

ARIABILITY OF PRECIPITATION AND GROUND WATER LEVEL IN THE BIAŁOWIEŻA NATIONAL PARK

S u m m a r y

The Białowieża National Park (BPN) as a part of Primeval Forest Białowieża is a natural forest object, unique on the international scale. Wet and water-logged soils constitute a large area of the BPN indicating a considerable importance of water conditions on the state of this forest. In the paper we characterised the history of hydro-technical and land reclamation investments which influenced the changes in water relationships. The regulation of water conditions through rivers' training, building of water reservoirs and drainage trenches were made in XIX century as well as after the Second World War. The main objective of the investigation was to check if negative trends exist in climatic conditions and ground water level. The results of the research on the climatic and water conditions indicate that the mean levels of ground water in BPN in the period 1985–2001 were the following: 280 cm below soil surface in the biotops with autogenic soils, 130 cm in semi-hydro-

genic soils, and 24 cm in water-logged biotops. In all these values showed decreasing trends. In the first two above mentioned biotops ground water level became lowered by about 40 cm during 17 years of observation. Varying trends of precipitation and air temperature were observed on the BPN area over the recent 17 years. The rise of mean air temperature, especially in winter periods, was registered. The precipitation varied: in 1955–1966 the mean annual rainfall (580 mm) was lower than in 1967–1982 when it amounted to 720 mm. In 1982–2001 the rainfall again was lower (603 mm) than the many-years' average (633 mm). The water conditions are one of basic factors decisive for forest sustainability. The predicted climatic changes are listed as serious threats to forests, their effects, however, can be limited, i.a. through suitable forest and water management.