A synthetical methodology for identifying priority pollutants in reclaimed water based on meta-analysis

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Description

Water pollution occurs when harmful substances often chemicals or microorganisms contaminate a stream, river, lake, ocean, aquifer, or other body of water, degrading water quality and rendering it toxic to humans or the environment. Water is uniquely vulnerable to pollution. Known as a "universal solvent," water is able to dissolve more substances than any other liquid on earth. It's the reason we have Kool-Aid and brilliant blue waterfalls. It's also why water is so easily polluted. Toxic substances from farms, towns, and factories readily dissolve into and mix with it, causing water pollution. When water is contaminated with chemicals such as pesticides, hydrocarbons, persistent organic pollutants, or heavy, it could lead to cancer, including prostate cancer and non-Hodgkin lymphoma, hormonal problems that can disrupt reproductive and developmental processes, damage to the nervous system, liver and kidney damage, and damage to the DNA. Specifically, mercury in water can cause abnormal behavior, slower growth and development, reduced reproduction, and death. Emerging water pollutants are elements or their acids, which are not generally found in water sources and hence not much concern was given on them by scientific community. But with observed increasing ecological disturbance and improved scientific methods, they have been analyzed for their origin and mechanism of health impacts. These emergent water pollutants can make changes in human behavior, landscape, water resources, and demography, due to developing technologies, microbial adaptation, climate change, increased travel, and so on. This category of pollutants includes pharmaceuticals, algal toxins, microorganisms, and several other chemicals. To prevent these contaminants from the water, it is required to understand their features, generation, transportation, side effects on human health and environments, analysis approaches, and resolving techniques. Water pollution results from harmful substances contaminating any body of water. These substances typically include microorganisms and chemicals like oil. When pollution gets into a body of water, it will cause the water quality to worsen and eventually become toxic to humans and the surrounding environment. The environmental effects of water pollution primarily involve the damage that pollution does to the surrounding ecosystem. Many of the organisms that depend on a supply of relatively healthy water will die. When bodies of water become too heavily polluted, it's common for crabs, dolphins, seagulls, and fish to wash up ashore. Pollution is also damaging to the economy since it increases the costs of treating the water, leads to losses in tourism, lowers local real estate values, and damages commercial fishing. In order to effectively tackle water pollution, it's important to understand what causes this pollution to occur in the first place. The many causes of water pollution include everything from incorrect sewage disposal to fast urban development. While it will take a substantial amount of effort to lessen water pollution, there are many effective solutions that can help with the reduction of pollution in all bodies of water. There are immeasurable ways individuals and groups can take initiative or educate people on the dangers of water pollution. It is always a great starting point as a means of fighting the wider causes of water pollution. Individuals and groups aware of the dangers of water pollution can educate family, friends, and even the society as a whole through joint campaigns and advocacy.

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Conflict of Interest

The author declares there is no conflict of interest in publishing this article.

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