

# Water pollution essay sample

[Environment](#), [Water](#)



Water pollution has been documented as a contributor to a wide range of health problems and disorders in humans. It has also been shown to have drastically negative impacts on wild animals and the environment as a whole. There are quite a few different effects of water pollution that are of significant importance to humans. Ads by Google

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Water pollution can pose health dangers to humans who come into contact with it, either directly or indirectly.

#### Contaminated Drinking Water

The risks of your health being negatively impacted by polluted drinking water in a developed country is small in comparison with developing countries. However, it is possible to become ill from contaminated water. When you are out hiking, you can acquire giardiasis that can lead to the presentation of acute symptoms like vomiting and intense nausea. This infection is caused by drinking water that has been fouled by animal wastes in untreated waterways. In anthropogenic environments like cities and towns, the potential toxins are far more numerous. Mercury Level Risks

Health risks from pollution vary from area to area. One of the most pervasive non-localized water pollution issues facing the world today is the level of mercury in the oceans. Inorganic mercury is a common byproduct of a number of industrial processes. The level of mercury in fish is mostly dangerous for small children and women who might become pregnant, are pregnant or are nursing. Mercury has been found to interfere with the

development of the central nervous system in fetuses and young children, which could potentially lead to a large amount of long-term side effects.

### Health Effects of Toxic Runoff

In Louisiana, water quality can be so bad in many waterways that fish advisories are often posted to warn people against eating fish out of contaminated waterways. This is largely due to industrial runoff from localized sources and the accumulative effects of runoff and dumping from states that lie along the Mississippi river. When the river empties into Louisiana, it brings those accumulated toxins with it. This is believed to lead to higher rates of cancer in areas surrounding the Mississippi delta in an area that is colloquially referred to as “cancer alley.” Ads by Google

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Join Free [www. Alibaba. com](http://www.Alibaba.com) Phosphorous runoff from industry can get into waterways and create toxic algal blooms. These blooms have been linked to higher occurrences of paralytic shellfish poisoning in humans, which can lead to death. Glyphosate is an herbicide that is often used on crops throughout the United States. In areas where GM crops resistant to glyphosate are planted, the pesticide is often overused and laid out using a cascade spray. This can get into water and cause reproductive issues and kidney failure.

### Overall Ecological Risks

Water pollution also causes negative effects within the environment to animals and their habitats. Ecological Deadzone

The entrance of pollutants into waterways can have a wide range of impacts. It is possible for the pollutants to raise the temperature of the water enough to force fish out in search of cooler waters. This can itself create an ecological deadzone.

### Increase in Algal Blooms

Water pollution can also significantly increase the rate of algal blooms. These blooms create massive fish die-offs as the oxygen in the water gets depleted and the fish suffocate. Fish can also be killed when excessive algae get caught in their gills. Oil Spill Ramifications

Oil spills are a common occurrence throughout the world; however major spills like the Exxon Valdez and the BP Deepwater Horizon disaster have shown what water pollution can do on a very large scale. It was found that dolphins have been dying in record numbers near the site of the BP Deepwater Horizon disaster. It has also been found that the oil from the BP disaster has gotten into wetlands, which are considered the nursery for nearly every creature that lives in the area.

### Water Pollution Impacts Everyone

The effects of water pollution are not always immediate. They are not always seen at the point of contamination. They are sometimes never known by the person responsible for the pollution. However, water pollution has a huge impact on the lives of all people. With knowledge, consideration and

preparation, water pollution can be decreased. It doesn't take much effort — just a little thought. [http://greenliving.lovetoknow.com/Effects\\_of\\_Water\\_Pollution](http://greenliving.lovetoknow.com/Effects_of_Water_Pollution)

### Types of water pollution

Water pollution can come from a number of different sources. If the pollution comes from a single source, such as an oil spill, it is called point-source pollution. If the pollution comes from many sources, it is called nonpoint-source pollution. Most types of pollution affect the immediate area surrounding the source. Sometimes the pollution may affect the environment hundreds of miles away from the source, such as nuclear waste, this is called transboundary pollution.

### Microbiological water pollution

Microbiological water pollution is usually a natural form of water pollution caused by microorganisms. Many types of microorganisms live in water and cause fish, land animals and humans to become ill. Microorganisms such as:

- \* Bacteria

- \* Viruses

- \* Protozoa

Serious diseases such as cholera come from microorganisms that live in water. These diseases usually affect the health of people in poorer countries, as they do not have the facilities to treat polluted water.

### Surface water pollution

Surface waters are the natural water resources of the Earth. They are found

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on the exterior of the Earth's crust and include:

- \* Oceans
- \* Rivers
- \* Lakes

These waters can become polluted in a number of ways, and this is called surface water pollution.

#### Oxygen Depleting

Microorganisms that live in water feed on biodegradable substances. When too much biodegradable material is added to water, the number of microorganisms increase and use up the available oxygen. This is called oxygen depletion. When oxygen levels in the water are depleted, relatively harmless aerobic microorganisms die and anaerobic microorganisms begin to thrive. Some anaerobic microorganisms are harmful to people, animals and the environment, as they produce harmful toxins such as ammonia and sulfides.

#### Groundwater Pollution

A lot of the Earth's water is found underground in soil or under rock structures called aquifers. Humans often use aquifers as a means to obtain drinking water, and build wells to access it. When this water becomes polluted it is called groundwater pollution. Groundwater pollution is often caused by pesticide contamination from the soil, this can infect our drinking water and cause huge problems.

#### Nutrients and their effect on water

Nutrients are essential for plant growth and development. Many nutrients

are found in wastewater and fertilisers, and these can cause excess weed and algae growth if large concentrations end up in water. \* This can contaminate drinking water and clog filters.

\* This can be damaging to other aquatic organisms as the algae use up the oxygen in the water, leaving none for the surrounding marine life.

### Suspended Matter

Some pollutants do not dissolve in water as their molecules are too big to mix between the water molecules. This material is called particulate matter and can often be a cause of water pollution. \* The suspended particles eventually settle and cause a thick silt at the bottom. This is harmful to marine life that lives on the floor of rivers or lakes. \* Biodegradable substances are often suspended in water and can cause problems by increasing the amount of anaerobic microorganisms present. \* Toxic chemicals suspended in water can be harmful to the development and survival of aquatic life.

### Chemical water pollution

Industrial and agricultural work involves the use of many different chemicals that can run-off into water and pollute it. \* Metals and solvents from industrial work can pollute rivers and lakes. These are poisonous to many forms of aquatic life and may slow their development, make them infertile or even result in death. \* Pesticides are used in farming to control weeds, insects and fungi. Run-offs of these pesticides can cause water pollution and poison aquatic life. Subsequently, birds, humans and other animals may be poisoned if they eat infected fish. \* Petroleum is another

form of chemical pollutant that usually contaminates water through oil spills when a ship ruptures. Oil spills usually have only a localised affect on wildlife but can spread for miles. The oil can cause the death of many fish and stick to the feathers of seabirds causing them to lose the ability to fly.

### What Can You Do?

If you want to help keep our waters clean, there are many things you can do to help. You can prevent water pollution of nearby rivers and lakes as well as groundwater and drinking water by following some simple guidelines in your everyday life. \* Conserve water by turning off the tap when running water is not necessary. This helps prevent water shortages and reduces the amount of contaminated water that needs treatment. \* Be careful about what you throw down your sink or toilet. Don't throw paints, oils or other forms of litter down the drain. \* Use environmentally household products, such as washing powder, household cleaning agents and toiletries. \* Take great care not to overuse pesticides and fertilisers. This will prevent runoffs of the material into nearby water sources. \* By having more plants in your garden you are preventing fertiliser, pesticides and contaminated water from running off into nearby water sources. \* Don't throw litter into rivers, lakes or oceans. Help clean up any litter you see on beaches or in rivers and lakes, make sure it is safe to collect the litter and put it in a nearby dustbin.

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### Sewage and Wastewater

Domestic households, industrial and agricultural practices produce wastewater that can cause pollution of many lakes and rivers. \* Sewage is the term used for wastewater that often contains faeces, urine and laundry waste. \* There are billions of people on Earth, so treating sewage is a big priority. \* Sewage disposal is a major problem in developing countries as many people in these areas don't have access to sanitary conditions and clean water. \* Untreated sewage water in such areas can contaminate the environment and cause diseases such as diarrhoea. \* Sewage in developed countries is carried away from the home quickly and hygienically through sewage pipes. \* Sewage is treated in water treatment plants and the waste is often disposed into the sea. \* Sewage is mainly biodegradable and most of it is broken down in the environment. \* In developed countries, sewage often causes problems when people flush chemical and pharmaceutical substances down the toilet. When people are ill, sewage often carries harmful viruses and bacteria into the environment causing health problems.

### Industrial water and water pollution

Industry is a huge source of water pollution, it produces pollutants that are extremely harmful to people and the environment. \* Many industrial facilities

use freshwater to carry away waste from the plant and into rivers, lakes and oceans. \* Pollutants from industrial sources include:

\* Asbestos – This pollutant is a serious health hazard and carcinogenic. Asbestos fibres can be inhaled and cause illnesses such as asbestosis, mesothelioma, lung cancer, intestinal cancer and liver cancer. \* Lead – This is a metallic element and can cause health and environmental problems. It is a non-biodegradable substance so is hard to clean up once the environment is contaminated. Lead is harmful to the health of many animals, including humans, as it can inhibit the action of bodily enzymes. \* Mercury – This is a metallic element and can cause health and environmental problems. It is a non-biodegradable substance so is hard to clean up once the environment is contaminated. Mercury is also harmful to animal health as it can cause illness through mercury poisoning.

\* Nitrates – The increased use of fertilisers means that nitrates are more often being washed from the soil and into rivers and lakes. This can cause eutrophication, which can be very problematic to marine environments. \* Phosphates – The increased use of fertilisers means that phosphates are more often being washed from the soil and into rivers and lakes. This can cause eutrophication, which can be very problematic to marine environments. \* Sulphur – This is a non-metallic substance that is harmful for marine life. \* Oils – Oil does not dissolve in water, instead it forms a thick layer on the water surface. This can stop marine plants receiving enough light for photosynthesis. It is also harmful for fish and marine birds. \*

Petrochemicals - This is formed from gas or petrol and can be toxic to marine life.

### Oil pollution

Oceans are polluted by oil on a daily basis from oil spills, routine shipping, run-offs and dumping. \* Oil spills make up about 12% of the oil that enters the ocean. The rest come from shipping travel, drains and dumping. \* An oil spill from a tanker is a severe problem because there is such a huge quantity of oil being spilt into one place. \* Oil spills cause a very localised problem but can be catastrophic to local marine wildlife such as fish, birds and sea otters. \* Oil cannot dissolve in water and forms a thick sludge in the water. This suffocates fish, gets caught in the feathers of marine birds stopping them from flying and blocks light from photosynthetic aquatic plants.

### Atmospheric

Atmospheric deposition is the pollution of water caused by air pollution. \* In the atmosphere, water particles mix with carbon dioxide sulphur dioxide and nitrogen oxides, this forms a weak acid. \* Air pollution means that water vapour absorbs more of these gases and becomes even more acidic. \* When it rains the water is polluted with these gases, this is called acid rain. \* When acid rain pollutes marine habitats such as rivers and lakes, aquatic life is harmed.

### Eutrophication

Eutrophication is when the environment becomes enriched with nutrients. This can be a problem in marine habitats such as lakes as it can cause algal blooms. \* Fertilisers are often used in farming, sometimes these fertilisers

run-off into nearby water causing an increase in nutrient levels. \* This causes phytoplankton to grow and reproduce more rapidly, resulting in algal blooms. \* This bloom of algae disrupts normal ecosystem functioning and causes many problems. \* The algae may use up all the oxygen in the water, leaving none for other marine life. This results in the death of many aquatic organisms such as fish, which need the oxygen in the water to live. \* The bloom of algae may also block sunlight from photosynthetic marine plants under the water surface. \* Some algae even produce toxins that are harmful to higher forms of life. This can cause problems along the food chain and affect any animal that feeds on them.

### Marine dumping

Dumping of litter in the sea can cause huge problems. Litter items such as 6-pack ring packaging can get caught in marine animals and may result in death. Different items take different lengths of time to degrade in water: \*  
Cardboard - Takes 2 weeks to degrade.

\* Newspaper - Takes 6 weeks to degrade.

\* Photodegradable packaging - Takes 6 weeks to degrade. \* Foam - Takes 50 years to degrade.

\* Styrofoam - Takes 80 years to degrade.

\* Aluminium - Takes 200 years to degrade.

\* Plastic packaging - Takes 400 years to degrade.

\* Glass - It takes so long to degrade that we don't know the exact time.

### Nuclear waste - how it is produced

Nuclear waste is produced from industrial, medical and scientific processes

that use radioactive material. Nuclear waste can have detrimental effects on marine habitats. Nuclear waste comes from a number of sources: \*

- \* Operations conducted by nuclear power stations produce radioactive waste.
- \* Nuclear-fuel reprocessing plants in northern Europe are the biggest sources of man-made nuclear waste in the surrounding ocean. Radioactive traces from these plants have been found as far away as Greenland.
- \* Mining and refining of uranium and thorium are also causes of marine nuclear waste.
- \* Waste is also produced in the nuclear fuel cycle which is used in many industrial, medical and scientific processes.

#### Underground storage leakages

A tank or piping network that has at least 10 percent of its volume underground is known as an underground storage tank (UST). They often store substances such as petroleum, that are harmful to the surrounding environment should it become contaminated. Many UST's constructed before 1980 are made from steel pipes that are directly exposed to the environment. Over time the steel corrodes and causes leakages, affecting surrounding soil and groundwater.

#### Global Warming

An increase in water temperature can result in the death of many aquatic organisms and disrupt many marine habitats. For example, a rise in water temperatures causes coral bleaching of reefs around the world. This is when the coral expels the microorganisms of which it is dependent on. This can result in great damage to coral reefs and subsequently, all the marine life that depends on it. The rise in the Earth's water temperature is caused by

global warming. \* Global warming is a process where the average global temperature increases due to the greenhouse effect. \* The burning of fossil fuel releases greenhouse gasses, such as carbon dioxide, into the atmosphere. \* This causes heat from the sun to get 'trapped' in the Earth's atmosphere and consequently the global temperature rises. <http://www.water-pollution.org.uk/causes.html>