Evaluation of enhancement measures for the ecological state of the urban lakes in Kazan, Russia

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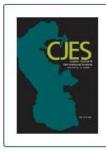Kazan Federal University, Kazan, Russia

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Abstract

This study was conducted between 2018-2020 on small lakes, situated in Kazan city (Republic of Tatarstan, Russia). Over the course of the research, the enhancement measures performed on the small lakes Harovoe and Maryino and their effect on the state of the lakes were evaluated. Changes and alterations in the natural characteristics of objects, water quality, biodiversity, and recreational areas were taken into consideration. Various consequences of enhancement measures on the state of lakes are revealed. Furthermore, factors affecting the formation of lakes have been identified: human impact and natural factors. The natural factors include air temperature fluctuations, wind influence, precipitation, water runoff influence, mineral composition, groundwater, water currents and waves. Given the results, it can be concluded that the improvement of water bodies in the urban environment should be carried out considering the impact of measures on water quality and biodiversity of the natural environment, with the creation of Park or green areas around lakes, with the preservation of the catchment area. The improvement of the territory, accompanied by measures to improve and enhance the quality of water, engenders better results, both for the water body itself and for the environment and ecosystem as a whole.

Keywords

Ecosystem ; Water objects ; Water quality ; Lakes ; Environment

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