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ENV 250

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Abstract for UG

The water quality of the Merrimack and to know how this river is being monitored since this river is one of the most important sources of drinking water in New England.

Everyone has managed to hear the famous phrase "Drinking water is essential for life", since this liquid is used and consumed daily by all living beings. Water contamination is a problem that is increasing every time, which is why it is urgent to care for drinking water in order to prevent diseases from reaching humans, animals or agriculture in general. In an article by National Geographic, it explains that, of all the water that exists on the planet, only 3% is drinking water, unfortunately only about 0.3% of drinking water is found in lakes and rivers, which is accessible to humans, the remaining percentage find it very difficult to get access to water since they are on the ice caps or in underground ways. The Merrimack River is one of New England's major tributaries, with nearly 500,000 people using it as a source of drinking water in their daily lives. However, water sources such as the Merrimack River and water wells have been exposed to chemicals that can harm those who consume these waters. The presence of substances that do not belong in the water, and which in turn can create an imbalance in aquatic ecosystems, is commonly known as pollution. Demonstrate the level of water quality provided by the river, to which the people of the different communities of New Hampshire and Massachusetts

Collecting water samples at sites along the Merrimack River from Manchester, NH to Salisbury, MA, and some water wells in Merrimack NH. verified monitoring for the collection of data such as pH, total dissolved solids, temperature and levels of presence of fecal bacteria and other chemicals dissolved in the effluent. This project will focus on measuring the levels of presence of two types of Escherichia coli (E. coli) and Enterococcus bacteria, which can indicate if the river is contaminated with fecal bacteria. The presence of feces specifically in the tributaries presents a serious threat both to humans and to different ecosystems, these bacteria may have the power to make people sick, if they are exposed. Recreational activities like swimming, diving, and others would become unsafe. That is why constant monitoring of water quality has played a very important role for the health of the different communities surrounding the river. However, there are many other ways to contaminate drinking water sources, the Saint-Gobain plastics company located in Merrimack, is responsible for the contamination of several public drinking water wells that have been contaminated by different types of chemicals such as PFAS, this being a risk for those who consume the water. of these contaminated wells. As a consequence of consuming water contaminated with chemicals, the risk of people suffering from cancer increases.

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