The press service of the St. Petersburg Federal Research Center of the Russian Academy of Sciences (St. Petersburg FIC RAS) reported that experts of the institution developed a way to evaluate the environmental condition of the rivers according to the physiological indicators of freshwater snails. The technique has already been tested on the Luga River in the Leningrad Region and can be used to monitor other reservoirs of the North-West of Russia.

Traditionally, two -leaf mollusks are used for such studies, but scientists have proposed an alternative – an analysis of the heart rhythm and other parameters in the belly mollusks of Viviparus Viviparus. These snails are widespread in the region, which makes the method convenient for practical use.

Experiments were conducted in three sections of the Luga River, where shells were collected in shallow water and studied in the laboratory. Using special equipment, researchers recorded changes in the heart rhythm of snails at different temperatures, and also analyzed the content of heavy metals in their tissues and bottom sediments.

The choice of the Luga River for testing is not accidental. Its ecosystem is affected by industrial enterprises, the construction of infrastructure, including a large garbage processing plant in the Kingisepp district. The new approach allows you to identify the most polluted areas and evaluate the level of anthropogenic load.