

ENEA NOWA ENERGIA



01 PIECZYSKA EARTH DAM ON THE BRDA RIVER
02 ŻUR EARTH DAM ON THE WDA RIVER

01 **PIECZYSKA EARTH DAM ON THE BRDA RIVER**



TECHNICAL INFORMATION

The Pieczyska Dam is a damming structure built at the turn of the 1950s and 1960s together with other accompanying structures forming the Koronowo dam. The purpose of building the barrage was to dam the waters of the Brda River for energy purposes. The Koronowski Reservoir, created as a result of the construction of the dam, allows water retention of 85 million m³.

The dam is an earthfill structure of a filtration nature, classified as a I class hydrotechnical structure, for a damming height of $H > 20$ m. The Pieczyska Dam is the only dam of this construction in Poland. It was formed by refulfillment. The maximum height of the dam is about 23.5 m. The dam body is equipped with a reinforced concrete double-pipe bottom outlet, closed with steel gate valves operated by mechanisms installed on the gate tower. In the years 1976-1981 the dam was modernized by extending the bottom discharge pipes, widening the embankment on the downstream side of the dam, and modernizing the drainage system. The need for modernization was caused by the increase in piezometric pressures threatening the stability of the dam.

Due to the unique structure of the facility, supervision over the proper behaviour of all filtration phenomena and processes is particularly important. The facility is controlled by IMGW PIB - the Dam Technical Control Center and supervised currently by specialized operational services supported by representatives of the Gdańsk University of Technology and the Warsaw University of Technology.

NATURAL CONDITIONS

As a result of the construction of the dam and the damming of the Brda River, a reservoir with an area of 1,600 ha was created and the hydrographic network increased by almost 30%. Over the years, this has created favorable conditions for the intensive development of biodiversity. Due to its natural value, the area was placed under higher legal protection through the creation of the Koronowski Reservoir Protected Landscape Area. The picturesque nature and landscape of this area results from the presence of a large number of lakes, forests and a varied hypsonometric shape of the surface. Due to the large number of swampy and wetland areas adjacent to the reservoirs, there are numerous breeding places for water birds in this area. In addition to the mallards, coots and cormorants popular in Poland, you can also find specimens of tufted ducks and cranes. The forests located along the Brda Valley constitute an ecological corridor connecting ecological nodes of international importance: the Toruń-Eberswald ice glacial valley with the Tucholskie Forests.

02

ŽUR EARTH DAM ON THE WDA RIVER



The hydroelectric power plant on the Wda River in Żur is one of the oldest hydroelectric power plants in Pomerania. It was put into operation in 1930. Energy use of river Wda waters was possible thanks to the construction of an earth dam, which dammed up the water by 15 meters, creating a picturesque reservoir with an area of 440 ha. The hydrotechnical facilities forming the barrage have significant technical and architectural values. It is worth emphasizing that they are the result of Polish technical thought in the period just after World War I, i.e. the time of the rebirth of the Polish state after 200 years of loss of independence.

The Żur hydroelectric power plant together with the Gródek plant located downstream, built a few years earlier (started in 1923), form the energy cascade of the Wda River. Water management for energy purposes is carried out with care for the unique values of the area, as the Wda River is the main axis of the eastern part of the Tuchola Forests, which have captivated with its unique landscape since ages. Due to the natural, historical and cultural values, as well as landscape values, in 1993 the Wdecki Landscape Park was established for their protection, with an area of 23,000 m² along with the buffer zone.

The abundance of rivers and lakes in the area is a real paradise for flora and fauna. In addition to common fish species, brown trout and the rare grayling live in the clean waters of the Wda River. Here you can find impressive pike, catfish and lake trout. The waterside areas are characterized by an abundance of avifauna.

The waters of the Żur and Gródek energy reservoirs are great places to enjoy the benefits of nature and engage in active recreation.