

Save our Waters

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Abstract

Water is important to everyone's survival on earth, it is important that we take care of it. Water gets infected with chemicals, trash pollution and human waste, making it unsafe to all of us. As a society we have damaged much of water sources, if we do not start to take a reign on it, it will continue to get worse. Making it worse for the animals and the humans. There is a lot of problems in the oceans because of human interactions. This paper will demonstrate what some of the problems are and what we can do to help our water systems.

Save our Waters: To Save ourselves

When we walk down any beach around the world, we find trash that people have left behind. Some of this trash will disintegrate on its own, but most will not. The trash we produce leaves behind chemicals that get into the water and start to harm the animals in the water. If we do not start to clean up after ourselves, we are continuing to ruin our water systems and continue to ruin the ecosystems they host. The trash and pollution hurts the animals and water systems that can come back and hurts the human population. Our bodies are made up of 73% water. Earth's surface is made up of 71% water. Water is critical for survival. We need to take better care of our water because we need it to help the animals in the marine ecosystems, for us to continue to live, and to help Earth to regulate the climate.

Climate change, overfishing, pollution, coastal development and heavy ship traffic are all heavy stressors on the world's oceans (Weeks, 2014, p. 867). Human activity is causing the "damage of damaging coral reefs, mangroves forest and coastal marshes", which are there to shelter fish and "buffer against storms, erosion and flooding" (p. 867). One example of the damage we have caused to the oceans is that the lobsters that are being caught have "mottled, diseased shells...scientist say this is caused by increased ocean acidity due to climate change" (p. 867). According to a 2012 study by a group of economists, they estimated that if the stresses continue to grow at the current pace, the world would lose ecological services worth nearly \$2 trillion annually by the year 2100 (p. 868).

Off the coast of California we can find the Eastern Pacific Garbage Patch, and between the coasts of Bermuda and Portugal we can find the Great Atlantic Garbage Patch (Kiener, 2010, p. 159). In these garbage patches we can find plastic bags, bottles, cigarette lighters, old fishing nets, tires, six-pack rings and more (p. 159). According to Thompson, we “use 100 million tons of plastic each year, and plastic accounts for about 10 percent of the world’s waste” (as cited in Kiener, 2010, p. 162). Some estimates that it takes plastic bags up to 1,000 years to decompose in a landfill, a plastic cup can take 50-80 years, a plastic bottle can take up to 450 years to degrade completely (p. 162). Most forms of plastic can be recycled in developed countries, but for developing countries imported plastics can not be recycled because they do not have the proper facilities. Even in the United States only 7.1 percent of manufactured plastics were recycled in 2008 (p. 162). With all of this plastic not being recycled it ends up in places like sewers and plumbing systems, which then end up getting into the water. That trash bag will end up in the ocean at one point. All of this builds up the two garbage patches in the oceans.

With the many regulations put into place to help conserve water resources, “some fishermen argue that creating such reserves harm both fisherman and consumer” (Weeks, 2014, p.869). Some argue that protected marine areas “won’t matter if no one is monitoring them... without monitoring, illegal fishing practices often continue long after they are banned” (p. 870). Not all of the water pollution should be the government's responsibility, as some people say that the people need to be conscience on what they are doing and that they can help protect our water sources (Water pollution, 2014, para. 13). Some cities and states have already banned the use of

plastic bags and single use plastic items including polystyrene take - out packaging. Reducing personal use of plastics is a simple step that can go along way to conserve the oceans.

Who is going to pay for what need to be done to help regenerate things in the ocean like the coral reefs systems? In June 2013, at the State Department's "Our Ocean" Conference, the United States and other countries announced initiatives and partnerships to protect ocean resources that value at more than \$1.8 billion (as cited in Weeks, 2014, p.882). "The United States announced a new program to improve seafood transparency and traceable, enabling consumers to verify how their seafood is raised or harvested (p. 882).

The conference set new ocean conservation goals, including ending overfishing if all

marine stocks by 2020; reducing total nutrient pollution in marine areas by 20 percent by 2025 to reduce dead zones and harmful algal blooms; cutting carbon emissions to slow ocean acidification; and conserving at least 10 percent of coastal and marine areas as marine reserves by 2020. (Weeks, 2014, p. 882)

The amount of money to protect our oceans, to some this may be a ridiculous amount, but there may not be any non-profit or privatize company with the amount of resources that the government has to do the research and rebuilding of the ocean.

On a 2010 trip to the Pacific Garbage Patch, researchers found that more than 90 percent of tiny lantern fish had plastic chips in their guts. Latern fish are then consumed by larger fish like tuna and swordfish (Kiener, 2010, p.176). The researchers question "if we have found these plastic in fish, how far is plastic moving up the food

chain?" (p. 176). The six-pack rings from soda pop cans can get stuck around turtles and birds, which can then suffocate them. With a few easy cuts we can help save the animals from being trapped in the plastic rings. Fishing nets and fishing line can also be harmful for marine animals as they can be tangled in the lines. Many times we may not think that it is going to harm to the environment, actually can be damaging.

There are many things that occur of human use that can be damaging to the smallest of water organisms. "Excess fertilizer and animal waste from farmlands, urban stormwater runoff, discharges from sewer and septic and burning of fossil fuel, which emits nitrogen" (Week, 2014, p. 871). The high levels of nitrogen that cause depletion in the oxygen levels in the ocean, called hypoxia (p.871). It also stimulates huge "blooms" of plankton, which then die and decompose, as bacteria break down the plankton, they consume so much dissolved oxygen from surrounding water that it cannot support life (p. 871). Plankton is one of the smallest organisms in marine life, but it is vital for all of ecosystem.

People have set up marine reserves to help protect marine ecosystems against the impact of overfishing. Some ways to help preserve the marine reserves include setting up strict catch limits and banning gear and practices that damage undersea habitats (Weeks, 2014, p.869). "More than 6,700 marine protected area have been created in 168 countries worldwide, but they encompass less than 2 percent of the oceans" (p. 870). Even with the help of the protected areas there are still parts of the oceans that are being overfished, being caught faster than they can be produced (p.867). "According to the United Nations Food and Agriculture Organization, 29 percent of global wild fish stocks are overfished" (p.867). Just because you stop fishing

in a certain area, does not mean the fish will just appear. It will take time for the fish to grow back to normal population size.

Of course, the ecosystems in the water are not the only ones that need clean water to use, we all do. Dirty water effects all of us. There are 750 million people around the world have unsafe drinking water that lead to multiple diseases. Part of the reason is that they do not have good sewer systems, so human waste gets mixed back into their water supply (Water Pollution, 2015, para 9). Another obstacle is that the majority of the world's water supply is salt water making it undrinkable and unusable, and the high cost to take the salt out of the water is too much. A planet without water, means we could someday turn into a planet like Mars, where we would not be able to support life (Weeks, 2014, p. 867). "The 10% of the U.S. homes with well pumps save energy wherever water is saved. Many homes with well pumps are being forced to drill deeper to ensure a reliable water supply" (Meier, 2015, para.5). After a while you would dry up your water supply making it hard to have good water flow.

Leading up to the 2016 Summer Olympic games in Rio de Janeiro, Brazil, the government had pledged to cut 80 percent of the pollution flow into the Guanabara Bay by the start of the games (Barchfield, 2014, para. 5). In 2014, "nearly 70 percent of the sewage in the metropolitan area of 12 million inhabitants continues to flow untreated, along with thousands of tons of garbage daily, into rivers, the bay and the beaches" (para. 6). Then in July 2015, Rio de Janeiro Environmental Agency deemed the water at Copacabana Beach area "unfit" for swimming, but so far no one has gotten sick from it (Almaguer & Fieldstadt, 2015, para. 12). Could this become a greater problem in the future? It is absolutely possible.

Global climate change is not good for our overall health. Rising temperatures give higher “risks of bacterial, viral and insect-borne disease; asthma; and respiratory and cardio failure” (Climate, 2015, para. 1). The Lancet Commission identifies climate change as a major public health threat of the 21st century (para. 2).

The atmosphere and the ocean currents work together to make our climate so if we clean up the ocean, it may help regulate the atmosphere. Global Climate Change really is global. It affects our climate, it effects the rise of the water temperature and that has a great effect on the ecosystems in the water. The majority of the sun’s radiation is absorbed by the ocean, it also helps distribute heat around the globe (The Ocean, 2013, para. 1). “Ocean water is constantly evaporating, increasing the temperature and humidity of the surrounding air to form rain... almost all rain that falls on land starts off in the ocean (para. 2). “The tropics are particularly rainy because heat absorption, and thus ocean evaporation, is the highest in this area” (para.2). Outside the Earth’s equator area, weather patterns are driven largely by oceans currents (para. 3) Currents are always in a continuous flow, so the warmer water is always in movement warming the other water systems (para.3). “Without currents, regional temperatures would be more extreme- super hot at the equator and frigid toward the poles- and much less of Earth’s land would be habitable (para 4).

An example of how climate change has affected how animals have behaved is that the lobster producers are seeing that lobsters have mottled, diseased shells (Weeks, 2014, p. 867). Scientist say this is caused by increased ocean acidity due to the climate change (p. 867). Other fisherman are finding an increase in black sea bass that is native to warmer waters farther south with the lobsters. They are migrating north

because climate change is warming ocean waters, they prey on baby shellfish and that could damage the lobster stocks (p. 867)

Any type of trash you do clean up will help out all animals in all ecosystems. Each of us needs to do our part to help take care of the planet Earth that we live on. Can you imagine fifty years from now that we might not be able to go to the beaches because they have been overtaken by too much trash and marine life is washed upon the shore dead? We can prevent this from happening by preserving our resources. “Water conservation must enter the home performance industry’s repertoire of technologies and services. It will certainly begin in the drought- stricken regions, but the logic of water conservation applies everywhere” (Meier, 2015, para. 10). For example the drought in California we may not care about here in Michigan, but what we put into the Great Lakes can later effect their water supply. By taking steps to protect our waters we can prevent dangerous levels of water pollution and saving the marine ecosystems. That way we can take care of our environment, leaving it in good conditions for future generations.

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