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Environment conservation on the Dnipro river reservoirs coasts: achievements and problems

The largest River Dnipro in 50-70s of 20-th century is transformed into the cascade of large reservoirs. It has allowed to construct 6 hydroelectric stations with capacity more than 3 million kW for manufacture of the electric power and a covering of peak loading in power grids, to irrigate more than 1 million hectares of soils with water of river Dnipro, to improve water supply of industrial centers, to increase transportation of cargoes, to develop a fish industry and recreation, etc.

At a construction of reservoirs unique actions for lands protection from flooding and waterlogging are carried out. On coast of reservoirs it is constructed 301,5 kms of dams and 34 pump stations for pumping out waters with waterlogging territories. It is protected from flooding 197 thousand ha of lands, large cities and mineral deposits.

It has allowed to weaken strongly a negative influence of reservoirs on an environment. So, on Kyiv reservoir Lebedivka dam (21,4 kms) has essentially weakened the land flooding in country between two rivers Dnipro and Desna, and the dam and Kozarovichi pump station (with the charge of the electric power 9 kW/year) have protected from flooding the river Irpin' flood-lands. On Kaniv reservoir the whole systems of dams (largest of them - Kyiliv in the length 19,5 kms, Bortnichi - 15,8 kms, Konche-Zaspa - 15,7 kms) and pump stations (Pereyaslav-Khmelnitskiy - 10,5 million kW/year, Bortnichi -9 million kW/year) have protected low coasts from flooding and waterlogging, and also have rescued from flooding a part of city of Pereyaslav-Khmelnitskiy. On the Kremenchuk reservoir the system of concrete and earthen dams protects low coast, fish-farms are created, and Tyasmin pump station (7,4 million kW/year) and a dam have protected from flooding the river Tyasmin flood-lands. Large conservation structures are carried out on reservoirs of Lower Dnipro (Dniprodzerzhinsk, Dniprovske and Kahovka) as well. Nevertheless, these structures have not completely protected coastal landscapes from degradation. First of all it is an abrasion process on high coast. It is shown on a site from village of Lutizh to town of Vyshgorod on Kyiv reservoir, from town of Ukrainka to t. Kaniv - on Kaniv, on right bank of Kremenchuk reservoir. Very significant losses of fertile chernozemic soils have taken place at the coast of Kahovka reservoir.

Very intricate economic and environmental problem has arisen last decade in connection with multiple rise in price of the electric power. It has made economically unprofitable work of the powerful pump stations protecting polder systems, cities and river valleys from flooding. And offers to flood the protected lands encounters resistance of users and owners of these lands. They insist on destruction of some reservoirs (first of all - Kaniv and Kyiv), disregarding energy needs of the state. The major ethical problem there is a change of a way of life and managing of the population on coasts of Dnipro. These people in 50-70s were moved on a coast of created reservoir, and now they threatened again with resettlements in connection with prospective destruction of some reservoirs. There will be also very serious ecological processes which supporters of destruction, for example, Kyiv reservoir do not want to foresee. The important ethical problem - not always effective and aesthetically imperfect technical decisions on protection of some sites of coast against abrasion (first of all creation a dumped rockfill without the further coast recultivation). Long years will proceed (though weakened) erosion and abrasion of coast.