Forest Condition Report in Bulgaria – 2010

A revision of the existing network for monitoring of forest ecosystems, established over 22 years in connection with the implementation of ICP Forest, was carried out in the period 2009-2010. The activities were directed to restructuring of the national large scale plots as part of a pan-European forest monitoring system. When building the new network the following items were taken into consideration:

1. The sampling plots of the new network should, as much as possible, include sampling plots, created in connection with the implementation of ICP Forest.

2. The sampling plots should include the most typical biotopes of the Bulgarian forests.

3. Part of the sampling plots should be located in protected zones of the Bulgarian ecological network and should characterize priority habitats, subject to protection.

4. The percentage distribution of the sampling plots by tree species and origin should correspond to their distribution in the forest fund of the country.

5. A necessity for exchange of the sampling plots, disturbed by various reasons – felling, wind throws, formation of a second storey from different tree species, etc.

The realization of the Program for large-scale monitoring of forests in Bulgaria in 2010 was carried out in 159 sample plots. On the basis of the percentage distribution of tree species by area, stock and origin, it was adopted to set up 69 sampling plots of coniferous tree species and 90 plots of deciduous tree species. A considerable part 62% of the sampling plots is from the network of ICP "Forests". The monitoring activities were carried out in conformity with the requirements of ICP Forest Manual.

In 2010 the assessment included 2396 coniferous trees and 3173 deciduous trees. The results regarding the indicator "defoliation" for *Pinus nigra* showed that up to 59 years of age 11.58 % of the studies trees had "0" degree of defoliation, and 49.86 % had first degree of defoliation. The state is similar in 2009. *Pinus sylvestris* also retained its condition up to 59 years of age, and in older age a small decrease of the healthy and slightly affected by defoliation trees was observed. The assessment of the observed trees of *Picea abies* showed a slight increase of the trees with "0" and "1" degree of defoliation. As a whole, a prevalence of the healthy and slightly affected by defoliation trees was determined. *Picea abies* had the best condition, followed by *Pinus nigra*. A tendency toward deterioration was not

determined even after the detection of some increase in defoliation class 1 and 2 for *Picea abies* in comparison with the condition in 2009.

Most of the damages for conifers species are caused by *Lophoderminium pinastri*.

The results regarding the indicator “defoliation” of *Fagus sylvatica* showed that up to 59 years of age, 55.13 % of the studied trees were at "0" degree of defoliation. After 60 years of age the number of healthy and slightly affected by defoliation trees slightly decreased. The condition of *Querqus cerris* was also very good. In comparison with 2009, a small decrease of the healthy and slightly affected by defoliation trees was determined for *Querqus frainetto* and *Querqus petraea.* As a whole, the results for the observed deciduous trees showed a prevalence of the healthy and slightly affected by defoliation trees. *Fagus sylvatica* had the best condition, followed by *Querqus petraea*. A tendency toward deterioration was not determined.

The damages on *Fagus sylvatica* are due to *Rhynchaenus fagi, Ectoedemia libwerdella, Nectria spp.*, and the damages on Querqus spp. are caused main by *Tortix viridana*.

In 2010 a negative influence in crown conditions both for conifers and deciduous was registered caused by abiotic agents too - such as drought, snow, ice.