

**APPLICATION OF SALIX SPECIES AND MEADOW PLANTS FOR
RENATURIZATION OF DEGRADATED PEAT BOG FIELD EXPERIMENT
(GOSLUB IN THE BZURA RIVER VALLEY)**

Drobniewska A., Michalska-Hejduk D., Sumorok B., Koperski P.

The priority Directive which obligated Poland is Water Framework Directive (2000/60/WE). Moreover Poland takes part in the establishment of European Ecological Programme "Nature 2000", which gives some remarks on the necessity of sustainable development thru National management of environmental resources and landscape shaping.

The case study area is the part of degraded peatbog in the Bzura River valley (located within the area belonging to "Nature 2000" – PLH100006). The study area have been dehydrated and transformed into meadows and plough land.

Fluctuation of ground water level is dynamic. During the winter and spring water state above ground level but during the summer season the ground water level is lower 1,5 m – 1,6 m. The variable hydrological balance is cause of evolving of sparse phytocenosis of dry-wet meadow with dominance of *Deschampsia caespitosa* in a mosaic with phytocenosis of *Caricetum gracilis* and *Phalaridetum arundinaceae*.

The hydrological condition of area is making worse during the last years. These conditions not promote to traditional arable crops. The increase of interest of alternative crops is the result of sustainable development approach for land restoration which put forward possibilities to connection of conserving and agricultural roles on the study area.

According the sustainable development approach one of ways of the rational management and landscape planning is creation of cultivation of autochthonic and energetic strains of *Salix* sp. on the degraded wetlands.

On the area was planting strains of *Salix viminalis*: Torhild, Sven and Olof, and *Salix alba*, *Salix caprea* – native species. For characterization of vegetation were prepared 15 phytosociological records located by each piesometer.

The first conclusion was absence increase of *Salix viminalis* on the study area with *Caricetum gracilis* and *Caricetum gracilis* with *Phalaris arundinacea*, and only one area where was observed increase of *Salix viminalis*: is a plot of dry-wet meadow with *Deschampsia caespitosa*. Moreover native species have had higher survival rate and higher biomass. The highest of biomass gave the *Salix caprea* in *Caricetum gracilis* phytocenosis.

The primary results suggested the possibility cultivate *Salix* sp on the area located into the natural habitats. Beside this approach gives possibilities of utilization of *Salix* species as economy as alternative source energy and environmental implementation.