of the total area of the European Natura 2000 network. It is therefore important that forest owners and managers know well the objectives and legal requirements of the Habitats and Birds Directives, especially when it comes to the protection and management of Natura 2000 sites, so they can make a positive contribution to their achievement.

As this chapter explains, this requires more than simply applying the general principles of sustainable forest management. Additional measures could need to be considered at the

²¹ Environment Council Conclusions of 15 March 2020. Available at:

<http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%207536%202010%20INIT>

²² Our life insurance, our natural capital: an EU biodiversity strategy to 2020 (COM(2011) 244), 3.5.2011.

<http://ec.europa.eu/environment/nature/info/pubs/docs/brochures/2020%20Biod%20brochure%20final%20lowres.pdf>

individual site level to address the particular conservation needs of the species and habitat types of EU importance present on a site.

The specific legal provisions of the two EU nature Directives are presented below along with other aspects of the Directives and the EU biodiversity policy that are directly relevant to forest owners and managers. The aim is to provide the necessary background information and legal context for the more detailed question and answer section in Part 2.

2.2 The Birds and Habitats Directives

The Birds²³ and Habitats Directives²⁴ are the cornerstones of the EU's biodiversity policy. They enable all 28 EU Member States to work together, within a common legislative framework, to preserve Europe's most endangered and valuable species and habitats across their entire natural range within the EU.

The Birds Directive covers all bird species occurring in the wild state in the EU (ca 500 species) whereas the Habitats Directive targets a sub-set of around 2000 species, which are in need of protection to prevent their disappearance or because they are representative of important habitats in the European Union. Some 230 habitat types are also protected in their own right under the Habitats Directive. These are often referred to as species or habitats of Community interest (see Chapter 3 and Annex 2 for further details).

The overall objective of the two directives is to ensure that the species and habitat types they aim to protect are maintained at, or restored to, a favourable conservation status²⁵ throughout their natural range within the EU. Member States are required to take the appropriate measures to attain this objective whilst taking account of economic, social and cultural requirements and regional and local characteristics.

This target is defined in positive terms, oriented towards a favourable situation, which needs to be reached and maintained. It is therefore more than just avoiding their deterioration.

More specifically, the EU Nature directives require Member States to:

- **Designate, preserve, and where necessary restore, core sites** for the protection of species and habitat types listed in Annex I and II of the Habitats Directive and Annex I of the Birds Directive, as well as for migratory birds. Collectively these sites form part of the EU-wide **Natura 2000 Network**.
- **Establish a species protection regime** for all wild European bird species and other endangered species listed in Annex IV and V of the Habitats Directive. This protection regime applies across the **species' entire natural range in the EU**, i.e. both inside and outside Natura 2000 sites.

²³ Directive 2009/147/EC Council (codified version of Council Directive 79/409/EEC on the conservation of wild birds, as amended) – see <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0147&from=EN>

²⁴ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, consolidated version 01.01.2007 - http://ec.europa.eu/environment/nature/legislation/index_en.htm

²⁵ The concept of "favourable conservation status" is not mentioned in the Birds Directive but there are analogous requirements for SPAs.

2.3 The conservation status of EU protected species and habitats

Member States report back to the Commission every 6 years on the conservation status of those habitat types and species of EU importance present in their territory, not only on their Natura 2000 sites. This is done using a standard methodology²⁶ that enables the Commission to aggregate the data at both a biogeographical and an EU level.

The latest 'Nature Report' as regards the conservation status of species and habitats protected under the two Nature Directives was published in May 2015 and concerns the period 2007-2012. This information is very useful not only in assessing whether the directives are achieving their objective but also for setting new and adjusting existing conservation objectives and priorities in light of the latest data. The 2015 assessment indicates that the conservation status of forests habitats is not good in general and that there is still much to be done if the targets set in the EU biodiversity strategy and the new EU forest strategy are to be reached by 2020.

What does Favourable Conservation Status mean (Article 1 of the Habitats Directive)

The conservation status of a natural habitat will be taken as 'favourable' when:

- its natural range and areas it covers within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The conservation status of a species will be taken as 'favourable' when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The conservation status was assessed for all forest habitat types in 9 biogeographical regions for the period 2007-2012 and the results show that only 15% of the assessments were in favourable conservation status, while 80% were 'unfavourable' (Figure 5).

If one compares these results with those of the previous assessment for the period 2001-2006 (see Figure 6 below), we can firstly notice some improvement as regards the knowledge about conservation status. The number of assessments concerning bad status of forest habitat types has decreased, but overall, the percentage of assessments in 'unfavourable' status is higher (80%) than in the previous period (63%). However, the comparison of the results of both periods needs to be taken with care mainly due to the improvement in knowledge and assessment methodologies.

²⁶ Available at: http://bd.eionet.europa.eu/activities/Reporting/Article_17/reference_portal

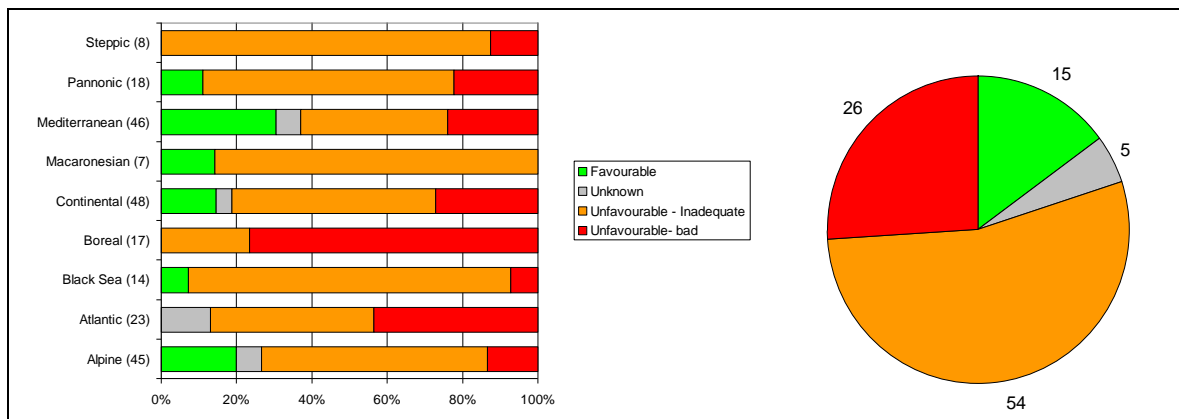


Figure 5. Conservation status of forest habitats in the period 2007-2012

Note: the number of assessments is indicated in brackets

Source: own elaboration from the results available in the EIONET – Article 17 portal²⁷

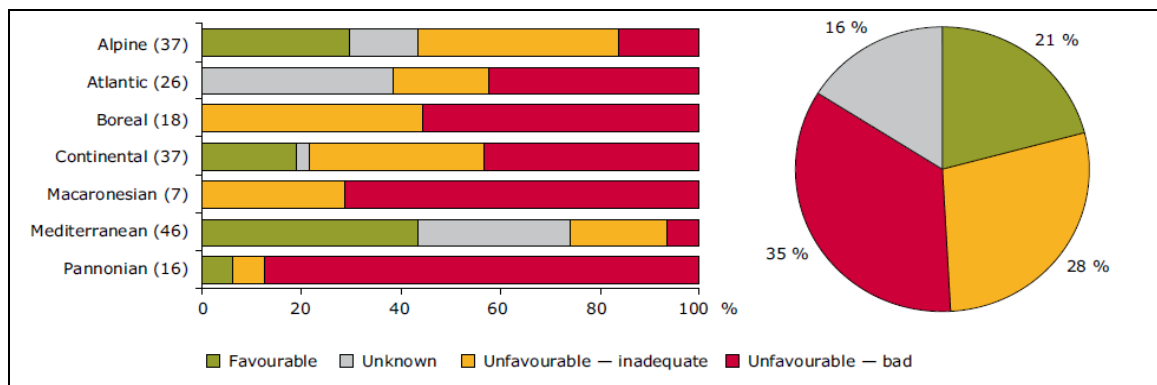


Figure 6. Conservation status of forest habitats in the period 2001-2006

Note: the number of assessments is indicated in brackets. Geographical coverage EU-25 (not including Bulgaria and Romania). Source ETC/BD, 2008

2.4 Main pressures and threats on forest habitats and species of EU Importance

The following provides a brief summary of the main threats and pressures on forest habitat types of Community interest reported by the Member States in their Article 17 reports for the period 2007-2012. This is based on a preliminary analysis of the national reports available on the Article 17 Reference Portal²⁸. The list of threats and pressures used in this reporting period is also available in this Portal.

²⁷ This graph is based on the assessment of 81 forest habitat types included in the Habitats Directive under the group 9. Forests. The results of the assessments are available at:

<http://bd.eionet.europa.eu/article-17/reports2012/habitat/progress/?period=3&group=Forests&conclusion=overall+assessment>

²⁸ See: http://bd.eionet.europa.eu/activities/Reporting/Article_17/Reports_2013

The main threats and pressures have been reported by the Member States for each habitat type in each biogeographical region²⁹ where they occur and vary from one region to another. Therefore, they are summarised below for each biogeographical region.

Alpine region

Main threats reported for forest habitat types in this region are linked to silviculture and forestry, mainly due to forest management and use (including removal of dead and dying trees, forest replanting with non-native species, forestry clearance, etc.) and forest exploitation without replanting or natural regrowth. Human disturbances, mainly related to the construction of skiing complexes are also frequently reported as main threats in this region.

Some other threats that must be taken into account are the construction of roads and motorways, damage caused by game (excess population density), air pollution (air-borne pollutants), forest fires, species composition change (succession) and habitat shifting and alteration.

Atlantic region

Some management options linked to silviculture and forestry are among the main threats reported for Atlantic forests, including the excessive removal of dead and dying trees. The presence of invasive non native species and the anthropogenic reduction of habitat connectivity are also key pressures reported for many forest habitats in this region.

As regards the riparian and alluvial forests, pollution to surface waters (limnic & terrestrial), flooding modifications and water abstraction from groundwater are considered as major threats.

Boreal region

Forest management, like forest clearance and thinning of tree layer, are reported among the main threats, together with anthropogenic reduction of habitat connectivity and biocenotic evolution (succession). Also important are those threats linked to the alteration of natural systems, such as human induced changes in hydrological conditions (canalisation & water deviation, lack of flooding...). These aspects concern not only alluvial and riparian forests but also some other types of Boreal forests like swamp woods and taiga.

Finally also damage by herbivores (including game species) must be taken into account as an important threat to forest habitats in this region.

Continental region

The main threats reported for forest habitats in the Continental region include air-borne pollution, invasive non-native species, anthropogenic reduction of habitat connectivity, species composition change (succession), damage by herbivores (including game species) and construction of roads and motorways. As regards the forest management, forest replanting with non native trees, removal of forest undergrowth and excessive removal of dead and dying trees are also reported as main threats to forest habitats in this region. Deforestation is also an issue.

²⁹ The European Union has nine biogeographical regions, each with its own characteristic blend of vegetation, climate and geology. See: http://bd.eionet.europa.eu/activities/Natura_2000/chapter1

Some other reported threats include the lack of or the inappropriate implementation of conservation measures, forest fires, natural eutrophication, diseases (microbial pathogens), droughts or reduced precipitation, habitat shifting and alteration and human induced changes in hydrological conditions (mainly for alluvial and riparian forests).

Macaronesian region

The main threats to forest habitats in the Macaronesian region are linked to grazing, animal breeding and damage by herbivores (including game species). Also invasive non-native species is considered as a major threat.

Some other factors that need to be taken into account are outdoor sports and leisure activities, recreational activities, modification of hydrological conditions, interspecific competition (flora), natural catastrophes (storms) and temperature changes (e.g. rise of temperature & extremes).

Mediterranean region

Fire is one of the main risks in Mediterranean forests. Other important threats are unsustainable grazing charges (both game and livestock), invasive alien species, exotic invasive pests and diseases. Deforestation for changes in land-use (urbanization, industrial activities, construction of roads, discharges, sport and leisure structures, etc.) and natural system modifications (human induced changes in hydraulic conditions) are other important issues. Some threats are linked to forest management (e.g. forest exploitation without replanting or natural regrowth, etc.).

Pannonian region

Main threats are linked to silviculture and forestry, mainly due to forest management and use (forest replanting, forest clearance, excessive removal of dead and dying trees, etc.). Deforestation is also an issue. Damage caused by game (excess population density) and invasive non-native species are considered as important threats to some forest habitat types present in this region.

Finally modification of hydrographic functioning is considered as a key threat for alluvial and riparian forests and some other Pannoninc woods made up of *Quercus* and *Carpinus*.

Black Sea region

Some management options linked to silviculture and forestry are among the main threats linked to forests in this region (forest replanting with non-native trees, removal of dead and dying trees, etc.). Some other threats that should be considered are deforestation, grazing in forest/woodland, collecting of fungi, lichen, berries, etc., forest fires and species composition change (succession).

Steppic region

Grazing in forests and woodlands is considered a major threat to forest habitats in this region together with drought and reduced precipitation. Some other important threats, as reported by Member States, are habitat shifting and alteration, species composition change (succession), parasitism (fauna) and competition (flora).

2.5 The Natura 2000 Network

Over 27,000 sites have been included in the Natura 2000 Network so far. Together they cover around 18% of the European land area as well as significant marine areas.

Individual Natura 2000 sites range in size from less than 1 ha to over 5000 km² depending on the species or habitats they aim to conserve. Some are located in remote areas but the majority form an integral part of our countryside, and are under some form of management or land use.

It has been estimated that approximately **375,000 km² of forests are included in the Natura 2000 Network**. This represents around 50% of the total area in Natura 2000 and around 21% of the total forest resource in the EU (see Table 1).

The high percentage of forests in Natura 2000 reflects not only the wide distribution of forests across Europe but also their overall importance for biodiversity. Many forests are valuable precisely because of the way they have been managed - or not - up to now and it will be important to maintain the status quo in the future as well so that they may continue to host the rare and endangered species and habitats for which they were designated under Natura 2000. Other forests designated as Natura 2000 sites have a high biodiversity value because they are not very different from primary forests (old-growth forests) or they have very few traces of human intervention (old-growth forest). Some of the largest areas of such forests are found in the Boreal biogeographical region.

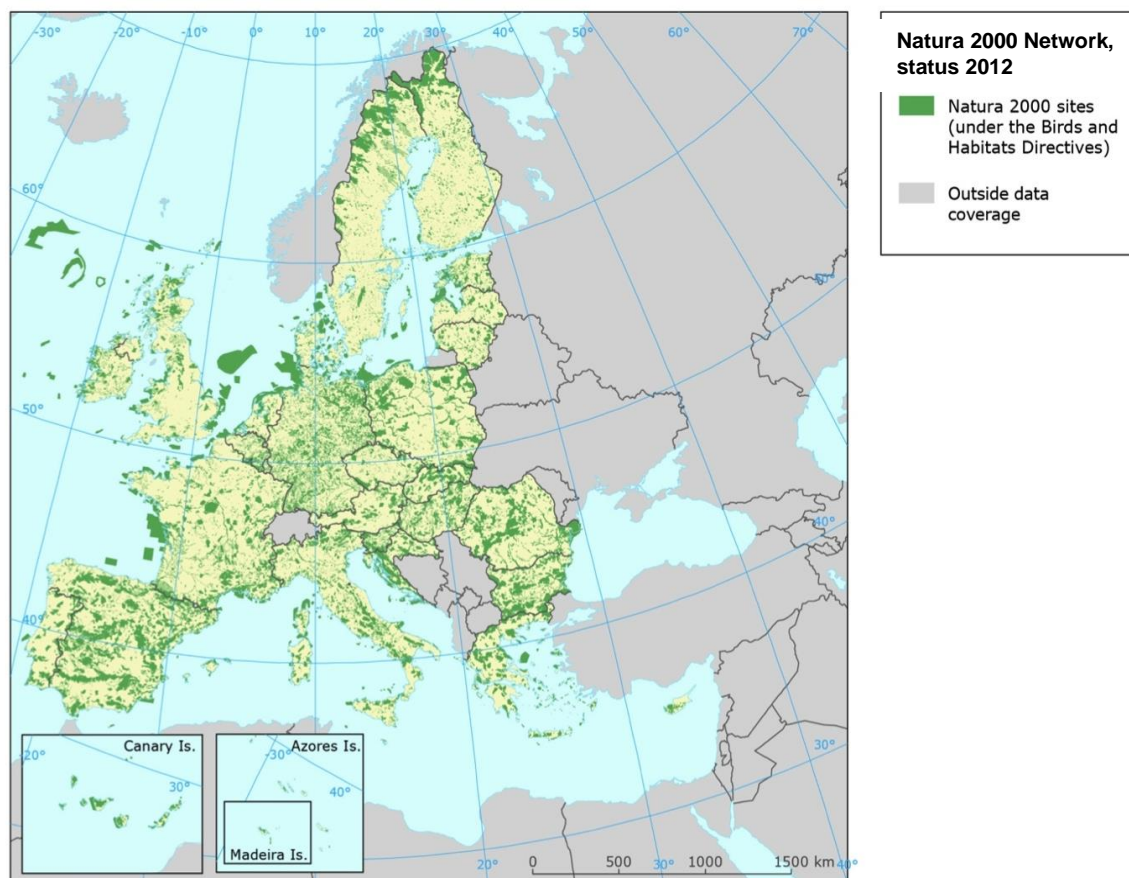


Figure 7: The Natura 2000 Network (2012)

Table 1. Natura 2000 forest area

Member State	Total Natura 2000 on land (km ²) ⁽¹⁾	Total Natura 2000 Forest* Area (km ²) ⁽²⁾	% Natura 2000 which is Forest*	Forest & other wooded land (km ²) ⁽³⁾	Total Forest* within Natura 2000 (%)
AT	12.559	4.790	38	40.060	12
BE	3.883	2.130	55	7.060	30
BG	38.066	22.220	58	39.270	57
CY	1.628	880	54	3.870	23
CZ	11.062	7.510	68	26.570	28
DE	55.142	26.550	48	110.760	24
DK	3.584	760	21	5.910	13
EE	8.076	4.670	58	23.500	20
ES	137.365	79.780	58	277.470	29
FI	48.851	28.910	59	232.690	12
FR	69.127	30.090	44	175.720	17
GR	35.761	15.550	43	65.390	24
HR	20.675	9.172	44	24.740	37
HU	19.950	8.080	41	20.290	40
IE	9.222	410	4	7.890	5
IT	57.137	29.300	51	109.160	27
LT	7.890	4.910	62	22.400	22
LU	469	280	60	880	32
LV	7.449	4.030	54	34.670	12
MT	41	20	49	0	-
NL	5.563	1.210	22	3.650	33
PL	61.059	33.470	55	93.370	36
PT	19.010	7.460	39	36.110	21
RO	53.788	22.390	42	67.330	33
SE	57.410	23.530	41	312.470	8
SI	7.673	4.990	65	12.740	39
SK	14.442	9.460	66	19.330	49
UK	20.884	1.290	6	29.010	4
Total	787.766	383.842	49	1.802.310	21

Sources:

⁽¹⁾ Natura 2000 barometer, based on the most recent data that Member States submitted to the EU until the end of December 2013.

⁽²⁾ State of Europe's forests, 2011. Forest Europe, UNECE & FAO. Data provided by DG Environment except for Croatia (data provided by national authorities).

⁽³⁾ Eurostat. Agriculture, forestry and fishery statistics. 2013 Edition

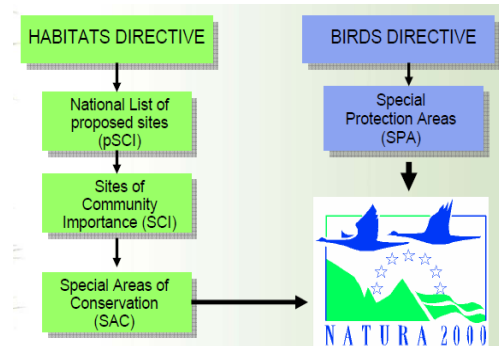
Note: Calculations on forest area performed with data from Corine Land Cover 2006 and Corine Land Cover 2000 for UK and GR. CLC classes grouped as forests: 311 Broad-leaf forests; 312 Coniferous forests; 313 Mixed forests; 323 Sclerophyllous vegetation; 324 Transitional woodland-shrub.

How are sites selected for Natura 2000?

Sites are selected for inclusion in the Natura 2000 network because they host the most important areas for the habitat types and species of EU importance which are protected under the two nature directives (see annex 3 and 4).

In the case of the Habitats Directive the selection is done according to the scientific criteria laid down in Annex 3 of the Habitats Directive and follows a series of stages – firstly at national level, then at biogeographical and European level – to ensure that, collectively, the chosen sites are capable of providing a sufficient coverage for each habitat type and species across the EU.

In the case of the Birds Directive, sites are classified by the Member States and included directly in the Natura 2000 Network, after evaluation.



THE NATURA 2000 VIEWER

The Natura 2000 viewer is an on-line GIS mapping system that identifies the precise location of each Natura 2000 site in the EU Network. The sites can be examined at a very fine scale, which enables its boundaries and key landscape features to be viewed at a very high resolution.

A Standard Data Form (SDF) is also available on line for each site. This identifies the species and habitat types of EU importance for which it was designated, as well as their estimated population size and conservation condition within the site, as well as the overall importance of the site for the species or habitat types within the EU as a whole (<http://natura2000.eea.europa.eu/#>).

2.6 The protection and management of Natura 2000 sites

The protection and management of Natura 2000 sites designated under either directive is governed by Article 6 of the Habitats Directive³⁰. Article 6 contains three key provisions requiring Member States to:

- Establish the **necessary conservation measures**, on each site, which correspond to the ecological requirements of the protected habitat types and species of EU importance present (Article 6.1);
- Take measures to **avoid deterioration** of the habitats, **or any significant disturbance** of the species for which the sites have been designated (Article 6.2);
- Introduce **an assessment procedure** for plans or projects that are likely to have a significant negative impact on a Natura 2000 site (Article 6.3 and 6.4).

According to Article 2.3 of the Habitats Directive, measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics. The Directive fully recognises that man is an integral part of nature and that nature conservation measures and socio-economic activities are best carried out in partnership. The aim of Natura 2000 is not to prevent economic activities, but rather to set the parameters by which these can take place whilst safeguarding Europe's most valuable species and habitat types.

³⁰ See EC guidance document:

http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf

Extract of the Habitats Directive:*Article 2*

- 1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.*
- 2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.*
- 3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.*

Article 6

- 1. For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.*
- 2 Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.*
- 3 Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*
- 4. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

2.6.1 *Setting conservation objectives*

In order to implement conservation measures according to Article 6.1, it is important to first set clear **conservation objectives for each Natura 2000 site**³¹. These objectives describe the desired condition of each of the species and habitat types of EU importance present (in quantitative and/or qualitative terms)³², taking account of their ecological requirements, and the threats and pressures they face, within that particular site as well as the site's potential contribution to achieving favourable conservation status at the national or biogeographical levels.

Conservation objectives will vary from one site to another, even when the sites host the same species or habitats. This is because the local ecological conditions (conservation status, threats, etc.) as well as the strategic importance of a site for the habitats and species present on it may vary considerably from site to site. Each site is also influenced by its socio-economic context which may influence the feasibility of certain conservation objectives and measures. Therefore it is advisable to inform, consult and involve relevant stakeholders not only when establishing conservation measures, but also when defining conservation objectives.

Conservation objectives can be expected to be reasonably stable over time, indeed in most cases they should be based on long-term targets (e.g. increase the population of black woodpecker in the site by 10% over 20 years; time-span could be even much longer, for instance where forest habitat restoration is envisaged). Conservation measures, on the other hand, relate to the practical actions required to achieve these objectives. These measures may be adjusted in function of changing threats and pressures, local interests and stakeholder involvement or in the light of positive results from previous conservation measures.

Thus, once the conservation objectives have been defined for a Natura 2000 site, there is some flexibility in establishing and implementing the conservation measures needed to achieve these objectives, taking into account the full range of socio-economic activities and interests within the site.

2.6.2 *Establishing the necessary conservation measures*

As stated above, conservation measures are the actual mechanisms and practical actions that need to be implemented in order for the site to reach its conservation objectives. These measures are not optional though. According to Article 6.1 conservation measures that correspond to the ecological requirements of the species and habitats present on a site must be taken. Conservation measures can include active management and restoration works or just making sure that existing management practices are being continued where this is

³¹ It is advisable that each MS/region first defines conservation objectives at the national or regional level for all habitat types and species of Community interest present on their territory, taking into account their conservation status as assessed under article 17 of the Habitats Directive and the need to contribute to achieving favourable conservation status for every habitat and species in each biogeographical region³¹. This provides a useful basis for setting conservation objectives at site level while taking into account the contribution that each site can make to achieve favourable conservation status (see examples in Annex 2).

³² The Commission services have published an explanatory note on establishing conservation objectives for Natura 2000 sites. See:

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/commission_note2.pdf.

necessary to maintain existing protected habitat or species, as well as *passive* management ('do-nothing' measures)³³.

How the conservation measures will then be implemented in practice will vary from site to site depending on the specific conditions of each site (ecological factors, socio-economic context, traditional management, etc.). Article 6.1 allows for a large degree of **flexibility** in this respect, and leaves it up to each Member State to design and implement the conservation measures for its Natura 2000 sites. Member States can use **statutory, administrative and/or contractual measures**, depending on what they consider to be most appropriate.

2.6.3 Natura 2000 management planning instruments

To help ensure that a site is managed in an efficient and transparent way, site managers are encouraged to elaborate **Natura 2000 management plans**, in cooperation with local stakeholders. The plans at site level (for an individual site or a group of sites) can be used to formulate the site's conservation objectives together with the measures necessary to attain the objectives. They can also be used as a tool to lay down the respective roles and responsibilities of the different actors (competent authorities, landowners and managers, other stakeholders including NGOs) in implementing the necessary conservation measures that have been identified.

Natura 2000 management plans can be specifically designed for the site in question or integrated into other development plans, such as forest management plans, provided that the Natura 2000 conservation objectives are clearly included within such plans. In other words, one single document can in principle cover both general forest management provisions for a given area and the Natura 2000 conservation objectives and measures needed for that site.

Natura 2000 management plans also typically offer a detailed explanation of why the site has been designated, what the current conservation status of the species and habitat types of Community importance is, as well as their key threats and pressures. They also offer an opportunity to analyze the existing land uses and socio-economic activities on the site, and the relationship (including possible synergies) between these activities and the site's conservation objectives.

2.6.4 Avoiding deterioration and preventing adverse effects

In addition to establishing the necessary conservation measures for Natura 2000 sites, Member States are also required to take appropriate steps to avoid the deterioration of natural habitats and habitats of species, and any significant disturbance of the species, for which the site has been designated (article. 6.2, Habitats Directive). The conservation objectives are the reference for assessing whether or not an activity is likely to cause a deterioration to a site.

In the case of new development activities, Article 6.3 of the Habitats Directive puts in place an **assessment procedure** to ensure the protection of Natura 2000 sites against any significantly damaging plans or projects. Thus, any plan or project, not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, is

³³ See explanatory note on establishing conservation measures for Natura 2000 sites: <http://ec.europa.eu/environment/nature/natura2000/management/docs/comNote%20conservation%20measures.pdf> and the guidance on establishing conservation measures for Natura 2000 sites: <http://ec.europa.eu/environment/nature/natura2000/management/docs/conservation%20measures.pdf>

required to undergo an assessment (the so called **Appropriate Assessment**) of its implications for the site in view of the site's conservation objectives.

The competent authorities can agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned. This may sometimes require the implementation of mitigation measures to remove any potential negative impact or to reduce such impact to a non significant level.

Working together in Natura 2000 – The Natura 2000 Biogeographical Process'

Since 2011 the Commission has established a process to encourage networking and cooperation between all actors involved in the management of Natura 2000 sites. The aim is to achieve coherence in the management of the network at the biogeographical level and throughout the EU. The process also allows to promote cross-border cooperation, the exchange of best practice and to improve common understanding on conservation status, objectives and measures. Full details are provided on the Natura 2000 Communication Platform: http://ec.europa.eu/environment/nature/natura2000/platform/index_en.htm

2.6.5 Improving connectivity of the Natura 2000 network

Many of Europe's habitats, including forests, are highly fragmented as a result of deforestation and other past and on-going developments, land-use and land-cover changes. This significantly reduces their ability to deliver valuable ecosystems services to society. Article 10 of the Habitats Directive foresees that Member States encourage the management of features of the landscape which are of major importance for wild fauna and flora in particular with a view to improving the ecological coherence of the Natura 2000 network.

In May 2013 the European Commission has adopted a new Strategy to promote a **Green Infrastructure** across Europe³⁴ which will, among others, contribute to that objective. The Strategy creates a framework to promote green infrastructure projects within existing legal, policy and financial EU instruments.

Improving the connectivity of forest habitats is a very relevant objective, taking into account that fragmentation is one of the most important threats for forest habitats. This can be done, for instance by enlarging the area of some forest habitat types in suitable areas through reforestation or improving the ecological quality of existing forest habitats.

2.7 Financing the management of Natura 2000 sites

While the main responsibility for financing Natura 2000 lies with the Member States, Article 8 of the Habitats Directive links delivery of the necessary conservation measures to the provision of EU co-financing. Section 1.2.2 has already provided an overview of the most important EU funds for forests and Natura 2000.

These funds are further described in a Guidance handbook on financing Natura 2000 aimed at assisting authorities, managers and owners to take advantage of the multiple opportunities

³⁴ Communication from the Commission: Green Infrastructure (GI) (COM(2013) 249 final) <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0249&from=EN>

available under the current financing period (2014-2020) for management measures within Natura 2000 sites, including measures for forests in Natura 2000³⁵.

In order to make best use of the EU funds available, the Commission has encouraged Member States to adopt a more strategic multi-annual planning approach to Natura 2000 financing. This takes the form of **Prioritised Action Frameworks (PAFs)**, which define the funding needs and strategic priorities for Natura 2000 at a national or regional level for the period 2014-2020. These PAFs are specifically designed to facilitate the integration of suitable conservation measures into the new operational programmes for the different EU funding instruments³⁶. The new LIFE programme for 2014-2020 opens the possibility to finance Integrated Projects designed to facilitate the full implementation of the PAFs in the long run.

At individual site level, the identification of the necessary conservation measures (e.g. in management plans and other instruments) must also be accompanied by an estimation of the financial resources needed for their implementation. In this respect it is important to take into account not only the cost of the measures but also of the consequences of their implementation, especially when it is proposed to restrict or adapt existing forest management practices, which may imply a loss of income in some cases³⁷.

2.8 Species protection across the EU territory

The second main set of provisions of the two EU nature directives concerns the protection of certain species across the EU, i.e. both within and outside Natura 2000 sites. The species protection provisions cover all naturally occurring wild bird species in the EU as well as other species listed in Annex IV and V of the Habitats Directive.

In essence they³⁸ require Member States to prohibit the:

- Deliberate killing or capture of protected species by any method;
- Deliberate destruction or taking of eggs or nests, or the picking, collecting, cutting, uprooting or destruction of protected plants;
- Deterioration or destruction of breeding sites or resting places;
- Deliberate disturbance particularly during breeding, rearing, hibernation and migration;
- The keeping, sale and transport of specimens taken from the wild.

Derogations to these provisions are allowed in some circumstances (e.g. to prevent serious damage to crops, livestock, forests, fisheries and water) provided that there is no other satisfactory solution (e.g. postponing the planned works) and the consequences of these derogations are not incompatible with the overall aims of the Directives. The conditions for derogations are set out in Article 9 of the Birds Directive and Article 16 of the Habitats Directive.

³⁵ See New Guidance handbook on financing Natura 2000, available at:

<http://ec.europa.eu/environment/nature/natura2000/financing/>

³⁶ SEC(2011) 1573 final. See:

http://ec.europa.eu/environment/nature/natura2000/financing/docs/financing_natura2000.pdf

³⁷ Not every potential loss of income needs or can be compensated, for instance, where the loss of income is a result of implementing a legal requirement aimed at avoiding deterioration by a new type of management (Article 6.2) (e.g. no compensation for the obligation to keep a beech stand and not to allow its transformation into a conifer stand).

³⁸ The exact terms are laid down in Article 5 of the Birds Directive (for birds) and Article 12 (for animals) and Article 13 (for plants) of the Habitats Directive - See Guidance document on the strict protection of animal species of Community interest under the Habitats Directive

http://ec.europa.eu/environment/nature/conservation/species/guidance/index_en.htm

2.9 Tackling non-native species across the EU

Article 22(b) of the Habitats Directive states that Member States shall ensure that the deliberate introduction into the wild of any species which is not native to their territory is regulated so as not to prejudice natural habitats within their natural range or the wild native fauna and flora and, if they consider it necessary, prohibit such introduction.

It is important to mention the ever increasing problem of Invasive Alien Species (IAS) as they represent a major threat to native wildlife and habitats in Europe, causing millions of Euros worth of damage every year.

In 2014, the European Parliament and the Council of the EU adopted a EU new Regulation on Invasive Alien Species³⁹ which aims to establish a coordinated EU-wide legal framework for action to prevent, minimise and mitigate the adverse impacts of IAS on biodiversity and ecosystem services, and limit their damage to the economy and human health.

The Regulation includes three distinct types of measures, which follow an internationally agreed hierarchical approach to combatting IAS:

- *Prevention*: a number of tough measures are foreseen to prevent new IAS from entering the EU in the first place, either intentionally or unintentionally.
- *Early warning and rapid response*: Member States must put in place an early warning system to detect the presence of IAS as early as possible and take rapid measures to prevent it from becoming established.
- *Management of already established invasive alien species*: some IAS are already well established in the EU territory; concerted action is needed to manage them so that they do not spread any further and to minimise the harm they cause.

This last measure is especially important for forest ecosystems where the economic, social as well as ecological impacts caused by IAS can be particularly significant.

³⁹ http://ec.europa.eu/environment/nature/invasivealien/index_en.htm

3 FORESTS IN NATURA 2000: AN OVERVIEW

3.1 European forests and their importance for biodiversity

Europe's forests are amongst the most biodiversity rich of all terrestrial habitats in the EU. Thanks to their structural complexity, diversity and dynamic nature, they have for centuries been a major repository for much of Europe's biodiversity. This is true not only for species living exclusively in "closed" forests, but also for other species, especially invertebrates and birds, that require a mosaic of closed forest and other wooded land, including open scrubland and forest gaps.

Different regions of Europe have developed their own types of forests that are adapted to the local environmental conditions. Beech forests tend to dominate in Central Europe whilst coniferous forests are most common in mountainous areas and in the North of Europe. Across the Mediterranean region, mixed oak and coniferous forests predominate. It is estimated that, altogether, there are 14 categories and 79 types of forest habitats in the EU (Barbati *et al.* 2014)⁴⁰.

Over the centuries, the natural forest vegetation in most regions of Europe has been replaced by other land-uses, or by semi-natural forests that have been managed and used to a greater or lesser degree for different purposes, such as timber, grazing, etc. There are now few entirely untouched forests left in Europe (around 5%) compared to other parts of the world (EEA 2010)⁴¹. In the more widespread semi-natural forests, even if the management mimics some patterns of natural dynamics, the time cycle of consecutive forest generation replacement is reduced by approximately half, reducing also the presence of old trees, stands and related microhabitats and influencing some elements of biodiversity. Nevertheless, some forests continue to be of vital importance to biodiversity, often precisely because of the way they have been managed up to now. There is wide experience of integrating biodiversity conservation to the European forestry⁴².

3.2 Forests designated for Natura 2000

It is not surprising therefore that half of the Natura 2000 Network is made up of forests albeit with significant differences between countries and biogeographical regions. The area of forests under Natura 2000 varies from 6.4% in the United Kingdom to 53.1% in Bulgaria.

⁴⁰ European forest types - Categories and types for sustainable forest management reporting and policy. EEA Technical report 09/2006, which has been revised by Barbati *et al.* European Forest Types and Forest Europe SFM indicators: Tools for monitoring progress on forest biodiversity conservation. *Forest Ecology and Management*, Volume 321, 1 June 2014.

⁴¹ 10 messages for 2010 Forest ecosystems. European Environment Agency, 2010. Available at: <http://www.eea.europa.eu/publications/10-messages-for-2010-2014-3>

⁴² See review: Kraus D. & Krumm F. (eds.) 2013. Integrative approaches as an opportunity for the conservation of forest biodiversity. European Forest Institute. 284 pp.

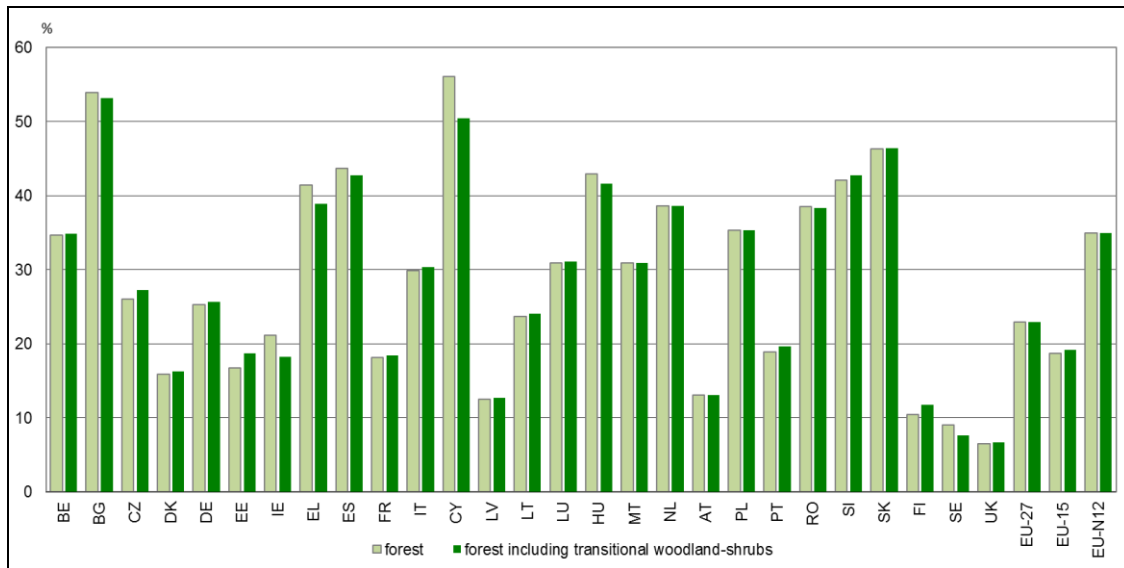


Figure 8. Percentage forest under Natura 2000 according to Member States (2012)

Note: the percentages of Forest under Natura 2000 are estimated using Corine Land Cover classes. Not all forest area coincides with Annex I habitat types.

Source: Rural Development in the EU – Statistical and economic information, Report 2013.

There are three main reasons why a forest can be included in Natura 2000:

- The site contains an important area for **one or more forest habitat types of European interest listed in Annex I of the Habitats Directive**. There are in total 85 forest habitat types in Annex I⁴³, including 29 priority habitats⁴⁴ (see Annex 2 for further details). According to the Directive, Annex I forest habitat types are defined as: (sub) *natural woodland vegetation comprising native species forming forests of tall trees, with typical undergrowth, and meeting the following criteria: rare or residual, and/or hosting species of Community interest.*

The large number of forest habitat types of Community interest does not necessarily imply an abundant resource. On the contrary, it appears that many habitat types are rare and of a residual nature, with over half being restricted to a relatively small distribution range in one or two countries, like the Apennine beech forests (9210*, 9220*), the Palm groves of *Phoenix* (9370*) the Caledonian forest (91C0*) and the Macaronesian laurel forests (9360*). There are nevertheless also some more widespread forests such as the Western Taiga (*9010), the *Asperulo Fagetum* beech forests (9130) and the *Quercus ilex* & *Quercus rotundifolia* forests (9340).

- The site contains one or more important habitats (e.g. for breeding, resting or foraging) for one or more **species of European Importance** listed in Annex II of the Habitats Directive or Annex I of the Birds Directive (in total some 121 species on Annexes II the

⁴³ Including 81 habitat types defined under the group 9. Forests in Annex I of the Habitats Directive and other 4 habitat types of the directive considered as forest habitats in this document (including wooded meadows and dunes).

⁴⁴ *Priority* means natural habitat types in danger of disappearance, for which the Community has a particular responsibility; these priority natural habitat types are indicated by an asterisk (*) in Annex I.

Habitats Directive are linked to forests, including: 11 amphibians, 23 mammals, 44 invertebrates and 43 plants)⁴⁵. Some 63 species listed in Annex I of the Birds Directive are also considered to be closely associated with forests – see Annex II to this document for further details); again, many of these species are of limited distribution because of their highly endangered status or their restricted habitat range.

- The forest itself is not a core habitat for an EU protected species or habitat type but it is **important for the overall ecological coherence** of the Natura 2000 site (e.g. an ecological corridor connecting core habitats for protected species within the site, a buffer zone around a core area, etc.)

It is important to recall that the motivation for inclusion of a forest in a Natura 2000 site will have a direct influence on the type of conservation measures that may be required under Article 6.1 of the Habitats Directive.

Examples of Annex I forest habitat types



Fennoscandian wooded pasture (9070) in South Sweden. Photo: Vikki Bengtsson



Luzulo-Fagetum beech forest (9110), Söderåsens National Park, Sweden. Photo: Oddvar Fiskesjö



Macaronesian Laurel Forests (9360) in Barranco de Nieto, Tenerife (Spain). Photo: Andy Gillison*



Sub-Mediterranean pines forests with endemic black pines (9530) in the Alps (Italy). Photo: P. Susmel*

⁴⁵ EU 2010 Biodiversity Baseline (EEA, 2010). Appendix III –Allocation of species for each ecosystem. Figures do not include species that were subsequently added following accession of Bulgaria, Romania and Croatia.

PART II:

Frequently Asked Questions

4. FREQUENTLY ASKED QUESTIONS

4.1 Introduction

This chapter aims to answer a number of frequently asked questions (FAQs) about forests in Natura 2000. The questions have been identified with the help of the ad-hoc Working Group set up by the Commission for the preparation of this document. For those who are not familiar with Natura 2000, it is strongly recommended to read Part I of the document first to have a clear overview of the aims and legal obligations of the Habitats and Birds Directives, and the protection of Natura 2000 sites in particular.

For ease of use, the FAQs are grouped according to the following main headings:

- Designating sites for Natura 2000
- Setting conservation objectives for Natura 2000 sites
- Implementing conservation measures for forests in Natura 2000
- Ensuring the non-deterioration of forests in Natura 2000
- Forest management practices and Natura 2000 requirements
- Financing opportunities for supporting forest activities in Natura 2000
- New activities in Natura 2000: the permit procedure
- Monitoring and assessing progress of conservation measures
- Communication, co-operation, active involvement of stakeholders
- Measures outside Natura 2000 sites

At the beginning of each question, it is indicated:

- whether the question entails a legal obligation (in accordance with the Habitats and Birds Directives), a recommendation or just information;
- the main target public addressed (e.g. forest owners, forest managers, authorities, general public - including non-governmental organisations);
- the reference number of related case studies described in Part III.

Legal obligations (O) refer to specific obligations under the directives. It can be an obligation for the authorities and/or for the forest owner or manager. Member States are required to transpose the provisions of the directives into their own legal system. Some of those transposed provisions have then to be implemented by the concerned players (e.g. forest managers or owners). The text aims to explain the implications of the legal obligations, with references to case-law when available.

Recommendations (R) aim to provide possible options to deal with certain aspects of the directives. They are for information purposes only and do not entail any obligation.

Text labelled as **information (I)** is provided for a better understanding of Natura 2000, the Birds and the Habitats Directives. All examples mentioned in the text are subsumed to this category.

4.2 Designating sites for Natura 2000

Questions:

1. *Why is almost half of the Natura 2000 Network composed of forests?*
2. *Which types of forests are included in Natura 2000?*
3. *How can I find out more about sites that have been designated as Natura 2000?*

1. Why is almost 50% of the Natura 2000 network composed of forests?

Information	Target: general public, forest managers/owners, authorities	Related case studies (nr.)
<p>Forests harbour a very significant proportion of Europe's biodiversity. This includes many rare and threatened species and habitat types listed in the Habitats and Birds Directives. The most suitable areas have been designated as part of Natura 2000 in order to ensure their long-term survival within the EU. As a result, some 375,000 km² of forests are now included in the Natura 2000 Network which spans 28 countries. The Member State with the largest area of forest included in Natura 2000 is Spain (ca 79,800 km²) followed by Poland (ca 33,500 km²) and France (30,090 km²).</p> <p>The high proportion of forests in Natura 2000 also reflects the fact that forests cover around 42% of the EU territory and make up a significant part of Europe's land cover. Also many forests have been managed in a way that has conserved protected habitats and species under the Birds or the Habitats Directive and explains their relatively high biodiversity value compared to other land uses. Besides such managed forests, the Natura 2000 network comprises also significant areas of old-growth forests. The designation of a forest as a Natura 2000 site recognizes the high value of that forest as regards the objectives of the Birds or the Habitats Directive. However, this does not necessarily mean that all habitat types or species for which the area has been designated are already in a good condition in the area. In some cases the contrary may be the case and therefore particular conservation measures may be required to improve the situation. These measures may include strict protection as well as active management like grazing, preserving old trees, removing undesired tree species, etc.</p>		

2. Which types of forests are included in Natura 2000?

Information	Target: general public, forest managers/owners, authorities	Related case studies (nr.):
<p>Forest areas are included in Natura 2000 because they harbour the best sites within the EU for species and forest habitat types protected under the two EU nature Directives. The selection of sites is done on scientific grounds.</p> <p>In the case of the Habitats Directive the selection process involves several steps starting with the identification of the most suitable sites at national level as described in Annex III of the directive. The national lists are then reviewed by the Commission, in collaboration with Member States and scientific experts, to ensure that - collectively - they provide a sufficient coverage for each habitat type and species across their entire natural range within the EU and form a coherent network. In the case of the Birds Directive, sites are classified by the</p>		

Member States and included directly in the Natura 2000 Network after scientific evaluation.

When selecting Natura 2000 sites for the 85 forest habitat types⁴⁶ protected under the Habitats Directive Member States must apply the criteria listed in Annex III of the directive. According to these criteria sites are selected *inter alia* because the area contains a good example of a given habitat type on the site and it is characterized by a good conservation of the structure and functions of the habitat type concerned or good restoration possibilities. This large number of habitat types illustrates the very diverse nature of forests across the EU.

Forests are also designated as Natura 2000 if they host important breeding, resting or foraging habitats for one or more species of European Importance listed in Annex II of the Habitats Directive or Annex I of the Birds Directive or regularly occurring migratory bird species not listed in Annex I. The former covers the following forest related species: 43 plants, 44 invertebrates, 23 mammals and 11 amphibians while the latter covers 63 bird species closely associated with forests. Again, many of these species are of limited distribution because of their highly endangered status or their restricted habitat range.

A particular site can also be selected because of the size and density of populations of species present on the site and the overall value of the site for the conservation of the habitat type or species concerned. Under the Birds Directive, sites are selected because they have been identified as being the most suitable territories in number and size for the conservation of the species listed in annex I of the Directive or for regularly occurring migratory species.

Finally, a forest may be included in Natura 2000, even though it is not a core habitat for an EU protected species or habitat type, because it is nevertheless of vital importance for the overall ecological coherence of a site or the network (e.g. an ecological corridor connecting core habitats for protected species within a site, a buffer zone around a breeding area, etc.).

Not every site harbouring a habitat type or species of EU importance is included in Natura 2000. The aim is to designate only the most suitable and important sites to ensure their conservation. Thus, for some of the more widespread forest habitats protected under the Habitats Directive, such as the western taiga (habitat code 9010) *Asperulo Fagetum* beech forests (9130), or *Quercus ilex* & *Quercus rotundifolia* forests (9340), only part of the total forest habitat is included in Natura 2000. Similar situations apply for a number of forest species, such as the black woodpecker (*Dryocopus martius*) or hazel hen (*Bonasia bonasia*)⁴⁷.

Nevertheless, there are occasions where it may be necessary to designate all remaining areas for a particular species or habitat type to ensure their survival. This is especially the case for those that are extremely rare, or limited in range, such as the Moesian silver fir forests 91BA (18 sites covering ca. 15,000 km²).

It is important to be aware of the motivation for inclusion of a forest in Natura 2000 as this will have a direct influence on the conservation objectives and type of conservation measures that may be required as well as for the assessment of potential impacts of plans or projects on a site (Article 6 of the Habitats Directive).

⁴⁶ Including forest habitat types, wooded meadows, grazed forests (*dehesas*) and wooded dunes. With the accession of Bulgaria and Romania, 9 new forest habitat types were included in Annex I of the Habitats Directive (under category 9 - Forests). With the accession of Croatia, no new forest habitat types were included in the Habitats Directive.

⁴⁷ Western taiga (9010): 2848 Natura 2000 sites covering almost 2 million ha representing 49% of the total habitat area; *Asperulo Fagetum* beech forests (9130): 2236 sites covering ca 800,000 ha representing 54% of the total area; *Quercus ilex* & *Quercus rotundifolia* forests (9340): 1163 sites covering ca 1 million ha representing 64% of the total habitat area. Figures are from EU 2010 Biodiversity baseline report, EEA 2010. They do not include habitat types subsequently added after accession of Romania, Bulgaria, or Croatia.

3. How can I find out more about sites designated as Natura 2000?

Information	Target: general public, forest managers/owners	Related case studies (nr.):
<p>Every Natura 2000 site is accompanied by a Standard Data Form (SDF) which records the species and habitat types of EU importance for which it has been designated, as well as their estimated population size and degree of conservation within that site at the time of designation, or at a later stage, when the occurrence of new species or habitat types on the site was observed and when the SDF was updated accordingly. These SDF are publicly available documents. They can be consulted on the Natura 2000 viewer⁴⁸: http://natura2000.eea.europa.eu/.</p> <p>The Natura 2000 viewer is an on-line GIS mapping system that gives the precise location of each Natura 2000 site in the EU Network. The user can search for, and query, any site anywhere in the EU. Thanks to the large scale of the maps, site boundaries and key landscape features are easily visible.</p> <p>More detailed information about the site can also be found in the Natura 2000 management plans where they exist or in other relevant documents (i.e. documents on conservation objectives, site designation acts, etc.).</p> <p>Member States usually provide detailed information about their Natura 2000 sites, including reasons for their designation, conservation objectives, management plans and conservation measures, which are made publically available through web sites and other means (e.g. through local administrations). Some countries also provide specific and detailed information to landowners and key land users in every Natura 2000 sites (e.g. through particular notifications, as in the UK, or through the setting up of local groups or committees where key stakeholders are involved, from the beginning, in the management of the sites, as is the case in France and other EU Member States). Landowners and land users can also address local conservation authorities to know more about specific Natura 2000 sites.</p>		

4.3 Setting conservation objectives for Natura 2000 sites

Questions:

4. *Why and how are conservation objectives set for Natura 2000 sites?*
5. *Who is responsible for setting conservation objectives? Are landowners/managers consulted?*
6. *Where can I find more information on the conservation objectives of a given site?*
7. *How can I know which activities are or are not, compatible with Natura 2000 if no conservation objectives have been established?*

⁴⁸ SDF's displayed in the Public Viewer may be incomplete as information on some sensitive species can be omitted. In case a landowner or manager needs to have detailed information the competent nature conservation authority in his region or country should be contacted.

4. Why and how are conservation objectives set for Natura 2000 sites?

Information,	Target: authorities	Related case studies (nr.):1, 2, 5, 6, 8, 10, 18
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According to Article 6.1 conservation measures must be established for the habitat types and species present on a site. It is therefore important to also set clear conservation objectives for each of the relevant habitat types and species present in that site. Conservation objectives are intended to define as precisely as possible the desired state or degree of conservation to be reached in a particular site.

Often they are presented as quantitative targets, e.g., maintaining the population of species x at a given minimum number of individuals or improving the degree of conservation of habitat y from category C to B within 10 years.

Setting clear conservation objectives for Natura 2000 is essential for ensuring that each site in the network contributes as effectively as possible to the overall objective of the two Nature Directives, which is to achieve a favourable conservation status for all the habitat types and species they protect⁴⁹ across their entire range within the EU.

Conservation objectives are specific to each site and should be based on a sound knowledge of the site and the species/habitats present, their ecological requirements as well as any threats and pressures on their continued presence on the site. This is because every Natura 2000 site presents its own unique set of biotic, abiotic and socio-economic conditions which can vary considerably from one site to another even when they host the same species and habitats.

It is also advisable to set broader conservation objectives for a whole suite of sites, or for certain species or habitats within a particular region or country (national or regional conservation objectives). This will not only help in setting the conservation objectives at individual site level but it will also help identifying strategic conservation priorities within and amongst the different sites. In this way the measures that have the greatest potential to improve or maintain the conservation status of a particular species or habitat within that region or country can be prioritised.

The Commission has published an interpretation note to provide guidance on setting conservation objectives for Natura 2000⁵⁰, which provides further explanations.

See also the first two questions in section 4.4.

5. Who is responsible for setting conservation objectives, are landowners/ managers/ other interest groups consulted?

Information	Target: authorities	Related case studies (nr.): 1, 8, 10
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Setting conservation objectives is the responsibility of the competent authorities in each Member State. The Nature Directives do not prescribe how this should be done as it is up to each Member State to decide on the form and methods for implementing their provisions. However it is the objective of the Nature Directives to reach Favourable Conservation Status for the species and habitats of Community interest and to use the Natura 2000 network to achieve that goal.

⁴⁹ The objective of the Birds Directive is formulated slightly differently : but the ambition is the same

⁵⁰ http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/commission_note2.pdf

It is advisable that, in addition to ensuring that conservation objectives are based on sound knowledge, all interested parties – be they forest managers or owners or conservation NGOs – are involved in the process of setting conservation objectives. This will help defining realistic and achievable conservation objectives.

Not only do forest owners and forest managers generally have a very good understanding of the forest management that has led to conservation successes or failures in the past but it is also important to enable a broad discussion between the competent authorities and forest owners and managers, about how site-specific conservation objectives and measures can best be defined. Discussing and clearly communicating a particular site's importance, role and conservation objectives will also help to improve the awareness and engagement of all those involved.

6. Where can I find information on the conservation objectives of a given site?

Information	Target: general public, forest managers/owners	Related case studies (nr.): 1
<p>Every country has its own mechanism for publishing the conservation objectives of its sites. They can be specified within the legal site designation decisions or acts or accompanying documents. They can be published on the competent nature authorities' website. They are also usually included, and further elaborated on, in the Natura 2000 site management plans or similar instruments, where such instruments exist. It is advisable that Member States provide easily accessible information on Natura 2000 conservation objectives in a way that is relevant and easily understandable to forest owners and managers.</p>		

7. How can I know which activities are or are not, compatible with Natura 2000 if no conservation objectives have been established?

Information	Target: general public, forest managers/owners	Related case studies (nr.):
<p>Conservation objectives should be established by the competent authorities for all Natura 2000 sites. Nevertheless it can happen that the process has been delayed and that conservation objectives are still missing.</p> <p>In such a case, it is the responsibility of the competent authorities to inform stakeholders on the implications of the designation of an area as a Natura 2000 site. They should in particular communicate whether certain silvicultural measures or other activities should be adapted or possibly excluded in order to avoid the deterioration of the site, or which activities should be promoted in order to improve the site's conservation conditions. The Standard Data Form (SDF) is a useful source of information to understand the reasons why a particular site has been designated. It should always be consulted when taking management decisions (e.g. when drafting management documents or planning new investments).</p> <p>The minimum requirement would be for the Member State to take appropriate steps to avoid deterioration of all significantly occurring habitats and species in the site, according to the SDF. When scientific information is missing a precautionary approach should prevail. See also question 3.</p>		

4.4 Implementing conservation measures for forest habitats and species in Natura 2000 sites

Questions:

8. How are conservation measures for a Natura 2000 site identified and established? By when should they be in place?
9. What are Natura 2000 management plans and are they obligatory?
10. Are there tools available to help prepare Natura 2000 management plans?
11. How are the ecological requirements of habitat types and species identified?
12. Does the mere presence of a species/ habitat type of EU importance imply management changes in a site?
13. Forests in Natura 2000 sites often include species and habitats not covered by the Birds and Habitats Directives. Should specific conservation measures also be established for such species and habitats?
14. Are conservation measures in Natura 2000 sites mandatory?
15. How are conservation measures being formulated?
16. Who decides which conservation measures are needed? Are stakeholders consulted?
17. What kind of conservation measures are required in Natura 2000 for forests?
18. How to decide between conservation measures which are likely to have positive effects on a particular habitat or species while possibly contributing to the deterioration of another habitat type or another species?
19. Can conservation measures be similar for different Natura 2000 sites?
20. Why are dead wood and a diverse tree age structure so important in Natura 2000?
21. Is non-intervention management a possible conservation measure for achieving conservation objectives in Natura 2000 sites?
22. How are the necessary conservation measures to be implemented and who is responsible for this?
23. Does the ownership and size of the forest influence its management in Natura 2000?
24. How can forest land owners/ managers get involved or contribute?
25. Are there tools available to support the implementation of conservation measures, raise awareness or build capacity amongst stakeholders?

8. How are conservation measures for a Natura 2000 site identified and established? By when should they be in place?

Legal obligation	Target: authorities	Related case studies (nr.): 2,3,4,5,6,8,9,10,17,18,19, 20, 22, 23
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Conservation measures are the practical actions that need to be implemented in order for a site to reach its conservation objectives. They must correspond to the ecological requirements of the habitat types and species present. When establishing conservation measures, the economic, social and cultural contexts must also be taken into account as well as regional and local characteristics. This principle is enshrined in the Habitats Directive (Article 2).

In order to identify the necessary conservation measures, it is vital to have a sound information base of the existing conditions in the site, as well as on the conservation status, threats, pressures and needs of the species and habitat types present and on the overall socio-economic context (existing land uses and ownership, stakeholder interests, on-going economic activities etc.).

Conservation measures, like conservation objectives, are generally specific to each site and

must be established on a site-by-site basis. This is because every Natura 2000 site presents its own unique set of biotic, abiotic and socio-economic conditions which can vary considerably from one site to another even when they host the same species and habitats.

Member States have up to 6 years from the time a site has been adopted as a Site of Community Importance (SCI) to establish the necessary conservation measures and designate the site as a Special Area of Conservation (SAC). These 6 years should be used not only to gather all the necessary information on the site but also to inform, discuss and negotiate with all interest groups about which measures would be most appropriate to implement in order to achieve the conservation objectives set for the site.

9. What are Natura 2000 management plans and are they obligatory?

Recommendation	Target: authorities	Related case studies (nr.): 10, 17
<p>To help ensure that sites are managed in a clear and transparent way, Member States are encouraged to elaborate Natura 2000 management plans, in close cooperation with local stakeholders. The establishment of Natura 2000 management plans is a responsibility of the competent authorities for Natura 2000. A management plan represents a solid and efficient framework for the implementation and the follow-up of conservation measures.</p> <p>Although not obligatory under the Habitats Directive, Natura 2000 management plans are very useful tools as they:</p> <ul style="list-style-type: none"> • Provide a complete record of the conservation objectives and ecological condition and requirements of the habitats and species present in the site so that it is clear to all what is being conserved and why. • Analyze the socio-economic and cultural context of the area and the interactions between different land-uses and the species and habitats present. • Provide a framework for an open debate amongst all interest groups and help build a consensus view on the long term management of the site as well as create a sense of shared ownership for the final outcome. • Help finding practical management solutions that are sustainable and better integrated into other land-use practices. • Provide a means of laying down the respective responsibilities of the different socio-economic stakeholders, authorities and NGOs in implementing the necessary conservation measures identified. <p>Natura 2000 management plans can be specifically designed for the site or integrated into other development plans, such as forest management plans, provided that the Natura 2000 conservation objectives are clearly included within such plans. In other words, one single document could in principle cover both general forest management provisions for a given area and the Natura 2000 conservation objectives and measures needed for that site. That issue is further developed in question 34.</p>		

10. Are there tools available to help prepare Natura 2000 management plans?		
Information	Target: authorities	Related case studies (nr.): 10, 18, 19
<p>Guidance for the preparation of Natura 2000 management plans, for the formulation of conservation measures as well as for conducting the management planning process in Natura 2000 sites is available on the European Commission's website⁵¹, as well as in many countries.</p> <p>Financial support may also be available from the EU Structural Funds (European Regional Development Fund, Cohesion Fund) and the European Agricultural Fund for Rural development (EAFRD) both for the drawing up and for updating of plans for Natura 2000 sites (Article 20 of Regulation EU No1305/2013), depending on the national implementation programs, as well as from the LIFE Programme.</p> <p>Substantial use of these European funds has been made in the past for the preparation of Natura 2000 management plans, e.g. EAFRD in France, Italy, Spain, Portugal, some German Länder; ERDF in Greece, Poland, Hungary, Italy; Cohesion Fund in Lithuania; and LIFE funding in Cyprus, Hungary, Lithuania and many other countries. These funds will probably continue to be used in the future for the revision and updating of management plans (see section 1.2.2 in Part I of the document for an overview of possible EU funding sources).</p>		

11. How are the ecological requirements of habitat types and species identified?		
Information	Target: authorities	Related case studies (nr.): 12, 13
<p>The ecological requirements of habitat types and species involve all the ecological needs, including both abiotic and biotic factors, which are deemed necessary to ensure the conservation of the habitat types (i.e. the habitat specific structure and functions necessary for its long-term maintenance, its typical species, etc.) and species present on the site, including their relations with the physical environment (air, water, soil, vegetation, etc.).</p> <p>These requirements rest on scientific knowledge and should be defined on a case-by-case basis, which means that the ecological requirements can vary from one species or habitat type to another within a site but also for the same species or habitat type from one site to another. They are independent of any socio-economic considerations.</p> <p>Available national and regional sources can be consulted to gather relevant and detailed information about ecological requirements of habitat types and species of EU importance to support their management. The Commission has also published management guidelines for some habitats and species which provide relevant information in this regard (e.g. for 9070 Fennoscandian wooded pastures, 9110 <i>Luzulo-Fagetum</i> beech forests, 9360* Macaronesian laurel forests (<i>Laurus</i>, <i>Ocotea</i>), 9530* (Sub-) Mediterranean pine forests with endemic black pines and for <i>Cerambyx cerdo</i> and <i>Tetrao urogallus</i>⁵²).</p>		

⁵¹ http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm

⁵² Go to: http://ec.europa.eu/environment/nature/natura2000/management/habitats/models_en.htm; see also: [http://ec.europa.eu/environment/nature/natura2000/management/docs/Cerambyx_cerdo_factsheet - SWIFI.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/Cerambyx_cerdo_factsheet-SWIFI.pdf) and [http://ec.europa.eu/environment/nature/natura2000/management/docs/Tetrao_urogallus_factsheet - SWIFI.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/Tetrao_urogallus_factsheet-SWIFI.pdf)

12. Does the mere presence of a species/habitat type of EU importance imply management changes in a Natura 2000 forest?

Information	Target: competent authorities, forest managers/ owners	Related case studies (nr.): 2, 8, 9, 19, 20
<p>Not necessarily, a species or habitat type may be in a good degree of conservation in a particular site precisely because of the way it has been managed up to now and, in such cases, it will be important to ensure that the existing management practices are continued into the future as well.</p> <p>There will however be situations where a species or habitat type is present but is not in a good degree of conservation on the site. When the conservation objectives for that site aim to improve it, certain management changes might be required. It may be necessary, for instance, to improve the structure and functions of the forest habitat, including the species composition, or to expand the area of the habitat type in unfavourable status, or to improve the habitat for a particular species or increase the area occupied by a species in unfavourable status.</p> <p>In order to reach these objectives certain measures might be required, such as the maintenance or restoration of some key features of the forest, as species diversity, uneven-aged stands, microhabitats, preservation of a sufficient number of old and decaying trees as well as appropriate quantities of deadwood, additional planting or re-afforestation, the maintenance of open areas for natural regeneration, the removal of non-native tree species, selective thinning, the protection of the mineral soil layer, banning the use of pesticides and biocides, maintenance of old and/or hollow trees, maintenance of root plates and stubs, protection of forest edges, etc. Strict protection may also be needed in some particular cases. Again, the precise nature of the measures needs to be determined on a site-by-site basis so that they correspond to the ecological requirements of the species and habitat types present (see also questions n° 8 and 11).</p>		

13. Forests in Natura 2000 sites often include species and habitats not covered by the Birds and Habitats Directives. Should specific conservation measures also be established for such species and habitats?

Information	Target: forest managers/owners authorities	Related case studies (nr.): 2, 12
<p>Usually no; As regards the compliance with the Birds and Habitats Directives' provisions, only the species and habitat types protected under these two directives and present on the Natura 2000 site require the establishment of conservation measures. However species which are not protected as such under the Habitats Directive but typical for an Annex I habitat type or necessary for the conservation of a species of Community importance (e.g. protection of anthills for birds) may also require attention. The competent authorities should be in a position to provide relevant information.</p> <p>Furthermore, forest management can also take into account other species and habitats that are not protected under the EU Nature Directives. Member States and indeed individual forest owners and managers are entirely free to draw up conservation objectives and/or measures also for species and habitats that are not covered by these two directives, e.g. for habitats and species that are protected or threatened at national or regional level.</p>		

14. Are all conservation measures in Natura 2000 sites mandatory?		
Legal obligation / Recommendation / Information	Target: authorities, forest managers/owners	Related case studies (nr.): 4, 5, 7
<p>(O) The process of establishing the necessary conservation measures for each Natura 2000 site is not an optional provision; it is obligatory for all Member States. This means that, for each Natura 2000 site, those conservation measures, which are deemed to be necessary, must be established and implemented (ECJ case C-508/04)⁵³.</p> <p>(R) It is however useful to distinguish between those measures which are deemed necessary for the conservation and restoration of the species and habitat types present on the site and those which are considered desirable and 'would be good to implement if there are the means and opportunities for doing so'. The latter can ideally be identified as such in the Natura 2000 management plan while being considered to be best practice measures aimed at improving the overall level of biodiversity in the site while going beyond the obligatory requirements for the site.</p> <p>(I) Implementing conservation measures does not always imply active management or restoration measures, such as the removal of invasive alien species or the diversification of the age structure of forest stands. It can also include <i>protective</i> measures such as avoiding disturbance of a species during the breeding season.</p>		

15. How are conservation measures being formulated?		
Recommendation	Target: authorities	Related case studies (nr.): 2, 9, 11, 17, 18
<p>It is advisable to describe the conservation measures in sufficient detail to ensure their effective implementation. It is common practice to provide their location and a description of the means and tools required for their implementation, as well as information on the roles and responsibilities of the different players involved. It is advisable to use a clear language when describing the conservation measures in order to make them widely understandable.</p> <p>It is advisable to review and adapt conservation measures when required, e.g. on the basis of the actual results of the measures already done. It is important also to indicate estimated costs and available funding and to set a timeline to review the conservation measures taken, in terms of their actual implementation and their suitability for achieving the conservation objectives.</p>		

16. Who decides what conservation measures are needed? Are stakeholders consulted?		
Recommendation	Target: general public, forest managers/owners, authorities	Related case studies (nr.): 2, 3, 5, 6, 8, 9, 10, 19, 20, 24
<p>Deciding what conservation measures are needed falls under the responsibility of competent authorities in each country. The nature directives do not prescribe the type of conservation measures that should be implemented, other than to specify that they must correspond to the</p>		

⁵³ <http://curia.europa.eu/juris/liste.jsf?language=en&num=c-508/04>

ecological requirements of the species and habitat types present on a site. It leaves it up to each Member State to design and implement the type of measures that it considers most appropriate and effective for its Natura 2000 sites.

It is advisable that, in addition to ensuring that conservation measures are based on sound knowledge, forest managers or owners as well as relevant other interested parties – be they representatives of local communities or of conservation NGOs – are actively involved in the process of identifying the necessary conservation measures and preparing Natura 2000 management plans.

It is advisable in particular, that forest owners and managers are being involved at an early stage in the development of site-specific conservation measures. Their participation in planning and preparation of conservation measures for a Natura 2000 site makes it possible to benefit from their expert knowledge and provides an excellent opportunity also to actively engage them in the implementation of these conservation measures. Current good practice involves ensuring the active contribution of all relevant stakeholders, e.g. through setting up steering groups or committees.

Good communication from the beginning will also help finding compromises and synergies between what is already done and what can be improved. The result is likely to be a more cost-effective and less time consuming process. It will also greatly increase the likelihood of success as it will encourage and empower the different stakeholders to become more actively engaged in, and committed to, the management of their Natura 2000 site.

Once established, it is advisable that the conservation measures are being communicated to the general public (e.g. on websites, in the local press, in official registers at local authorities).

17. What kind of conservation measures are required for forests in Natura 2000?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2, 4, 5, 7, 8, 9, 12, 15, 19, 20, 21, 23
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As stated above, the type of conservation measures is very site specific and will depend on the specific circumstances of each site and the ecological requirements of the species and habitat types present.

It is therefore not possible to generalise about the type of measures that may be necessary. They could range from ‘nothing’ – i.e. no additional measures required other than to continue to manage the site in the way it has been managed up to now – to ‘simple’ measures, such as avoiding disturbance around certain trees during the breeding season or creating small openings in the canopy to allow more sunlight through, or increasing the amount of deadwood in the forest – to ‘major’ restoration activities involving the wholesale removal of non-native species or the restructuring of a forested area to diversify the age structure and reconnect fragmented habitats. In some cases, non-intervention and strict protection can also be considered as a conservation measure, especially for old-growth forest with a high degree of naturalness (see also Question 21)

The case studies in Part III of this document as well as other existing reviews⁵⁴ provide a wealth of examples of different conservation measures that have been implemented under a range of circumstances across the EU.

⁵⁴ For example: Kraus D., Krumm F. (eds) 2013. Integrative approaches as an opportunity for the conservation of forest biodiversity. European Forest Institute. 284 pp.

18. How to decide between conservation measures which are likely to have positive effects on a particular habitat or species while possibly contributing to the deterioration of another habitat type or another species?

Recommendation	Target: forest managers/owners authorities,	Related case studies (nr.):
<p>It may happen that a particular conservation measure will benefit one species or habitat whereas it could have some negative effect on other ones. For instance, deciding to set aside a part of a forest could contribute to the expansion of an invasive species, or the regeneration of patches of oak habitats can have a negative effect on the habitat of some birds. Smaller trade-offs are frequent but well-thought conservation objectives will help make the right decision. It is advisable to refer to them and see where the site-specific priorities for conservation measures are and to assess what will be the likely positive and negative impacts of the envisaged measures on those priorities.</p> <p>Trade-offs can often be avoided or minimized by a smart timing of measures and by directing them to certain parts of the site or even by compensating an impact on one part of the site by conservation measures for the same habitat or species on another part.</p>		

19. Can conservation measures be similar for different Natura 2000 sites?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2, 4, 19, 21
<p>Conservation measures correspond to the conservation objectives set for each site and are usually site specific. However, similar measures may be needed in different Natura 2000 sites that have similar characteristics and objectives. In such cases, conservation measures can also be applied jointly (e.g. a Natura 2000 management plan can cover several sites that need similar measures).</p>		

20. Why are deadwood, old trees, old-growth forests and a diverse structure so important in Natura 2000 forest sites?

Information	Target: general public, forest managers/owners	Related case studies (nr.): 2, 4, 5, 7, 8, 11, 12, 15,17,19
<p>Deadwood provides suitable habitat for many forest species that are threatened or endangered. Deadwood and decaying trees are particularly important for saproxylic insects (species that feed on wood) and for species that use this resource to build their refuges or nesting holes (i.e. woodpeckers or some small mammals). A high number of saproxylic species and species that depend on deadwood and decaying trees are protected under the Habitats and Birds Directives, such as <i>Cerambyx cerdo</i>, <i>Lucanus Cervus</i>, <i>Osmoderma eremita</i>, <i>Rosalia alpina</i>, <i>Dendrocopos major</i>, etc. Scientific reviews are available on this issue⁵⁵ ⁵⁶. The conservation of deadwood is often very relevant but any decision in that regard also needs to take into consideration fire risks in sensitive areas.</p>		

⁵⁵ E.g. Stockland J. N., Siitonen J., Jonsson B. G. 2012. Biodiversity in dead wood. Cambridge University Press, 509 pp.

⁵⁶ A comprehensive European review of deadwood thresholds is provided in Müller J, Bütler R. 2010. *A review of habitat thresholds for dead wood: a baseline for management recommendations in European forests*. European Journal of Forest Research 129, 6.

Old trees (also called veteran trees, i.e. trees older than 160-200 years) are often missing in managed forests because the normal forestry rotation is usually shorter than natural trees lifespan and natural forest cycles. They provide crucial microhabitats for some endangered beetles, lichens, fungi, etc. Therefore maintaining the presence of such trees in the forests and creating the possibility to achieving such age at least by single trees or tree groups, can contribute to improving the conservation of the species listed above.

A diverse forest structure with stands of different ages, clearer and darker patches, decaying trees and deadwood, etc. provides different habitats for many species.

Old-growth forest areas generally deserve special attention in Natura 2000. They host many typical forest species with a low ability to migrate or recolonize new forest patches on former agricultural land (e.g. many invertebrate groups, some plants and mosses). Forests with a high degree of naturalness are still found in some parts of Europe (e.g. the old-growth taiga in Northern Europe). In other parts of the EU, however, such forests are limited to small pockets in managed complexes or to certain areas with specific ecological and social conditions, such as the mountain regions of the Carpathian or the Alps. They are of particular importance for the protection of forest habitat types and species of Community interest. The authorities, forest owners and managers are therefore encouraged to actively seek to protect these areas by focussing on their non-wood benefits and making full use of existing financial incentives for site protection where needed. As for any other management decisions in Natura 2000 forests, it is advisable that management decisions affecting the presence of deadwood, old trees etc. are also be in line with well-defined and site specific conservation objectives in Natura 2000 sites reflecting the ecological requirements of the habitats and species present on the site.

21. Is non-intervention a possible conservation measure for achieving conservation objectives in Natura 2000 sites?

Recommendation	Target: general public, forest managers/owners, authorities	Related case studies (nr.): 4, 5, 7, 12, 16, 18, 19, 22
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Non-intervention management, as a possible management technique, can be useful under specific circumstances. The setting-aside of core areas exclusively for nature conservation purposes should be considered on a case by case approach, for example where especially rare or valuable habitats and seriously threatened species are present and non-intervention management will help conserve them. Just as any other possible conservation measure in Natura 2000, non-intervention management should be in line with well-defined and site-specific conservation objectives.

Only forest habitats where the actual forest vegetation has a high degree of naturalness and represents an advanced stage in the successional track are in principle suitable for non-intervention management. Forest habitats of Community interest which have been established by historical and current management and which would disappear or change into other forest types under non-intervention management will require the continuation of active management.

When non-intervention is retained as a conservation measure, consequences, including economic ones, need to be well evaluated.

22. How are the necessary conservation measures to be implemented and who is responsible for this?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2, 3, 4, 5, 6, 8, 9, 10, 12, 14, 17, 18, 20, 21, 22, 23
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It is for the competent authorities to determine how best to implement the necessary conservation measures that have been identified for their Natura 2000 sites. The Directive merely states that these can involve appropriate statutory, administrative or contractual measures. The choice between these measures is left to the Member States, in line with the principle of subsidiarity.

By choosing at least one of these three categories of measures Member States can ensure that they reach the conservation objectives for their Natura 2000 sites:

- *Statutory measures:* they usually follow a pattern laid down in procedural law and can set specific requirements in relation to activities that can be allowed, restricted or forbidden in the site.
- *Administrative measures:* they can set relevant provisions in relation to the implementation of conservation measures or the authorization of other activities in the site.
- *Contractual measures:* they involve establishing contracts or agreements usually among managing authorities and landowners or users in the site.

There is no hierarchy between these three categories. Thus Member States have the choice to use, on a Natura 2000 site, just one category of measures (e.g. only contractual measures) or a combination of measures (e.g. combination of statutory and contractual measures). The only binding conditions are that the measures are appropriate with a view to avoiding any deterioration of the habitats or significant disturbance of the species for which a site has been designated (according to Art.6.2 of the Habitats Directive) and that they correspond to the ecological requirements of the habitats and species present on the site (according to Art. 6.1 of the Habitats Directive). Such ecological requirements may reach from simple protection against deterioration to active restoration of favourable ecosystem structures and functions, depending on the actual conservation degree of the species and habitats involved.

Pro-active conservation or restoration measures can be achieved through contractual agreements with forest owners and managers including agreements on how the costs of measures that go beyond legal obligations should be covered. Additional costs can be supported with adequate funds as far as possible and income foregone caused by imposed restrictions of use be compensated. The degree of compensation will depend on the nature of the imposed restrictions and the actual loss as well as on local circumstances.

Natura 2000 and Forest-environment measures under Rural Development policy serve as a good example of how to establish contracts and agreements with forest owners on the management of the forest to assure the conservation of habitats and species. While Natura 2000 measures can pay for additional costs and income foregone derived from Natura 2000 obligations, forest environment measures can pay for the additional commitments going beyond this baseline.

23. Does the ownership and size of the forest holdings influence its management in a Natura 2000 site?

Obligation / Recommendation / Information	Target: forest owners/managers, authorities	Related case studies (nr.): 3, 4, 5, 6, 7, 8, 10, 12, 20
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(O) The obligations flowing from the directives indirectly apply to all types of forest owners and managers, irrespective of their status and the size of their property in Natura 2000, if not otherwise stated by the national legislation transposing the directives.

(I) The *type* of conservation measure used may however be adapted to take account of ownership and size. For instance, as long as conservation objectives can be met, Member States may favour the use of contractual agreements in the case of private land owners and administrative or policy related measures in the case of public forests.

(I) The size of the forest areas in Natura 2000 can also sometimes have an influence on the type and level of ambition of the conservation objectives to be pursued. Large forests in state ownership, for instance, are much more likely to have the legal means and methods to adjust their forestry management practices to implement more ambitious conservation measures. As public bodies, their policy remit may attach a higher priority to the multifunctional role of state forests than it may be the case for small forest owners.

(I) Large sites also often allow for more flexibility in the implementation of conservation measures as there is generally more room for manoeuvre when deciding where particular conservation measures need to be implemented and to which degree of intensity.

(R) Working with small private and public (e.g. municipalities) landowners, on the other hand, requires the use of adequate resources to inform, raise awareness and involve them in the implementation of suitable measures and forestry practices. Coordinated action by a group of small properties may offer opportunities for synergies and allow making savings.

24. How can forest landowners/ managers get involved or contribute?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2,3,4,5,8,10,12,14,20,21,23
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Forest owners and local forest managers have a key role in the implementation of Natura 2000. They know their property and have extensive experience in implementing practical measures on the ground. They are therefore vital partners in the development and successful implementation of Natura 2000.

Natura 2000 recognises that people are an integral part of nature and that partnerships are essential for achieving conservation objectives. Everyone has a role to play in making Natura 2000 a success – be they public authorities, private landowners and users, developers, conservation NGOs, scientific experts, local communities or citizens in general.

Forging partnerships and bringing people together also makes practical sense. Many sites in Natura 2000 have already been under some form of active land use for a long time which constitutes an integral part of the wider countryside. Many areas are valuable for nature precisely because of the way they have been managed up to now and it will be important to ensure that these activities are maintained well into the future.

In this way, the Habitats Directive supports the principle of sustainable development and integrated management. Its aim is not to exclude socio-economic activities from Natura 2000

sites, but rather to ensure that they are undertaken in a way that safeguards and supports the valuable species and habitats present, and maintains the overall health of natural ecosystems.

However, it must also be noted that some forests included in Natura 2000 have been shaped by natural processes, with very little or no human influence, and their management should aim at conserving their high degree of naturalness.

The Habitats Directive sets the framework for action and lays down the overall objectives to be achieved, but leaves it up to each Member State to decide how best to manage individual Natura 2000 sites in consultation with local stakeholders. The emphasis is very much on finding local solutions to local management issues, while at the same time working towards the shared overall objective of maintaining habitat types and species of Community interest at or restoring them to a favourable conservation status.

25. Are there tools available to support the implementation of conservation measures, raise awareness or build capacity amongst stakeholders?

Recommendation	Target: authorities	Related case studies (nr.): 3,5,6,7,8,9,12,14,17,18,19, 21,23,24
<p>Processes for building local capacities for the management of Natura 2000 areas are important for a successful implementation of Natura 2000. The provision of advisory services accessible to all parties involved in the implementation of Natura 2000 management plans or conservation measures by the competent national or regional authorities is recommended. Some Member States already provide such services.</p> <p>Participatory planning includes providing relevant information to all interested parties and enabling interdisciplinary, technically well-founded actions. Perception is based on the available amount and quality of information. This will include the identification of target groups and ad hoc information planning involving different tools and materials that are adequate to each group. It is important to consider their understanding of and to correct any possible misunderstandings on Natura 2000 and forests.</p> <p>The Natura 2000 Biogeographical Process '<i>Working Together in Natura 2000</i>' has been established with the goal to facilitate the exchange of information and best practice on the management of Natura 2000 and to develop cooperation throughout the Member States and regions⁵⁷. Financial resources from EU funds are available to increase capacity for the implementation of suitable conservation measures involving key local stakeholders such as farmers and forest owners, in particular under the EAFRD but also under LIFE and other funding programmes.</p>		

⁵⁷ For more information on this process please consult the Natura 2000 Communication Platform: http://ec.europa.eu/environment/nature/natura2000/platform/index_en.htm

4.5 Ensuring the non-deterioration of Natura 2000 sites

Questions:

26. What does it mean in practice that the site should not be allowed to deteriorate?
27. Does the existing forest management need to be in line with the conservation objectives of the Natura 2000 site?
28. Who is responsible for implementing and verifying this obligation of non-deterioration?

26. What does it mean in practice that a site should not be allowed to deteriorate?

Legal obligation/ Recommendation/Information	Target: forest owners/ managers, authorities	Related case studies (nr.): 7,13,17,19,20,22
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(O) The Habitats Directive (article 6.2) obliges Member States to take appropriate steps to avoid the deterioration of natural habitats and the significant disturbance of the species for which a site has been designated. The Birds Directive (Art.4.4) asks for a general avoidance of deterioration of bird species' habitats.

Forest owners and managers will of course have to respect any legally binding provision adopted with this regard at the national, regional or local level (e.g. permit procedures).

- The 'appropriate steps' to be taken by Member States are not necessarily limited to intentional acts, but they normally also address any event that could occur accidentally (fire, flood, etc.), as long as such event is predictable and precautionary measures can be taken to minimize the risks for the site. Disturbances being part of the natural ecosystem dynamics should not be interpreted as deterioration.
- The requirement for Member States to take 'appropriate steps' is also not limited to addressing human activities but it also covers certain natural developments that may cause the conservation status of the species and habitats in the site to deteriorate. For instance, in the case of natural succession occurring in semi-natural habitat types, measures would need to be taken to halt this process if it is likely to negatively affect species or habitat types for which the site has been designated (ECJ Ruling C-06/04⁵⁸). The provision does not apply when the process cannot be influenced by active management (e.g. climate change-induced deterioration).
- The requirement also applies to activities that existed already on the site before it was included in Natura 2000. This means that ongoing activities may need to be banned or modified if they adversely affect the site (ECJ Ruling C-404/09⁵⁹)
- As appropriate, Member States are expected to make sure that appropriate measures to avoid deterioration are also be implemented outside the sites if there is a risk for an adverse effect on the habitats or species present in the sites.
- Measures necessary for avoiding the deterioration of a site should be implemented before the appearance of evident deterioration symptoms (ECJ Rulings C-355/90⁶⁰, C-117/00⁶¹).

In practice, this means that in Natura 2000 forests any actions that will have a negative impact on the ecological structure and functions of protected habitats or on the suitability of

⁵⁸ <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-6/04>

⁵⁹ <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-404/09>

⁶⁰ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61990CJ0355>

⁶¹ <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-117/00>

habitats for protected species (e.g. as feeding, resting or breeding places), as well as any actions that may cause a significant disturbance of protected species, especially during their breeding, resting or feeding periods must be avoided.

(I)/(R) Whether a particular activity will actually lead to the deterioration of a site or not will also depend on the overall ecological conditions of the site and the conservation degree of the species and habitat types present there. If these are likely to be negatively affected then preventive measures must be taken. In case of doubt on the effects of a particular measure, a precautionary approach should be applied.

(R) A case by case analysis is therefore always recommended.

For instance, clear felling in a small Natura 2000 site designated for its oak forest would most probably be considered as deterioration whereas the same action in a large Natura 2000 site, mainly composed of large oak stands, would possibly cause no significant harm or even be favourable for some species for which the site has been designated.

One has also to consider the possible indirect effects of forestry measures. Logging can have positive effects in one place, for example by allowing more light to reach the soil or by removing unwanted species, but represent a problem in another place where it could lead to the degradation of the structure and functions of a protected habitat type (as it can cause soil compaction, affect hydrological conditions, influence natural regeneration or decay processes, etc.).

(I) Cutting a tree hosting a nest of black stork, draining a bog woodland, logging in the close vicinity of an eagle nest in spring are examples of actions that must be avoided.

(R) Appropriate measures, restrictions or limitations can be included for instance in the elaboration of forest management plans, so as to ensure that forestry activities are carried out in a way that prevents any disturbance to species or the deterioration of the habitats of EU importance.

(I) Moreover, some preventive measures may be needed to avoid deterioration caused by external factors or risks, such as forest fires or diseases. In some Boreal forests where fires play a specific role in maintaining biodiversity they should not be considered as deterioration.

(I) Guidance on how to avoid possible negative impacts of forestry measures on habitats and species of EU importance are available in some countries and regions in the EU. Such guidance is useful for the management of forests both in and outside Natura 2000 sites (e.g. see some of the above-mentioned case studies).

(R) The competent local; regional and national authorities should make sure that forest owners and managers are well informed about the measures that have been planned or put into place on a given site. Forest owners and managers in Natura 2000 forests should be aware that some activities may be regulated. They should inform themselves on existing measures. In case of doubt they should contact the competent authorities.

27. Does the existing forest management need to be in line with the conservation objectives of the Natura 2000 site?

Legal obligation/ Recommendation	Target: forest owners/managers, authorities	Related case studies (nr.): 1, 2, 3, 5, 8, 17, 18, 20
<p>(O) Yes. According to Article 6.2 of the Habitats Directive, any deterioration of habitats and significant disturbance of species for which a site has been designated must be avoided. This also applies to activities that have already been existing when a site was included in Natura 2000. If such an existing activity in a Natura 2000 site causes deterioration of natural habitats or disturbance of species for which the site has been designated, it must either be addressed by appropriate measures to halt the deterioration according to Article 6.2 and/or by pro-active conservation measures established according to article 6.1 of the Habitats Directive. This may require, as appropriate, bringing the negative impact to an end either by stopping the activity or by taking mitigating measures. Some economic incentives or compensation can be foreseen where the efforts imposed on forest owners go beyond normal sustainable forest management practice.</p> <p>For instance, it may be the case that some bird species nesting in the area require an adaptation to the timing of forestry operations to avoid disturbance to the species during sensitive periods or a restriction in certain forestry activities in particularly sensitive areas to avoid deterioration of specific habitats or natural features present on the site.</p> <p>(R) On the other hand, where there is a positive contribution of the existing forest management, this should be enhanced or optimised so as to maximise the potential contribution of forest management to achieving the conservation objectives.</p>		

28. Who is responsible for implementing and verifying the obligation of avoiding deterioration?

Legal obligation	Target: authorities	Related case studies (nr.):
<p>The Member States are responsible for taking appropriate measures to avoid the deterioration of habitat types and the significant disturbance of species in Natura 2000 sites in accordance with Article 6.2 of the Habitats Directive. They are expected to establish a specific, coherent and complete legal regime, capable of ensuring the effective protection of the sites concerned. Purely administrative measures or voluntary measures may therefore not be sufficient for this purpose.</p> <p>It is also the responsibility of national or regional competent authorities to verify that the measures to avoid deterioration and significant disturbance are adequately enforced. The baseline for assessing a deterioration or disturbance is the degree of conservation of the habitats and species at the time when a site is proposed as a Site of Community Importance. It has to be evaluated against those initial conditions that are described in the Natura 2000 Standard Data Form. When needed, Member States can inform the European Commission of a need to update the Standard Data Form of a site further to some reasons (e.g. better scientific knowledge or natural developments). If accepted by the Commission, the situation as reflected in the updated Standard Data Form becomes the new baseline for assessing any possible deterioration or disturbance. In the case of deterioration, restoration will be required.</p>		

4.6 Forest management practices and Natura 2000 requirements

Questions:

29. Are forests in Natura 2000 to be managed only for nature conservation purposes?
30. When forest management is done in accordance with Sustainable Forest Management criteria, is this enough to comply with the Natura 2000 requirements?
31. Does Natura 2000 designation always imply modifications to existing forest management practices?
32. If a forest is certified, is it enough to comply with the Natura 2000 requirements?
33. Can a Natura 2000 management plan also cover silvicultural measures?
34. Can Natura 2000 conservation objectives and measures be integrated into existing forest management plans?
35. What are the benefits of integrating Natura 2000 management plans and forest management plans?
36. Should existing forest management plans be adapted in order to take into account existing Natura 2000 management plans?
37. Not all forests have a forest management plan (FMP) or an equivalent instrument. Is it compulsory to have a forest management plan approved by the authority in a Natura 2000 site?
38. Forests are dynamic ecosystems which are managed over the long term. How this specific aspect can be made compatible with Natura 2000 conservation objectives?
39. Forest management sometimes relies also on non-native species. Is this compatible with the requirements of Natura 2000?
40. Climate change will most probably have an important impact on forests. Can forest management measures be taken to mitigate the impact of climate change when a Natura 2000 habitat is concerned?
41. How should the presence of "other wooded lands" (scrubs, rocky areas, etc.) or non-forest habitats be taken into consideration?
42. What happens when there are conflicting conservation objectives between different habitat types or species of EU importance in the same site?
43. How to deal with outbreaks of diseases in Natura 2000 sites which can have a significant economic impact (e.g. bark beetle, pine wood nematode)?
44. Is the construction of forestry roads in a Natura 2000 site possible?
45. Are clear felling allowed in Natura 2000 sites?
46. How to deal with the appearance of new Annex I habitats on a Natura 2000 site?
47. How to deal with secondary Annex I habitats that are naturally replaced by a forest habitat closer to the climax vegetation?

29. Are forests in Natura 2000 to be managed only for nature conservation purposes?

Information	Target: general public, forest managers/owners, authorities	Related case studies (nr.):
<p>No, forests in Natura 2000 can indeed be managed with a view to achieving multiple functions, e.g. timber production, hunting, recreation etc. in addition to nature protection.. However, forest management in Natura 2000 sites must always respect the site-specific conservation objectives and actively contribute to achieving them. Where a Natura 2000 site overlaps with a national nature reserve or a national park, forests are generally managed mainly for conservation purposes according to the relevant national legislation.</p>		
<p>Effective management of Natura 2000 sites implies close cooperation between competent nature conservation and forest authorities, public and private forest owners and other interest groups and NGOs. Reaching appropriate agreements, whilst respecting the legitimate</p>		

interests of stakeholders and rewarding any voluntary contribution made to achieving conservation objectives, are all of vital importance to the successful management of forests in Natura 2000.

30. When forest management is done in accordance with Sustainable Forest Management criteria, is this enough to comply with the Natura 2000 requirements?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.):
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Not necessarily. Even if the Forest Europe criteria for reporting on Sustainable Forest Management include the maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems, these may not be sufficiently detailed to cover the specific conservation objectives for individual Natura 2000 sites. In such cases the specific requirements of Natura 2000 may need to supplement the general principles and criteria of Sustainable Forest Management and be formulated in greater detail.

31. Does Natura 2000 designation imply modifications to existing forest management practices?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 8, 9, 19, 20
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Not necessarily, the designation of a site under Natura 2000 does not systematically require modifications of existing forestry activities. It depends very much on the site.

For a number of sites, it may be that existing forestry management practices are precisely the reason why a particular habitat or species is in a good degree of conservation in the first place. In such cases it will be important to ensure that these practices are continued also into the future, and possibly even extended to other areas. For many semi-natural forest habitats like the dehesas or the Scandinavian wooded pastures, the traditional management practices have shaped these habitats and should therefore be maintained.

In other cases, however, certain adaptations or restrictions on existing activities may be required to meet the site-specific conservation objectives. Changes may be needed in forest management for example to improve the ecological quality of habitats (amount of deadwood, number of old trees, etc.) or the increasing of the area covered by a given habitat type through restoration. (See also questions n° 12 and 27).

The current conservation status is poor for many forest habitat types (see Annex 2), and thus changes in forest management practices may be necessary to improve their status. Natura 2000 sites are core areas for achieving a favourable conservation status of habitat types and species in the EU, and it is very important that they are managed in a way that allows achieving this goal. For this purpose, the site-specific conservation objectives and measures are necessary in order to make sure that each particular site contributes in the best possible way to achieving this goal.

32. If a forest is certified, is it enough to comply with the Natura 2000 requirements?

Information	Target: forest managers/owners, authorities	Related case studies (nr.):
<p>Forest certification criteria (FSC, PEFC), as a voluntary market-based tool, require maintaining and/or enhancing biodiversity and high conservation values in forests, considering the presence of protected species and implementing appropriate measures (e.g. leaving deadwood and old trees in the forest). By requesting compliance with other land-use plans and conservation tools and legislation, they can also contribute to promoting the conservation objectives of a Natura 2000 site. However, such criteria are usually formulated in a very general way (not site-specific). They do not therefore systematically ensure compliance with the site-specific conservation objectives of Natura 2000 sites.</p>		

33. Can a Natura 2000 management plan also cover silvicultural measures?

Recommendation	Target: forest owners/managers, authorities	Related case studies (nr.): 8, 10, 11
<p>Yes, where no forest management plan exists, for example in forest areas divided into multiple properties, a Natura 2000 management plan can cover some silvicultural measures, as well as other functions and services within the area, such as recreation, water protection, landscape aspects, etc. In this case any measures that are not strictly necessary for the conservation management of the site but included in the management plan should be designed in a way that they are not likely to have any significant negative effect on the site. Ideally they should be thoroughly screened with this regard and the result of the screening be documented in the management plan.</p> <p>Conversely a forest management plan can also serve as Natura 2000 management plan if Natura 2000 objectives are integrated (see Question 34). Also in this case, the forestry measures not necessary for the conservation management of the site should be screened with a view to excluding the likeliness of negative effects on the site and the results of this screening should be documented in the management plan. Both in the case of Natura 2000 management plans that integrate 'normal' forest management measures, as in the case of forest management plans that integrate Natura 2000 conservation measures, a close cooperation between the competent nature and forest authorities and the interested forest owners and managers is necessary.</p>		

34. Can Natura 2000 conservation objectives and measures be integrated into existing forest management plans?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2,4,5,6,8,10,17,19,20
<p>Forest management plans and Natura 2000 management plans do not always have the same purposes and goals, and usually they also differ in their legal basis. The responsibility of drafting Natura 2000 management plans falls on the competent nature conservation authorities whereas the responsibility of drafting forest management plan falls on the forest owner or manager. Depending on relevant national legislation, a formal approval of forest management plans by the competent authorities may be required. Where a forest management plan already exists or is required for a forest partially or totally designated as a</p>		

Natura 2000 site, and where it is legally and practically possible, it may be very useful and effective to integrate the relevant Natura 2000 conservation objectives and measures into this plan.

A forest management plan generally includes strategic and operational sections and may cover many aspects, ranging from economic aspects, such as timber and other goods production, to recreation and nature conservation. This wide and flexible spectrum of objectives and activities generally holds sufficient room to incorporate the Natura 2000 objectives and measures, especially when dealing with large state forests or estates owned by one entity.

Forest management plans can also serve as business plan for forest holdings and might contain private information not to be disclosed. In such a case, relevant information regarding Natura 2000 might be developed in a separate annex of the forest management plan.

The integration becomes more challenging when dealing with a large number of (small) forest properties with different kinds of ownership (many of which may not require a forest management plan) or when the Natura 2000 boundaries and property boundaries do not match. In any case, and in order to avoid the deterioration of the site, it is required to manage the forest in a way that is compatible with the conservation objectives and measures that have been established for the site and which are developed in the Natura 2000 management plan if such a plan exists.

A number of Member States have formulated guidelines, rules or other guidance tools to facilitate the integration of Natura 2000 needs into forest management planning (see also question n° 33 and the related case studies).

35. What are the benefits of integrating N2000 management plans and forest management plans?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2,4,5,6,8,10,17,19,20
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Integrating Natura 2000 conservation objectives and measures into a forest management plan can provide multiple advantages for those involved, although this may initially require some additional investigations and consultations. Most importantly, such integration will allow forest owners and managers to refer to only one document in the daily management of their forest rather than having to consult both the Natura 2000 management plan and the forest management plan. At the same time it will help ensuring better coherence between different policy objectives, avoiding potential conflicts in the implementation stage as well as unnecessary costs. The question of possibly having one plan integrating all aspects or rather two is further discussed below.

Forest management plans integrating Natura 2000 objectives are also a very useful tool for attracting much needed financial resources for their implementation since they are able to meet several policy objectives just with one plan. This can be especially the case when making use of the available EU funding opportunities under the Structural Funds, Rural Development Funds or LIFE (see section 1.2.2 in Part I of the document for an overview of possible EU funding sources).

Another major advantage of an integrated management plan is that it will help avoiding any likely significant negative effects on the respective Natura 2000 site. If this can effectively be achieved, demonstrated and documented through an objective screening of the measures included in the plan, an important benefit will be that neither the plan nor any individual management measure covered by the plan will have to be subject to a full appropriate assessment of its effects according to article 6.3 of the Habitats Directive.

For instance, if a timber harvesting project is not strictly necessary to the site's conservation management, it might be likely to have a significant negative effect on the site individually or in combination with other plans or projects, and, if the likelihood of such effects cannot be excluded, it must be subject to an appropriate assessment according to Article 6.3 of the Habitats Directive. Integrated forest management plans normally include timber harvesting operations that may not be necessary for achieving the site's conservation objectives but needed for achieving other objectives (e.g. timber production, hunting management, recreation, fire prevention, soil protection). It is expected that such measures that are included in an integrated forest management plan are designed in a way that any possible negative effects on the site are avoided or reduced to an insignificant level. With these precautions there will normally be very little chance that possible negative effects also in combination with other plans or projects cannot be screened out and that a full appropriate assessment in the sense of Art. 6(3) will still be required. In some cases, timber harvesting may even positively contribute to achieving the site's conservation objectives (e.g. to facilitate natural regeneration of a habitat type of Community interest, to remove non desired tree species, etc.).

It is important to underline that any measures that are not strictly necessary for the conservation management of a site but included in an integrated management plan should be designed in a way that they are not likely to have any significant negative effect on the site, alone or in combination with other plans or projects and that they should be thoroughly screened with this regard and the result of the screening be documented in the management plan (see questions n° 33 & 34).

Having only one single integrated plan covering both Natura 2000 and forest management would be the ideal situation. In exceptional cases (e.g. one single forest holding corresponding to one Natura 2000 site), the Natura 2000 management plan and the forest management plan can easily be combined into one single document. Such a document then takes the function of a Natura 2000 management plan if it is approved by the competent nature conservation authority. In most other cases, however, there will be two separate documents: On the one hand, a Natura 2000 management plan (covering a whole Natura 2000 site) that generally covers several forest holdings and on the other hand, several forest management plans for several holdings. In all cases, those forest management plans must respect the non-deterioration requirements under Art. 6(2) of the Habitats Directive. They should ideally also integrate the more pro-active conservation objectives of the Natura 2000 site (integrated forest management plans). Individual timber harvesting projects in Natura 2000 sites should always be designed in a way that any possible negative effects on the site are avoided or reduced to insignificant levels. If significant negative effects on a site cannot be screened out an appropriate assessment is always required.

36. Should existing forest management plans be adapted in order to take into account existing Natura 2000 management plans?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 4, 6, 7, 8, 17, 18, 19,20
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There is in principle no obligation to adapt existing forest management plans as long as the measures covered by the plan do not cause any deterioration of the habitats or habitats of species for which a Natura 2000 site has been designated or any significant disturbance of such species.

Existing plans may however also need to be adapted where they include silvicultural or other measures that are not compatible with the site-specific conservation objectives. If an existing forest management plan does not take into account the conservation objectives and

measures that have been adopted in the context of a Natura 2000 management plan covering the same forest, then it should best be revised. Where possible, synergies should be exploited so that silvicultural measures can contribute to achieving Natura 2000 conservation objectives. Nevertheless the integration of Natura 2000 objectives and measures into the existing forest management plans can wait for the next planned update of these plans provided that the activities under the existing plan do not cause any deterioration of protected habitats or disturbance of protected species in the Natura 2000 site.

Where a forest management plan fully integrates the relevant conservation requirements in line with the site's conservation objectives in a way that any possible negative impacts on protected species and habitats are avoided and where, if possible, the forestry measures covered by the plan even pro-actively contribute to achieving the site's conservation objectives, it should normally be possible to conclude that the plan is not likely to have a significant negative effect on the site. Such a conclusion can only be taken on the basis of objective arguments and as a result of a screening of all possible effects of the plan on the Natura 2000 site. It is recommended to document the screening results as an annex to the management plan. In such circumstances, an appropriate assessment of the plan will not be necessary. See also Question 57 to know more about the need or not to submit a forest management plan to an Article 6.3 procedure.

37. Not all forests have a forest management plan or an equivalent instrument. Is it compulsory to have a forest management plan approved by the authority in a Natura 2000 site?

Recommendation

Target: forest managers/owners, authorities

Related case studies (nr.):

Under the EU Directives it is not an obligation to establish a Forest Management Plan for forests in Natura 2000. The obligation to produce a FMP depends very much on national rules in application in each Member State. In several Member States they are required for forests above a certain size or for some types of forests.

The EU Biodiversity Strategy does nevertheless encourage Member States to ensure that “by 2020, Forest Management Plans or equivalent instruments, in line with Sustainable Forest Management (SFM), are in place for all forests that are publicly owned and for forest holdings above a certain size (to be defined by the Member States or regions and communicated in their Rural Development Programmes) and that receive funding under the EU Rural Development Policy so as to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by forestry and in the provision of related ecosystem services as compared to the EU 2010 Baseline”⁶².

Furthermore, support for some of the forestry measures under the EAFRD regulation for 2014-2020 (Regulation 1305/2013) is conditional upon the presentation of the relevant information from a forest management plan or equivalent instrument in line with sustainable forest management above a certain size (as it is mentioned above).

⁶² As defined in SEC(2006) 748.

38. Forests are dynamic ecosystems which are managed over the long term. How this specific aspect can be made compatible with Natura 2000 conservation objectives?

Recommendation	Target: forest managers/owners	Related case studies (nr.): 22
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Generally, Natura 2000 conservation objectives are established in a way that take due account of the dynamic character of forest ecosystems. Indeed, it is often this dynamic characteristic that helps to ensure the continued survival of a wide range of different forest related species, especially in large areas of continuous forests.

Natura 2000 designation does not therefore attempt to systematically preserve an existing situation in a given forest and at a given date, although some semi-natural forests depend on active management to prevent a natural succession. Conservation objectives do not aim at preserving a given situation at any costs, irrespective of its natural development. Such natural development must be an integral part of the ecological factors on which conservation objectives and measures are established. The "silvicultural cycle" (regeneration, thinning and harvesting of mature trees or stands) can be compatible with such a dynamic approach. Though some adaptations to current practices are often desirable (e.g. keeping old trees or stands).

Nevertheless "freezing" a situation may sometimes be necessary in order to keep over the long-term a semi-natural habitat depending from specific management measures.

Regular monitoring and evaluation of these ecological factors, as well as of the conservation degree of the target species and habitats will allow for a possible adaptation of the site's conservation objectives and measures if necessary.

A dynamic approach to the management can however be applied more easily in large Natura 2000 sites than in small sites, often delimited around the actual area of protected habitat types. It is also important to have a monitoring scheme at landscape level that may detect problematic tendencies in these natural processes on all concerned Natura 2000 sites in a given region at the same time.

39. Forest management sometimes relies also on non-native species. Is this compatible with the requirements of Natura 2000?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 4, 11, 14, 15
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The choice of tree species in a Natura 2000 site and the degree to which the presence of some species may be favoured or disfavoured will depend on the ecological requirements of the species and habitat types for which the site has been designated and on the site's conservation objectives. In sites where the conservation objective is to improve the degree of conservation of a particular habitat type or species, a possible conservation measure may consist in reducing the area occupied by non-native species for example in order to restore the continuity of a natural habitat or its structure.

On the other hand, in sites where the objective is to maintain the forests in their current condition and distribution, it may be possible to retain existing non-native species as long as this does not impede to reach the site's conservation objectives. This may for instance be the case in large Natura 2000 sites that have continuous tracts of native forest cover of a sufficiently dynamic nature and structural complexity to maintain the species and habitat types of Community interest in a good condition.

In general, however, the introduction of non-native tree species within Natura 2000 sites should be handled with care and their possible effects should be evaluated. The replacement of a forest habitat of good quality by a plantation of non-native trees is not likely to be in line with site's conservation objectives.

40. Climate change will most probably have an important impact on forests. Can forest management measures be taken to adapt the forest to the impact of climate change when a Natura 2000 habitat is concerned?

Recommendation	Target: forest managers/ owners, authorities	Related case studies (nr.):
<p>Improving the conservation degree or status of forest habitats through appropriate forest management will have a direct positive effect also on the resilience of forest ecosystems, thus on their capacity to cope with the effects of climate change (adaptation). For this purpose adaptive management strategies aim to enhance forests' resilience to future changes, for example by improving the forest structure, removing fragmentation and sometimes favouring tree species that are best suited to predicted conditions. Forests can contribute to climate change mitigation by storing Carbon. This can be achieved through increased stand volumes, presence of deadwood and soil carbon quantity, Protecting or if necessary restoring water conditions in bog forests will help preventing peat deterioration and CO2 emissions from peat soils under forests. However these management strategies should always be applied with care, in order to not modify the natural characteristics and composition of the forest habitats that need to be preserved.</p> <p>A new emphasis on climate change mitigation and adaptation is made under the EU funds, such as the EAFRD and the new LIFE programme for environment and climate, which promote measures on forests in this regard. Under EAFRD, Member States should spend a minimum of 30% of the total contribution from the fund to each rural development programme on climate change mitigation and adaptation as well as on environmental issues. Such spending should be made through agri-environment-climate and organic farming payments and payments to areas facing natural or other specific constraints, through payments for forestry, payments for Natura 2000 areas and climate and environment-related investment support.</p>		

41. How should the presence of "other wooded lands" (scrubs, rocky areas, etc.) or non-forest habitats be taken into consideration?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.):
<p>Forests in Natura 2000 often also include "other wooded land" (wooded pastures, scrubs, heaths, etc.), some of which are also Annex I habitat types that require the designation of Natura 2000 areas. If the site has been designated for such a habitat type or it is a habitat of importance for other non-forest related species of EU importance, then it will be necessary to set specific conservation objectives and measures for these as well.</p> <p>If this is not the case, then these habitats can be managed without necessarily seeking to maintain or improve their degree of conservation within the site as long as the management does not interfere with the conservation objectives of the site or any protection regime at the national, regional or local level.</p>		

42. What happens when there are conflicting conservation objectives between different habitat types or species of EU importance in the same site?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.):
<p>There may be situations where the conservation objectives of one habitat type or species conflicts with that of another habitat or species of EU importance present on the site. For instance, it might be desirable to expand the range of a forest habitat type but this might, in turn lead to a loss of designated heathland.</p> <p>Such potential conflicts will need to be addressed and resolved when setting the conservation objectives for the site, taking into account the relative importance of each habitat type or species in the site for achieving the overall objective of reaching a favourable conservation status within the EU and within the biogeographical regions of the Member States. Any opportunities for identifying suitable compromises that benefit both should be considered. (See also question n° 18).</p>		

43. How to deal with outbreaks of diseases in Natura 2000 sites which can have a significant economic impact (e.g. bark beetle, pine wood nematode)?

Legal obligation/ Recommendation/ Information	Target: forest managers/owners, authorities	Related case studies (nr.):
<p>(R) When planning phytosanitary measures in Natura 2000 sites, the site's conservation objectives should be taken into account and the measures should be designed in a way that negative effects on the protected species and habitats are avoided or reduced to an insignificant level.</p> <p>(O) An Appropriate Assessment under Article 6.3 of the Habitats Directive will be required for any phytosanitary measure that is not necessary for the conservation management of the site but likely to have a significant impact on the site (see also Question n° 57). In case of a negative assessment, the measure can only be authorised according to the provisions of Article 6.4 of the Habitats Directive (no alternative solution, imperative reasons of overriding public interest, compensatory measures, information of the European Commission, Commission opinion if priority species or habitat types are present).</p> <p>(I) In natural forests some diseases or insect outbreaks may be part of important ecological processes in the forest and provide structures and functions that are essential for its species. Such factors should not systematically always be prevented, especially in large Natura 2000 sites, unless their negative ecological or socio-economic effects clearly override the potential positive ecological effects. It should also be noted that natural disturbances generally work on a large scale and can be negative locally, even if they are desirable on a landscape level.</p> <p>(O) Where emergency measures to prevent the spread within the Union of organisms harmful to plants or plant products must be taken in a Natura 2000 forest according to Council Directive 2000/29/EC of 8 May 2000⁶³, and in particular Article 16(3) fourth sentence thereof, appropriate risk management options must be applied that may involve a reduced amount of felling of susceptible plants. In that case, safeguards must always be provided to ensure an</p>		

⁶³ OJ L 169, 10.7.2000, p. 1.

equivalent level of mitigation of the risk of spread of the respective harmful organism(s) as compared to the level foreseen by the corresponding implementation measure⁶⁴.

(R) The design of phytosanitary measures and possible compensatory measures should be discussed in advance with the national competent authorities. In exceptional cases, when phytosanitary measures must be excluded because of Natura 2000 conservation objectives, with the result of significant economic losses for the forest owner, it is advisable for the Member State to consider appropriate financial compensation, through the available relevant EU or national funds.

44. Is the construction of forestry roads in a Natura 2000 site possible?

Information/Legal obligation	Target: forest managers/owners, authorities	Related case studies (nr.): 19
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(I) Forest roads are often a crucial element to allow an economically viable forest management. In some cases they can even contribute to the conservation of the site (access for implementing conservation measures, protection against fires, etc.). Though, sometimes they can have significant direct or indirect impacts on the species and/or habitats for which the site has been designated.

(O) As for other similar projects, the reference needs to be the site's conservation objectives. It is strongly advisable to plan any road construction from the beginning in a way that any possible negative impact on the habitats and species for which the site has been designated is being avoided or mitigated. If further to those precautions it can be reasonably assumed that the road construction will not significantly impact the integrity of the site, in the light of the site's conservation objectives or that it will even positively contribute to achieving these objectives, then it may be constructed without a full appropriate assessment. Such a conclusion can only be taken on the basis of objective arguments and as a result of a screening of all possible effects of the project on the Natura 2000 site.

(R) It is advisable to document the screening results so that they can always be referred to in case of need. The same precaution also applies to any forest road project that is part of a FMP (integrated or not) which has not, as a whole, already been subject to a screening or appropriate assessment of its effects on a Natura 2000 site.

(O) An Appropriate Assessment under Article 6.3 of the Habitats Directive will always be required if any likely significant impact of the road on the site cannot be excluded (see also Question n° 57).

45. Are clear fellings allowed in Natura 2000 sites?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 4, 19
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Here too the reference needs to be the site's conservation objectives. Clear fellings can have a detrimental effect on certain specific habitats or forest species, especially those depending on a permanent cover, but may also allow other species or habitats protected under the Birds or Habitats Directive to thrive. A case by case analysis is needed. It should take into account the site-specific conservation objectives, the habitats and species affected by the planned

⁶⁴ See for example the Commission implementation Decision of 26 September 2012 on emergency measures to prevent the spread within the Union of *Bursaphelenchus xylophilus* (Steiner et Buhner) Nickle et al. (the pine wood nematode) – OJ L266, 02.10.2012, p.42

clear-felling, the new habitat type(s) that will replace those that will be removed, (including any different development phase or structure of the existing habitat(s)), the relative importance of the felling area, etc. For habitats of Community interest where the current area according to the article 17 reporting, is already below the reference values for favourable conservation status at the national or biogeographical level, clear-fellings are likely to be in conflict with the site-specific conservation objectives which in such a situation should normally reflect the overarching objective of achieving favourable conservation status at a broader level.

On a procedural point of view, an article 6.3 appropriate assessment will be required as for other plans or projects if the likelihood of significant effects on a Natura 2000 site cannot be ruled out (see Questions n° 44 and 57).

46. How to deal with the appearance of new Annex I habitats on a Natura 2000 site?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.):
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Forest management is a long term dynamic process. Further to some forest management measures, a new Annex I habitat might occur. For instance further to a clear felling of a spruce stand on an acidic soil in a Natura 2000 site an European dry heath (Habitat 4030) might develop. Should that new habitat be protected or can it evolve into a new forest stand (e.g. birch stand or spruce plantation) within few years? The site conservation objectives will provide the answer to that question.

If the site has initially been designated also for the conservation of dry heaths, the additional occurrence of the habitat needs to be taken into consideration according to the corresponding conservation objectives, either in a dynamic way, in the context of proper planning of the clear-fellings ensuring the presence on the site of sufficient surface of that habitat, or in a static way (taking specific measures to avoid afforestation and keep that dry heath at that place) if there is an important shortage of that habitat. If the newly appeared habitat type was not among the habitats for which the site had initially been designated (either as a habitat or a species habitat) then it (or the corresponding species) should be included in the site's Standard Data Form and specific conservation objectives for this habitat type or corresponding species should be elaborated. It will depend on the nature of these objectives whether specific conservation measures will be required or not. Where the presence of the new habitat type or habitat of a species is not significant with regard to the main objectives of the site or the coherence of the Natura 2000 network, this will be reflected in the site's conservation objectives. In such a case, the new habitat will not require specific conservation measures (see also Questions n° 18 and 42).

47. How to deal with secondary Annex I habitats that are naturally replaced by another forest habitat?

Recommendation	Target: forest owners / managers, authorities	Related case studies (nr.):
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Many Natura 2000 habitats depend on human interventions. In the absence of human interventions such secondary habitats spontaneously evolve to another habitat type (of Community interest or not) that might be closer to the potential natural vegetation but does not correspond to the habitat existing when the site was designated. For instance, some Annex I habitats (e.g. some oak forest – Annex I habitats 9160, 9170, 9190) have developed further to a certain silvicultural treatment (e.g. coppicing). Due to changes in management practices (e.g. abandonment of coppicing) it may happen that a new habitat (e.g. a beech

forest) will progressively replace the original one. Likewise, some wooded pastures could evolve to forest when grazing is discontinued.

The decision regarding the treatment of such habitats needs to be taken in the light of the conservation objectives that have been set for the respective site. These objectives should ideally have been established further to an analysis of the relative importance and potential of that site for the conservation of the habitat types that are actually present on the site, taking into account their conservation status at the regional, national or biogeographical level.

If it has been established that a particular habitat type needs to be preserved or even restored on the site, then it is for the competent authority to establish the necessary conservation measures in order to prevent the development of another habitat type.

If the conservation objectives include the evolution towards another habitat type, for example because the latter corresponds to the natural vegetation on the site, then no intervention is required to stop the development of that habitat type, which, by the way, may sometimes even be an Annex I habitat. In other words, as long as the development of a new habitat type is in line with the site-specific conservation objectives it will normally not be considered as representing a deterioration in the sense of Article 6.2 of the Habitats Directive (see also Questions n° 18, 26, 42 and 46).

4.7 Financing the conservation and management of Natura 2000 sites

Questions:

48. *Do Natura 2000 conservation measures always entail costs?*
49. *How much is the Natura 2000 network costing in total?*
50. *Who is responsible for ensuring the financing of the network? Are there any EU funds available to support the conservation management of Natura 2000 sites?*
51. *Are there specific measures under EU Rural Development Regulation to support Natura 2000?*
52. *Are there other measures under EU rural development that could also contribute to the funding of Natura 2000?*
53. *Should additional cost incurred or income foregone be supported by forest owners/managers only?*
54. *Should the cost of Natura 2000 management measures always be financially compensated?*
55. *What measures are available under the EU LIFE instrument to support the funding of conservation measures for forests in Natura 2000 sites?*
56. *Are there other financing opportunities and incentives for Natura 2000 at national or regional level?*

!!NB: Please also consult section 1.2.2 of Part I of this document for a full overview of possible EU funding opportunities for Natura 2000 sites!!

48. Do Natura 2000 conservation measures always entail costs?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 3,4,5,8,10,11,14,18,20,21, 22,23
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Not always. It depends very much on the type of measure and the particular area where they are implemented. There are certain conservation measures that do not entail any cost or reduced income, or can be readily absorbed without extra costs or loss of income into day-to-day management activities (e.g. changing the species composition of forests stands where such composition is economically and ecologically unsustainable by introducing productive tree species that correspond to the natural vegetation or simply ensuring that the existing forest management practices are being continued where they have shown to be beneficial to the establishment or maintenance of a good conservation degree of species and habitat types present on a site).

Some conservation measures may even lead to certain economic benefits in the short or longer term (e.g. creation of better hunting conditions for game species, reduced game damage, better angling possibilities as a result of a more river-friendly silviculture, higher touristic interest, more nature-friendly and less expensive silvicultural methods, improved soil conditions, etc.).

However, there will inevitably be a number of conservation measures that do entail costs because they require extra man power to be implemented, require new investments into new infrastructure or equipment, or because they reduce the commercial opportunities available to the owner. These need to be looked at on a case-by-case basis.

It is strongly advisable that the Natura 2000 management plans provide an estimate of the costs of implementing each of the conservation measures that have been identified for the site in question and also examine all possible sources of funding at local, national and EU level and from both public and private sources. It is also advisable to investigate the possibility of using innovative self-financing schemes (e.g. through the sale of Natura 2000 products, eco-tourism, payments for preserving water quality, etc. – see examples in Question n^o 49).

49. How much is the management of the Natura 2000 network costing in total?

Information	Target: general public, forest managers/owners, authorities	Related case studies (nr.):
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The effective management and restoration of sites in the Natura 2000 network across the entire EU-28 requires significant financial investments. In 2007 the Commission estimated that ca €5.8 billion per year will be needed for EU-27 to manage and restore the sites in the network. However, the use of different EU instruments so far has been very significantly below the financial needs of Natura 2000 as defined by the Member States, covering only 20% of those needs⁶⁵.

However, these costs are greatly outweighed by the multiple socio-economic benefits provided by the areas included in the network. In addition to playing a crucial role in protecting Europe's biodiversity, Natura 2000 sites provide a wide range of other ecosystem benefits and services to society. According to recent Commission studies, the benefits that

⁶⁵ Commission Staff Working Paper. Financing Natura 2000. Available at: http://ec.europa.eu/environment/nature/natura2000/financing/docs/financing_natura2000.pdf

flow from areas designated as Natura 2000 sites are estimated to be in the order of €200 to 300 billion/year⁶⁶.

Although these figures provide only a first estimate, the preliminary results already show that the economic benefits for society derived from the Natura 2000 Network compare very favourably to the costs associated with managing and protecting this important resource – which represent only a fraction of its potential benefits.

The precise cost-benefit ratio will of course depend on a range of factors, including the location of the sites and their land use, but, all evidence to date points to the fact that a well-managed Natura 2000 Network will more than repay the costs related to its maintenance.

Examples of the economic benefits of Natura 2000:

TOURISM:

Natura 2000 is already proving to be an important motor of many local economies by attracting tourists, whose spending supports local economies. It is estimated that the expenditure supported by visitors to Natura 2000 sites is around €50–85 billion/year (in 2006). If only the expenditure of those visitors who have affinity for Natura 2000 designation (as opposed to natural areas in general) is considered, the range becomes €9–20 billion/year in 2006, generated by around 350 million visitor days.

The total expenditure provided by tourism and recreation supports between 4.5 and 8 million Full Time Employment (FTE) jobs. The benefits generated by the visitors with affinity to Natura 2000 would support from 800,000 to 2 million FTE jobs. This compares to a total of about 13 million FTE jobs in the tourism sector within the EU27 (in 2008). Furthermore, protected areas can provide additional benefits to the local and regional economy, by attracting inward investment and enhancing local image and quality of life.

WATER:

Money can be saved through working with natural capital, saving water purification and provisioning costs. Water purification and provision are important ecosystem services that are provided by natural ecosystems, including protected areas such as Natura 2000. A number of major European cities, including Munich, Berlin, Vienna, Oslo, Madrid, Sofia, Rome, and Barcelona all benefit from natural filtration in different ways. These municipalities save money on water treatment due to natural treatment from the ecosystems. The savings can be passed on to consumers, resulting in lower utility costs for EU residents.

Information from the four European cities of Berlin, Vienna, Oslo and Munich allows an illustration of the benefits of protected areas for water purification and provision. Using benefit transfer, it can be estimated that the annual economic benefits of water purification are between €7 and €16 million and of water provision between €12 and €91 million per city. The average per capita benefits are between €15 and €45 per year for both water purification and provision combined in the four European cities analysed. This compares to average household water bills of €200 per year in the case of Germany.

50. Who is responsible for ensuring the financing of the Network? Are there any EU funds available to support the conservation management of Natura 2000 sites?

Information, Recommendation	Target:, forest managers/owners, authorities	Related case studies (nr.): 3,5,8,9,10,14,17,18,20,21,22,23
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(I) As an EU-wide network, Natura 2000 is based on the principle of solidarity between Member States. It represents an important shared resource capable of providing multiple benefits to society and to Europe's economy. But it is also a shared responsibility which requires sufficient financial investments to become fully operational.

While the main responsibility for financing Natura 2000 lies with Member States, Article 8 of the Habitats Directive recognises the need for EU-level support for the management of Natura 2000 and explicitly links the delivery of the necessary conservation measures to the

⁶⁶ further details provided on DG ENV Nature home page : http://ec.europa.eu/environment/nature/natura2000/financing/index_en.htm

provision of EU co-financing.

Management requirements of Natura 2000 have been integrated into different EU funding streams, as the Structural Funds (ERDF), Rural Development Funds (EAFRD), European Maritime Fisheries Fund (EMFF), LIFE, etc.

This integration approach was chosen for several reasons:

- It ensures that the management of Natura 2000 sites is part of the wider land management policies of the EU;
- It allows Member States to set priorities and to develop policies and measures which reflect their national and regional specificities;
- It avoids duplication and overlap of different EU funding instruments and the administrative complications associated with such duplication.

In the case of forests in Natura 2000 there are several funding opportunities available under the new EU Funds for the period 2014-2020 (see section 1.2.2 in Part I of the document)⁶⁷. In most cases it depends on Member State authorities, whether and how these opportunities are made available in the specific country/region.

(R) In order to make best use of the EU funds available the Commission has encouraged Member States to adopt a more strategic multi-annual planning approach to Natura 2000 financing. This takes the form of Prioritised Action Frameworks (PAFs), which define the funding needs and strategic priorities for Natura 2000 at a national or regional level for the period 2014-2020. These PAFs are specifically designed to facilitate the integration of suitable conservation measures, including those for forests, into the new operational for the different EU funding instruments⁶⁸.

51. Are there specific measures under EU Rural Development Regulation to support Natura 2000?

Information,	Target: forest managers/owners, authorities	Related case studies (nr.):
<p>Yes, there is a specific measure referring to Natura 2000 and the Water Framework Directive payments. According to the new EAFRD Regulation (1305/2013), Natura 2000 payments shall be granted annually per hectare of forest in order to compensate beneficiaries for additional costs and income foregone resulting from disadvantages in the areas concerned, related to the implementation of the Habitats and Birds Directives. Support shall be granted to farmers and to private forest holders and associations of private forest holders. In duly justified cases it may also be granted to other land managers (Article 30).</p> <p>Natura 2000 payments are available for operations related to disadvantages and restrictions imposed in the designated Natura 2000 areas and defined in management plans or other equivalent instruments. Such restrictions must have a mandatory character i.e. must be fulfilled by all land managers in the areas concerned and are linked to the provisions on maintenance or restoration of the habitats and species and on avoiding their deterioration</p>		

⁶⁷ These funds are also further described in a new Guidance Handbook on financing Natura 2000 aimed at assisting authorities, managers and owners to take advantage of the multiple opportunities available under the current financing period (2014-2020) for management measures within Natura 2000 sites, including measures for forests in Natura 2000. Available at: <http://ec.europa.eu/environment/nature/natura2000/financing/>

⁶⁸ SEC(2011) 1573 final

and disturbance.

This measure would be available for forest owners as long as it will be included by Member States in their Rural Development Programmes.

52. Are there other measures under EU rural development that could also contribute to the funding of Natura 2000? Who can benefit from this funding?

Information	Target: forest managers/owners, authorities	Related case studies (nr.): 3,8,14,18,21,23
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Yes, there are other measures under the new EAFRD Regulation that could also contribute to the funding of Natura 2000. The most relevant ones are the following:

Article 21: Investments in forest area development and improvement of the viability of forests, including:

- afforestation and creation of woodland (art. 22)
- establishment of agroforestry systems (art. 23)
- prevention and restoration of damage to forests from forest fires and natural disasters, including pest and disease outbreaks, catastrophic events and climate related threats (art. 24)
- investments improving the resilience and environmental value as well as the mitigation potential of forest ecosystems (art. 25)
- investments in forestry technologies and in processing, mobilizing and marketing of forest products (art. 26)

- Article 34: Forest environmental and climate services and forest conservation.

- Article 35: Cooperation.

There is now also a general requirement that support for holdings above a certain size (to be determined by the Member States in their Rural Development Programmes) is conditional upon the forest being managed in line with SFM principles (as evidenced by presentation of the relevant information from a forest management plan or equivalent instrument).

The new regulation requests that at least 30 % of the total EAFRD contribution to the rural development programme shall be reserved for environmental issues and climate change mitigation and adaptation through support for environment and climate related investments, investments in forests (articles 21 and 34), agri-environment and climate measures, organic farming, areas facing natural or other constraints and payments in Natura 2000.

The majority of the forest measures in the Rural Development Regulation are aimed at private forest-holders and their associations. They are available for forest owners as long as these measures are included by Member States in their Rural Development Programmes. Some other beneficiaries, depending on the specific measure, are also public forest-holders, municipalities, other private law and public bodies and their associations, natural persons and other land management bodies under well specified and justified cases. For example, in case of state-owned land, support for afforestation and creation of woodland (article 22) and for forest-environmental and climate services and forest conservation (article 34) can only be granted if the body managing such land is a private body or a municipality.

Under Forest-environmental and climate services and forest conservation (article 34 of EAFRD Regulation), support shall be granted to public and private forest-holders and other private law and public bodies and their associations who undertake, on a voluntary basis, to carry out operations consisting of one or more forest-environment and climate commitments. In the case of state owned forests, support may only be granted if the body managing such a

forest is a private body or a municipality. Payments shall compensate beneficiaries for all or part of the additional costs and income foregone resulting from the commitments made. Where it is necessary they may also cover transaction costs to a value of up to 20 % of the premium paid for the forest-environment commitments. "Transaction cost" means an additional cost linked to fulfilling a commitment, but not directly attributable to its implementation or not included in the costs or income foregone that is compensated directly; and which can be calculated on a standard cost basis. However, in order to have this possibility, Member States should include in their rural development programmes the relevant measures.

53. Should additional cost incurred or incomes foregone be supported by forest owners/managers only?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 3,5,8,10,11,12,14,16,18,20,21,22,23
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Whereas the benefits of implementing particular conservation measures accrue to society as a whole it would be unjust if the costs of implementing such measures, either the direct costs or the legitimate income forgone were borne by the forest owners/managers.

Member States can have their own rules to handle this issue and in many cases they support forest owners and managers where they want to promote some kind of management that means additional costs or loss of income. There are financial resources available to cover such costs, e.g. from EU funds, in particular the EAFRD.

54. Should the cost of Natura 2000 management measures always be financially compensated?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 3,5,8,10,11,12,14,21,22,23
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There is a need to examine whether some conservation measures can be financially compensated, in particular measures depriving the owner of revenue that would have been expected in the context of a sustainable forest management or requiring additional investments without productive return. Grants, contractual agreements, tax breaks, technical assistance, etc. are possible options to compensate owners for income foregone, services rendered to society as a whole and, if applicable, capital depreciation.

Avoiding deterioration is a legal obligation derived from the Habitat Directive that does in principle not require compensation. However, decisions on the provision of economic incentives or compensatory payments are to be taken at the Member State level, depending on the national context. For example, where restrictions or obligations are imposed to forest management that has been traditional in an area, causing a loss of income or additional costs, appropriate compensation to forest owners concerned may be advisable. It can also be the case when the non-deterioration obligation goes beyond the daily vigilance to avoid deterioration and requires important pro-active management measures (e.g. removing an invasive species (e.g. *Prunus serotina*) that has spread overall, or avoiding the natural conversion of an oak stand into a beech stand).

55. What measures are available under the EU LIFE instrument to support the funding of conservation measures for forests in Natura 2000 sites?

Information	Target: forest managers/owners, authorities	Related case studies (nr.):
		9, 15, 17, 18, 20, 23
<p>LIFE has in the past funded a large number of forest related projects⁶⁹. The new LIFE Regulation (2014-2020)⁷⁰ will continue to fund forest-related nature conservation projects, essentially through LIFE Nature & Biodiversity projects.</p> <p>There is a call for proposals every year⁷¹. In the 2014 call, almost 100 M€ was available for projects supporting the conservation of nature and biodiversity in general, and this amount should increase for future calls. LIFE co-finances up to 60% of the costs of selected LIFE Nature & Biodiversity projects.</p> <p>It is also possible, although less frequent, to target forest nature conservation via projects that involve essentially communication, in which case applicants should look at the application package for LIFE Environmental Governance and Information⁷².</p> <p>Finally, the conservation of forest Natura 2000 sites may also be targeted as part of a much larger project targeting the Natura 2000 network as a whole at regional or national level. For more details, applicants (generally national/regional administrations) should refer to the application package for LIFE Integrated projects⁷³.</p>		

56. Are there other financing opportunities and incentives for Natura 2000 at national or regional level?

Information	Target: forest managers/owners, authorities	Related case studies (nr.):
		4, 5, 8, 12, 14, 17, 22
<p>Yes, there is also a high potential for contributing to forest management and conservation through national and regional programmes, since the main responsibility for financing Natura 2000 sites lies with the individual Member States. In some Member States there are voluntary agreements to manage forests in a way that is favourable to the conservation of the site and/or forestry contracts for the preservation of species and habitats that are financed through national funds.</p> <p>In some countries, landowners can also benefit from incentives such as property tax exemptions and other tax benefits (e.g. in, Belgium).</p> <p>In addition, in some Member States the general rule is that landowners are always entitled to full compensation for additional costs and for income foregone in Natura 2000 areas where the designation of forest habitats means certain restrictions on timber production (e.g. in Sweden).</p>		

⁶⁹ See e.g. the 2006 "LIFE and forests" brochure:

http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/documents/forest_lr.pdf

⁷⁰ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE)

⁷¹ See e.g.: <http://ec.europa.eu/environment/life/funding/life2014/index.htm>, and the application package for nature projects: <http://ec.europa.eu/environment/life/funding/life2014/index.htm#nat>

⁷² <http://ec.europa.eu/environment/life/funding/life2014/index.htm#inf>

⁷³ <http://ec.europa.eu/environment/life/funding/life2014/index.htm#integrated>

4.8 New activities in Natura 2000 sites

Questions:

57. What sort of forest activities require an Article 6.3 procedure? What is considered a plan or project in the context of the Habitats and Birds Directives?
58. In the case of a plan or project that is likely to have a significant impact on a Natura 2000 site, is it automatically refused? If not, what are the procedures to follow?
59. What is the relationship between the non-deterioration requirement under Article 6.2 and the Article 6.3 procedure?
60. Do I need to apply an Article 6.3 procedure every time I want to harvest trees/timber in my Natura 2000 forest?
61. Do plans or projects outside Natura 2000 sites also require an Article 6.3 procedure?

57. What sort of forest activities require an Article 6.3 procedure under Natura 2000⁷⁴? What is considered a plan or project in the context of the Habitats and Birds Directives?

Legal obligation/
Recommendation

Target: forest
managers/owners, authorities

Related case studies (nr.):
13,19

(O) The Habitats Directive does not define "plan" or "project", but jurisprudence has demonstrated that these terms require a broad interpretation since the only triggering factor for applying Article 6.3 of the Habitats Directive is whether or not they are likely to have a significant effect on a site. In the case of a project the definition used in the Environmental Impact Assessment directive is now applied also to the Habitat Directive whereby a project means the execution of construction works or of other installations or schemes, and any other interventions in the natural surroundings and landscape.

For forestry projects this may include activities such as the construction of a new forest road, a wood storage facility or a saw mill, drainage of the land, as well as afforestation or deforestation, significant clear felling, important modifications of the silvicultural regime, or significant land use changes.

The Waddensea case (C-127/02)⁷⁵ further clarified that activities which have been carried out periodically for several years on the site but for which a license is granted annually for a limited period, with each license entailing a new assessment both of the possibility of carrying on that activity and of the site where it may be carried on, should be considered, at the time of each application, as a distinct plan or project within the meaning of the Habitats Directive.

The European Court of Justice⁷⁶ has also ruled that projects include:

- recurring and small scale activities (Case C-127/02, C-226/08)
- the intensification of an activity (Case C-127/02)
- modifications to activities (C-72/95)
- activities outside the site but likely to have a significant effect on it (Case C-98/03, C-418/04)

⁷⁴ See Part I, § 2.4.4 for a general presentation of Article 6.3 of the Habitats Directive.

○ ⁷⁵ Search for cases of the European Courts of Justice is available from:

○ http://europa.eu/eu-law/case-law/index_en.htm

⁷⁶ <http://curia.europa.eu/juris/liste.jsf?language=en&td=ALL&jur=C,T,F&num=C-304/05>

And that:

- The option of exempting generally certain activities does not comply with the provisions of Article 6(3) (C-256/98, C-6/04, C-241/08, C-418/04, C-538/09) a
- The size of the project is not relevant as it does not in itself preclude the possibility that it is likely to have a significant effect on a protected site (Case C-98/03, Case C-418/04).

The word “plan” has also, for the purpose of Article 6(3), a potentially very broad meaning. Referring by analogy to the SEA Directive 2001/42/EC, Article 2(a) of that Directive defines plans and programmes as

‘Plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- *which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and*
- *which are required by legislative, regulatory or administrative provisions’.*

The need of appropriate assessment of a plan should therefore be considered in function of the nature, purpose and content of the plan, and not simply on whether it is called ‘a plan’. Examples of plans likely to have a significant impact on a site are: new forest management plans for Natura 2000 forests with significant transformations of forest stands with regard to species composition or rotation periods or other significant changes in forestry regime, significant changes to hunting plans for large game, etc.

A Forest Management Plan that fully integrates Natura 2000 conservation objectives and measures (integrated Forest Management Plan) on a certain site would normally not be expected to be likely to have a significant impact on the site. The unlikelihood of any significant negative effect must be verified on the basis of objective arguments (screening of the plan) and duly documented. The plan must not be subject to a full appropriate assessment in the sense of Article 6.3 of the Habitats Directive if this condition is fulfilled (see also Question n° 35).

It is useful to recall that plans or projects that are directly connected with or necessary to the conservation management of a Natura site (i.e. Natura 2000 management plan) do not need to go through the Habitats Directive permit process. It generally assumes the effects of such measures for Natura 2000 site are fully considered in the Natura 2000 management planning process and that this assessment does therefore not need be repeated. Nevertheless if such a plan or project also contains a non-conservation component it may still require an appropriate assessment (C-241/08) if likely significant effects on the site cannot be excluded.

(R) Some recurrent forest management measures (e.g. to control outbreaks of Bark Beetle) can have an impact on Natura 2000 sites. Considering the likeliness of such events, they should ideally be planned in the context of a Forest Management Plan that fully integrates Natura 2000 conservation objectives, subject or not to an appropriate assessment as explained above. Management measures decided to face an unforeseen situation and likely to have a significant impact on a site must be submitted to an appropriate assessment (e.g. large-scale felling to prevent the extension of Bark Beetle further to a windfall, areal application of insecticides). It is advisable that competent authorities develop specific procedures that take into consideration the conservation objectives of Natura 2000 sites in order to cope with situations of urgency.

58. In the case of a plan or project that is likely to have a significant impact on a Natura 2000 site, is it automatically refused? If not, what are the procedures to follow?

Legal obligation	Target: forest managers/owners, authorities	Related case studies (nr.): 13, 19, 24
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Plans or projects that are likely to have a significant impact on a Natura 2000 site are not automatically refused. They must, however, undergo a step by step assessment of their implications for the site in view of the site's conservation objectives.

The steps are as follows:

- Step one: screening – this initial step is to determine whether a plan or project has to undergo an appropriate assessment (AA) or not. If it is likely to have a significant negative effect on a Natura 2000 site, or the likelihood of significant impacts cannot be excluded then an appropriate assessment is required. It is advisable to put the main elements of the screening stage on paper in case it could be asked later.
- Step two: appropriate assessment – once it has been decided that an AA is required, a detailed analysis must be undertaken of the potential impacts of the plan or project, alone or in combination with other plans or projects, on the integrity of Natura 2000 site(s) in view of its conservation objectives.
- Step three: decision making - If the appropriate assessment concludes that there is an adverse effect on integrity of the site, it will be necessary to examine whether preventive or mitigation measures can be introduced to remove these effects.

These mitigation measures must be directly linked to the likely impacts that have been identified in the Appropriate Assessment (AA) and can only be defined once these impacts have been fully assessed and described in the AA. The identification of mitigation measures, like the impact assessment itself, must be based on a sound understanding of the species and habitats concerned.

In the case of forestry projects the mitigation measures may, for instance, involve a change or restriction on the dates and timetable for implementation (for example, avoiding harvesting trees or building a forest road during the breeding season of a particular species). If these mitigation measures can successfully remove or pre-empt the adverse effects identified then the project can be approved. If not, it can only be authorised according to the derogation procedure under Article 6.4 (step 4) or be refused.

- Step 4: derogations - Article 6.4 provides for certain derogations under which plans and projects with adverse effects on a site can be authorised. Thus, if it is concluded that the plan or project will have an adverse significant effect on a Natura 2000 site, it can still be approved under exceptional circumstances if there are no alternatives, if the plan or project is considered necessary for imperative reasons of overriding public interest (IROPI) and if the necessary compensatory measures are being taken to protect the coherence of the Natura 2000 network. In such cases also the European Commission has to be informed and, if priority species or habitat types are present on the site, a Commission opinion is required.

59. What is the relationship between the obligation to avoid deterioration under Article 6.2 and the Article 6.3 procedure?

Legal obligation	Target: forest managers/owners, authorities	Related case studies (nr.): 7, 13, 19
<p>These two provisions are in fact, 'opposite sides of the same coin'. Article 6(2) and 6(3) are both intended to prevent any significant negative effects on Natura 2000 sites. In the case of Article 6(2) the obligation is to take appropriate measures to avoid '<i>deterioration ...or significant disturbance</i>'. Article 6(3) more particularly targets new plans or projects that could '<i>adversely affect the integrity of a site</i>'. Contrary to Article 6.2 where no exception is possible, Article 6.4 provides for a derogation regime that makes plans and projects with negative effects possible under strictly limited conditions (no alternative solution available, imperative reasons of overriding public interest, compensatory measures, etc.). The objectives of Art. 6.2 and 6.3 are therefore broadly similar.</p> <p>Thus, where a plan or project has been authorised without complying with Article 6(3), a breach of Article 6(2) may also be found. This is the case when deterioration of a habitat or disturbance of a species for which the area in question was designated has been established (Case C-304/05⁷⁷, C-388/05⁷⁸, C-404/09)⁷⁹. Any plans and projects authorised according to Article 6(3) and 6(4) will also be in conformity with Article 6(2).</p>		

60. Do I need to apply an Article 6.3 procedure every time I want to harvest trees/timber in my Natura 2000 forest?

Legal obligation / Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 13
<p>(O) The Article 6.3 procedure applies only if a plan or a project is likely to have a significant effect on a Natura 2000 site. It applies to all such plans or projects, whether they are situated in- or outside a Natura 2000 site.</p> <p>(O) The first step will be for the forest owner or manager to check whether there is indeed a likelihood of a significant effect <i>either individually or in combination with other plans or projects</i> – this is known as the screening stage. If it can be demonstrated that this will <i>not</i> be the case then a full impact assessment will not be necessary and the project can be authorised. In case of doubt it is strongly advisable to contact the competent authority before proceeding with the harvesting operation as additional requirements may exist under relevant national legislation.</p> <p>(R) Practically, there are different ways to carry out the screening stage. It is advisable for the competent authorities to inform the forest owners and managers on forest activities that are <i>a priori</i> compatible with the conservation objectives and on those that are not.</p> <p>(R) The production of guidelines adapted to individual sites would be very relevant in that regard. In the absence of such information, a forest manager who is planning a forest activity on a Natura 2000 site not submitted to any type of authorization (e.g. a clear felling followed by a plantation in a forest not covered by an officially approved FMP) should make sure that the activity will not deteriorate the site. A contact with the competent authority prior to the undertaking of the activity is recommended to lift doubts about the need or not to apply an</p>		

⁷⁷ <http://curia.europa.eu/juris/liste.jsf?language=en&td=ALL&jur=C,T,F&num=C-304/05>

⁷⁸ <http://curia.europa.eu/juris/liste.jsf?language=en&td=ALL&jur=C,T,F&num=C-388/05>

⁷⁹ <http://curia.europa.eu/juris/liste.jsf?language=en&td=ALL&jur=C,T,F&num=C-404/09>

Article 6.3 procedure.

If the felling is planned in a Forest Management Plan that fully integrates Natura 2000 conservation objectives and measures (integrated Forest Management Plan), the felling would in principle not be considered as being likely to have a significant adverse impact on the site. If this condition is actually fulfilled (to be checked in the screening phase on the basis of objective criteria) neither an Appropriate Assessment nor a permit is required by the Habitats Directive.

It may also be useful to consider a phased commercial harvesting programme for a forest area as one single project so that only one permit is required. In that case the entire programme needs to be screened with regard to the likeliness of any negative effects on a site and if necessary subject to an appropriate assessment.

Many small forest holdings are not covered by an approved forest management plan. If the envisaged felling is not likely to have any significant adverse effect on a site in the light of the site's conservation objectives, no Appropriate Assessment or permit is necessary unless required by a regional/national procedure. On the opposite, if the felling is likely to have a significant impact on the site, an appropriate assessment and a permit are required.

For many traditional or recurrent forest activities (e.g. thinning, planting native tree species, maintaining plantations, etc.) it can often be concluded on the basis of an objective screening that these are not likely to have any significant negative effect on a Natura 2000 site. If this is actually the case no appropriate assessment is required. (See also Question 35).

61. Do plans or projects outside Natura 2000 sites also require an Article 6.3 procedure?

Legal obligation

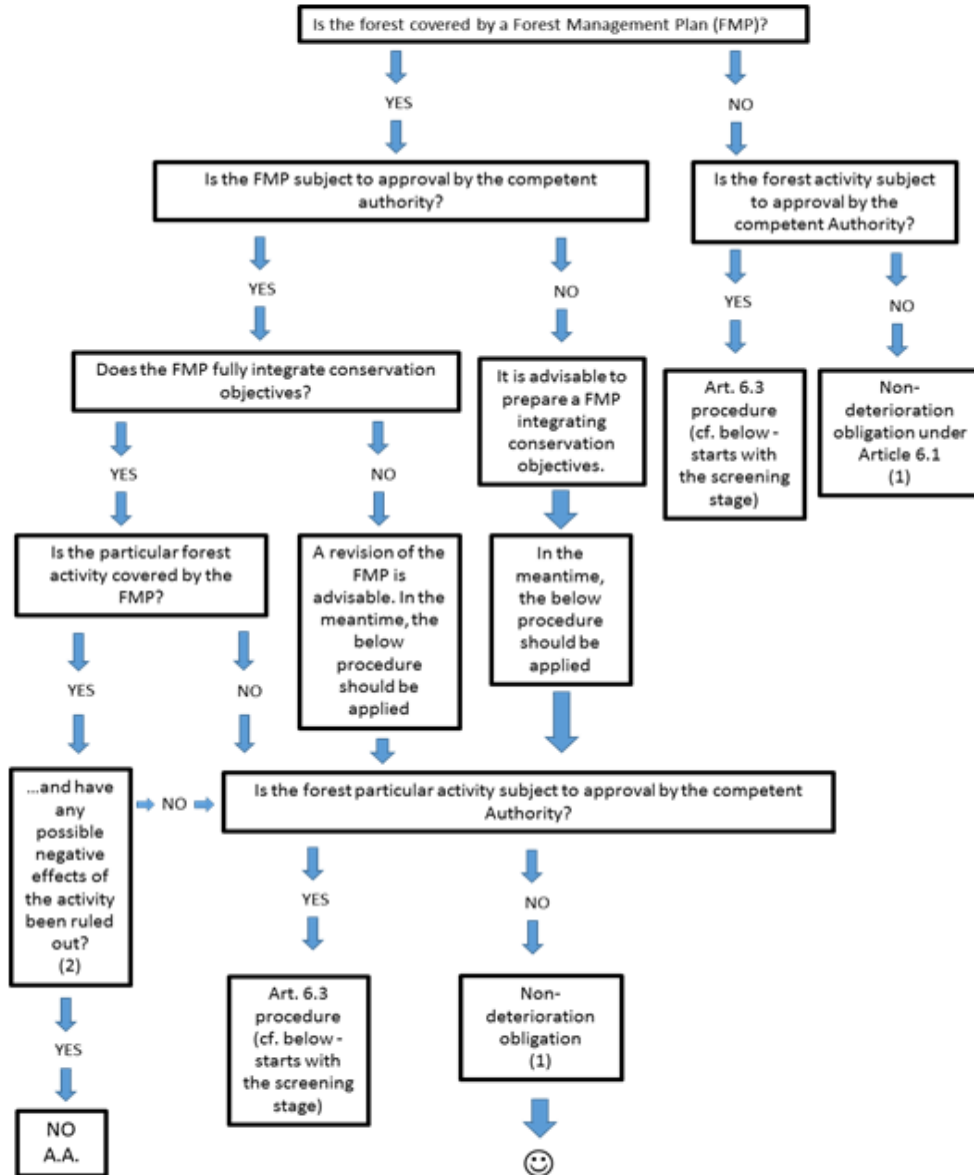
Target: forest managers/owners, authorities

Related case studies (nr.):
13

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

The Article 6.3 procedure applies to all plans or projects, irrespective of whether they are located inside or outside a Natura 2000 site (e.g. drainage upstream).

How to deal with a particular forest activity under Article 6(3) in the presence or absence of a forest management plan?¶



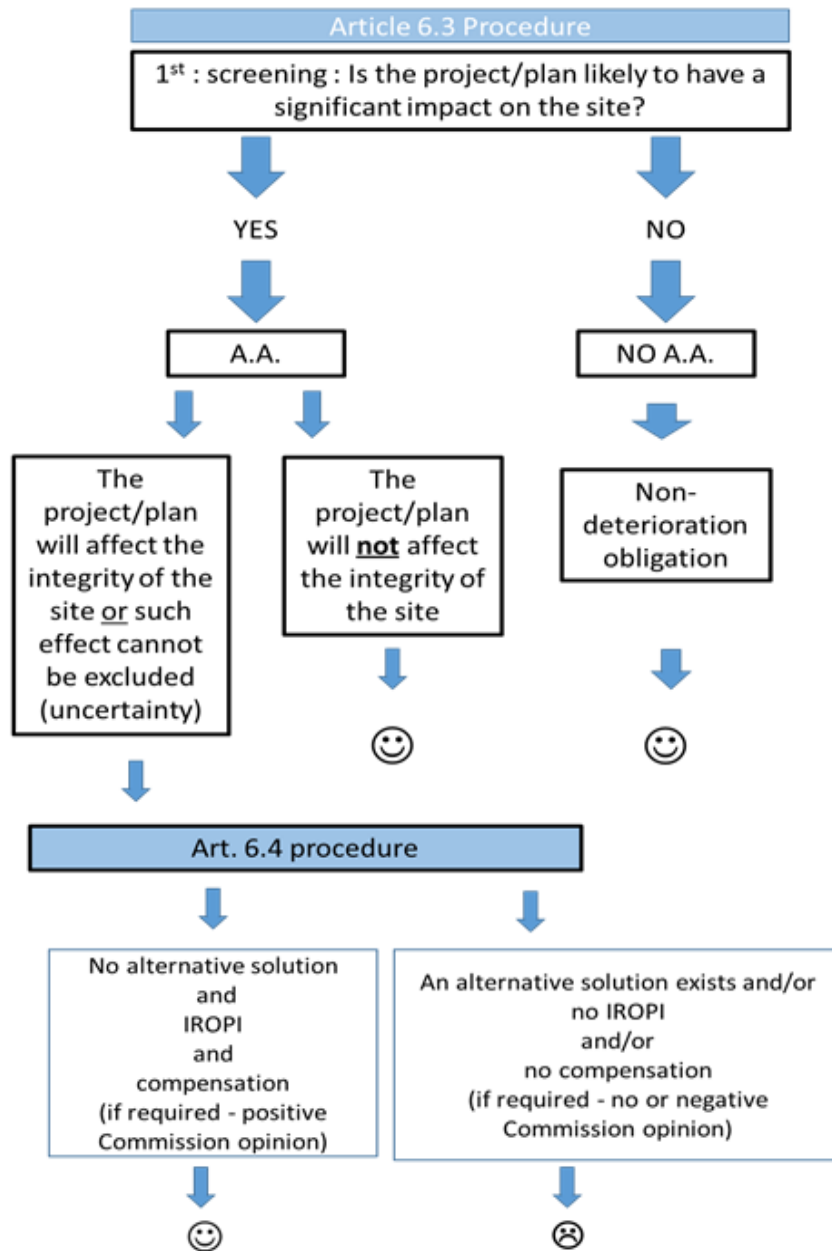
(1) Compliance can be ensured by different means: guidelines produced by the competent authority, contacts with competent authority prior to the implementation of the activity, etc.

(2) Which means that either the screening of the FMP including the particular forest activity has demonstrated unlikelihood of negative effects or the FMP including the particular activity has been subject to an AA that has concluded on the absence of significant negative impact.

☺ The activity can be authorised

→ →A.A.:Appropriate-Assessment¶

... → Applying Article 6 of the Habitats Directive to plans and projects ¶



☺ : The activity can be authorised.

☹ : The activity cannot be authorised. An alternative solution or mitigation can be considered where possible. In that case, the Article 6.3 procedure must be applied to the alternative solution or modified activity.

A.A.: Appropriate Assessment ¶

4.9 Monitoring and evaluation

Questions:

62. How does one know whether the conservation status of the forest habitat or species has improved across its entire natural range within the EU?
63. What are the monitoring obligations on individual Natura 2000 sites? Who is responsible for this? How does one find out the latest conservation status of a particular species or habitat type in my area?
64. What are the obligations as regards the monitoring of conservation measures in Natura 2000 sites?

62. How does one know whether the conservation status of the forest habitat or species has improved across its entire natural range within the EU?

Legal obligation	Target: authorities	Related case studies (nr.):
<p>According to Article 11 of the Habitats Directive, Member States shall undertake surveillance of the conservation status of the natural habitats and species of Community interest. The conservation status of all species and habitats of EU importance is regularly being assessed in the frame of the 6-yearly progress reports submitted by the Member States to the Commission in accordance with Article 17 of the Habitats Directive and Article 12 of the Birds Directives. The aim is to determine the status of each species or habitat type across its entire natural range within the EU. Four classes of conservation status have been adopted: Favourable (FV), Unfavourable-Inadequate (U1) and Unfavourable-Bad (U2), Unknown (XX). The ultimate objective, of course, is that they all reach a favourable conservation status⁸⁰. But this will take time to achieve. The habitat types and species were selected because they were threatened or rare which means they were, for the most part, already in a bad conservation status to start with. There will therefore be a certain time lag before the conservation measures that have been implemented 'bear their fruit' in terms of improving the overall conservation status of the species or habitat across the EU.</p> <p>In a number of Member States (e.g. Austria, Germany, France United Kingdom) a systematic monitoring programme has been developed to monitor the conservation status in different sites. Data from existing forest inventories, particularly in large forest areas, can be useful in that regard. For instance, in the German National Forest Inventory (<i>Bundeswaldinventur</i>, BWI-2012), the forest habitat types as well as factors leading to their disturbance have been addressed during the regular inventory field work.</p> <p>Every effort is underway to meet this target and the most recent conservation status assessments have been published in May 2015. They provide a good indication of progress to date⁸¹.</p>		

⁸⁰ This term is defined in the Habitats Directive – see section 3.4 in Part I of this report

⁸¹ More detailed information is available on the following website:
<http://bd.eionet.europa.eu/article17/reports2012/>

63. What are the monitoring obligations on individual Natura 2000 sites? Who is responsible for this? How does one find out the latest conservation status of a particular species or habitat type in my area?

Legal obligation/Information	Target: forest managers/owners, authorities	Related case studies (nr.): 5
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(O) It is up to each Member State to decide how best to monitor the conservation status of the habitat types and species of EU importance at the level of each Natura 2000 site within their country. This responsibility falls on the competent authorities in each country. Monitoring results are normally made available to the public, for instance on the authorities' website.

(I) There is however no obligation for private forest owners or managers to monitor the conservation status of the species and habitat types present in their forest. Of course they are most welcome to do so as this is always very valuable information, for example as a means to deliver warning signals when the deterioration may occur.

The conservation degree of a particular species or habitat type in a Natura 2000 site is recorded and kept up-to-date in the Standard Data Form which is publically available for each Natura 2000 site. Competent authorities and site managers can also be able to provide detailed information in this regard.

64. What are the obligations as regards the monitoring of conservation measures in Natura 2000 sites?

Legal obligation Recommendation	Target: Competent authorities, forest managers/owners	Related case studies (nr.): 20
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(O) Article 11 of the Habitats Directive obliges Member States to undertake surveillance of the conservation status of the natural habitats and species of Community interest. Article 17.1 requires Member States to provide information concerning the conservation measures taken in Natura 2000 sites as well as an evaluation of the impact of those measures.

The new reporting format⁸² under article 17 (adopted for reporting on the period 2007-2012) requests information that should make it possible to evaluate the contribution of the Natura 2000 network to the conservation status of habitats and species and the overall effectiveness of the network.

This new reporting format includes the requirement to report on the implementation of management plans or other instruments used by the Member States to manage their network, the sites affected by projects/plans for which compensation measures were necessary and the main measures taken to ensure the coherence of the Natura 2000 network according to Article 10.

(R) Considering the obligation for Member States to report on the implementation of conservation measures and on the impact of the measures on the conservation status, a monitoring mechanism at site level for conservation measures is advisable. Such a mechanism normally includes measurable and clearly verifiable criteria and indicators to facilitate the follow-up and evaluation of results.

Monitoring in Natura 2000 is usually under the responsibility of competent authorities. As

⁸² http://bd.eionet.europa.eu/activities/Reporting/Article_17/reference_portal

regards forest habitats and species and the measures carried out in forests, close co-operation between forest and nature conservation authorities and forest owners and managers is advisable.

Monitoring and evaluation of results are essential with regard to being able to adapt conservation objectives and measures to any significant natural or other developments that may affect the conservation of habitats and species of Community interest present on the site.

4.10 Communication, co-operation, active involvement of stakeholders

Questions:

65. *What can be the role of forest owners and managers in the implementation of Natura 2000?*
66. *Why is it important to involve the different stakeholder groups in the establishment of nature conservation objectives and Natura 2000 management plans?*
67. *What steps should a participatory process include?*
68. *What kind of information should be made public?*
69. *Forest owners often have difficulties understanding Natura 2000. How to improve this situation?*

65. What can be the role of forest owners and managers in the implementation of Natura 2000?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2,3,4,5,6,8,9,10,12,14,15,17,18,19,20, 21,22,23,24
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Implementing Natura 2000 is a responsibility of Member States but has very important implications for land owners and managers. Proper participation of forest owners and forest managers is of key importance. There is a real need and value in involving forest owners and managers from an early stage. Forest owners know their property, have their own management objectives and have a key role to play in the establishment and implementation of the management measures in their forests. Hence they are key partners in the development and successful implementation of Natura 2000.

The preparation and development of management plans that address the site-specific conservation objectives and include conservation measures in Natura 2000 sites is strongly advisable. It is important to involve all relevant stakeholders in order to explore as far as possible the options which meet different expectations, to address and avoid possible conflicts and find solutions to compensate for economic loss (additional costs and income foregone) that could be caused by particular conservation measures which go beyond normal practice under sustainable forest management.

66. Why is it important to involve the different stakeholder groups in the establishment of nature conservation objectives and Natura 2000 management plans?

Recommendation	Target: large public, forest managers/owners, authorities	Related case studies (nr.): 2,3,4,5,6,8,9,10,12,14,15,17,18,19,20, 21,22,23,24
<p>Considering that Natura 2000 aims to contribute to ensuring biodiversity while taking into account socio-economic and cultural requirements, it is strongly advisable that all relevant stakeholders are previously identified and involved in the preparation and development of measures that address the conservation of forests in Natura 2000 sites.</p> <p>Different types of stakeholders may be more or less directly interested by the management of Natura 2000 sites. Authorities, forest owners and managers are the most relevant in decision making processes, but the views of other stakeholders should also to be taken into account, in particular local communities and other land users, NGOs, hunters, anglers, etc. who may be able to contribute to the process with their knowledge and experience.</p> <p>Public participation in planning and preparing site-specific conservation objectives and conservation measures for a Natura 2000 site allows taking into account the views of the people that live and work on the site or use it. It provides an excellent opportunity to create a social atmosphere more favourable to environmental conservation. The likelihood of success will be greatly enhanced if the different stakeholders are informed and consulted on the management of the site. It may also be an opportunity to develop a multidisciplinary and professional approach as well as cooperation and possible synergies between different actors.</p> <p>Involving non-forest players is an opportunity for avoiding or solving possible conflicts (e.g. excessive game pressure) and for benefiting from others' knowledge and experience. Taking into account that the conservation status of protected habitat types and species is often influenced by the activities of a range of stakeholders (foresters, hunters, tourist sector, etc.) the communication with and between them is essential for reaching an integrated management and achieving the conservation and other objectives in a balanced way.</p>		

67. What steps should a participatory process include?

Recommendation	Target: large public, forest managers/owners, authorities	Related case studies (nr.): 2,3,6,8,10,18,22,24
<p>There are several methods of undertaking participatory processes⁸³. A participatory process in the management of Natura 2000 forest sites could include the following main steps:</p> <ul style="list-style-type: none"> - Identification of all relevant stakeholders. - Establishing a multi stakeholder working group or committee as appropriate. - Mapping values, rights, resources, lands and territories and assess impacts. - Participatory Impact Assessment – define positive and negative impacts. - Detailed and public information on conservation objectives and discussion of planned measures. Targeted information to all stakeholders directly concerned. 		

⁸³ See e.g. a toolbox for public engagement in forest and woodland planning that has been published by the Forestry Commission in the UK: <http://www.forestry.gov.uk/forestry/INFD-5XMDS8>

- Discuss and identify the best means and mechanisms for implementation of the necessary measures, considering financial resources, compensation and benefit-sharing.
- Facilitation in case of conflicting claims, using adequate procedures for conflict resolution.
- Set up a participatory monitoring model involving all stakeholders since the beginning: what to monitor, how, when, where, by whom.
- Implementing Advisory services.

68. What kind of information should be made public?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 2,3,8,10,17
<p>Open, public access to information is extremely important, in particular information on conservation objectives, obligations, recommendations, agreements, both at site and national/regional levels. Further to the necessary consultations, forest owners and forest managers should be well informed about the reasons behind and the importance of site-specific conservation objectives and measures in Natura 2000 forests. Therefore it is advisable that detailed description of the conservation objectives and measures, as well as suitable information on the location of key natural features and the respective conservation measures is made publically available. Contrary to some Forest Management Plans (which may contain private and sensitive information), a Natura 2000 management plan is normally a publicly available document (see also Question 33).</p> <p>Communication of relevant and understandable information is of paramount importance to enhance mutual understanding and to foster dialogue between stakeholders. It is also a prerequisite for fruitful discussions on conservation objectives and conservation measures. A good communication plan requires developing appropriate communication and information strategies about the general objectives of Natura 2000, the sites' conservation objectives and measures, etc. This may involve establishing a multi-stakeholder working group or committee if possible and developing a transparent process for meetings and consultations (roundtables, newsletters, etc.). It is important that stakeholders are being properly informed not only about the constraints but also about the opportunities offered by Natura 2000.</p>		

69. Forest owners often have difficulties understanding Natura 2000. How to improve this situation?

Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 3, 8,10
<p>Although there are no explicit communication obligations in the Habitats Directive, the Commission has stressed the importance and the need to communicate and explain the objectives of Natura 2000 to the wider public and in particular to stakeholders directly connected to the site for the management of the sites. The Commission has produced useful guidance on the general provisions of the Birds and Habitats Directives as well as guidance more specifically addressed to particular economic sectors (see: http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm).</p> <p>Several tools are available to increase awareness, provide advice and build local capacities for the management of a Natura 2000 site and to develop a participatory process (see also Question 25).</p>		

4.11 The protection of species and habitats of EU importance across their range, outside Natura 2000 sites

Questions:

70. Do forests outside the Natura 2000 network have a role to play in the conservation of species and habitats of EU importance?

71. What legal requirements are there to protect listed species outside Natura 2000?

70. Do forests outside the Natura 2000 network have a role to play in the conservation of species and habitats of EU importance?

Information/ Recommendation	Target: forest managers/owners, authorities	Related case studies (nr.): 12, 16, 22
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(I) Yes, forests outside the Natura 2000 network do play a significant role in the conservation of habitats and species of EU interest, especially those that are vulnerable to fragmentation or isolation. Such forests can help to substantially improve the ecological coherence of the network and the functional connectivity between Natura 2000 sites.

The areas outside the Natura 2000 network can also provide further refuges for the species and habitat types outside the designated sites. This is especially valuable in the case of forest species and habitats that are wide-ranging (e.g. bears and lynx) or have a wide distribution (e.g. riparian forests) since only a part of their total resource is included in the Natura 2000 network (sometimes less than 50%). Those areas outside the Natura 2000 network are needed for achieving favourable conservation status.

(R) Article 10 of the Habitats Directive encourages Member States to manage features of the landscape which are of major importance for the migration, dispersal and genetic exchange of wild species of fauna and flora. Such measures may also involve forests and forest land that are not designated as Natura 2000 sites. Article 10 has practical implications for forest owners and managers only if Member States have taken specific measures related to that issue. Some countries are addressing this issue in national or regional strategies (e.g. Ecoforests in Latvia, "*Schémas Régionaux de Cohérence Ecologique*" in France). The Green Infrastructure initiative of the European Commission will further encourage Member States to take such measures.

The importance of areas outside the Natura 2000 network for birds is reflected in Article 3 (b) and 4 of the Birds Directive which require Member States to strive to upkeep and manage habitats inside and outside the protected zones in accordance with the ecological needs and to avoid pollution or deterioration of habitats.

71. What are the legal requirements to protect species outside Natura 2000?

Legal obligation	Target: forest managers/owners, authorities	Related case studies (nr.): 12, 16
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The two EU nature directives also require the protection of certain species across the EU, both within and outside Natura 2000 sites, to ensure their conservation across their natural range within the EU. This concerns all naturally occurring wild bird species in the EU as well as other species listed in Annex IV and V of the Habitats Directive which are also associated with forest habitats.

In addition, Member States are also required to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the wild bird species in the European territory (Article 3 of the Birds Directive). That requirement may imply habitat protection measures outside the Natura 2000 network.

As regards the provisions on species protection across their whole range, the two Directives⁸⁴ require Member States to prohibit the:

- deliberate killing or capture of protected species by any method;
- deliberate destruction or taking of eggs or nests, or the picking, collecting, cutting, uprooting or destruction of protected plants;
- deterioration or destruction of breeding sites or resting places;
- deliberate disturbance particularly during breeding, rearing, hibernation and migration;
- the keeping, sale and transport of specimens taken from the wild.

These prohibitions as transposed into national legislation must be respected by all forest owners, users and managers as well.

Derogations to these provisions are allowed in some circumstances (e.g. to prevent serious damage to crops, livestock, forests, fisheries and water) provided that there is no other satisfactory solution and the consequences of these derogations are not incompatible with the overall aims of the Directives. The conditions for derogations are set out in Article 9 of the Birds Directive and Article 16 of the Habitats Directive.

Further guidance on the species protection provisions under the Habitats Directive are available from:

http://ec.europa.eu/environment/nature/conservation/species/guidance/index_en.htm.

⁸⁴ The exact terms are laid down in Article 5 of the Birds Directive (for birds) and Article 12 (for animals) and Article 13 (for plants) of the Habitats Directive.

ANNEXES

ANNEX 1: GLOSSARY AND ACRONYMS

GLOSSARY

Ancient forests/ woodlands: See old growth forests

Afforestation: Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest. Implies a transformation of land use from non-forest to forest (FRA 2015 Terms and definitions, The Forest Resources Assessment (FRA, FAO 2012⁸⁵).

Annex I of the Habitats Directive lists natural habitat types of Community interest whose conservation requires the designation of Special Areas of Conservation.

Annex II of the Habitats Directive lists animal and plant species of Community interest whose conservation requires the designation of special areas of conservation. Most species listed in this Annex are also listed in Annex IV.

Annex III of the Habitats Directive lists criteria for selecting sites eligible for identification as Sites of Community Importance and designation as Special Areas of Conservation.

Annex IV of the Habitats Directive lists animal and plant species of Community interest in need of strict protection.

Annex V of the Habitats Directive lists animal and plant species of Community interest whose taking in the wild and exploitation may be subject to management measures.

Biogeographical regions. Habitats and species which are typically found together are associated with regions displaying similarities in climate, altitude and geology. From an ecological perspective, Europe can be divided into nine land and four marine biogeographical regions. When an assessment of the conservation status of a species or habitat is carried out by a Member State, the reference area for the assessments is not the territory of that Member State but the respective parts of biogeographical regions within that Member State (EC, 2009⁸⁶).

Conservation status. The Habitats Directive defines in its Article 1 the term conservation status as applied to habitats and species. Conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory of the Member States to which the EU Treaty applies. Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory of the Member States to which the EU Treaty applies. Conservation status is assessed as being either 'favourable', 'unfavourable-inadequate' and 'unfavourable-bad', based on four parameters as defined in Article 1 of the Habitats Directive. The parameters for habitats are range, area, structure and functions and future prospects and for species they are range, population, habitat of species and future prospects.

⁸⁵ <http://www.fao.org/docrep/017/ap862e/ap862e00.pdf>

⁸⁶ EC, 2009. Report from the Commission to the Council and the European Parliament. Composite Report on the Conservation Status of Habitat Types and Species as required under Article 17 of the Habitats Directive. COM(2009) 358 final <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0358:FIN:EN:PDF>

Deadwood: All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country (FRA 2015 Terms and definitions, FAO 2012). The quantity of deadwood in Europe's forests is an important indicator for forest biodiversity. The volume of dead standing trees (snags) and lying trees (logs) on forest area and other wooded land is included among the Pan-European Biodiversity Indicators (SEBI 018) and among the indicators established under the MCPFE to assess current status of forest biological diversity. The volume of deadwood by forest type is usually reported considering standing and lying dead trees with a minimum length of 2 m and a minimum diameter of 10 cm (MCPFE, EEA⁸⁷).

Deforestation: The conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold. Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use. It includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas (FRA 2015 Terms and definitions, FAO 2012).

Degree of conservation: For the purpose of this document this means the conservation status of a habitat type or a species of Community interest in a Natura 2000 site, as defined in the Standard data Form (SDF, see below). The SDF uses three criteria (representativity, relative surface and degree of conservation for habitat types, population, degree of conservation and isolation for species) to determine the global assessment of each species and habitat type present within that particular site⁸⁸.

Ecological requirements of habitat types and species: For the purpose of this document these requirements are defined as the complex of all the ecological needs, including both abiotic and biotic factors, which are deemed necessary to ensure the conservation of the habitat types (i.e. the habitat specific structure and functions necessary for its long-term maintenance, its typical species, etc.) and species present on the site, including their relations with the physical environment (air, water, soil, vegetation, etc).

Equivalent instrument (to forest management plan): Information collected on forest area, at forest management or aggregated forest management unit level (forest blocks, farms, enterprises, watersheds, municipalities, or wider units), and strategies/management activities planned to reach the management or development goals (Forest Europe, MCPFE 2002).

Favourable conservation status: The concept of 'favourable conservation status' constitutes the overall objective to be reached for all habitat types and species of community interest. In simple words it can be described as a situation where a habitat type or species is prospering (in both quality and extent/population) and with good prospects to do so in future as well. The fact that a habitat or species is not threatened (i.e. not faced by any direct extinction risk) does not mean that it is in favourable conservation status.

According to Article 1 of the Habitats Directive the conservation status of a natural habitat will be taken as 'favourable' when:

- its natural range and areas it covers within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

⁸⁷ See: <http://www.eea.europa.eu/data-and-maps/indicators/forest-deadwood>

⁸⁸ http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

The conservation status of a species will be taken as 'favourable' when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Forest: Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use (FRA 2015 Terms and definitions, FAO 2012).

Forest management plan: A management instrument aiming at defined management goals, which is periodically revised. A management plan must include adequate detail on operations planned for individual operational units (stands or compartments) but may also provide general strategies and activities planned to reach management goals. This definition includes forest area in protected areas with management plan. (FRA 2015 Terms and definitions, FAO 2012). Under the Forest Europe process a forest management plan is defined as being information (in the form of text, maps, tables and graphs) collected during (periodic) forest inventories at operational forest units level (stands, compartments), and operations planned for individual stands or compartments to reach the management goals (MCPFE 2002).

Forest management plan integrating Natura 2000 conservation objectives and / or measures: For the purpose of this document, this concept is defined as being a forest management plan that also includes information on the conservation objectives that have been established for the Natura 2000 site to which the forest covered by the plan belongs. All operations covered by the plan are designed in a way that they are compatible with these conservation objectives. In addition, the plan may also include silvicultural or other operations that actively contribute to achieving the conservation objectives of the site. In a given Natura 2000 area one or more forest management plans integrating Natura 2000 conservation objectives can co-exist with a specific Natura 2000 management plan for the site.

Fully integrated Natura 2000/Forest Management Plan: For the purpose of this document, this concept is defined as being a management plan that includes detailed information on the forestry and the Natura 2000 context (forest inventory data, forestry management goals, habitat types and species of Community interest, conservation objectives,...) as well as on the planned forestry operations and Natura 2000 conservation measures, which may also include specific silvicultural operations. All operations and measures included in a fully integrated management plan are designed in a way that they are compatible with the site's conservation objectives. A fully integrated Natura 2000 / Forest management plan represents a single management instrument for a given forest area that is owned by one owner or a group of owners and that as is in its integrity designated as a Natura 2000 site. For such a site it fulfils the role of both the classical forest management plan and the Natura 2000 management plan.

Forest area with management plan: Forest area that has a long-term documented management plan. A forest area with management plan may refer to forest management unit level or aggregated forest management unit level (forest blocks, farms, enterprises, watersheds, municipalities, or wider units).

Forest ownership: Generally refers to the legal right to freely and exclusively use, control, transfer, or otherwise benefit from a forest. Ownership can be acquired through transfers such as sales, donations, and inheritance. Forest ownership refers to the ownership of the

trees growing on land classified as forest, regardless of whether or not the ownership of these trees coincides with the ownership of the land itself (FRA 2015 Terms and definitions, FAO 2012).

Forestry: The profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values. (SAF 2008).....

Habitat of a species: An environment defined by specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle.

Habitat types of Community Interest: are those habitats which, within the European territory of the Member States: are in danger of disappearance in their natural range; or have a small natural range following their regression or by reason of their intrinsically restricted area; or present outstanding examples of typical characteristics of one or more of the biogeographical regions. Such habitat types are listed in Annex I of the Habitats Directive.

Introduced species: A species, subspecies or lower taxon, occurring outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans) (FRA 2015 Terms and definitions, FAO 2012).

Invasive species: Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health (FRA 2015 Terms and definitions, FAO 2012).

Multiple use forest: Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function. Includes any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone is considered as the predominant function (FRA 2015 Terms and definitions, FAO 2012).

Natura 2000 forest: For the purpose of this document, a 'Natura 2000 forest' is defined as being a forest or part of a forest that is included in an area that has been designated as a Natura 2000 site. A Natura 2000 forest can include both habitat types that correspond to a habitat type included in Annex I of the Habitats Directive and habitats which are not of Community interest, but represent a certain importance as a habitat for a species of Community interest or simply for the general coherence of the site or the Natura 2000 network (connectivity).

Natural forest: A forest composed of indigenous trees and not classified as forest plantation (FAO, Forest Resources Assessment 2000).

Natural expansion of forest: Expansion of forest through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture) (FRA 2015 Terms and definitions, FAO 2012).

Non-intervention management. Form of management that aims, where necessary, to allow natural processes by preventing disturbance by human activities that would have significant effects on biodiversity (*Wilderness guidelines*).

Non wood product: Goods derived from forests that are tangible and physical objects of biological origin other than wood. Generally includes non-wood plant and animal products collected from areas defined as forest. Specifically includes the following regardless of whether from natural forests or plantations: gum arabic, rubber/latex and resin; Christmas trees, cork, bamboo and rattan (FRA 2015 Terms and definitions, FAO 2012).

Old growth forest. Old growth forest stands are stands in primary or secondary forests that have developed the structures and species normally associated with old primary forest of that type.

Other wooded land (OWL): Land of more than 0.5 ha not classified as a forest. It has a canopy cover of 5 % to 10 %, comprising trees able to reach a height of 5 metres at maturity in situ; or with a combined cover of shrubs, bushes and trees. It does not include land that is predominantly under agricultural or urban use (FAO - Global Forest Resources Assessment 2015 Terms and Definitions Working Paper 144/E Rome 2012).

Outbreak of insects: A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects (FRA 2015 Terms and definitions, FAO 2012)

Planted forests: Forest predominantly composed of trees established through planting and/or deliberate seeding. (FRA 2015 Terms and definitions, FAO 2012)

Primary forest: Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. Some key characteristics of primary forests are:

- they show natural forest dynamics, such as natural tree species composition, occurrence of dead wood, natural age structure and natural regeneration processes;
- the area is large enough to maintain its natural characteristics;
- there has been no known significant human intervention or the last significant human intervention was long enough ago to have allowed the natural species composition and processes to have become re-established (FRA 2015 Terms and definitions, FAO 2012).

Priority habitat types: Natural habitat types in danger of disappearance, which are present on the European territory of the Member States and for the conservation of which the Community has particular responsibility in view of the proportion of their natural range which falls within the European territory of the Member States. Such habitat types are marked with an asterisk in Annex I of the Habitats Directive.

Priority species: Species for the conservation of which the Community has particular responsibility in view of the proportion of their natural range which falls within the European territory of the Member States. Such species are marked with an asterisk in Annex II of the Habitats Directive.

Reforestation: Re-establishment of forest through planting and/or deliberate seeding on land classified as forest. Implies no change of land use (FRA 2015 Terms and definitions, FAO 2012).

Semi-natural forest: Forest/Other wooded land of native species, established through planting, seeding or assisted natural regeneration. It includes areas under intensive management where native species are used and deliberate efforts are made to increase/optimize the proportion of desirable species, thus leading to changes in the structure and composition of the forest; naturally regenerated trees from other species than those planted/seeded may be present; may include areas with naturally regenerated trees of introduced species; includes areas under intensive management where deliberate efforts, such as thinning or fertilizing, are made to improve or optimise desirable functions of the forest. These efforts may lead to changes in the structure and composition of the forest (FRA 2005 Terms and definitions, FAO 2000).

Site of Community Importance (SCI): A site which, in the biogeographical region or regions to which it belongs, contributes significantly to the maintenance or restoration at a favourable conservation status of a natural habitat type in Annex I of the Habitats Directive or of a

species in Annex II and may also contribute significantly to the coherence of Natura 2000, and/or contributes significantly to the maintenance of biological diversity within the biogeographic region or regions concerned. The lists of sites of Community importance are adopted by Commission decisions. They can be consulted at:

http://ec.europa.eu/environment/nature/natura2000/sites_hab/biogeog_regions/index_en.htm

Special area of conservation (SAC): A site of Community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated.

Special protection area (SPA): Area classified by a Member State according to Article 4.1 of the Birds Directive and belonging to the most suitable territories in number and size for the conservation of the species mentioned in Annex I of that Directive and of regularly occurring migratory species not listed in that Annex.

Species of Community interest: Species which, within the European territory of the Member States are: endangered, except those species whose natural range is marginal in that territory and which are not endangered or vulnerable in the Western Palaearctic region; or vulnerable, i.e. believed likely to move into the endangered category in the near future if the causal factors continue operating; or rare, i.e. with small populations that are not at present endangered or vulnerable, but are at risk. The species are located within restricted geographical areas or are thinly scattered over a more extensive range; or endemic and requiring particular attention by reason of the specific nature of their habitat and/or the potential impact of their exploitation on their habitat and/or the potential impact of their exploitation on their conservation status. Such species are listed in Annex II and/or Annex IV or V of the Habitats Directive.

Species of European importance: For the purpose of this document such species include the species of Community interest (see above) and bird species included in Annex I of the Birds Directive and other migratory species with regular presence in the EU territory which require the designation of Special Protection Areas in accordance with this directive.

Sustainable forest management: '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' (Ministerial Conference on the Protection of Forests in Europe, Helsinki 1993).

ACRONYMS

EAFRD: European Agricultural Fund for Rural Development

EC: European Commission

EEA: European Environment Agency

EFFIS: European Forest Fire Information System

EIA: Environmental Impact Assessment

ERDF: European Regional Development Fund

ESF: European Social Fund

FAO: Food and Agriculture Organisation of the United Nations

FRA: Forest Resource Assessment Programme of the FAO

FSC: Forest Stewardship Council

GIS: Geographical Information System

LIFE: EU's Programme for the Environment and Climate Action

MCPFE: Ministerial Conference on the Protection of Forests in Europe, also known as Forest Europe.

MS: Member States of the European Union

NGO: Non-governmental organisation

OWL: Other wooded land

PEFC: Programme for the Endorsement of Forest Certification

RDP: Rural Development Programme

SAF: Society of American Foresters

SEA: Strategic Environmental Assessment

SFM: Sustainable Forest Management

SDF: Standard Data Form, format for the transmission of information on the Natura 2000 sites

ANNEX 2

List of forest habitat types and species of Community interest that require the designation of special areas of conservation and/or which require strict protection in accordance with the Habitats Directive, and bird species that shall be the subject of special conservation measures in accordance with the Birds Directives

Forest habitat types and their conservation status (CS) per biogeographical region

Legend: FV Favourable; XX Unknown; U1 Unfavourable-Inadequate; U2 Unfavourable-Bad

* Priority habitat

Habitat type	CS in each biogeographical region (2007-2012)								
	ALP	ATL	BLS	BOR	CON	MAC	MED	PAN	STE
9010 - *Western Taiga	U1			U2	U2				
9020 - *Fennoscandian old broad-leaved deciduous forests				U2	U2				
9030 - *Nat forests of primary succession of landupheaval coast				U1					
9040 - Nordic subalp/subarctic forests <i>Betula pub. ssp czerepavoni</i>	FV			U1					
9050 - Fennoscandian herb-rich forests with <i>Picea abies</i>	U1			U2					
9060 - Conif. forests on, or connected to, glaciofluvial eskers				U2					
9070 - Fennoscandian wooded pastures	U2			U2	U2				
9080 - *Fennoscandian deciduous swamp woods				U2	U2				
9110 - <i>Luzulo-Fagetum</i> beech forests	U1	U1		U2	U1		FV	U1	
9120 - Atlantic acidophilous beech forests with <i>Ilex</i>	U1	U1			FV		U2		
9130 - <i>Asperulo-Fagetum</i> beech forests	U1	U1		U2	U1		FV	FV	
9140 - Medio-Europ. subalp. beech woods <i>Acer & Rumex arifolius</i>	U1				XX		FV		
9150 - Medio-European limestone beech forests	U1	U1	U1		U1		U2	FV	
9160 - Sub-Atlantic and medio-Europ. oak/oak-hornbeam forests	U2	U2		U2	U1		XX		
9170 - <i>Galio-Carpinetum</i> oak-hornbeam forests	U1	U2	FV		U1			U2	
9180 - * <i>Tilio-Acerion</i> forest of slopes, screes and ravines	U1	U2	U1	U2	U1		U1	U1	
9190 - Old acidophilous oak woods with <i>Q. robur</i> on sandy plain		U2		U2	U2			U1	
91A0 - Old sessile oak woods with <i>Ilex & Blechnum</i> in British Isl.		U2							
91AA - *Eastern white oak woods	XX		U1		U2		U2		U1
91B0 - Thermophilous <i>Fraxinus angustifolia</i> woods					U2		U1		
91BA - Moesian silver fir forests	U1				U1				
91C0 - *Caledonian forest									
91CA - Rhodope and Balkan Range Scots pine forests	U1				U1				
91D0 - *Bog woodland	FV	U2		U1	U1	U1		U1	
91E0 - *Alluvial forests with <i>Alnus glutinosa & F. excelsior</i>	U2	U2	U1	U2	U2		U1	U1	
91F0 - Riparian mixed forest of <i>Quercus robur, Ulmus laevis...</i>	U2	U1	U1	U2	U2		U2	U1	U1
91G0 - *Pannonic woods with <i>Q. petraea & Carpinus betululus</i>	U1		U1		U1			U1	
91H0 - *Pannonian woods with <i>Quercus pubescens</i>	U2		U2		U1			U1	
91I0 - *Euro-Siberian steppic woods with <i>Quercus</i> spp.	FV		U1		U1			U2	U2
91J0 - * <i>Taxus baccata</i> woods of the British Isles		U2							

Habitat type	CS in each biogeographical region (2007-2012)								
	ALP	ATL	BLS	BOR	CON	MAC	MED	PAN	STE
9430 - Subalpine and montane <i>Pinus uncinata</i> forests	U1				EV		U2		
9510 - *Southern Apennine <i>Abies alba</i> forests	U1						U1		
9520 - <i>Abies pinsapo</i> forests							U1		
9530 - *(Sub-)Mediterranean pine forest with endemic black pine	U1				U1		U1		
9540 - Mediterranean pine forests with endemic Mesogean pines					U2		U1		
9550 - Canary endemic pine forests						EV			
9560 - *Endemic forests with <i>Juniperus</i> spp.	U1	XX			U1	U1	U2		
9570 - * <i>Tetraclinis articulata</i> forests							U1		
9580 - *Mediterranean <i>Taxus baccata</i> woods		U1					U2		
9590 - * <i>Cedrus brevifolia</i> forests (<i>Cedrosetum brevifoliae</i>)							EV		
95A0 - High oro-Mediterranean pine forests	U1						U1		
6310 - Dehesas with evergreen <i>Quercus</i> spp.							U2		
6530 - *Fennoscandian wooded meadows				U2	U2				
2180 Wooded dunes of Atlantic, Continental and Boreal region		U1	U1	U2	U1				
2270 *Wooded dunes with <i>Pinus pinea</i> and/or <i>Pinus pinaster</i>				U2	EV		U1		

List of species associated with forests included in Annex II and Annex IV of the Habitats Directive⁸⁹

* : Priority species

Mammals

Barbastella barbastellus (II, IV)

**Bison bonasus* (II, IV)

**Canis lupus* (II, IV)

Capra aegagrus (II, IV)

Castor fiber (II, IV)

**Cervus elaphus corsicanus* (II, IV)

Dryomys nitedula (IV)

Felis silvestris (IV)

**Gulo gulo* (II)

Lynx lynx (II, IV)

**Lynx pardinus* (II, IV)

Microtus tatricus (II, IV)

Muscardinus avellanarius (IV)

Myotis bechsteinii (II, IV)

Myotis bradtii (IV)

Myotis capaccinii (II, IV)

Myotis daubentonii (IV)

Myotis myotis (II, IV)

Myotis nattereri (IV)

⁸⁹ This list contains a selection of the most relevant species associated with forests, based on the EU 2010 Biodiversity Baseline – Appendix III (Allocation of species for each ecosystem). It should be noted that some other species may also depend on forests in certain regions or as a part of their habitat.

Nyctalus azoreum (IV)
Nyctalus lasiopterus (IV)
Nyctalus leisleri (IV)
Nyctalus noctula (IV)
Ovis gmelini musimon (II, IV)
Pipistrellus maderensis (IV)
Pipistrellus nathusii (IV)
Pipistrellus pipistrellus (IV)
Pipistrellus pygmaeus (IV)
Plecotus auritus (IV)
Plecotus teneriffae (IV)
**Pteromys volans* (II, IV)
Rhinolophus blasii (II, IV)
Rhinolophus euryale (II, IV)
Rhinolophus ferrumequinum (II, IV)
Rhinolophus mehelyi (II, IV)
Rousettus aegyptiacus (II, IV)
**Ursus arctos* (II, IV)
Sciurus anomalus (IV)
Sicista betulina (IV)
Tadarida teniotis (IV)
Vespertilio murinus (IV)

Amphibians

Alytes cisternasii (IV)
Alytes obstetricans (IV)
Bombina bombina (II, IV)
Bombina variegata (II, IV)
Bufo calamita (IV)
Discoglossus montalentii (II, IV)
Discoglossus sardus (II, IV)
Pelobates cultripedes (IV)
Rana arvalis (IV)
Rana dalmatina (IV)
Rana graeca (IV)
Rana latastei (II, IV)
Rana lessonae (IV)
Salamandra atra (IV)
Salamandra lanzai (IV)
Salamandrina terdigitata (II; IV)
Triturus carnifex (II, IV)
Triturus cristatus (II, IV)
Triturus dobrogicus (II)
Triturus italicus (IV)
Triturus karelinii (IV)
Triturus marmoratus (IV)
Triturus montandoni (II, IV)
Triturus vulgaris ampelensis (II, IV)

Reptiles

Algyroides fitzingeri (IV)
Algyroides marchi (IV)
Algyroides moreoticus (IV)
Algyroides nigropunctatus (IV)
Chalcides sexlineatus (IV)
Chalcides viridianus (IV)
Chamaeleo chamaeleon (IV)

Elaphe longissima (IV)
Lacerta danfordi (IV)
Lacerta vivipara pannonica (IV)

Invertebrates

Agathidium pulchellum (II, IV)
Anthrenochernes stellae (II, IV)
Apatura metis (IV)
Aradus angularis (II)
Arytrura musculus (II, IV)
Boros schneideri (II)
Buprestis splendens (II, IV)
**Callimorpha quadripunctaria* (II)
Carabus hampei (II, IV)
**Carabus menetriesi pacholei* (II, IV)
**Carabus olympiae* (II, IV)
Carabus variolosus nodolosus (II, IV)
Carabus zawadzskii (II, IV)
Cerambyx cerdo (II, IV)
Chilostoma banaticum (II, IV)
Corticaria planula (II)
Cucujus cinnaberinus (II, IV)
Dioszeghyana schmidtii (II, IV)
Discus guerinianus (II, IV)
Erannis ankeraria (II, IV)
Fabriciana elisa (IV)
Geomalacus maculosus (II, IV)
Graellsia isabellae (II)
Hesperia comma catena (II)
Hygromia kovacsi (II, IV)
Hypodryas maturna (II, IV)
Leptidea morsei (II, IV)
Limoniscus violaceus (II)
Lucanus cervus (II)
Mesosa myops (II)
Morimus funereus (II)
**Nymphalis vaualbum* (II, IV)
Odontopodisma rubripes (II, IV)
**Osmoderma eremita* (II, IV)
Oxyporus mannerheimii (II)
Pholidoptera transsylvanica (II, IV)
**Phryganophilus ruficollis* (II, IV)
Propomacrus cypriacus (II, IV)
**Pseudogaurotina excellens* (II, IV)
Pytho kolwensis (II, IV)
Rhysodes sulcatus (II)
**Rosalia alpina* (II, IV)
Stephanopachys linearis (II)
Stephanopachys substriatus (II)
Xestia borealis (II)
Xestia brunneopicta (II)
Xyletinus tremulicola (II)
**Xylomoia strix* (II, IV)

Plants

**Abies nebrodensis* (II)
Adenophora lilifolia (II)
**Arabis kennedyae* (II)

Armeria neglecta (II)
**Asphodelus bento-rainhae* (II)
Bryhnia novae-angliae (II)
Buxbaumia viridis (II)
Calamagrostis chalybaea (II)
Calypso bulbosa (II)
**Centaurea attica* ssp. *megarensis* (II)
**Cephalanthera cucullata* (II)
Cephalozia macounii (II)
**Chionodoxa lochiai* (II)
Cinna latifolia (II)
Culcita macrocarpa (II)
**Cyclamen fatrense* (II)
Cynodontium suecicum (II)
Cypripedium calceolus (II)
Dichelyma capillaceum (II)
Dicranum viride (II)
Diplazium sibiricum (II)
Distichophyllum carinatum (II)
Dracaena draco (IV)
**Dryopteris corleyi* (II)
Herzogiella turfacea (II)
Hymenostemma pseudanthemis (II)
**Laserpitium longiradium* (II)
Mandragora officinarum (IV)
Moehringia lateriflora (II)
Odontites granatensis (II)
Orthotrichum rogeri (II)
Paeonia clusii ssp. *rhodia* (II)
Paeonia officinalis ssp. *banatica* (II)
Plagiomnium drummondii (II)
Pulsatilla vulgaris ssp. *gotlandica* (II)
**Pyrus magyarica* (II)
Ranunculus kykkoensis (II)
Ranunculus lapponicus (II)
Rhododendron luteum (II)
**Scilla morrisii* (II)
Semele maderensis (II)
Senecio jacobea ssp. *gotlandicus* (II)
Senecio lagascanus ssp. *lusitanicus* (IV)
**Seseli intricatum* (II)
Syringa josikaea (II)
Veronica micrantha (II)

List of bird species associated with forests and pastoral woodland included in Annex I of the Birds Directive

Accipiter brevipes
Aegolius funereus
Aegypius monachus
Aquila adalberti
Aquila chrysaetos
Aquila clanga
Aquila heliaca
Aquila pomarina
Ardea purpurea
Ardeola ralloides
Bonasa bonasia

Bubo bubo
Caprimulgus europaeus
Caprimulgus ruficollis
Ciconia colonia
Ciconia nigra
Circaetus gallicus
Columba bollii
Columba junoniae
Columba palumbus azoricus
Columba trocaz
Coracias garrulus
Dendrocopos leucotos
Dendrocopos medius
Dendrocopos syriacus
Dryocopus martius
Elanus caeruleus
Falco tinnunculus
Falco biarmicus
Falco eleonora
Falco peregrinus
Falco vespertinus
Ficedula albicollis
Ficedula parva
Ficedula semitorquata
Fringilla coelebs
Fringilla teydea
Glaucidium passerinum
Grus grus
Haliaeetus albicilla
Hieraaetus fasciatus
Hieraaetus pennatus
Hippolais olivetorum
Lanius collurio
Loxia scotica
Lullula arborea
Milvus migrans
Milvus milvus
Oenanthe leucura
Pandion haliaetus
Pernis apivorus
Picoides tridactylus
Picus canus
Platalea leucorodia
Plegadis falcinellus
Sitta krueperi
Sitta whiteheadi
Sylvia rueppelli
Sylvia sarda
Sylvia undata
Tetrao tetrix
Tetrao urogallus
Tringa glareola

Elaborated from: Tucker & Evans, 1997. Habitats for Birds in Europe. BirdLife International
Information about these bird species is available at:

<http://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/>

ANNEX 3: Main pressures and threats on EU forests⁹⁰

The following provides a brief summary of the main current and likely future threats and pressures on forests in Natura 2000 sites. As it can be seen, these are recognisable for many types of forests, whether or not they are in Natura 2000.

The list of threats affecting forest habitats and species is long. Available evidence suggests that many natural threats and human induced pressures may be more severe and frequent in the future than observed historically. This indicates that planning for potential threats should be encouraged. Natural threats include specific environmental drivers as well as interlinked effects such as for example storm damage and drought that could facilitate propagation of some diseases (e.g. bark beetles) (FOREST EUROPE, 2011).

The main natural threats of European forest, and forest Natura 2000 sites, are: drought, forest fires, storms, insect outbreaks, diseases, invasive alien species, and temperature increase. The main human induced pressures are: deforestation, forest fragmentation (inside and outside Natura 2000 sites), habitat loss, change of habitat quality of forest, land use and land cover change, pollutants, homogenization of forest stands (Hanski 2006, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1299308/>). A summary from literature review regarding the current situation is presented in this annex.

Natural threats/disturbances

Drought: A change in wintertime precipitation in the Mediterranean region towards drier conditions has likely occurred over 1902-2010. Evidence suggests increased drought frequency after about 1970 (Hoerling et al., 2011).

Forest fires: Every year about 400,000 ha are burnt in the five Southern Member States of the EU (representing 85% of the total EU burnt area). There is no evidence of a trend (increasing or decreasing) of burnt area in these countries between 1980 and 2012. Regarding the number of fires, after an increasing trend during the 1990s, which was also partly due to the improvement in recording procedures, the number of fires was stable for around a decade, and in the last decade a decrease was observed (European Commission, 2013). Specifically in the Natura 2000 sites every year near 80,000 ha are burned. Fire statistics from the European Forest Fire Information System (EFFIS) indicate that between the years 2000 and 2012, 1,044,917 ha of Natura 2000 sites were burnt, corresponding to 3.28% of the total Natura 2000 area in the affected countries (San-Miguel-Ayanz et al., 2012). In certain forest habitats, fire is a natural process with positive effects for biodiversity.

Storms are a serious threat to European forests, damaging and degrading forest habitats, landscape quality and forest services. Since 1950 more than 130 storms have caused serious damage to European forests with on average two major storms every year (Gardiner et al., 2010). Storms damaged 1.7% of forests in EU countries during the period 1990-2005, totalling around 2.5 million hectares of forest (FOREST EUROPE, 2011). Evidence reveals no trend (increasing or decreasing) in storm losses (after adjusting for societal factors) and confirms increasing (nominal) losses are driven by societal factors (Barredo, 2010) and increasing growing stock in forest (Gardiner et al., 2010). Storms can on the other hand also improve the conditions for biodiversity, e.g. by creating more deadwood in the forest.

⁹⁰ This text is based on the available scientific evidence of threats affecting European landscapes, and in a few cases on targeted studies addressing threats in Natura 2000 sites where available.

Forest pests and diseases: Attacks of insects and pathogen agents cause important damage to European forest resulting in a weakening of forest ecosystem health and vitality and limiting the provision of forest services. 2.8% of EU forests were damaged during the period 1990-2005, totalling around 4.4 million hectares affected. The most affected region was South-West Europe with 13.4% (1.7 million hectares) of the forest area affected (FOREST EUROPE, 2011). The spread of certain pests and diseases may be favoured by inappropriate management such as afforestation with tree species that are not adapted to the site, excessive stand densities

Invasive alien species: Invasive alien species (IAS) represent a major threat to forest Natura sites and their biodiversity. Globalisation (more international trade, travels, tourism, transport of goods) and global environmental change have accelerated the spread of invasive species in Europe. IAS are plants, animals, fungi and microorganisms whose introduction and/or spread outside their natural habitat pose a risk to biodiversity or have other negative effects on ecosystems. The list of the worst IAS includes 163 species threatening ecosystems in Europe. Despite the limitations of this indicator it shows that since 1950 more than one species per year of this list has become established in Europe (EEA, 2012a).

Temperature rise and climate change: Observational evidence suggest an increase in temperature of 1.3°C between pre-industrial times and the decade 2003-2012 in Europe. Large warming has been observed in the past 50 years over the Iberian Peninsula, central and north-eastern Europe, and in mountainous regions. In the last three decades, warming was strongest over Scandinavia, especially in winter, whereas the Iberian Peninsula warmed mostly in summer (Haylock et al., 2008; Morice et al., 2012).

Human induced pressures

Deforestation and habitat loss. Deforestation is the main cause of loss and decline of forest habitats. Habitat loss is acknowledged as the main reason of biodiversity decline in the world. Species are expected to have a threshold area which is needed to support its population, area lower of that threshold will lead to extinction of species. Etc.

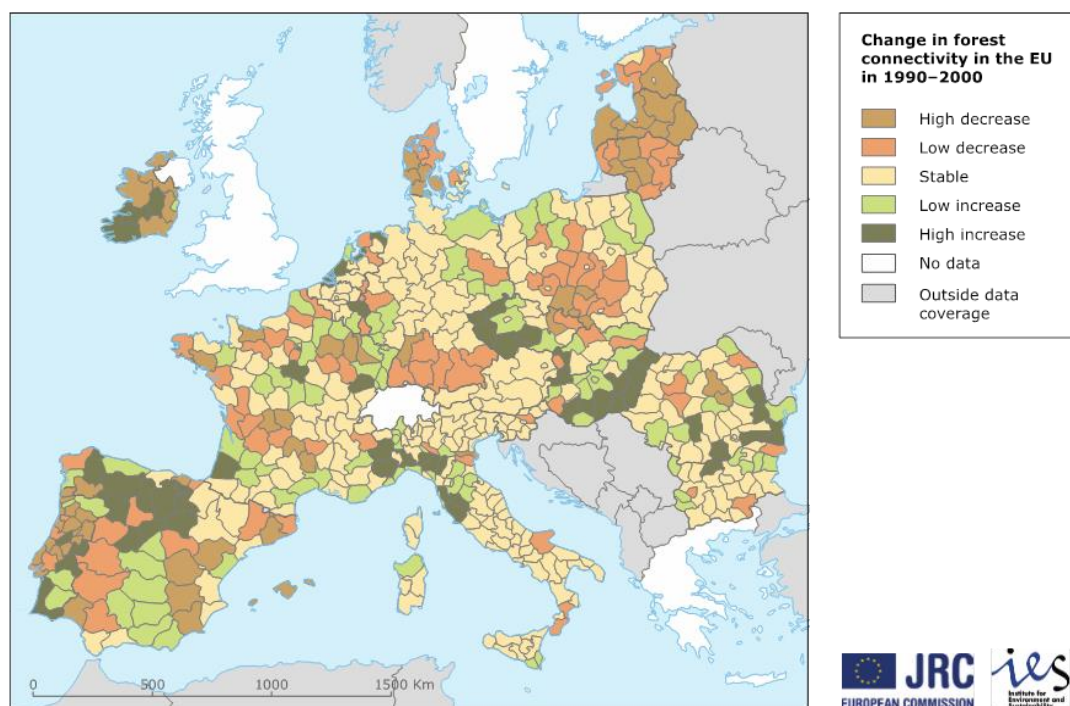
Forest fragmentation, lack of connectivity, land use and land cover conversion. Despite a continuous increase of forest land in EU countries at an annual rate of 0.4%, representing an increase of 11 million hectares between 1990 and 2010 (FOREST EUROPE, 2011), forest fragmentation and lack of connectivity remain key issues to consider across the EU. By affecting ecological processes, fragmentation has impacts on the forests' ability to provide ecosystem services such as habitat provision (gene flow, wildlife dispersal), pollination, disturbance regulation (e.g. pest propagation) and climate regulation. Forest fragmentation (inside and between Natura 2000 sites) is a local process driven by human activity such as clearing for roads, urban settlements or intensive agriculture or due to forest fires. Landscapes with poorly connected woodlands represent 70% of the European territory (Estreguil et al., 2012; Estreguil et al., 2013). 40% of European forest lands are within a 100m distance from other lands, thus potentially less suitable as interior habitat. Forest edges are mainly along intensive land uses. 40% of woodlands are within a km squared mosaic landscape together with other natural/semi-natural lands, agriculture and artificial lands. The continuity of forest habitats but also, the spatial and functional connectivity between natural protected and unprotected areas, play a role in enhancing the coherence of Natura2000 forest spaces. When focusing on landscapes with a forest area gain, it has been reported that new forest areas do not always enhance connectivity; this points at the need for a landscape planning approach in tandem with forest management for re/afforestation measures (Estreguil et al., 2012; Estreguil et al., 2013)

Pollutants: Air pollutants such as nitrogen, sulphur dioxide, heavy metals and ozone, when exceeding critical loads, have direct and indirect adverse effects on forest health. According to FOREST EUROPE(2011) currently the highest sulphate input is evidenced in central Europe and a few zones of the Mediterranean region. The highest atmospheric Nitrogen deposition is observed in central Europe between North Italy and Denmark, and in zones of Spain and Romania. And finally the deposition of calcium is highest in Central and Mediterranean Europe.

Unsustainable forest and land management: Unsustainable forest (and land) management practices are considered a serious pressure. Among these,, excessive removal of deadwood, deterioration of forest structure (e.g. selective removal of particular tree species or trees in a particular age), abandonment of wooded pastures, changes of the cultivation practices, inappropriate fertilisation and use of pesticides are the most important drivers (EEA, 2010).

Homogenization of forest stands. The selective removal of particular structural elements (tree species, trees of particular age, etc). Even-aged forests and mono-specific forests do not provide habitat quality for specialized forest species.

Map 2 Change in forest connectivity in the EU, 1990–2000



Note: Data from Corine Land Cover (CLC) for the years 1990 and 2000; results aggregated per provinces (Nuts 2/3).

Source: Estreguil and Mouton, 2009; Saura *et al.*, 2010.

References (Main pressures and threats on EU forests)

- Barredo, J. I. 2010. No upward trend in normalised windstorm losses in Europe: 1970-2008, *Nat. Hazard Earth Sys.*, 10, 97-104,
- Barredo, J. I., Strona, G., de Rigo, D., Caudullo, G., Stancanelli, G., and San-Miguel-Ayanz, J. 2014. Assessing the potential distribution of insect pests under current and future climatic conditions in European forests, *Proceedings of the Joint EFSA-EPPO Workshop on Data collection and information sharing in plant health Parma, Italy, 1-3 April 2014.*
- EEA 2012a. Invasive alien species indicators in Europe - A review of streamlining European biodiversity (SEBI) Indicator 10, European Environment Agency (EEA), Luxembourg.
- EEA. 2012b. The impacts of invasive alien species in Europe, European Environment Agency (EEA), Luxembourg.
- Estreguil, C., Caudullo, G., de Rigo, D., and San Miguel, J.: Forest Landscape in Europe. 2012. Pattern, Fragmentation and Connectivity - Executive report, Publications office of the European Union, Report EUR 25717 EN, Luxembourg.
- Estreguil, C., Caudullo, G., and San Miguel, J. 2013. Connectivity of Natura 2000 Forest Sites - Executive report, Publications office of the European Union, Report EUR 26087 EN, Luxembourg.
- European Commission. 2013. Forest Fires in Europe, Middle East and North Africa 2012, European Commission - Joint Research Centre and Directorate-General Environment, EUR 26048 EN, Publications Office of the European Union, Luxembourg.
- European Commission. 2014. Climate Impacts in Europe - The JRC PESETA II Project, European Commission - Joint Research Centre, JRC Scientific and Policy Reports, Publications Office of the European Union, Luxembourg,
- Feser, F., Barcikowska, M., Krueger, O., Schenk, F., Weisse, R., and Xia, L.: Storminess over the North Atlantic and Northwestern Europe - A Review, *Quarterly Journal of the Royal Meteorological Society*, in press, 2014.
- FOREST EUROPE - UNECE - FAO. 2011. State of Europe's Forests 2011 - Status and Trends in Sustainable Forest Management in Europe., FOREST EUROPE, UNECE and FAO, Oslo.
- Gardiner, B., Blennow, K., Carnus, J.-M., Fleischer, P., Ingemarson, F., Landmann, G., Lindner, M., Marzano, M., Nicoll, B., Orazio, C., Peyron, J.-L., Reviron, M.-P., Schelhaas, M.-J., Schuck, A., Spielmann, M., and Usbeck, T. 2010. Destructive Storms in European Forests: Past and Forthcoming Impacts, European Forest Institute, Atlantic European Regional Office - EFIATLANTIC, Final report to European Commission - DG Environment.
- Haylock, M. R., Hofstra, N., Klein Tank, A. M. G., Klok, E. J., Jones, P. D., and New, M. 2008. A European daily high-resolution gridded data set of surface temperature and precipitation for 1950–2006, *Journal of Geophysical Research: Atmospheres*, 113, D20119,.
- Hoerling, M., Eischeid, J., Perlwitz, J., Quan, X., Zhang, T., and Pegion, P. 2011. On the Increased Frequency of Mediterranean Drought, *J. Climate*, 25, 2146-2161.

Morice, C. P., Kennedy, J. J., Rayner, N. A., and Jones, P. D. 2012. Quantifying uncertainties in global and regional temperature change using an ensemble of observational estimates: The HadCRUT4 data set, *Journal of Geophysical Research: Atmospheres*, 117, D08101.

Netherer, S., and Schopf, A. 2010. Potential effects of climate change on insect herbivores in European forests - General aspects and the pine processionary moth as specific example, *Forest Ecology and Management*, 259, 831-838,

San-Miguel-Ayanz, J., Durrant, T., Boca, R., and Camia, A. 2012. Forest Fire Damage in Natura 2000 sites 2000-2012 - Executive report, European Commission - Joint Research Centre, EUR 25718 EN, Publications Office of the European Union, Luxembourg.

Vautard, R., Gobiet, A., Sobolowski, S., Kjellström, E., Stegehuis, A., Watkiss, P., Mendlik, T., Landgren, O., Nikulin, G., Teichmann, C., and Jacob, D. 2014. The European climate under a 2°C global warming, *Environmental Research Letters*, 9, 034006.

