

# General Introduction



***Why are woodland areas and veteran trees important for European biodiversity? One of the main reasons is that land with trees growing on it made up a large proportion of the area of Europe in the past. Frequently forests were seen as the climax vegetation type, i.e. that which developed naturally as the ice retreated at the end of the last ice age. Even before that, forests and trees were present in Europe during the preceding interglacial periods, and probably survived in the south during ice ages. Considering the wide geographic coverage by natural forests and their long history in Europe, it is not surprising that countless European species have become adapted to a tree-covered environment.***

*A pollarded  
Fagus sylvatica  
tree, Sierra Irati,  
Spain.  
(Photograph:  
Helen Read).*

Recent debate has considered the relative density of trees within these primeval woods or wildwoods. Was this a dense and dark forest with little sun light reaching the ground between the trees or did it consist of scattered trees in open grassland, maintained by large wild herbivores? (see Rackham 1998 and Vera 2000 for a longer discussion about this) This question has not been fully solved yet, but it seems likely that, the type and density of tree cover in the past was very variable between different parts of Europe.

The wildwood that covered much of Europe has been altered substantially by the hands of humans. In many areas extensive clearance was carried out in order that the land could be used for growing arable crops, and today it is estimated that more than half of Europe's original forests have been lost. This destruction of forests started a very long time ago and has continued until recently. For example, already by the end of the Iron age approximately 50% of the former woodland in Britain had been felled. The clearance has continued so that only 10% of the original woodland is now left. Today, the total forest covered area of Europe has become relatively stable (FAO 1999); but fragmentation of forested areas still continues, mainly through building and development.

To a large extent, the reduction in woodland area has been followed by an internal process of biological



degradation within the remaining forests. This has mainly happened as a consequence of human management, especially for commercial timber production. This management may have changed the tree species composition, the structure of the woodland or the structure of the trees. Management by humans in the past may or may not be the same as present day management and, some areas formerly managed may now be neglected. Few areas remain comparatively untouched by the human hand and some of these are discussed in the article by Jill Butler, Francis Rose and Ted Green.

The result of this development may be exemplified by figures found in the Red Data Book of Denmark: Even though forests today cover only 12% of the country's area, forest is the main habitat of more than 50% of Denmark's Red Data Book species. These figures undoubtedly reflect the former importance of forests as the dominant vegetation type in the country and its subsequent decline in area as well as the degradation of biological quality in the remaining forests.

The same pattern is apparent all over Europe, where a large number of species are threatened by forest

fragmentation and the destruction of forest habitats. A long list of forest-living species and forest habitats are now included in the European response to the Rio Convention on Biodiversity and are protected by EU law in Natura 2000 sites. The article by Karsten Thomsen looks in more detail at the biological importance of woodland areas.

One aspect of natural forests which was overlooked for a long time was the high density of very old trees and also decaying or dead trees and dead wood. Only in recent years, has an understanding of the importance of veteran trees as habitats themselves emerged among nature conservationists. Today, it is recognised that ageing trees in the vicinity of existing veteran trees may be crucial for the survival of many other species dependent on them. Even in open landscapes, single veteran trees may support wildlife in a number of ways. The chapters in the second section of this book provide examples of veteran tree management in several European countries. Neville Fay highlights the issue of human safety, risks and liability when managing veteran trees in his article, and that by Vikki Forbes analyses the costs and benefits of managing a site with veteran trees.

One way to reverse the negative development of European forests is to ensure that more forested areas are protected. However, it must be recognised that forests are also important for their products, and wood remains a versatile and environmentally friendly raw material compared to most alternatives. While traditional, small scale management methods such as coppicing have declined, timber is still an essential item for making paper, chipboard and fibre board and of course for building and furniture making. Europe's annual production of industrial round-

wood is approximately 370 million m<sup>3</sup>, corresponding to around 25% of the world's total roundwood production (FAO 1999). Fortunately, even in forests where timber production is the main function, the wildlife value of the area can still be enhanced. One way to substantially improve conditions for forest wildlife is to choose nature-friendly forestry methods. The principles of close-to-nature forestry, which may be applied in most European forests, are described by Michael Krüger Jacobson in his article.

Another activity that has frequently conflicted with aims of nature conservation is game shooting. Thomas Holst Christensen looks at the integration of biodiversity and game management, and describes game management methods that benefit wildlife as well as the game.

The integration of nature conservation issues into general forest management planning may be carried out at several levels and is described by Anne-Sofie Forfang. Of course, the first step needed in order to conserve existing biological 'hot spots' is to locate them. Key biotope registration and nature value assessment are two methods which may be used for mapping valuable or rare habitats in a systematic, yet efficient, way. The article by Karina Kitnæs and Anne-Sofie Forfang presents these methods and their potential uses.

#### IMPORTANT TERMS

Woodland types, the methods of management and the resulting tree and woodland structure takes various forms across Europe. Correspondingly, a multitude of words have been used to refer to tree covered land and to tree management types. As the use of



*Coppice with standards, Bradfield Wood, UK. A wide range of tree species are coppiced in this wood including hazel and wych elm. The standard trees are mostly oak. A young standard can be seen on the left of the picture and an older one to the right. Coppicing has been carried out in these woods since at least 1252. (Photograph: Helen Read).*



Wood-pasture at  
Sierra Andía,  
Spain.  
(Photograph:  
Helen Read).

English has spread from England across Europe and the rest of the world, some terms have become adapted to have slightly different meanings in other countries. The result can, at times, be confusing! Below we will try to clarify some of these.

#### Woodland types

- **Woodland** is a general term for land covered mainly with trees. It includes naturally occurring as well as planted trees, managed as well as un-managed areas. However, when used in England, the term 'woodland' includes individual woods or stands of trees but does not include plantations or wood-pastures.

- **Forest** is today a standard international term for land covered by trees. Thus, in this book both the words 'forest' and 'woodland' are used interchangeably. However, in Britain the term Forest is often used in its original, very specific meaning, and is an area of land where the King (or other important person) had the right to keep deer. The Forest might include wooded land but also had open areas (see the chapters on the New Forest and Hatfield Forest as examples).

- **Wood-pasture** is land with trees that is systematically grazed by domestic animals or deer. The density of trees can vary between dense woodland and fairly open grassland with scattered trees. Typically this structure consists of large open-grown or pollarded trees at various densities, in a matrix of grazed grassland, heathland and/or woodland florae.

A **park** is traditionally (in UK) an enclosure for keeping deer, surrounded by a pale or fence. Often it is wood-pasture with a low density of trees.

Both wood-pastures and parkland are the products

of historic land management systems and represent a vegetation structure rather than being a specific plant community.

- **Wildwood** is the woodland that naturally developed after the last ice age, unaffected by Neolithic or later civilisations. It no longer occurs in most (any?) European countries.

- **Primary Woodland** sites are those that have been continuously wooded back to the original forest cover

- **Ancient woodland** refers to land that has been continuously covered by trees since the end of the last ice age, right up until today. In England, woodland known to have existed continuously since 1600 is termed ancient woodland because before this time there was very little planting of woods. Throughout this book, the term is used in the same meaning to cover all of Europe, however the exact date of 1600 may not apply to all countries. The hallmark of these forests is their long forest continuity, not their structural naturalness - they may have been intensively managed or left untouched. Types of ancient woodland include:

- **Semi-natural ancient** woodland are stands of ancient woodland that do not obviously originate from planting and contain native species.

- **Ancient replanted** woodland are ancient woodland sites with obviously planted woodland of a broadleaved, mixed or coniferous type.

- **Native Woodland** is long-established woodland of a semi-natural origin. These are likely to be ancient but this cannot be proven by map evidence.

- **Natural woodland/forests** are forests in which spontaneous processes have been allowed to occur for a sufficiently long period for them to have devel-

oped a range of natural structures, including old and dead trees, dead wood, and spontaneously regenerating trees and shrubs of various ages. The forests have either been left untouched or used very extensively and gently over a long period of time, typically at least a century. (See Peterken 1996).

#### Terms connected with timber production

- **Plantations** are areas of planted trees that are managed for their timber.
- **Forestry** and **silviculture** are words describing methods of timber production.
- **Traditional forestry** is a form of forestry where the trees are grown in homogenous, single-species and even-aged stands, and where larger patches of forest are cut down simultaneously (clear felled). Typically, the trees are planted, and exotic species (of conifer) often used to a large extent.
- **Close-to-nature** forestry is a form of forestry that mimics natural processes of forests in the nemoral zone. The hallmarks of this kind of forestry are the predominant use of native species, encouragement of mixed stands, use of natural regeneration, and the cutting of single trees (selective felling), which preserves a permanent tree cover.
- **Timber** is large pieces of wood, used for making planks and beams, deriving from the trunk of a tree.
- **Wood** is the substance of which the trunks and branches are made, which is cut and used for various purposes. However, in England wood was traditionally the smaller branches either still growing or cut from a tree. Wood was traditionally produced as a result of **coppicing**, **pollarding** or **shredding**.

#### Traditional methods of producing wood for domestic use

- **Coppicing** is the cutting of a tree at ground level; from the stump of the tree or shrub grow straight branches that were used in the past for many purposes from firewood, hurdle making and thatching to using the bark for tanning leather. Some standard trees (or maidens) were traditionally grown in the

coppice plots as timber trees.

- **Pollarding** is similar to coppicing but the trees are cut regularly at sufficient height above the ground so that animals can be grazed around the trees and new branches grow without any danger of being browsed.
  - **Shredding** is the cutting of the side branches of a tree so that the main trunk remains.
- The techniques of coppicing, shredding and pollarding can be found across Europe but with many variations in the exact methods, shape of the tree and frequency of occurrence.
- **Ancient/veteran/old** are all terms used interchangeably here for trees that are of importance biologically, culturally or aesthetically because of their age •

#### REFERENCES

- FAO** (1999): The state of the world's forests.
- Peterken, G. F.** (1996). Natural Woodland. Cambridge University Press, Cambridge.
- Rackham, O.** (1990). Trees and Woodland in the British Landscape. (Revised edition). Dent, London.
- Rackham** (1998). Savanna in Europe. In: *The Ecological History of European Forests*. (Ed. by K.J. Kirby & C. Watkins). pp.1-24. CAB International. Wallingford.
- Smith, G. & Gillett, H.** (Eds.) (2000). European Forests and Protected Areas: Gap analysis. Technical report. UNEP World Conservation Monitoring Centre, Cambridge.
- Vera, F.V.M.** (2000). Grazing ecology and forest history. CAB, Wallingford.

HELEN READ

Corporation of London, Burnham Beeches office, Hawthorn Lane,  
Farnham Common, Bucks, SL2 3LE, U.K.  
E-mail: helen.read@corpoflondon.gov.uk

ANNE-SOFIE FORFANG

M.S.C. Biologist, NEPCon-Nature, Ecology and People Consult  
Odensegade 4B, P.O.BOX 5102, DK-8100 Aarhus C.  
E-mail: asf@nepcon.dk

