

# Water pollution

Business



Did you know that 97% of the earth is made up of water, yet less than 2% of this is fresh water? (ic, cc ic.) Water pollution is one of the largest threats to biodiversity (“What is the Biggest Threat to Biodiversity?”). Nearly every organism needs water to survive. People polluting the Iowa Great Lakes unintentionally kills birds, underwater animals, and much more. Each pop tab, bottle cap, or plastic bag thrown in the water ruins our lakes, and over time, the economy of Spirit Lake.

My goal is to educate you on what is in our water, what we need to keep our lakes healthy, what we do to make that happen, and the effects of what could happen if we keep polluting. Hopefully you will get something out of it and it will give you a real understanding of how one little move of throwing something in the lake can affect our world greatly in the long run.

Phosphorus is a rich element in the soil of Spirit Lake (Hawkins). Fortunately, we have just the right supply of phosphorus that we don't need anymore in the lake. Unfortunately, with the fertilizer that is used it is very difficult to maintain this perfect balance.

Pesticides are a positive and negative affect to the environment. Many people don't know how much bad things they do to our waters. Whether you are fertilizing your yard or spraying your crops, pesticides will find a way to get to a body of water. When pesticides flow to the Iowa Great Lakes, it feeds on algae. Without algae we don't have the producer part of the food chain in our lakes.

It will ruin the whole ecosystem. According to P. N. Singh, “If fish do not suffer fatality then there is greater chance that these pesticides may harm

indirectly. The fish may abandon their nesting and brooding zone hence reducing population.

It may decrease immunity to fight disease. The fish may lose its reflexes and become a predator's delight." Although, pesticides are good for getting rid of bugs or diseases and helping crops grow. Instead of using pesticides, weed your garden manually and use traps to catch bugs. You can also compost and use that in your field instead of the pesticides.

Because of pesticides, tadpoles and frogs are born and live a lot smaller in size due to the negative effect in ponds and lakes (" How Pesticides Cause Water Pollution"). Runoff from fields and yards have slowly emptied into the Great Lakes making high phosphorus levels. Last week, I went to the Lakeside Lab and did an experiment to see how high our phosphate levels are in our lake. What we did first was got a container full of water from the bottom of the lake. Next, we poured two drops of a chemical in the container and blended all the ingredients together.

After, we filled a dropper full of the water in the container and tipped it back and forth for two minutes until we saw a change in color. What we found out was that currently we have low phosphate levels. That usually happens in the winter. It doesn't necessarily mean that the lake will stay that way. In the summer a lot more happens in the lake making the phosphate levels rise a lot more. Another thing we tested was the dissolved oxygen level.

Chemically the level number was at 9 towards the surface and 11 at the bottom of the lake. When phosphorus levels rise, the lakes produce more blue-green algae. There are many different types of algae: periphyton which <https://assignbuster.com/water-pollution-essay-samples/>

attaches to things underwater, phytoplankton which drifts through the water for fish to filter feed, and cyanobacteria also known as blue-green algae. Although, having too much blue-green algae makes the lake stink, blocks out sunlight, and changes the lifestyle of fish and other underwater animals. When we have too much blue-green algae the oxygen level in the lakes decrease, eventually killing some types of fish. Not only are natural things like that polluting the lake but people also play a big role.

We recently went onto the ice on West Lake and noticed how much trash was frozen in the ice. It was eye-opening how dangerous it was for the fish. Simple things like these are what can ruin our ecosystem forever. Hawkins, Michael. Personal interview.

7 Jan 2013. The Iowa DNR does a lot to keep the Iowa Great Lakes clean. We are going to tell you about what we do to prevent watershed, keep our water clean from sewage with lift stations, electric fish barriers, and rain gardens. The Iowa DNR has also been working very hard for several years to keep the fish that are not native to our lakes out. A really big problem we have always had with lakes is watershed. Watershed is a region drained by a body of water.

A natural way to fix this, or prolong the process is by planting trees, grass, plants, etc. By doing this, it steadies the soil; therefore, preventing it from moving and causing watershed. Another thing we have to keep the lakes clean are lift stations. Around the Dickinson County area, we have 62 lift stations to help push sewage to the treatment plant in Milford. Without the lift stations a lot of the dirty sewage would drain into the lake causing bad

drinking water, and an uninhabitable environment to live in for the underwater wildlife.

We also have rain gardens that water drains into and filters the water before it ends up in the lake. They are a very beautiful and environmentally friendly addition to Spirit Lake. Rain Gardens are big or small places that look like a regular garden with plants and flowers. They can withstand a lot of drought or a lot of flooding depending on the conditions of the weather. Rain Gardens filter out rain water or runoff by having the water soak into the soil.

Under the soil they have a lot of pipes and filtering objects that makes the dirty water filter almost clear from erosion and release it into the lakes a lot safer. Rain Gardens drain every 4 hours after they get 1 inch of water. There are two types of rain gardens- under drained and self contained. According to Low Impact Development Center, “ In both the under-drained and self-contained rain gardens, the success of the garden is greater when you start with healthy and smaller, rather than larger, plants. Some plants listed are successful in rain gardens only when they are installed small and have a chance to adapt to the conditions as they grow.” (dc, ic) What one you choose depends on the climate of the area you are in and the size (“ Rain Gardens”).

A new project the Dickinson County has been working on is the wide electric barriers to keep Asian Carp out of our lakes. They are putting vertical fences on the sides of the barrier so fish can't jump over the barrier; the fence is completely humane, because the shock it gives the fish isn't enough to harm them. (ic; ic) It just redirects the fish in the opposite direction. With Asian

Carp and other non-native fish in our water it overpowers the ecosystem and changes the way that it functions. Zebra Mussels are small clam like creatures that reproduce very rapidly.

They get their name from their stripes looking like a zebra. A female zebra mussel produces anywhere from 30, 000- 1 million zebra mussels in its lifetime. They first started invading the United States when Lake St. Clair brought in a ship with zebra mussels attached to it. Zebra Mussels are a big threat to the animals and us. They attach very easily to anything, due to their extra organ.

They attach to pipes and block water/sewage from reaching treatment plants. Zebra Mussels are filter feeders meaning that they make the water crystal clear. That may sound like a good thing; however, it's not at all. (ic; im, ic) The underwater biomes rely on algae and other things in the water to live. With Zebra Mussels, we could lose a lot of our fish- making our supply of food decrease.

They also are very sharp and can crowd a beach instantly. If you step on one you are most likely to get cut by their sharp shell (" Zebra Mussels"). They were brought into our lakes in the 1980's. You can even get charged with criminal fine for transporting Zebra Mussels. " Zebra mussels will attach to almost any hard surface, either natural or manmade. On boats, they may attach to the hull, motor, or any item immersed in the water.

Both large and small boats can be severely impacted by increased drag caused by thousands of mussels. Small zebra mussels may get into engine cooling systems, causing overheating and other damage," said National <https://assignbuster.com/water-pollution-essay-samples/>

Atlas. Overall, the Iowa DNR do an amazing job, and are making many advancements to keep our lakes healthy and clean. Many people don't spend even a moment to think about what can happen to the environment by throwing just one plastic water bottle in the lake. Pollution can reduce water quality, contaminate soil, and damage the lake's ecosystems. Because of evolution eventually a lake will dry out.

When we pollute by throwing things in the lake or even by runoff it speeds up the process of the lakes drying out a lot faster. If pollution keeps going on it will ruin our environment. We will not be able to swim and go boating anymore. Our summers will be ruined. Also, because more than one million tourists come to the Iowa Great Lakes in the summer, our town relies on tourist season.

Although, tourists are also a big part of the pollution problem. They do not realize the danger of what could happen. Without people coming to spend the summer, the economy of Spirit Lake will collapse. It will be harder to find jobs, and the prices of food will go up. Our town will become poor.

This isn't only in Iowa where this happens. There are lakes and big bodies of water like oceans that are polluted everyday. (ic dc) If people keep throwing trash in the lakes, our world will suffer. We also won't have a lot of fresh water to drink and the filtering process water goes through will have to be a lot more complicated. If the water continues to decline in quality, the creatures of the lake will begin to die. The ecosystem will collapse because, if something dies out the creature that relied on it in some way will not be able to sustain the way of life it is used to.

This will not only affect the fish, it will also affect the plant life. If you think that this will not affect you, you're wrong. I hope with the information we gave you, you will change your ways and dispose of your trash correctly.

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