

To: Dr. Christine Cranford, CEO

From: Caroline Dorman

Subject: Pollution in the Oceans

Date: 11-15-19

Introduction

This proposal will focus on the issue of the different types of pollution in our oceans and potential solutions and recommendations that can be implemented to help the issue. In our society today pollution is a rapidly growing problem especially for our oceans and the wildlife that live in them. Our oceans cover more than 70 percent of the planet. The oceans provide over 70 percent of the oxygen that we breathe and are a major source of the world's water supply. They are crucial to our ecosystem. They impact the weather, provide food, and provide jobs. The ocean is home to millions of different species of creatures. In fact, the oceans are the home to most of the life on earth.

Since the 1960s, the amount of plastic in the Atlantic Ocean alone has nearly tripled in size. Most of the pollution in the ocean is caused by plastic, however that is not the only kind of pollution in the oceans. There are several different types of pollution and each type has its own dangerous impact. For many years a lot of people believed that you wouldn't be able to see the effects of dumping trash and chemicals in the oceans. However, scientists are starting to be able to understand and see the effects that pollution is having not only on the oceans and the wildlife living in them, but also on our ecosystem as humans. The pollution gets thrown into the oceans, but it cycles right back to humans as well. The oceans aren't just bodies of water that extend from our coasts. The oceans connect the bodies of water within our land. If the oceans are polluted that means it directly effects the bodies of water connected to them as well.

Problem

Pollution in the oceans can have many lasting negative effects on our ecosystem and life on Earth. When the marine environment is imbalanced, that means that everything that depends on the ocean is also imbalanced. Not only is the marine wildlife impacted, but also humans are as well. Since there are different types of pollution in the oceans there are also different effects. The majority of the pollution in the ocean is because of plastic. There is currently a garbage patch floating in the Pacific Ocean that is the size of almost 620,000 square miles. To put that in to perspective, 620,000 square miles is equal to twice the size of Texas. In all of the oceans in the world, it is estimated that every single year over 100,000 marine mammals and turtles are killed by plastic litter. Each year there are estimates that 267 marine species are reported to have been entangled in plastic or have ingested plastic or other debris (Figure 1). This severely impacts the marine ecosystem because it disrupts cycles. If a single species is impacted it can disrupt the entire food chain.



Figure 1. According to The Ocean Cleanup Foundation, a sea turtle was found in the Pacific Ocean with this debris in its stomach.

Humans suffer from consuming the contaminated waters and can actually get diseases from bathing in contaminated waters. It is estimated that between 50,000 and 100,000 people die each year from eating contaminated shellfish. If the types of sea food that humans eat are exposed to pollution and contamination, then people eating that sea food are also becoming contaminated and could be killed or suffer from serious health problems and even reproduction problems. Not only is the pollution dangerous to human health, but the pollution problem also costs a lot of money. The ocean provides jobs to millions of people and an impact on the ocean means an impact on human livelihoods. It is documented that the economic losses that are caused by accidental or deliberate introductions of pollution in the oceans amounts to hundreds of millions of dollars each year. The global economic cost related to pollution of coastal waters is estimated to be around \$16 billion each year. A lot of that \$16 billion dollars is because of the negative human health impacts related to the pollution problem. The large amounts of plastic and litter in the ocean frequently damages boats. Fixing these damages cost time and money and cause thousands of dollars in repairs and loss in revenue.

Objective

The objective of this proposal is to provide suggestions about potential solutions regarding the pollution in our oceans. The biggest objective for this proposal is also to educate people on the dangers of pollution. The key to stop the pollution and reduce the negative effects of the pollution already exposed in the ocean is for every person to take ownership. There are organizations to get connected with to donate time and money to clean up the oceans. If every person could be educated and take a little consideration on their actions, it could make a huge difference in the health of the oceans and wildlife. The objective is that if people take ownership, the actions will speak to the leaders of our country and leaders around the world to pass bills and regulations to better control the pollution in our environment.

Background

In the years before 1972, humans were oblivious to how pollution would impact the oceans and our ecosystems. In those years people mindlessly dumped trash, sewage sludge, and chemical, industrial, and radioactive wastes into our oceans. This means that there were millions of tons of contaminants, trash, and waste purposefully dumped into the oceans. Over half of the pollution that contaminates the marine environment actually comes from the land and makes its way to the oceans. When you hear pollution in the ocean, it is easy to think that plastic is the only problem. Plastic is most of the problem, however, there are several different ways that the oceans can become contaminated (Figure 2).

One of those ways is chemical pollution. Chemical pollution comes from things that are manmade such as pesticides, fertilizers, detergents, oil, industrial chemicals, and sewage. Many of these manmade things are carried by rivers into the oceans like from run off from farms or waste from an industrial plant. A second way that the ocean is polluted is by light and noise pollution. At night marine life that is close to urban areas are disrupted by lights and noise. This can affect their disrupt their rhythms. A third way that the ocean is polluted is by offshore drilling sites. The oil and gas industry are releasing toxic gasses, and there are thousands of spills in to the waters each year. These types of things cause irreversible damage to the marine wildlife.

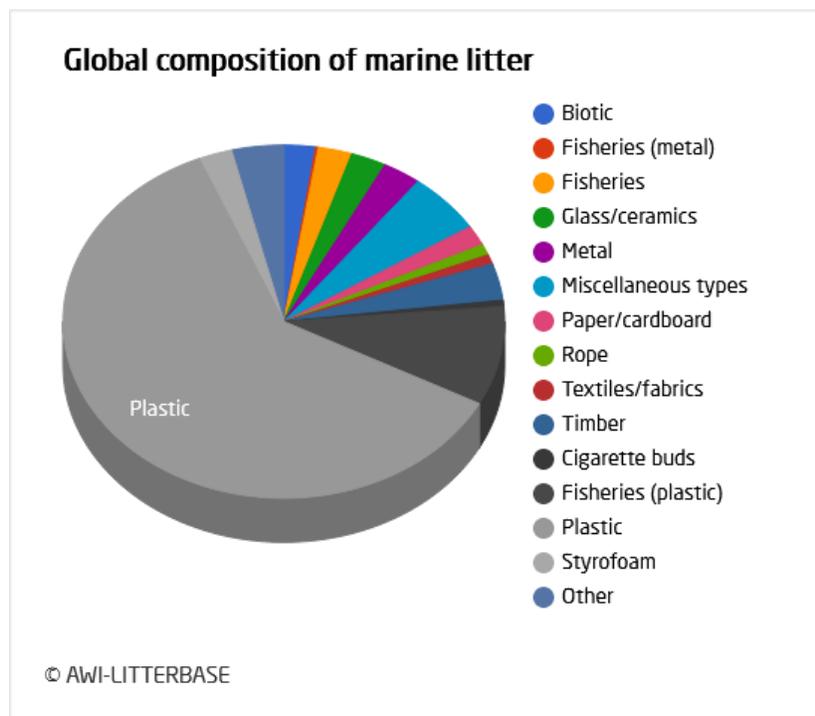


Figure 2. This pie chart shows the different ways that the oceans are polluted.

Solution

A problem like pollution in the ocean can be very overwhelming and can seem like an impossible problem to fix. The pollution in the ocean problem can't be fixed over night and will take a lot of work and a lot of time to fix. However, if we realize that the everyday choices we

make can make an impact, over time we can implement a solution to solve the pollution problem. We might not be able to fix the issue worldwide ourselves, but we can be part of the solution.

The first solution to take is to be educated on the problem. The ignorance of the population is the reason why the problem is so bad. In the future it is important to implement and awareness program. The second solution is to have an ocean cleanup day by the end of 2020 where we can take time to go to the oceans or bodies of water around us and contribute to the effort to clean up. The third solution is to implement a program to recycle all plastics and paper products. This will help to reuse the plastic and paper so there wouldn't be a higher demand for more. The fourth solution is to get the political leaders of our world to take notice. They could pass bills and regulations to keep our oceans cleaner. They could regulate the factories and farms from allowing so much waste and pollution to be carried into the ocean. Cleaning our oceans will cost money, but in the end, it will pay off because of the amount of money the pollution cost every year.

Schedule

Table 1 shows the timeline of events to plan out how to execute the proposal.



Table 1. Schedule of events.

Budget

Table 2 will represent the budget for the proposal. Our budget for implementing this proposal will cost \$12,000. The Awareness Partnership program will cost \$5000. We need that partnership so that we will be able to provide education on the issue. The recycle program that we will implement will cost \$1000. This program will help us to recycle plastics and paper and we need our local recycle company to take our plastics and papers to be properly used. The recycle bins and boxes will be placed in every location in our office building and will cost \$3000. We will need funding for advertising the clean up day in the summer of 2020. We will budget \$1500 for that and anything that is left over can be used for clean up day. The equipment that we will need for that clean up day will cost \$1500. We will need bags, buckets, and safety equipment to clean the ocean.

Item	Cost
Awareness Partnership Program	\$5000
Recycle Program	\$1000
Recycle Bins/Boxes	\$3000
Funds for Advertising Cleanup Day	\$1500

Funds for Cleanup Day Supplies (Bags, Buckets, Safety Equipment)	\$1500
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Table 2. Budget for the proposal.

Recommendations

Our company alone can't single handedly fix the pollution in the ocean, but we can make an impact. It is important to execute these ideas because every day that something isn't done about the pollution problem is another day of irreversible damage. It is recommended to start the Awareness Partnership Program as soon as possible. It is important for us to be educated and motivated about the issue. Once this program is initiated the rest of the solutions will be able to follow. It is also recommended to make the Clean Up Day in the summer of 2020 an annual company tradition so that we could do our part in making the oceans a cleaner place.

Sources

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Memorandum

To: Dr. Christine Cranford, CEO

From: Caroline Dorman

Subject: Pollution in the Oceans Reflection

Date: 11-15-19

The global issue that I would like to address is the increasing problem of pollution in the oceans. Since the 1960s the amount of plastic in the Atlantic Ocean has nearly tripled in size. The pollution in the oceans are creating lasting devastating effects on the marine environment and on humans. Some of the damage is irreversible and some of the damage will take many years to correct.

Most people think that there is only plastic and trash pollution in the oceans. However, there is many different types of pollution including noise pollution, light pollution, chemical pollution, and oil drilling spills. Most of the plastic and trash pollution floats to the ocean by rivers and connecting bodies of water. Controlling that inflow of trash could be a huge impact on the trash in the oceans.

There are many potential solutions to help fix the problem of pollution in the oceans. It could be overwhelming to single handedly try to fix the problem on our own. Our company would need to do what we could to contribute to the cause. I have included the ways we could execute these solutions in the proposal. I have also included a schedule of a timeline of events and a budget with detailed information on how much money we would need and what to purchase.

The issue I chose in the proposal will most likely never have a permanent solution because humans will always produce trash and other things that lead to polluting the oceans and our Earth. However, in an effort to contribute to the cause of making our Earth a cleaner place and making our oceans healthier again, I chose this issue to try to contribute to the many ongoing efforts to clean the oceans. It is important for us to contribute what we can to the cause. The problem of pollution in the oceans isn't one that is oblivious to people. If we could do more to educate people and then put our words in to action, then hopefully we could live in a world where recycling and taking care of our planet will come first.