

EFFECT OF PLASTIC POLLUTION ON ENVIRONMENT

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ABSTRACT

Accumulation of plastic products in the Environment that adversely affects wildlife, wildlife habitat, or humans is a major concern for the governments now. Plastic Pollution occurs in many forms, including but not limited to littering, marine debris (man-made waste that has released in a lake, sea, ocean, or water way), plastic particle water pollution, plastic netting and friendly Floaters. A large percentage of plastic produced each year is used to make single-use, disposable packaging items or products which will get permanently thrown out within one year. Often, consumers of the various types of plastics mainly use them for one purpose and then discard or recycle them.

Chlorinated plastics can release harmful chemicals into the surrounding soil, which can then seep into ground water or other surrounding water sources. This can cause serious harm to the species that drink this water. Nurdles are plastic pellets that are shipped in this form, often in cargo ships, to be used for the creation of plastics products. A significant amount of hurdles are spilled into oceans, and it has been estimated that globally, around 10% of beach litter is nurdles. Plastics in oceans typically polystyrene can leach into waters from some plastics. Polystyrene pieces and nurdles are the most common types of oceanic debris.

Animals can be significantly harmed or killed by plastic pollution. Plastic pollution has potential to poison animals, which can then affect human food supplies. Plastic pollution has been described as being highly detrimental to large marine mammals. Plastics contains many different types of chemicals, depending on the type of plastics. The addition of chemicals is the main reason why these plastics have become so Multipurpose, however this has problems associated with it. Some of the chemicals used in plastic production have the potential to be absorbed by human beings through skin absorption.

KEYWORDS: Environment, plastic, pollution

INTRODUCTION

The world population is living, working, vacationing, increasingly conglomerating along the coasts, and standing on the front row of the greatest, most unprecedented, plastic waste tide ever faced. The amount of plastic manufactured in the first ten years of this century will approach the total produced in the entire last century. The plastic pollution involves the accumulation of plastic products in the environment that adversely affects wildlife habitat, or humans. We absorb many types and forms of plastic pollution exist. The plastic pollution can adversely affect lands, waterways and oceans. The prominence of plastic pollution is correlated with plastics being inexpensive and durable, which lends to high levels of plastics used by humans. Animals can be significantly harmed or killed by plastic pollution. The environmental tools of plastics, i.e. cell phones and computers to bicycle helmets and hospital IV bags, plastic has molded society in many ways that make life both easier and safer. Plastic are very long lived products that could potentially have service over decades and yet our main use of these lightweight, inexpensive materials are as single-use items that will go to the garbage dump within a year.

In 2008, our global plastic consumption worldwide has been estimated at 260 million tons. Plastic is versatile, lightweight, flexible, moisture resistant, strong, and relatively inexpensive. Those are the attractive qualities that lead us, around the world, to such a voracious appetite and over-consumption of plastic goods. However, durable and very slow to degrade, plastic materials that are used in the production of so many products all, ultimately, become waste with staying power. Our tremendous attraction to plastic, coupled with an undeniable behavioral propensity of increasingly over-consuming, discarding, littering and thus polluting, has become a combination of lethal nature.

A simple walk on any beach, anywhere, and the plastic waste spectacle is present. All over the world the statistics are ever growing, staggeringly. Tons and tons of plastic debris (which by definition are waste that can vary in size from large containers, fishing nets to microscopic plastic pellets or even particles) is discarded every year, everywhere, polluting lands, rivers, coasts, beaches, and oceans. Last year, an estimated 150,000 tons of marine plastic debris ended up on the shores of Japan and 300 tons a day on India's coasts.

Lying halfway between Asia and North America, north of the Hawaiian archipelago, and surrounded by water for thousands of miles on all sides, the Midway Atoll is about as remote as a place can get. However, Midways' isolation has not spared it from the great plastic tide either, receiving massive quantities of plastic debris, shot out from the North Pacific circular motion of currents (gyre). Midways' beaches, covered with large debris and millions of plastic particles in place of the sand, are suffocating, envenomed by the slow plastic poison continuously washing ashore.

Types of plastic pollution:

Plastic pollution occurs in many forms, including but not limited to littering, marine debris (man-made waste that has been released in a lake, sea, ocean, or waterway), plastic particle water pollution, plastic netting and Friendly Floatees. A large percentage of plastic produced each year is used to make single-use, disposable packaging items or products which will get permanently thrown out within one year. Often, consumers of the various types of plastics mainly use them for one purpose and then discard or recycle them.

Effects on the environment as follows:

1. Land: Chlorinated plastics can release harmful chemicals into the surrounding soil, which can then seep into groundwater or other surrounding water sources. This can cause serious harm to the species that drink this water. Landfill areas are constantly piled high with many different types of plastics. In these landfills, there are many microorganisms which speed up the biodegradation of plastics. Degradation of plastics leads to the release of methane which is a major contributor green house effect. Some landfills are taking initiative by installing devices to capture the methane and use it for energy, but most have not incorporated such technology. Release of methane does not only occur in landfills, biodegradable plastics also degrade if left on the ground, in which case degradation takes longer to occur.

2. Ocean: Nurdles are plastic pellets (a type of microplastic) that are shipped in this form, often in cargo ships, to be used for the creation of plastic products. A significant amount of nurdles are spilled into oceans, and it has been estimated that globally, around 10% of beach litter is nurdles. Plastics in oceans typically degrade within a year, but not entirely, and in the process toxic chemicals such as bisphenol A and polystyrene can leach into waters from some plastics. Polystyrene pieces and nurdles are the most common types of plastic pollution in oceans, and combined with plastic bags and food containers make up the majority of oceanic debris. In 2012, it was estimated that there was approximately 165 million tons of plastic pollution in the world's oceans.

Plastic pollution has the potential to poison animals, which can then adversely affect human food supplies. Plastic pollution has been described as being highly detrimental to large marine mammals, described in the book *Introduction to Marine Biology* as posing the "single greatest threat" to them. Some marine species, such as sea turtles, have been found to contain large proportions of plastics in their stomach. When this occurs, the animal typically starves, because the plastic blocks the animal's digestive tract. Marine mammals sometimes become entangled in plastic products such as nets, which can harm or kill them.

Over 260 species, including invertebrates, have been reported to have either ingested plastic or become entangled in the plastic. When a species gets entangled, its movement is seriously reduced, therefore making it very difficult to find food. Being entangled usually results in death or severe lacerations and ulcers. It has been estimated that over 400,000 marine mammals perish annually due to plastic pollution in oceans. In 2004, it was estimated that seagulls in the North Sea had an average of thirty pieces of plastic in their stomachs.

3. Effects on humans: Plastics contain many different types of chemicals, depending on the type of plastic. The addition of chemicals is the main reason why these plastics have become so multipurpose, however this has problems associated with it. Some of the chemicals used in plastic production have the potential to be absorbed by human beings through skin absorption. A lot is unknown on how severely humans are physically affected by these chemicals. Some of the chemicals used in plastic production can cause dermatitis upon contact with human skin. In many plastics, these toxic chemicals are only used in trace amounts, but significant testing is often required to ensure that the toxic elements are contained within the plastic by inert material or polymer. Plastic pollution can also affect humans in which it may create an eyesore that interferes with enjoyment of the natural environment.

4. Reduction efforts: Efforts to reduce the use of plastics and to promote plastic recycling have occurred. Some supermarkets charge their customers for plastic bags, and in some places more efficient reusable or biodegradable materials are being used in place of plastics. Some communities and businesses have put a ban on some commonly used plastic items, such as bottled water and plastic bags.

5. Collection: The two common forms of waste collection include curbside collection and the use of drop-off recycling centers. About 87 percent of the population in the U.S.A. (273 million people) have access to curbside and drop-off recycling centers. In curbside collection, which is available to about 63 percent of the U.S.A. population (193 million people), people place designated plastics in a special bin to be picked up by a public or private hauling company.

See

- Great Pacific garbage patch, an area of exceptionally high concentrations of pelagic plastics, chemical sludge and other debris
- Plastic particle water pollution

CONCLUSION

The plastic pollution can adversely affect lands, waterways and oceans. The prominence of plastic pollution is correlated with plastics being inexpensive and durable, which leads to high levels of plastics used by humans. Animals can be significantly harmed or killed by plastic pollution. Animals can be significantly harmed or killed by plastic pollution. The environmental tools of plastics, i.e cell phones and computers to bicycle helmets and hospital IV bags, plastic has molded society in many ways that make life both easier and safer. A large percentage of plastic produced each year is used to make single-use, disposable packaging items or products which will get permanently thrown out within one year. A significant amount of nurdles are spilled into oceans, and it has been estimated that globally, around 10% of beach litter is nurdles. Some of the chemicals used in plastic production have the potential to be absorbed by human beings through skin absorption. Efforts to reduce the use of plastics and to promote plastic recycling have occurred.

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