



## Water Pollution and its Adverse Effects

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### Description

Water is one of the most vital natural resources on earth and over 70% of the earth's surface is covered by water. It's also the most basic survival requirement. Aquatic life and other ecosystems are also supported. Water pollution is defined as the release of substances into sub-surface groundwater or lakes, streams, rivers, estuaries, and oceans to the point where the substances block beneficial water use or ecosystem function. Water pollution can include the release of energy, such as radioactivity or heat, into bodies of water in addition to the release of substances such as chemicals or microorganisms. The release of substances into bodies of water makes water unfit for human consumption and causes ecosystem disruption.

Contamination of water bodies by toxic chemicals is one of the most common causes of water pollution. Dumped plastic bottles, tins, water cans and other waste pollute water bodies, are the examples. Water pollution results as a result of these activities, which harms not only humans but the entire ecosystem. Toxins released by these pollutants make their way up the food chain, eventually affecting humans. In most cases, the result is only harmful to local populations and species, but it can also have a global impact. Every year, the oceans receive nearly 6 billion kilograms of garbage. Other types of unwanted materials are dumped in various water bodies, in addition to industrial effluents and untreated sewage. Nuclear wastes to oil spills, the latter of which can render vast areas uninhabitable, are examples of these.

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Point sources and dispersed sources both contribute to water pollution. A pipe or channel used for discharge from an industrial facility or a city sewerage system is referred to as a point source. A dispersed (or nonpoint) source, such as runoff from an agricultural area, is a large, unconfined area from which a variety of pollutants enter a water body. Because the contaminated water has been collected and transported to a single point where it can be treated, point sources of water pollution are easier to control than dispersed sources. Pollution from dispersed sources is difficult to control, and despite significant progress in the construction of modern sewage-treatment plants, dispersed sources still account for a significant portion of water pollution problems.

A variety of methods can be used to control water pollution to a greater extent. It is preferable to treat sewage waste before dumping it into bodies of water. By doing so, the initial toxicity can be reduced, and the remaining substances can be degraded and rendered harmless by the water body. After secondary treatment, the water can be reused in sanitary systems and agricultural fields. The Water Hyacinth is a unique plant that can absorb dissolved toxic chemicals like cadmium and other metals. Establishing these in areas prone to such pollutants will greatly reduce the negative consequences. Precipitation, the ion exchange process, reverse osmosis, and coagulation are some chemical methods that aid in the control of water pollution. Individually, reusing, reducing, and recycling as much as possible will help to mitigate the effects of water pollution.