

Forest scenes

Forests and forestry in Hungary

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Hungary is a small Central-European country of 93,000km² located in the middle of the Carpathian-basin. The evolution of its natural vegetation has influenced by the ice ages and geological characteristics of the region but it was finalized by human activities in the last few centuries. At present with about one-fifth forest cover, Hungary belongs to the less forested countries in Europe. Nearly 20% of the country is covered by different tree species, which equates to 1,836,429ha of forested land.

When Hungarians first inhabited the Carpathian-basin about 1000 years ago, the forest cover was around 70%. This percentage decreased during the centuries and fell to a low of 11.8% in 1930. The present forest cover (19.7%) is the result of extensive afforestation activities up to this day with the vast majority of new forests having been established on agricultural land of low productivity. The National Forest Plantation Program was launched in 1997 and it is still progressing with about 12,000ha of new forest being planted each year.

More, than half of the forests are considered natural, or semi natural forest, even if because of the long history of human activities no virgin forest can be found in Hungary. About 20% are covered by plantations (mainly fast growing species, e.g. Poplars) and the remaining 27% consist of introduced species (e.g. *Robinia pseudoacacia*).

Broad-leaved species dominate Hungarian forests with the most common being different oak species (*Quercus* spp., 31.9%), followed by an introduced species (*Robinia pseudoacacia*, 22.6%), poplars (*Populus* spp., 10.3%) and beech (*Fagus sylvatica*, 6.0%). Conifers are considered as introduced species, covering about 13.3% of the forested land (Fig. 1.).



Fig 2 Upland beech forest in winter

The most characteristic feature of the Hungarian forests is the wide variety broad-leaved tree species forming a mixed, usually multistory stand.



Fig 3 Mixed forest

Hungarian forests have multipurpose functions and although the main function is wood production (64.2%), the importance of other benefits such as recreation and conservation is increasing. There is also a large amount of protection forest (34.4%). The remaining 1.4% has other functions such as education, research or even health protection. The function of the forest is related in part to its conservation status. About 7% of the total area of the country is under protection (using four categories: national parks, landscape protection areas, nature protection areas and locally protected areas). Half of those are on forested land. This means, that 20% of the forested land (387,000ha) is protected at different protection stages (e.g. management restrictions, protected, strictly protected areas).

Ten National Parks and 71 Forest Reserves are the main tools for nature conservation in forested areas. Among valuable, and

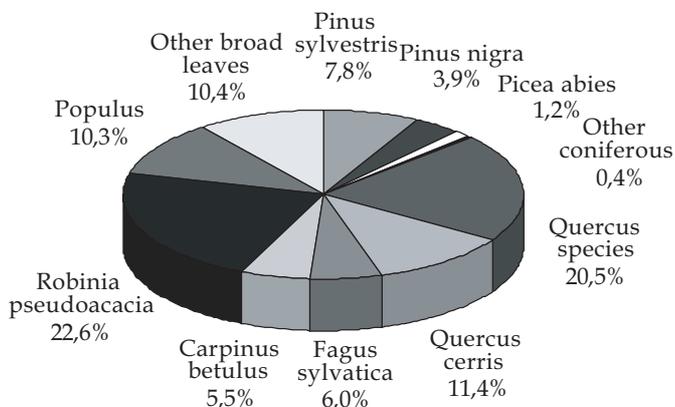


FIGURE 1 Tree species composition of Hungary

of course sometime endangered, forest ecosystems are marsh and floodplain forests, some types of mixed oak stands and the mountain beech forests. In the core zone of the forest reserves (est. 1993), all kind of management activities are prohibited, while in the buffer zone usually strict restrictions are in effect to keep the continuous forest cover.

Forest health is one of the major concerns of forestry professionals in Hungary and there are several monitoring systems running to evaluate the health conditions of the entire forested land. One of the main activities Hungary has been actively participated in is the ICP Forestry (International Cooperative Program on the Assessment and Monitoring of Air Pollution Effects on Forests). Results indicate that air pollution is not the main reason for tree dieback over the last 20 years. Climatic factors, like dry and hot summers contributes significantly to the reduction of the tree's fitness and therefore to the appearance of secondary damages. Different biotic agents like insects (e.g. gypsy moth (*Lymantria dispar*), bark beetles and other insect outbreaks) or pathogens (e.g. *Sphaeropsis sapinea*, *Phytophthora* spp. or *Cryphonectria parasitica*) are more commonly the cause of tree mortality.



Fig 4 Lowland beech forest in spring

The Hungarian forest was the subject of privatization in the early 90's with the aim of eliminating, or at least reducing, the drawbacks of collectivization suffered in the 1950's. The ownership of the forested land is at present 57.0% owned by the state, 36.8% is private property, 0.8% is in corporate ownership and the ownership of the remaining 5.4% is not clear as sometimes it is hard to find out to whom the property is belonging after the radical changes in land ownership seen

in the country. One of the main challenges for the present government is to put all unite these freeholders under a joint venture for the forest management. The recent estimates put the total number of new forest owners as high as 250,000, while the area of the forests in private ownership is estimated to 700,000ha (the average property size is less than 3ha).

In order to maintain state-owned forests, the state forest companies were put under the sphere of management of the State Assets Handling Joint-Stock Company (est. 1992), which is responsible for the enterprises that should be kept either in state ownership or with majority state holding (e.g. forest companies). The companies themselves were also transformed into joint-stock companies with majority state shares. The privatization has affected not only the forestry, but also different forest industries. Most of the timber harvesting is now carried out by entrepreneurs, former employees of the state forest companies. Usually the companies have even sold their equipments (used for felling, logging and transporting) to these people.

Are Hungarian forest sustainable managed? One would have to say yes, because both the total growing stock (2004: 334.3 million m³) and the annual increment (2004: 12.5 million m³) of the country's forests has been increased over the last decades. All forest owners (even the state owned joint-stock companies) have to manage their properties following the regulations of the forestry management plans, which are compiled by the state-authorized personals of the Hungarian State Forest Service.

The allowable annual cut prescribed by the management plan is 7.3 million m³ (2003). Usually the actual cut is less than the prescribed one; it was 7.086 million m³ standing (5.784 million harvested m³) in the year 2003. 52% of this volume is used by the wood industry producing furniture, building materials, pulp and paper. The remaining 48% is used as firewood.

Hungary exports mainly processed wood products and firewood (annual income approx. €1,000 million 2003) but also needs to import timber for the building industry at an annual costs of approx. €1,500 million (2003) but Hungary consumes much less timber per capita (0.157 m³), than the European average (0.330 m³).

In addition to the wood industry, one of the main beneficiaries of the diverse forests are the hunters. Hungary is famous for its game animals, like deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*) or wild pig (*Sus scrofa*) but there are some introduced species too (e.g. argali *Ovis ammon*, and fallow deer *Dama dama*), which occur usually in higher number than native game animals leading to conflicts between hunters, forest managers and nature conservationists.

Ensis: an arranged marriage or a tale of trans Tasman love?

By **Glen Kile**, Executive Director, Forest and Wood Products Research and Development Corporation, Melbourne (and a former Chief of CSIRO FFP), Australia

At the IUFRO World Congress in Brisbane in August 2005 the Presidents Discussion and the Directors Forum both focused on changes in research organizations and the ongoing competition for resources to support forest and forest industries research. One organizational change that attracted more attention than most was the formation of *ensis* a trans Tasman unincorporated joint venture between the Australian CSIRO

(formerly CSIRO Forestry and Forest Products (FFP)) and the New Zealand Crown Research Institute, Forest Research. The latter has contributed part of its resources to the joint venture and rebranded the balance as Scion. Whilst the joint venture commenced 1 July 2004 it was expanded from 1 July 2005 to incorporate all of resources of CSIRO FFP.

Ensis presently has a staff of approximately 400 full time equivalents (325 categorized as science delivery and 75 science support) and focuses on what might be considered traditional forest industries research from seed to product. It is organized into seven business units with all business units having staff in