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**THE SYSTEM OF STATE MONITORING
OF ECOLOGICAL STATE AND USE
OF TRANSBOUNDARY WATER RESOURCES**

Monograph

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Theoretical and methodological problems of creation and efficient use of monitoring technique for the environment are considered. The results of monitoring of the river basins and hydraulic engineering structures are given.

The volume is assigned to the researchers, enterprise and state authority employees, students of higher educational engineering institutions as well as faculty of advanced professional training and retraining.

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INTRODUCTION

Water is one of the most wonderful things on the planet. We can observe it in a solid state (such as snow and ice), liquid state (rivers and lakes) and gaseous one (water vapors in the atmosphere). No living thing can do without water which is in all metabolic processes. All the substances absorbed by the plants from soil come in the form of a solution. Generally water is an inert solvent which can be changed under influence of the substances which it dissolves. It is in the water where life started on the planet. Due to the World ocean we can see temperature regulation on the planet. No man can live without water. Finally, in modern life water is the most important factor determining labor distribution and means of production as well. Therefore, the importance of water and hydrosphere which is water Earth's mantle, can't be overestimated. It is nowadays when the rate of water consumption increase is very high and several countries have already had shortage of fresh water the problem of the reduction of fresh water pollution is especially urgent.

The article deals with the problem of use and pollution of the Ural river which is a unique natural object and one of the basic water arteries of a special state significance not only in Russia but in dry Kazakhstan as well.

The Ural river that runs 2 428 km flows through the territory of 3 constituent entities of the Russian Federation (the Orenburg and Chelyabinsk regions, and the Republic of Bashkortostan) and 3 regions of the Republic of Kazakhstan (West-Kazakhstan, Aktobe and Atyrau Provinces). Since 1991 the river has earned the status of an interstate transboundary water body.

Water area as well as flood plain of the Ural river are the national natural resources, ground for the vital life sustenance of the population of a large geographical region of two neighboring countries, they are the only natural breeding area for the sturgeons of the Caspian drainage basin as well.

Russia and Kazakhstan have ratified a Convention on the protection of transboundary watercourses in Helsinki, but a declarative character of most of its provisions requires specification in bilateral agreements and other documents.

The absence of the unified integrated program focused on the achievement of specific water resources purposes for the whole drainage basin of the river, attempts to solve local water protection problems in the separate areas couldn't provide us with the desired results in the previous years. The experience of purification and environmental rehabilitation of a number of European rivers make it possible to hope for the possibility of applying this approach to the problem solution.

Practical solution of the problem of rehabilitation of the Ural river and ecological system of its drainage basin basically depends on the joint coordinated actions on the rational use of water resources of the Ural region in terms of environmental and economic interests of the countries between the Republic of Kazakhstan and the Russian Federation.