

# **The Kukuzen Reservoir** **Contamination Assessment** **Located in the Zoni of Almaty** **CHP 2 Influence**

According to the Declaration of Rio+20 Conference “The Future We Want” The Republic of Kazakhstan has developed a concept of transition draft to a “green economy”, where among the major reasons threatening the national security there is waste and pollution of transboundary waters reduction. One of the largest water arteries is the river Ili with the developed system of flowing tributaries, including Almaty. Almaty is the Kazakhstan’s largest city, its amount of power is being continually enhanced, that make it possible to increase its level production and those of enterprises of thermal stations burden. The purpose of the present study is a water quality complex assessment and histopathological condition of fish living in the Kukuzen reservoir its waters are being filled by dumping the ash dump Almaty CHP-2. Physical and chemical methods for the water analysis, histological ones on *Carassius carassius*, *Gymnocephalus cernuus* and *Pelecus cultratus* have been used. Electrical conductivity, pH and dissolved oxygen have been in the range similar to the standard indicators for open water sources. BOD<sub>5</sub> makes 12 mg O<sub>2</sub>/dm<sup>3</sup> 3 times. The determination of cadmium, strontium, copper, iron, cobalt, zinc, nickel, manganese and lead concentrations does not exceed standard indicators established for the water bodies of economic and domestic water usage. Aluminum concentration is 1,4±0,2 mg/l, which is 2,8 MAC. So, the level of aluminum and BOD<sub>5</sub> several times exceeds their standards. Moreover, fish inhabited in there has a number of pathologies in its organs and tissues.

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