**Researcher/Writer:** Esther P., Anne M

**Editor:** Jolie H.

**Plastic Pollution’s Impact on Animals, People, and the Environment**

**Introduction**

The main goals of preventing climate change focus on reducing greenhouse gas emissions, but plastic production and usage slow down these efforts. Plastic is a compound that can be molded into various solid shapes, making it a convenient and simple material for daily use. It is well known and commonly used by almost everyone in nearly all countries. Despite the fact that plastic is a convenient substance, it comes at a cost. Plastic is detrimental to the environment and many life forms, animals and humans alike. These dangers mainly come from the production of plastic through fracking and the treatment of plastic once it ends up in the environment.

**Plastic Pollution on the Environment**

Fracking is the process in which pressure machines extract natural gas and oil out of tight underwater rocks to make plastic and fossil fuels. Fracking is very harmful because not only does it poison water sources, but it also kills many animals living in the water. Fracking also taints soil by making it unusable, which throws ecosystems out of balance. Unfortunately, 99% of plastics are produced from fracking.

The United Nations suggests that there is a much higher amount of microplastics in soil and drinking water than in oceans and that the consequences will likely be long term. The main concern for plastic pollution stems from how it enters the food cycle. Sewage sludge is typically used as fertilizer, meaning that the 80-90% of microplastics found in the sludge will actually be transferred to the soil. However, the real risk is when microplastics carry disease-causing organisms that can deactivate properties that make soil usable. The presence of microplastics also influences earthworms negatively by changing the way that they burrow, which is also unhealthy for the soil. Microplastics pose a significant threat to both human and animal health.

Plastic is also particularly difficult to recycle. Only 9% of plastics have been recycled while the rest end up in landfills or in the environment, injuring animals. Landfills are known to emit a plethora of greenhouse gases due to the lack of oxygen that’s needed for decomposition. The University of Hawaii found that when plastics break down into microplastics, greenhouse gases are emitted as well.

**Plastic Pollution on Animals**

Ever since the rise of industrialization, plastic consumption has skyrocketed. Less regulation and more neglect towards the environment leads to more plastic pollution in rivers, oceans, and wildlife habitats. More than 1,000,000,000,000 (one trillion) plastic bags are produced and consumed annually. Over 100,000 mammals and birds and an astounding 1,000,000 marine animals die per year from plastic. These animals and marine life get caught up, suffocate, and then die from plastic waste. Plastic bags, packaging, straws, balloons, and utensils, are just some of the items that compose the top 20 items commonly found by the Ocean’s Conservancy Annual International Coastal Cleanup. Aside from plastic contamination, plastic contains toxic chemicals that end up in animals’ guts and form pre-cancer cells.

How do animals consume plastic? Creatures like birds, fish, and turtles easily mistaken the tons of plastic found in oceans for food. 86% of sea turtle species, 44% of seabird species, and 43% of marine mammals have been found to contain plastic fragments inside their bodies. When animals ingest plastic debris, they can starve to death because they falsely feel satiated from the plastic trapped inside their bodies that blocks digestive tracts. These animals then carry microplastics in their bodies and have the ability to pass it around the food chain. *Tropic Transfer* is a transfer process of microplastics where a predator eats prey that contains microplastics in its system. Fish, marine animals, and others that make up the large scale food chain are all impacted as well. Fish are a vital part in our ecosystem and provide a great nutritional source of food. If humans consume fish that contain microplastics, there can be serious health issues.

Remember to acknowledge other deadly forms of human interference, too. A study from the Ocean Conservancy Ecological analyzed marine life and found an estimated 25-50% lethality rate from the fishing line or rope entanglement of birds.

**Plastic Pollution’s Effect on People**

Plastic use not only creates devastating impacts to animals, but also to humans. Plastic contains two main types of chemicals: Bisphenol A (BPA) and phthalates. BPA is a building block to polycarbonate plastics and can be found in our daily household items, such as water bottles, food packaging, and more. When the bonds are broken down from washes, exposure to heat, and other stressors, BPA can become toxic and interfere with our hormonal functions. The FDA announced BPA can lead to changes in the brain, behavior, and prostate gland of fetuses, infants, and children. Furthermore, microplastics ingested or inhaled into the human body can cause inflammation, genotoxicity, oxidative stress, apoptosis, and necrosis, which can ultimately lead to cancer, diabetes, bowel disease, arthritis, auto-immune conditions, cardiovascular diseases, and stroke.

**Conclusion**

The global use of plastic has become so significant that future generations for decades to come will experience the consequences of today’s actions. Plastic use will only grow and continue to threaten the wellbeings of humans, animals, and the entire food chain. Consumers of plastic must be vigilant with unnecessary plastic use and advocate for laws that address plastic pollution and ban plastics like styrofoam (which, unlike regular plastics, does not degrade). Glo.be, an informative website from the Belgian Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation presents 14 ways to prevent plastic pollution. Read more: <https://bit.ly/2H5uCiX>

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