

mgr Sambor Czerwiński

„ANTHROPOGENIC VEGETATION CHANGES IN THE LAKE DISTRICT BELT IN POLAND, WITH SPECIAL EMPHASIS ON GREATER POLAND IN THE LIGHT OF HIGH-RESOLUTION PALAEOECOLOGICAL ANALYSES AND HISTORICAL SOURCES”

ABSTRACT

High-resolution multiproxy paleoecological data inferred from lake or peatland deposits can provide a reliable assessment of the past human impact on the environment. However, these data provide limited information on the response of the environment to events that directly affected landscape change, which are of less informative value without knowledge of the archaeological or historical context. Therefore, this work focuses on determining the impact of demographic changes and socioeconomic events (on time scales ranging from decades to centuries) on forest regeneration and degradation in the lake district belt during the past 1,500 years. Thus, published high-resolution palynological data from the Polish lake district belt were synthesized to determine spatial and temporal trends of early medieval forest regeneration and subsequent decline. Moreover, based on a case study from Greater Poland, high-resolution paleoecological analyses (pollen, micro and macrocharcoal fragments with fractions of 10-100  $\mu\text{m}$  and above 100  $\mu\text{m}$ , plant macrofossils) were used. These were supported by radiocarbon dating, archaeological data (Polish Archeological Record) as well as historical written sources. In this case, the vegetation history in relation to the settlement, demographic and economic changes was reconstructed in detail. The results of the synthesis of palynological studies prove, among other things, the long-term regeneration of forests with the dominance of hornbeam in the lake district belt, lasting from the 6th to 8th centuries CE in the west and central part of the analyzed area. Here, forest decline began between the 8th and 9th centuries CE along with the increase in settlement activity. Later, between the 11th and 17th centuries CE, the process of forest decline was recorded mainly in north-eastern Poland. Detailed reconstructions from the Kazanie fen in Greater Poland proved that the main catalysts behind the vegetation and land use changes were economic breakthroughs of national impacts, such as the process of state formation in the 10th and 11th centuries CE, or the crisis of the 17th century CE associated with the Polish-Swedish War, among others. These breakthroughs shaped demographic dynamics and influenced, for example, the modernization of agriculture, or greater demand for resources, the main "supplier" of which was the forest.

Keywords: Paleoecology, high-resolution multiproxy analyses, deforestation, palynology, vegetation changes, land use changes, human impact