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### Higher water plants for cleaning of polluted water basins

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The most polluted lakes and water basins of Azerbaijan are located in the territory of Apsheron peninsula. There are a lot of inland waters, most of which have an artificial origin. These water basins are fed with stratal water of boreholes and sewage of companies and communities. The water in these highly mineralized, contains toxic chemicals, radionuclides and heavy metals. After many years of exploitation of oil fields the lakes of Apsheron subjected to intensive pollution. Therefore, research in the field of treatment of polluted lakes and water basins with the use of higher water plants is actual and necessary.

Higher water plants (HWP) allow to reach high efficiency in the cleaning of basins' polluted with toxic elements. They affect the water's quality. The most perspective among them are cane (*Scirpus Lacustris*), cattail narrow-leaved (*Typha angustifolia L.*) and cattail broad-leaved (*Typha latifolia L.*), spirodella (*Spirodella polyrrhiza L.*), eichornia (*Eichornia crassipes.*), elodea (*Elodea Canadensis*), ceratophyllum (*Ceratophyllum demersum L.*) and etc. In the presence of HWP destruction of petroleum hydrocarbons processes 3-5 times faster. They are able to extract and detox harmful substances such as phenols, pesticides, heavy metals, radionuclides and pathogenic microorganisms.

Radionuclide composition and specific activity of radio nuclides in the studied samples we determine by the radio spectrometer method using a gamma spectrometer «Canberra» with detector HP Ge. The elemental composition and the composition of the heavy metals of the studied samples we determine on the x-ray fluorescence spectrometer XRF-Analyzer, Innov-X company (USA) in the laboratory "radiochemistry" of the Institute of Radiation Problems.

The main purpose of our research works is the investigation of the biological cleaning methods anthropogenic-polluted lakes and reservoirs by using HWP: *Najasmarina*, *Potamogeton pectinatus*, *Ceratophyllum demersum*, *Bolboschoenus maritimus*, *Ceratophyllum demersum*, *Bolboschoenus maritimus*, *L Palla* from the flora of Azerbaijan and *Elodea canadensis* and *Eichhornia crassipes* used worldwide.

Application HWP for biological treatment of polluted water bodies will enable apply this method in industrial objects for treatment of water bodies. Creation of bioengineering treatment facilities in each industrial company will prevent release of pollutants into the environment.

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