

## **Introduction**

It is no secret that plastics are polluting and littering both our built and natural environments. Whether it be plastic bags on the side of the freeway or plastic straws floating in the ocean, the overproduction of plastic items combined with the lack of adequate recycling has contributed to a wide array of environmental and public health concerns. The production and use of these often toxic, synthetic products introduces damaging chemicals into the environment that accumulate and negatively impact the health of both humans and nature. As a prominent academic institution it is the role of Occidental College and its students to stand against plastics; setting an example for other universities, institutions, and individuals. A plastic ban on single use plastics, with an intense focus on campus dining, would not only help to alleviate local and indeed global public health and environmental health troubles, but it would also provide a template for others to follow.

## **Environment**

Since the start of the decade, there has been evidence to demonstrate that plastic has severe environmental impacts. The accumulation of plastic on earth, has led to numerous hazardous issues including contaminated soil and a polluted ocean. Regularly, unwanted plastic is left in landfills and then buried. The plastic that has been buried deep down in the ground is harmful to the environment because it contaminates soil and consequently contaminates groundwater. Additionally, the plastic found in the ocean, is more often than not, consumed by various species of marine life. Eating the physical plastic is an issue for the marine life.

Furthermore, the plastic ingested is frequently laced with chemicals and can result in the poisoning of marine life animals. Finally, the majority of plastic is used only once these types of plastics are known as single use plastic. Examples of single use plastics include, plastic bags, water bottles, and straws. These types of plastics frequently end up littering our surrounding environment. Not only is our soil and ocean being affected by our overuse of plastic but our surrounding environment where we carry out our daily lives is also being affected. From an environmental standpoint, it is clear that the world population needs to reduce our use of plastic. A ban on single use plastics would not only benefit the Occidental College Community but we would be doing our part in the fight against plastics.

### **Health**

The continuous reliance on plastic has also accumulated to create adverse effects on human health and well-being. The manufacturing process of plastics has been known to be toxic. The effects of being exposed to the chemicals associated with plastic production can be seen through reproductive, developmental, respiratory, and genetic abnormalities to name a few. As a specific example, the use of common plastics in the form of water bottles has been strongly correlated with increased risk of cancer, impaired immune system, obesity, and diabetes. In addition, food containers, single-use cups, plates, and utensils can cause eye, nose, mouth irritation and dizziness. These plastics are very commonly seen throughout Occidental College's campus and prove as a prominent health risk for students and staff exposed to them. Occidental College's proposal to discontinue the use of single use plastics around campus would promote the use of non-toxic substitutes and will eventually ensure the defensive action against the health hazards associated with plastic use.

### **Economics**

From an economics perspective alone, it could be argued that potential benefits of a plastics ban are not worth the monetary costs; however, it is important to recognize that small economic implications are worth the environmental and health benefits detailed above. First and foremost, replacing one time use plastic products with reusable products would require an upfront investment but would pay for itself overtime. Additionally, while replacing single use plastic products with products made from sustainable materials are far costlier on a percentage basis, in monetary terms they are still very inexpensive. The cost difference in plastic versus sustainable products such as to go containers, straws, etc. is usually a matter of cents. Due to the minor expense, it would not be unreasonable to pass the expense onto the ultimate consumer without the fear of producing or furthering inequities. Lastly, while difficult to quantify the costs of waste management, the utilization of reusable products and financial disincentive of using single use products could lead to reductions in waste and in turn savings. Ultimately, while there are certainly financial costs to eliminating single use plastic usage, their limited magnitude in no way justifies the continued use of plastic.

### **Conclusion**

As is stated in the above sections, the negative impacts of plastic both on environmental and human health outweigh the potential economic cost a plastic ban could create. Single-use plastics such as straws, utensils, plastic bags, etc. cause significant damages to multiple ecosystems and wildlife as well as creating problems in our own urban environment. In our urban environment the exposure to the chemicals laced within these plastics is a source of human health issues. These chemicals in plastics have been linked to increase the risk of cancer, impair immune systems, and cause irritation in the eyes and mouth. The listed health risks are only a small sample of the wide ranging potential health risks these plastics create. Economically there

will be some cost in the onset of a ban, however the investment now in alternative reusable materials instead of plastics will in fact save money overtime. From an economics standpoint, in the long term, the elimination of plastics will only work in a positive fashion. Overall, the cost it would take to implement single use plastic alternatives highly outweigh not only the long term savings, but the reduced impact on environmental and human health.

#### Works Cited

Knoblauch, Jessica A. "The Environmental Toll of Plastics." *EHN*, EHN, 20 Dec. 2017, [www.ehn.org/plastic-environmental-impact-2501923191.html](http://www.ehn.org/plastic-environmental-impact-2501923191.html).

Thompson, Richard C., et al. "Plastics, the Environment and Human Health: Current Consensus and Future Trends." *Philosophical Transactions of the Royal Society B: Biological Sciences*, The Royal Society, 27 July 2009, [rstb.royalsocietypublishing.org/content/364/1526/2153.short#sec-5](http://rstb.royalsocietypublishing.org/content/364/1526/2153.short#sec-5).

"Adverse Health Effects of Plastics." *Ecology Center*, [ecologycenter.org/factsheets/adverse-health-effects-of-plastics/](http://ecologycenter.org/factsheets/adverse-health-effects-of-plastics/).

"Toxicological Threats of Plastic." *EPA*, Environmental Protection Agency, 19 June 2017, [www.epa.gov/trash-free-waters/toxicological-threats-plastic](http://www.epa.gov/trash-free-waters/toxicological-threats-plastic).