

## **EFC Working party on the Management of Mountain Watersheds**

### **FINLAND COUNTRY PAGE**

#### **Geographical setting**

Finland has the most extensive and unspoilt natural environments in Europe. Vast forests and thousands of lakes present a striking mixture of wooded hills and water bodies. Other outstanding features of Finland's scenery are its islands as well as large peatlands in the western and northern part of the country. Watersheds are large and flat especially near the Gulf of Botnia.

In terms of phytogeography, Finland is situated in the boreal coniferous zone being the most extensively forested country in Europe. Forests cover 86 percent of its land area. Finland is located between the latitudes 60N and 70N in the Northern Europe. Its climate is, in spite of the northern location, very favourable to living conditions due to the warming effect of the Gulf Stream. The mean temperature for July in Helsinki is 17 C and that for January -6 °C, which are anomalously high for the latitude belt concerned. The climatic balance is evidently very sensitive and thus it is important to understand the environmental effects of the predicated man-made changes in the climate.

Total area of Finland is 330 000 km<sup>2</sup> being the seventh largest country in Europe and the second most northern country in the world. Finland's land border with Russia forms the eastern border of the European Union. The population is 5,2 million, 65 percent of which lives in towns or urban areas. Consequently this leads to low population density of 15,7 people per square kilometres. Within 50 years Finland has grown, from an agrarian country with a rather narrow industrial sector focusing on forest industry, to a complex market economy based country with a high standard of living.

#### **Policies**

The share on productive forests of the land area of Finland is 67 percent and if including low-productive forests the share is 76 percent. The percentage of strictly protected productive and low-productive forest is 8,2 which is 1 885 000 hectares. Most of these forests are located in Northern Finland where the State is the main land owner. That is why the Finnish Government launched a special Forest Biodiversity Programme in 2003 for Southern Finland (METSO).

METSO programme includes testing and developing new voluntary means for nature conservation, based on the recognised willingness of forest owners to safeguard biodiversity in their commercial forests. METSO Programme is one of the ways in which Finland is implementing the commitments it has made to international agreements. The most important of these are the Ministerial Conference on the Protection of Forests in Europe (MCPFE), held every five years (the last in November 2007 in Warsaw) within the EU framework; the Convention on Biological Diversity (CBD), and the United Nations Forum on Forests (UNFF). The Finnish Government made a decision in principle on the new National Forest Programme, extending until 2015, in March 2008, together with the Forest Biodiversity Programme for Southern Finland (METSO) 2008-2016.

In addition to forests, Finland is known as a country of thousand lakes and dense network of rivers. Especially at peatland dominated areas, high content of humic substances gives typical brown colour for water. In general, ecological quality of lakes and rivers is relatively good, although the Baltic Sea suffers of heavy eutrophication. As a consequence of the systematic water protection work, most of the point source pollution from industry and urban centres is under control. On the

other hand, diffuse pollution originating from agricultural areas, forests and ditched peatlands affects on the status of rivers and lakes especially in western part of the country. Discharges of significant point source activities must be controlled and monitored in accordance with the Environmental Protection Act. Finland has also implemented common European Water framework directive with the demanding goal of good ecological status of all water bodies in 2015. In November 2006, the Finnish Government approved a new set of national Water Protection Policy Outlines to 2015 in a decision-in-principle that also defines measures needed to improve water quality.

Within river basin management plans the origin and proportions of loading, e.g. that of forestry, imposed to Finnish watercourses are identified on total drainage basin scale. The estimates are based on registers on land use and soil properties of the basin, on models developed for material transport and leaching estimations, as also on material transport rates measured in different research projects and obligatory monitoring of loading. GIS software is widely used in Finnish environmental administration. Also possibilities of land use planning in decreasing the environmental impacts of diffuse loading in lakes and rivers have been lately developed in Finland.

### **Outlook**

The Government's decision-in-principle particularly stresses the need to combat eutrophication, which today is the most serious ecological problem especially in the Baltic Sea. Nutrient inputs into water bodies must be reduced, with a special focus on agriculture. In spite of recent reductions in the use of fertilizers, the widespread establishment of buffer zones, and the adoption of farming practices that reduce erosion, it is still the major threat for water bodies.

Eutrophication of water bodies is the consequence of decades of excessive nutrient loading. As a part of an environmentally sound silviculture, special attention has been given to the effects its loading on watercourses and the protection of water ecosystems. The central objective of the watercourse protection guidelines is to preserve water bodies in a good condition and also to protect the biodiversity of water ecosystems. These measures consist of preventing the leaching of nutrients and solid matter and of planning the use of machines. Special attention has been given to forest management in ground water areas. Also, when soil preparation is aimed at regeneration, lighter methods must be favoured. Nowadays all these actions, as well as the protection of biodiversity and small upstream watercourses, are essential elements of practical forestry in Finland.