Session 6: Multiple stressor effects on ecosystems

The dendrometrical characteristics of snow-inclined young growths of birch

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The extreme high amount of snow cover in winter of 2011 has caused significant damages in forests of Latvia. There were more than 420 000 m^3 of wood destroyed in state forests. The most part of snow-inclined stands are determined for the decay and are planned to be cut and the area - reforested. Because of the thick cover of snow and of the impact of ice the birch trees are irreversibly inclined. At the end of December of 2010 the intensive rain event was followed by frost and trees were covered in ice. At the beginning of January of 2011, due the interaction between the snow and rain, there was a weight of several hundred or even several thousand kilograms hanging on a tree canopy. In numerous birch stands with the tree height of 8-10 m, there were about 70-80% of trees considerably inclined to the ground.

The scientifically and practically important is the further development of the damaged stands and individual trees. To research this question in summer of 2011 there were several sample plots established in birch stands in different regions of Latvia. The dendrometrical characteristics of trees, i.e. height, diameter, length and the width of the canopy were measured. To find out the limits of the viability of trees, the radius of the inclination of each damaged tree was estimated.