

# Toxic Water Pollution Control and Ecological Risk

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## Description

When dangerous substances—often chemicals or microorganisms—contaminate a stream, river, lake, ocean, aquifer, or other body of water, the water quality deteriorates and the water becomes toxic to humans or the environment. Emerging contaminants have been found in a variety of aquatic ecosystems as a result of their widespread usage and inadequate removal. Although these contaminants are normally found in low amounts, their presence is thought to pose a risk to aquatic organisms and human health. However, little is known about the occurrence and hazards of emerging contaminants in tap water and related water sources. Aqueous emergent contaminants are likewise subject to a scarcity of data on their removal, transit, and transformation. Because emerging toxins in drinking water may endanger human health, particular care is required [1].

Pollutants in lake ecosystems are primarily stored in the water and sediments. Sediments adsorb a variety of pollutants that can linger in sediments for a long time. Pollutants adsorbing in sediments may be discharged back into the water and taken up by organisms when external conditions change. These pollutants may eventually have an impact on human health due to the food chain. As a result, determining the danger of polluted sediments in the water system has become a major concern. If ecological risk assessment can be utilised as a diagnostic technique to precisely estimate possible dangers, it will be extremely useful in pollution control [2].

Point source pollution occurs when contamination comes from a single source. Contamination from leaking septic systems, chemical and oil spills, and illegal dumping are examples of wastewater (also known as effluent) released lawfully or illegally by a manufacturing, oil refinery, or wastewater treatment plant. The Environmental Protection Agency (EPA) regulates point source pollution by defining restrictions on what can be released directly into a body of water by a facility. While point source pollution originates in a single location, it has the potential to pollute miles of streams and the ocean.

Since water is essential for the existence of all living species, it has become a key supplier of a wide range of services. River water, where all civilizations began and flourished, is closely tied to the majority of the world's civilizations. Rivers and tributaries support a wide range of biodiversity and produce a varied ecosystem made up of ecologically sensitive and linked chemical, physical, and biological factors. The river is a vital source of water

for manufacturing enterprises (such as dyeing and garment manufacture), agricultural sectors, households, transportation and communication, and many living species. Humans and other living animals, on the other hand, proliferate along the river's course. However, anthropogenic activities have caused river water in Bangladesh to deteriorate, rendering it unsafe for human consumption [3,4].

Surface water quality is critical for human society since it supports not only inhabitants in urban areas but also the agriculture industry in rural areas. Water on the surface, primarily in the Rivers and lakes, in the form of rivers and lakes, play an essential role in urban development and human life. Rivers in cities are plentiful. a significant contaminant sink As a result of industrialization and population increase, a significant amount of waste has accumulated. Trace metals, chemical and inorganic substances, and other toxins have been spilled into waterways as well as tainted water. The durability, environmental toxicity, and bioaccumulation of metal pollutants in rivers are well-known etc. [5].

## Conflict of Interest

None.

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