

ICP - Forests: 15th Task Force Meeting in Vilnius

Symptoms of declining forests are monitored in large territories of the Europe. One of the hypothesis describing the distribution of such a symptomatic is air pollution. Therefore, many European countries have signed a Convention on Long-Range Transboundary Air Pollution in 1979. The convention has initiated 4 programmes for monitoring the effects of polluted air on various components of the environment; including International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (*ICP Forests*).

ICP Forests was established by the United Nations Economic Commission for Europe (UN/ECE) in 1985. In 1986 the Member States of the European Union (EU) agreed upon the European Union Scheme on the Pro-

tection of Forest against Atmospheric Pollution. Lithuania joined the programme in 1987. There are 35 European countries, including EU members, at the moment involved in the programme. Even though Canada and USA are not officially participating in the activities, annual reports on condition of forests in these countries are provided.

The programme is planned and co-ordinated by a Task Force under the leadership of Germany with the co-operation of a Programme Co-ordinating Centre in Hamburg, Federal Research Centre for Forestry and Forest Products (Germany), along with a Section East in Prague, Forestry and Game Management Institute (Czech Republic).

The 15th Task Force meeting was held in Vilnius on May 29-June 2. A total of 70 specialists from 27 European countries and USA participated in it. The organizing of such an important event in our small country is the recognition of the work on forest monitoring

observation plots (POP). The systematic network of 16x16 km, which covers 5669 POPs and includes over 124 thou. trees, was established in Europe, in 1991. Each country, correspondingly to its own specific needs, has established national POP network. In 1998,



which has been done by the foresters of Lithuania (we will remind of the fact that Lithuania was the first Republic of the former Soviet Union which in 1987 joined the Programme; for a long time Lithuanian specialists co-ordinated the work of forest monitoring on the western territory of the Soviet Union).

At the beginning of the meeting the Chairman of the Programme, Vice Minister of Food, Agriculture and Forestry of Germany E. Wermann joked that for the first time Task Force meeting is held in the vicinity of the center of Europe (in 1989 National Geographical Institute of France calculated that exact position of the centre of Europe is 24 km from Vilnius just off road to Molėtai). Vice Minister of the Environment Dr. I. Lazdinis addressed the meeting. In his speech he placed emphasis on the importance of forests for national economy and ecological sustainability and pointed out that economic losses due to the forest condition decline were estimated up to 50-60 million USD.

Forest monitoring programme (*ICP Forests*) is divided into three levels. Forest monitoring Level I is called **Regional Forest Monitoring**. Regional Forest Monitoring aims at collecting information on a large scale with low monitoring intensity per plot. Under the scope of the programme Level I, crown condition and the occurrence of easily identifiable damage as biotic or climatic stress are assessed annually.

Regional forest monitoring is based on forest condition assessment in statistically selected permanent

crown condition was assessed on 371 238 sample trees distributed on 17 861 plots on the different grid nets of 32 European countries. 5 695 of these plots, constituting a transnational grid of 16x16 km in 31 countries and representing 127 455 sample trees, were evaluated for the calculation of results at the European scale.

In 1994, a programme on **Intensive Monitoring of Forests Ecosystems** (Level II) was also implemented in order to develop a better understanding of the interrelationship between factors affecting forest condition including air pollution and their impact on forests. In order to achieve these objectives, intensive monitoring plots (IMP) were established in each country, where detailed research and assessment of forest ecosystems is being carried out.

There are presently 858 IMP located in 31 countries. Research is co-ordinated by Forest Intensive Monitoring Co-ordinating Institute (FIMCI) in The Netherlands.

Level III forest monitoring, which aims at more comprehensive forest ecosystem condition analysis, is not being carried out up to date.

The participants of the meeting adopted and approved the report on the forest condition in Europe. The report of Forest Intensive Monitoring Coordinating Institute - FIMCI (Netherlands) was presented as well as the reports of the chairmen of the expert panels on soil analysis (Belgium), foliar analysis (Austria), forest growth (Switzerland), deposition measurements (Swe-

den), crown condition assessment (Germany), vegetation assessment (Norway).

The crown condition assessment have revealed defoliation of various extent in all parts of Europe. This reflects the well known fact that defoliation is a results of many natural and anthropogenic factors, and not a specific symptom of a certain type of stress. The causes of defoliation reported most frequently by the countries are biotic stressors and weather conditions. However, mean defoliation of all trees has been continuously increasing since the beginning of assessments which is difficult to explain by natural factors alone. There are several clusters of high defoliation in Europe. The largest of them is situated in central Europe and coincides largely with the areas of highest depositions, were forest damage research points at air pollution as the primary cause.

Of he main tree species, *Quercus robur* has the highest mean defoliation with 27.1%, followed by *Picea abies* (19.7%), *Pinus sylvestris* (19.6%) and *Fagus sylvatica* (18.7%). In recent years, the sharpest deterioration is shown for *Quercus robur* in the Atlantic (south) region. This decline is largely attributed to insect attack in combination with other natural factors, mainly drought and fungi. Severe deterioration occurred also on *Pinus Pinaster* and *Quercus ilex* in southern Europe, where drought and insects were the primary causes for defoliation. In some regions of Italy and Spain a recent recuperation was observed due to low summer temperatures and high presentation. *Fagus sylvatica* deteriorated in the Atlantic (south), Mountainous (south) and Continental regions. Crown condition of *Picea abies* improved particularly in the main damage areas of central Europe, but recuperated recently in some parts of this region. *Pinus sylvestris* continued its recuperation observed in

the main damage areas of central Europe sins the mid 1990s. The recuperation of *Picea abies* and *Pinus sylvestris* has been ascribed to favourable weather conditions and a decrease in air pollution.

Presentations of Working Group on Remote Sensing and ad hoc Expert Group meteorology (Germany) and further cooperation were discussed.

The new member of the Scientific Advisory Groups, Mr. R. Ozolinčius (Lithuania), Mr. G. W. Erisman (Netherlands) and Mr. M. Starr (Finland) and the chairman of the Expert Pavel or Folian analysis Mr. H. Raitio (Finland) were welcomed.

The participants of the 15th Task Force meeting visited the experimental plots of the Lithuanian Forest Research Institute (Norway spruce stands planted with different initial density, intensive forest monitoring plot, a reserve forest) and Dubrava experimental and training forest enterprise. Director of the enterprise Mr. K. Šakūnas showed round the forest and acquainted the guests with the activities of the enterprise. The participants visited old capital of Lithuania - Trakai castle. During the reception in the Old Town of Vilnius they were welcomed by Minister of Environment Dr. D. Lygis. At the end of the Task Force meeting the report "Forests in regional monitoring of ecological sustainability" was presented by prof. L.Kairiūkštis.

The 15th Task Force meeting was held at the time when the book "Monitoring of Forest Ecosystems in Lithuania" was published. Being grateful for the perfect organization of the meeting participants approved the idea of the book: the care of forest condition unites European nations.

Next Task Force meeting will be held in Belgium.