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Plastic Prohibition: The Case For A National Single-Use Plastic Ban In The United States

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PLASTIC PROHIBITION: THE CASE FOR A NATIONAL SINGLE-USE PLASTIC BAN IN THE UNITED STATES

By Margaret Kolcon*

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I. INTRODUCTION

In 2021, it is widely understood that single-use plastics are bad for the environment. Over 2,110,000 square kilometers of "plastic soup" exist in the world's oceans, and the number increases

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by the second.¹ High-density Polyethylene, the type of plastic that is used to make plastic grocery bags, was invented in 1953, though the bags themselves were not introduced to America until 1979.² In just a few decades, plastic grocery bags and other single-use plastics have gone from non-existent to ubiquitous. The term "single-use plastics" refers to plastic packaging and items that are used only once before they are thrown away or recycled.³ "Disposable plastics" is another term for this group of items, including but not limited to: plastic shopping bags, coffee stirrers, water bottles, plastic straws, plastic caps, food packaging and disposable cups.⁴ Every day, Americans turn to these items because they are convenient and affordable, but they are also dangerous.⁵

Single-use plastic has had a massive impact on oceans and marine animals, as it is a major ocean polluter. Sea birds, sea turtles, seals, whales and other animals ingest or become entangled in plastic, with deadly consequences. According to the United Nations, over 800 species are affected by marine debris each year and about three-quarters of the debris is made up of plastic. About half of all species of marine animals are affected by entanglement or ingestion of

¹ Great Pacific Garbage Patch, THE WORLD COUNTS, https://www.theworldcounts.com/challenges/planet-earth/waste/great-pacific-garbage-patch-size/story (last accessed Mar. 18, 2021).

² Sarah Laskow, *How the Plastic Bag Became So Popular*, THE ATLANTIC (Oct. 10, 2014), https://www.theatlantic.com/technology/archive/2014/10/how-the-plastic-bag-became-so-popular/381065/.

³ What is Single Use Plastic and Why is it a Problem?, PLASTIC FREE CHALLENGE, http://www.plasticfreechallenge.org/what-is-single-use-plastic (last visited Jan. 8, 2020).

⁴ *Id*.

⁵ How Are Plastic Bags Made? Step-By-Step Plastic Bag Production Process, GREENTUMBLE.COM (May 1, 2018) https://greentumble.com/how-are-plastic-bags-made/.

⁶ Ocean Plastics Pollution, CENTER FOR BIOLOGICAL DIVERSITY, https://www.biologicaldiversity.org/campaigns/ocean_plastics/ (last visited Jan. 9, 2020).

⁷ Id.

New UN report finds marine debris harming more than 800 species, costing countries millions, U.N. NEWS (Dec. 5, 2016), https://news.un.org/en/story/2016/12/547032-new-un-report-finds-marine-debris-harming-more-800-species-costing-countries.

marine debris, and fifteen percent of the affected species are on the International Union for the Conservation of Nature's Red List of Threatened Species. Marine animals who consume plastic have consequences other than entanglement, choking, or starvation, though. Studies have found that fish exposed to microplastics (pieces of plastic that are about five millimeters in length) reproduce less, and so do their offspring who weren't directly exposed to microplastics, suggesting that plastic consumption can have lingering effects. 10 Animals are not the only victims; the plastic can end up in the seafood eaten by humans too. 11 Plastic particles have been found not only in the seafood people eat, but also in bottled beverages, tap water, and even in the air. 12 While the effects of human consumption of plastic have not been studied in great detail due to ethical issues, studies performed on hamsters have found that plastic particle consumption could lead to blood clots. 13 The potential for inhaling airborne plastic particles is also problematic, as they can lodge in the lungs and are known to cause cancer. 14 Plastic use is most visible when it affects ocean animals, but it may have severe, albeit lessvisible, effects on people.

Each year, an estimated 8 million metric tons of plastic is deposited in the ocean, in addition to the estimated 150 million

⁹ Secretariat of the Convention on Biological Diversity, *Impacts of Marine Debris on Biodiversity*, 67 CBD Technical Series 1, 9, https://www.cbd.int/doc/publications/cbd-ts-67-en.pdf.

Andrea Thompson, From Fish to Humans, A Microplastic Invasion May Be Taking a Toll, THE SCIENTIFIC AMERICAN (September 4, 2018), https://www.scientificamerican.com/article/from-fish-to-humans-a-microplastic-invasion-may-be-taking-a-toll/; see also What are Microplastics?, NATIONAL OCEAN SERVICE, https://oceanservice.noaa.gov/facts/microplastics.html, (last accessed Jan. 10, 2020).

Simon Reddy, *Plastic Pollution Affects Sea Life Throughout the Ocean*, PEW CHARITABLE TRUSTS (Sep. 24, 2018), https://www.pewtrusts.org/en/research-and-analysis/articles/2018/09/24/plastic-pollution-affects-sea-life-throughout-the-ocean.

¹² Thompson, *supra* note 10.

¹³ *Id.*

¹⁴ *Id*.

metric tons of plastic waste that already circulates the ocean. ¹⁵ Plastic does not biodegrade quickly, which means that once it is in the ocean, unless someone or something physically removes it, it will stay there for generations. ¹⁶ A plastic bottle takes an estimated 450 years to biodegrade. ¹⁷ While some estimates say that plastic shopping bags take only around twenty years to biodegrade, the lightweight bags are often mistaken for jellyfish or other food sources by a variety of marine animals, causing choking or other irreparable harm. ¹⁸ More conservative estimates say that plastic bags can take up to 1000 years to degrade. ¹⁹ The longevity of the pollution and the common occurrence of marine animals consuming the plastic combines to create serious concerns for the health of marine ecosystems. ²⁰ Marine debris also has a huge economic cost. An estimated \$13 billion dollars has been lost on cleanup efforts, repairing damaged vessels, and decreased tourism due to polluted beaches. ²¹

Intensifying recycling efforts is theoretically a good solution. However, the most recent U.S. Environmental Protection Agency reports show that only 9.1% of plastic gets recycled in the United States.²² Only one percent of single-use plastic bags get recycled.²³

¹⁹ Brad Plumer, *Plastic Bags, or Paper? Here's What to Consider When You Hit the Grocery* Store, N.Y. TIMES (Mar. 29, 2019), https://www.nytimes.com/2019/03/29/climate/plastic-paper-shopping-bags.html.

²¹ Kimberly Amadeo, *How Air, Water, and Plastic Pollution Affect the Economy*, THE BALANCE, (Dec. 29, 2020), https://www.thebalance.com/pollution-facts-economic-effect-4161042#:~:text=such%20as%20bioremediation.-,Plastic%20Pollution,flexible%2C%20lightweight%2C%20and%20sustainable.

¹⁵ The Problem with Plastics, OCEANCONSERVANCY.ORG, https://oceanconservancy.org/trash-free-seas/plastics-in-the-ocean/ (last accessed Jan. 9, 2019).

¹⁶ A Guide to Plastic in the Ocean, NAT'L OCEAN SERV. https://oceanservice.noaa.gov/hazards/marinedebris/plastics-in-the-ocean.html, (last accessed Mar. 18, 2021).

Mike Wright, et al., *The stark truth about how long your plastic footprint will last on the planet*, The Telegraph (Jan. 10, 2018, 8:25 PM), https://www.telegraph.co.uk/news/2018/01/10/stark-truth-long-plastic-footprint-will-last-planet/.

 $^{^{18}}$ Ic

²⁰ Reddy, *supra* note 11.

²² Advancing Sustainable Materials Management: 2015 Fact Sheet, U.S. ENVIRONMENTAL PROTECTION AGENCY (July 2018) https://www.epa.gov/sites/

Further, not all plastics are recyclable, and any recyclable plastic that gets contaminated by non-recyclable plastic gets sent to a landfill.²⁴ Even when citizens go to the trouble of separating out their recyclables correctly, those items are sometimes burned in massive quantities instead of properly recycled.²⁵ Recycling centers are not equipped to handle lightweight plastic bags because they clog up machines, so even recyclable plastic bags frequently end up in landfills.²⁶ Recycling efforts are not solving the plastic problem. Legislative efforts must be made.

This comment will explore regulations that have banned, taxed or reduced single-use plastics in countries that have passed legislation on this topic. It will also analyze several state laws passed in the United States which have banned or placed regulations on plastic bags or styrofoam in order to predict if a country-wide ban in the United States is feasible. Currently, eight states have banned single-use plastics: California, Connecticut, Delaware, Hawaii, Maine, New York, Oregon, and Vermont.²⁷ One hundred and twenty seven countries world-wide have adopted legislation to regulate use of plastic shopping bags.²⁸ A 2018 report by the United Nations Environment Programme and World Resources Institute details

production/files/2018-07/documents/2015_smm_msw_factsheet_07242018_fnl_508_002.pdf.

²³ Bags by the Numbers, WASTE MANAGEMENT, http://www.wmnorthwest.com/guidelines/plasticvspaper.htm (last accessed Jan. 9, 2019).

John Hite, We Can't Recycle Our Way Out of the Plastic Pollution Problem, CONSERVATION LAW FOUNDATION (Apr. 24, 2019), https://www.clf.org/blog/cant-recycle-out-of-plastic-pollution-problem-guide/.

²⁵ Oliver Milman, Moment of reckoning': US cities burn recyclables after China bans imports, THE GUARDIAN (Feb. 21, 2019, 1:00 PM), https://www.theguardian.com/cities/2019/feb/21/philadelphia-covanta-incinerator-recyclables-china-ban-imports.

Plumer, supra note 19.

State Plastic and Paper Legislation, NAT'L CONF. OF STATE LEGISLATURES (Nov. 1, 2019), http://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx.

²⁸ Carole Excell, 127 Countries Now Regulate Plastic Bags. Why Aren't We Seeing Less Pollution? WORLD RESOURCES INSTITUTE (Mar. 11, 2019), https://www.wri.org/blog/2019/03/127-countries-now-regulate-plastic-bags-why-arent-we-seeing-less-pollution.

different regulations used in legislation.²⁹ "Plastic bags regulations include restrictions on the manufacture, distribution, use, and trade of plastic bags, taxation and levies, and post-use disposal."³⁰ The United States may need to implement a combination of these laws in order to have a real impact in changing the nation's addiction to plastic products.

II. BACKGROUND

A. Viral Animal Posts Bring Attention To The Plastic Problem

Sadly, the plastic pollution problem is most prominent when viral videos or photographs are posted of a deceased or suffering animal. A viral video of a drinking straw getting pried out of a wincing sea turtle's nostril has been viewed over 41 million times since it was posted in 2015 and is widely credited with drawing awareness to the danger of plastic drinking straws.³¹ An anti-straw movement gained traction after the video, and even large companies were affected by the movement; for instance, Starbucks made the decisions to eliminate plastic straws in 2018.³² While the viral video's success in leading to plastic straw bans seems like a solution to the plastic pollution problem, plastic straws are a relatively small part of the equation. Straws make up only four percent of the plastic trash by

²⁹ Legal Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws and Regulations, U.N. Environment Programme, https://wedocs.unep.org/bitstream/handle/20.500.11822/27113/plastics_limits.pdf?sequence =1&isAllowed=y (last accessed Jan. 12, 2020).

³⁰ Id.

³¹ Sea Turtle Biologist, Sea Turtle With Straw Up Its Nostril — "No" To Plastic Straws, YOUTUBE (Aug. 10, 2015)), https://www.youtube.com/watch?time_continue=1&v=4wH878t78bw; see also Michael A. Lindenberger, How A Texas A&M Scientist's Video of a Sea Turtle Soured Americans On Drinking Straws, THE DALLAS MORNING NEWS (July 19, 2018)), https://www.dallasnews.com/opinion/commentary/2018/07/19/how-a-texas-am-scientist-s-video-of-a-sea-turtle-soured-americans-on-drinking-straws/; see also Sophia Rosenbaum, She Recorded That Heartbreaking Turtle Video. Here's What She Wants Companies Like Starbucks To Know About Plastic Straws, TIME (July 17, 2018)), https://time.com/5339037/turtle-video-plastic-straw-ban/.

³² Starbucks to ban plastics straws in all stores by 2020, BBC NEWS (July 9, 2018), https://www.bbc.com/news/world-us-canada-44774762.

piece and only 2000 of the 9 million tons of plastic that end up in the ocean each year.³³

Other viral photos of suffering animals that have had major impacts include a stork with its mouth sealed shut by an elastic ring and a tiny seahorse clinging to a Q-tip. 34 The images are jarring and spark conversation. News reports of whales who have apparently died from swallowing too much plastic have started becoming more common, which has also drawn attention to plastic pollution. 35 In March 2019, a young fifteen-foot whale washed up dead on a Philippine island with more than eighty-eight pounds of plastic in its stomach, some of which had calcified. 36 In April 2019, another whale was found dead off the coast of Italy after eating more than forty-eight pounds of plastic. 37 When whales ingest plastic, they are unable to digest or expel it, so they feel full, despite not gaining any nutrients. 38 This leads to starvation. Seabirds that eat plastic sometimes die of starvation after consuming plastic because it takes up room in their stomachs and they cannot consume enough organic

Seth Borenstein, Science Says: Amount of straws, plastic pollution is huge, PHYS.ORG (Apr. 21, 2018), https://phys.org/news/2018-04-science-amount-straws-plastic-pollution.html.

Annie Gowen, A photo of a bird in India with its beak shut by an elastic ring went viral. Now it has been rescued, WASH. POST (June 13, 2018), https://www.washingtonpost.com/world/asia_pacific/a-photo-of-an-indian-bird-with-its-beak-shut-by-a-plastic-ring-went-viral-now-hes-been-

rescued/2018/06/13/fe64ecf3-77c3-4cd1-b447-fb3e757b8a82_story.html; see also Alessandra Potenza, *How a photographer snapped this tragic photo of a seahorse lugging a Q-tip*, THE VERGE (Sept. 15, 2017), https://www.theverge.com/2017/9/15/16314928/justin-hofman-seahorse-plastic-pollution-photography.

Umair Irfan, *The Alarming Trend of Beached Whales Filled With Plastic, Explained*, VOX (Dec. 3, 2019, 10:10 AM), https://www.vox.com/2019/5/24/18635543/plastic-bags-whale-stomach-beached.

Deanna Paul, Whales Keep Eating Plastic and Dying. This One's Stomach Had 88 Pounds of Calcifying Trash. WASH. POST (Mar. 18, 2019), https://www.washingtonpost.com/science/2019/03/18/whales-keep-eating-plastic-dying-thisones-stomach-had-pounds-calcifying-trash/.

³⁷ Iliana Magra, Whale Is Found Dead in Italy With 48 Pounds of Plastic in Its Stomach, N.Y. TIMES (Apr. 2, 2019), https://www.nytimes.com/2019/04/02/world/europe/plastic-whale-dead-italy.html.

Daniel Victor, *Dead Whale Found With 88 Pounds of Plastic Inside Body in the* Philippines, N.Y. TIMES (Mar. 18, 2019), https://www.nytimes.com/2019/03/18/world/asia/whale-plastics-philippines.html.

material to survive.³⁹ Fish also consume plastic, mostly in the form of microplastics, which come from either larger plastic debris that has been broken down into smaller pieces, or from manufactured plastic microbeads.⁴⁰ In a new test of some of the most commercially exported fish from Mexico, twenty percent were found to contain plastic.⁴¹

It is tragic that animals have to suffer in such a public manner for the plastic problem to be recognized by the general public, but the outpour of support for anti-plastic movements that resulted from the spread of these shocking images has been a catalyst for change world-wide. These images have proven that there is a plastic problem, and that it needs to be fixed.

B. American Plastic Shipped to Other Countries

One of the biggest arguments against a plastic bag ban is that the problem of plastic bags filling our oceans and landfills can be solved by intensifying recycling efforts. ⁴² There are many difficulties that arise from plastic bag recycling efforts. Plastic bags are expensive to collect, and although quality and cleanliness of the bags are essential for recycling, the minimum standards are hard to maintain. ⁴³ Further, plastics can only be recycled seven to nine times, unlike an aluminum can which can be recycled indefinitely, as it loses no quality during recycling. ⁴⁴ Each type of plastic is made from a different

³⁹ Reddy, *supra* note 11.

⁴⁰ What are Microplastics?, supra note 10.

⁴¹ Alejandro Olivera, *Tests Find Plastic in 20 Percent of Mexican Fish*, CENTER FOR BIOLOGICAL DIVERSITY (Oct. 10, 2019), https://biologicaldiversity.org/w/news/press-releases/tests-find-plastic-20-percent-mexican-fish-2019-10-10/.

⁴² Learn the Facts, BAG THE BAN, https://www.bagtheban.com/learn-the-facts/ (last accessed Mar. 18, 2021).

⁴³ Don't be Fooled- Plastic Bag Recycling Laws are Not the Answer, PLASTICBAGLAWS.ORG, https://www.plasticbaglaws.org/get-involved/plastic-bag-recycling (last accessed Mar. 18, 2021).

⁴⁴ Laura Parker, *China's Ban on Trash Imports Shifts Waste Crisis to Southeast Asia*, NAT'L GEOGRAPHIC (Nov. 16, 2018), https://www.nationalgeographic.com/environment/2018/11/china-ban-plastic-trash-imports-shifts-waste-crisis-southeast-asia-malaysia/.; see also *How Many Times Can it be Recycled?*, MAKETHEMOSTOFWASTE.CO.NZ, https://www.makethemostofwaste.co.nz/recycling/how-many-times-can-it-be-recycled/ (last accessed Jan. 10, 2020).

formula—there are thousands—and each requires a different recycling process.⁴⁵ Plastic recycling in general is a huge headache, and it is not a viable alternative for reducing plastic bag consumption.

The system of recycling is fundamentally flawed, because the rules of what can be recycled are confusing, and, as a result, many well-intentioned people attempt to recycle products that are not recyclable. 46 Because of this issue, the first step of recycling is to sort out the products that can actually be recycled from those that cannot.⁴⁷ This process is done by hand, and it is crucial because if plastic bags or cling wrap are not removed from the pile of recyclables, they can break the recycling equipment by jamming the conveyor belt. 48 In fact, plastic bags require special sorting and processing machines, which cannot be found at every recycling center. 49 Since many people still attempt to recycle plastic bags or items that are contaminated by food waste, someone needs to physically sort the items. 50 This is an unglamorous, labor-intensive job, and it does not make sense for many recyclers in the United States, or any other developed nation, to do it. Therefore, about eighty percent of America's mixed plastics are getting sent abroad for someone else to sort and deal with.⁵¹

That someone else was China until recently. Starting in 1992, China bought forty-five percent of the world's plastics designated for recycling.⁵² But, in January 2018, China's National Sword policy

⁴⁶ Dominique Mosbergen, Why Southeast Asia Is Flooded With Trash From America and Other Wealthy Nations, HUFF POST (MAR. 8, 2019, 5:45 AM), https://www.huffpost.com/entry/malaysia-plastic-recycling_n_5c7f64a9e4b020b54d7ff dee.

Parker, *supra* note 44.

⁴⁷ Id

⁴⁸ Kate Bratskeir, *How to Recycle Plastic Bags the Right Way*, HUFF POST (Jan. 26, 2019, 8:00 AM), https://www.huffpost.com/entry/how-to-recycle-plastic-bags_n_5c4b80f8e4b0e1872d43b9a4.

⁴⁹ *Id.*

⁵⁰ Mosbergen, *supra* note 46.

⁵¹ Id

⁵² Sara Kiley Watson, *China Has Refused to Recycle The West's Plastics. What Now?*, N.P.R. (June 28, 2018, 4;02 PM), https://www.npr.org/sections/

banned plastic waste from being imported for the protection of the environment and people's health.⁵³ Much of the imported recyclable waste was too contaminated to be recycled anyway, so a large percentage of it was ending up in China's landfills or waterways.⁵⁴

Since China's ban, hundreds of thousands of tons of plastics that are placed in recycling bins in the United States each year are now shipped to developing countries to be recycled.⁵⁵ The countries that receive the United States' plastic waste are mismanaging more than seventy percent of their own plastic waste. 56 Countries such as Bangladesh, Laos, Ethiopia, and Senegal are now receiving recyclables from the United States because they have cheap labor and a low level of environmental regulation.⁵⁷ While processing contaminated plastic requires more sorting for legal recyclers, unlicensed recyclers can do it cheaply by illegally accessing groundwater for the recycling process.⁵⁸ They then do not have to worry about treating the contaminated water, because of a lack of environmental regulations. 59 Leftover recyclables are illegally dumped and sometimes burned. 60 This is a widespread practice in Malaysia, where Chinese recyclers have relocated since the National Sword policy took effect.⁶¹ These relocated Chinese recyclers melt contaminated plastic scrap into pellets to sell to China, betting on cleaning up the plastics in the pellet-making process to get them past Chinese customs inspectors. 62 If that plan works, it would mean that contaminated, unregulated plastic could be used to manufacture

goatsandsoda/2018/06/28/623972937/china-has-refused-to-recycle-the-wests-plastics-what-now.

⁵³ *Id.*

⁵⁴ Mosbergen, *supra* note 46.

⁵⁵ Erin McCormick et. al., Where Does Your Plastic Go? Global Investigation Reveals America's Dirty Secret, THE GUARDIAN (June 17, 2019, 1:00 PM), https://www.theguardian.com/us-news/2019/jun/17/recycled-plastic-americaglobal-crisis.

⁵⁶ *Id*.

⁵⁷ *Id*.

⁵⁸ Mosbergen, *supra* note 46.

⁵⁹ *Id*.

⁶⁰ Id.

⁶¹ Id

⁶² Parker, *supra* note 44.

Chinese goods. 63 The United States has been criticized by Malaysia's Energy, Science, Technology, Environment and Climate Change Minister for being a developed country that is dumping its waste on a developing nation. 64 Plastic waste in the United States is becoming other countries' problem, which should be a major consideration in developing nationwide policy. 65

In May 2019, almost all of the world's countries agreed on a deal that restricts shipments of hard-to-recycle plastic waste to economically developing countries. 66 The deal means that exporting countries will have to obtain consent from countries receiving contaminated, mixed or unrecyclable plastic waste. 67 Previously, the United States and other countries could send recyclables to private entities in developing countries without getting approval from their governments.⁶⁸ Activists observed plastic waste piling up in developing countries, to the point that the Global Alliance for Incinerator Alternatives (one of the backers of the deal), said that villages in Indonesia, Thailand, and Malaysia had "turned into dumpsites over the course of a year."69 This pact to stop shipments of low-quality recyclables to developing countries without consent was signed by 187 countries as an amendment to the Basel Convention.⁷⁰ While the United States is not a party to the Basel Convention, the treaty has implications for U.S. importers and exporters.⁷¹ The Basel Convention contains provisions that allows exports of waste only if the exporting country does not have

⁶⁴ *Id*.

⁶³ *Id*.

⁶⁵ Id

⁶⁶ Emily Holden, Nearly All Countries Agree To Stem Flow of Plastic Waste into Poor Nations, THE GUARDIAN (May 10, 2019 7:02 PM), https://www.theguardian.com/environment/2019/may/10/nearly-all-the-worlds-countries-sign-plastic-waste-deal-except-us.

⁶⁷ Id.

⁶⁸ *Id*.

⁶⁹ *Id*.

⁷⁰ Id.

⁷¹ Implications of the Basel Convention for U.S. Importers & Exporters, U.S. ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/hwgenerators/international-agreements-transboundary-shipments-hazardous-waste (last accessed on Jan. 10, 2020).

sufficient disposal or recycling capacity or cannot manage waste in an environmentally sound manner. The United States has been looking for other Asian countries to accept export of its waste since China closed its doors to foreign recyclables. This is not a sustainable plan. The Basel Convention amendment should be a wakeup call to the United States that it needs to stop the consumption of products that it cannot recycle or dispose of on its own.

C. Plastic Bans in the United States

1. Nationwide Legislation

In 2009, the Plastic Bag Reduction Act was introduced in the House of Representatives and referred to the Subcommittee on National Parks, Forests, and Public Lands.⁷⁴ It proposed an excise tax on single-use carryout bags, established a tax refund for retailers with bag recycling programs and planned to use the tax revenue it earned to pay for land and water conservation.⁷⁵ That bill died, and the United States currently has no nationwide restrictions or taxes on plastic bag use.⁷⁶

However, the United States does have a precedent for enacting a single-use plastics ban: the Microbead-Free Waters Act.⁷⁷ Microbeads used to serve as exfoliants in products like facial cleansers and body washes—for example, a popular facewash called Clean and Clear Morning Burst contained the tiny plastic balls.⁷⁸ The beads are less than five millimeters in diameter, so they are easily

⁷³ Parker, *supra* note 44.

⁷² *Id*.

⁷⁴ H.R. Res. 2091, 111th Cong. (2009-2010).

⁷⁵ H.R. 2091.

⁷⁶ Rethinking the Convenience of Single-Use Plastics, OUTRIDER FOUNDATION, https://outrider.org/climate-change/articles/rethinking-convenience-single-use-plastics/ (last accessed Jan. 10, 2020).

⁷⁷ 21 U.S.C.A. § 331.

These Hidden Plastics From Beauty Products. Has Yours??, ECO WARRIOR PRINCESS? (Oct. 29, 2019), https://ecowarriorprincess.net/2019/10/ban-microbead-countries-banned-hidden-plastics-beauty/.

washed down drains where they then enter waterways.⁷⁹ Their small size also makes them extremely difficult to filter and remove from wastewater treatment plants.⁸⁰ Microbeads contribute to the Earth's plastic problem, but now they are banned in the United States.⁸¹

In 2015, Congress passed the Microbead-Free Waters Act, which "prohibits the manufacturing, packaging, and distribution of rinse-off cosmetics containing plastic microbeads."82 According to the Food and Drug Administration, this bill was passed because of concerns that microbeads would not be filtered properly and would end up in lakes and oceans, where the beads would be mistaken for food by marine animals. 83 The reasoning behind this bill is similar to the argument for banning plastic bags—plastic bags are mistaken for food by marine animals and eaten. Coral populations are some of the species most impacted by microbeads: they eat the tiny plastic particles which then destroy their digestive systems.84 One of the strongest arguments during the congressional debate was the following: "I have serious concerns about fish and other aquatic life potentially ingesting these particles and the effect this could have on humans who consume fish that have ingested the plastic."85 This is a valid concern, as a recent study confirmed that a regular serving of

⁸⁴ Alexander C. Kaufman, *Obama's Ban on Plastic Microbeads Failed in One Huge Way*, HUFFPOST (May 23, 2016 4:14 PM)), https://www.huffpost.com/entry/obama-microbead-ban-fail_n_57432a7fe4b0613b512ad76b

⁷⁹ Davis Truslow, Microbeads and the Toxics Use Reduction Act: Preventing Pollution at Its Source, 44 B.C. Envtl. Aff. L. Rev. 149, 152 (2017).

⁸⁰ July Marks the Beginning of a U.S. Ban on Microbeads. What are Microbeads and Do They Affect the Planet?, ARIZONA STATE UNIVERSITY (July 5, 2017), https://www.newswise.com/articles/july-marks-the-beginning-of-a-u-s-ban-on-microbeads-what-are-microbeads-and-do-they-affect-the-planet.

⁸¹ Jareen Imam, *Microbead Ban Signed By President Obama*, CNN (Dec. 31, 2015), https://www.cnn.com/2015/12/30/health/obama-bans-microbeads/index. html.

⁸² The Microbead-Free Waters Act: FAQs, U.S. FOOD AND DRUG ADMIN., https://www.fda.gov/cosmetics/cosmetics-laws-regulations/microbead-free-waters-act-faqs (last visited Jan. 12, 2020).

⁸³ Id.

^{85 161} CONG. REC. 9021, 9022. (2015) (statement of Rep. Pallone).

oysters could have approximately 0.7 mg of plastic while a serving of sardines could contain up to 30 mg of plastic.⁸⁶

As previously discussed, single-use plastic items are consumed by fish, and may have effects on human consumers. Microbeads are tiny, so it may seem as though they are more likely to be swallowed by marine animals than a plastic bag or plastic straw would be. However, single-use plastics can break down into pieces that are just as small as manufactured microbeads. While the Microbead-Free Waters Act was a step in the right direction for the United States, regular single-use plastics that have broken down can have the exact same effect as microbeads on our oceans, so the problem has not yet been solved. The Microbead-Free Waters Act proves that it is not unprecedented in the United States to ban a known, harmful pollutant. However, the problem persists, and more legislation is still needed to prevent plastic ingestion by wildlife and humans alike.

2. Individual State Bans

The eight states that have enacted single-use plastic bans have similar policies. In 2014, California became the first state to pass a bill for a state-wide ban on plastic bags. 88 Hawaii has a de facto statewide ban on non-biodegradable plastic bags at checkout, because its major counties have all approved the ban. 89 New York passed Senate Bill 1508 in 2019, becoming the third state to ban plastic bags, and the ban is already in effect. 90 Vermont, Maine, Oregon, Delaware, and

⁸⁶ Seafood study finds plastic in all samples, SCIENCE DAILY (Aug. 12, 2020). https://www.sciencedaily.com/releases/2020/08/200812144104.htm#:~:text=%2 2Considering%20an%20average%20serving%2C%20a,a%20QUEX%20Institute% 20PhD%20student.

NOAA, What are Microplastics?, supra note 10.

State Plastic and Paper Bag Legislation, NATIONAL CONFERENCE OF STATE LEGISLATURES (November 1, 2019)), http://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx.

⁸⁹ *Id*.

⁹⁰ Id.

Connecticut followed suit and passed bans of their own. ⁹¹ It is common for these bans to disallow retail establishments from providing customers with single-use plastic bags, but to leave exceptions for produce bags, dry-cleaning bags, prescription medication bags, and bags that transport chemicals. ⁹²

Additionally, Delaware, Maine, Rhode Island, and New York have mandatory recycling or reuse programs. ⁹³ Maine was the first state to pass a law banning polystyrene food containers earlier this year. ⁹⁴ Polystyrene food containers, also known as Styrofoam food containers, cannot usually be recycled, and are one of the top ten most commonly littered items in the United States. ⁹⁵ Further, polystyrene does not biodegrade. ⁹⁶ In July 2019, Vermont's governor signed a plastic ban bill into law and it took effect in July 2020. ⁹⁷ Vermont's bill is currently the most comprehensive out of all the states because it will ban retailers from providing plastic stirrers, coffee cups, and takeout containers made of polystyrene foam. ⁹⁸

California has been leading the charge against single-use plastic. Most recently, on October 9, 2019, California banned hotels

⁹³ Julia Jacabo, Despite War on Plastic, Study Shows Only Few States Have Banned Plastic Bags, ABC NEWS (June 6, 2019), https://abcnews.go.com/Health/war-plastic-study-shows-states-banned-plastic-bags/story?id=63529555.

⁹⁷ Laura Parker, Vermont adopts the most comprehensive plastics ban in U.S., NAT. GEO. (June 18, 2019), https://www.nationalgeographic.com/environment/article/vermont-adopts-most-comprehensive-single-use-plastics-ban.

⁹¹ More States Ban Single-Use Plastic Bags, THE NAT'L LAW REVIEW (July 19, 2019)), https://www.natlawreview.com/article/more-states-ban-single-use-plastic-bags.

⁹² Id

Gianluca Mezzofiore, *Maine Becomes the First State to Ban Styrofoam*, CNN (May 1, 2019 10:46 AM), https://www.cnn.com/2019/05/01/us/maine-ban-styrofoam-trnd/index.html.

Gaby Del Valle, *Maine Just Banned Styrofoam Food Containers*, VOX (May 3, 2019 11:30 AM), https://www.vox.com/the-goods/2019/5/3/18528219/styrofoam-container-ban-maine-single-use-plastics.

⁹⁶ Id.

⁹⁸ Elizabeth Gribkoff, Vermont Now Has Nation's Broadest Single-Use Plastics Ban, VTDIGGER.ORG (June 17, 2019), https://vtdigger.org/2019/06/17/vermont-now-nations-broadest-single-use-plastics-ban/

from using mini plastic bottles for soap, conditioner, or shampoo. This bill includes a civil penalty for violations in the amount of \$500 for a first violation and \$2,000 for a second violation. California has conducted its own research on single-use plastics, which helped it pass the country's first state to ban plastic bags. [A] Ccording to the California Integrated Waste Management Board, the recycling rate for these bags is less than 5 percent. Public agencies in California also spend more than three hundred seventy-five million dollars (\$375,000,000) annually in litter cleanup, and plastic carryout bags contribute disproportionately to the litter stream."

Individual cities have also imposed their own taxes or bans. San Francisco and Seattle have banned single-use plastic, while Washington DC and Boston tax plastic bags. Washington DC's 2009 ban has led to a fifty percent reduction in single-use plastic bags. 104

Although many cities and states across the country have embraced single-use plastic bans, fifteen states have passed "preemption laws" which ban all local ordinances that ban or impose fees on single-use plastic products. 105 Arizona, Colorado, Florida, Idaho, Indiana, Iowa, Michigan, Minnesota, Mississippi, Missouri, North Dakota, Oklahoma, Tennessee, Texas, and Wisconsin have preempted regulation on plastic products. 106 This creates a definite

101 State Plastic and Paper Bag Legislation, supra note 88; see also Single-Use Carryout Bag Ban (SB 270), CALRECYCLE, https://www.calrecycle.ca.gov/plastics/carryoutbags (last accessed Mar. 21, 2020).

⁹⁹ S. Res. 1162, 2019-2020 Reg. Sess. (Ca. 2019).

¹⁰⁰ Id.

¹⁰² S. Res. 87, 2009-2010 Reg. Sess. (Ca 2009).

Where is Single-Use Plastic Banned in the World, BUSINESS TODAY (Oct. 3, 2019)), https://www.businesstoday.in/current/economy-politics/not-just-india-countries-already-banned-singleuse-plastic/story/382661.html.

Jason Daley, *Why Michigan Banned Banning Plastic Bags*, SMITHSONIAN MAGAZINE (Jan. 2, 2017)), https://www.smithsonianmag.com/smart-news/why-michigan-banned-banning-plastic-bags-180961630/.

¹⁰⁵ Preemption Laws, PLASTICBAGLAWS.ORG, https://www.plasticbaglaws.org/preemption (last accessed Jan. 12, 2020).

Mike Pomranz, South Dakota Is the Latest State Looking to Outlaw Plastic Bag Bans, FOOD AND WINE (Jan. 31, 2020), https://www.foodandwine.com/news/south-dakota-not-banning-plastic-straws-bags.

divide between states that have banned single-use plastic products and states that have banned the bans. More states have banned the bans than have banned plastic bags. Business owners drive preemption laws; for example, in Michigan, the Michigan Restaurant Association was the primary force behind passing the ban. 107 The Michigan Restaurant Association's position was that a system of different bag fees and bans "would make it difficult for chain restaurants and retailers to comply." 108 In Tennessee, the state has also prohibited local governments from regulating the use of auxiliary containers (such as plastic bags), using the argument that the state is the "exclusive regulator of food and drink sellers. . . ." 109 This ban on municipal plastic bans was not without opposition, as the Tennessee Chapter of the Sierra Club publicly opposed the bill. 110

Preemption in these fifteen states laws prevent environmentally conscious cities from regulating plastic in their own backyards. For instance, in 2016, the Minneapolis City Council voted ten to three in favor of implementing a plastic bag ban, but a day before the ban was scheduled to begin, the Minnesota state legislature imposed a "preemption law." The preemption ban in Minnesota quashed Minneapolis's ability to do what it deemed necessary and took away the city's ability to make decisions for itself. 112 Grassroots efforts can propel major national change, but preemption bans make it impossible for cities in these states to be a part of any movement towards a national single-use plastic ban. 113 Both Florida and Minnesota introduced bills that would end the preemption laws, but

Daley, supra note 104.

¹⁰⁸ Id.

Plastic Bag Preemption Conflicts Between State and Local Governments, BALLOTPEDIA, https://ballotpedia.org/Plastic_bag_preemption_conflicts_between_state_and_local_governments (last accessed Jan. 12, 2020).

¹¹⁰ Id.

Adair Andre, Bans on Bans Block Local Progress to Reduce Plastic Pollution, MEDIUM (Mar. 15, 2019), https://medium.com/u-s-pirg/bans-on-bans-block-local-progress-to-reduce-plastic-pollution-3d1de68fcde3.

¹¹² *Id*.

¹¹³ *Id*.

they have since been dismissed or halted.¹¹⁴ These preemption laws are more successful at a state-wide level for several reasons. Instead of fighting individual municipalities with plastic bans, the company or organization advocating the preemption can knock out each city's plastic ban with one fell swoop.¹¹⁵ Additionally, legislators at the state level are less likely to be confronted by grassroots activists.¹¹⁶

In Pennsylvania, House Bill 1071, which would have preempted plastic bag bans, passed both the House and the Senate in 2017 and was only stopped when Governor Tom Wolf vetoed the bill himself. [T] he commonwealth should only on rare occasions preempt the rights of local governments to implement laws and policies that it believes are in its best interest," the governor said. Supporters of a preemption law in Pennsylvania are concerned that Pennsylvania factories that produce plastic bags may either move their operations to a different state or stop opening new facilities if the commonwealth is perceived as anti-plastic bag.

D. Plastic Bans in Other Countries

In 1993, Denmark imposed a tax on plastic bags, becoming the first country in the world to do so.¹²⁰ Danes use an average of four single-use plastic bags a year.¹²¹ Americans use an average of 365

Andre, supra note 111; SB 88, 2019 Leg. (Fla. 2019); HF 511 Status in the House for the 91st Legislature, MINN. LEG., https://www.revisor.mn.gov/bills/bill.php?b=House&f=HF0511&ssn=0&y=2019 (last accessed Jan. 12, 2020).

NAT'L GEO. (Aug. 15, 2019), https://www.nationalgeographic.com/environment/2019/08/map-shows-the-complicated-landscape-of-plastic-bans/.

Gibbens, supra note 115.

Emma Cueto, *Pa. Gov. Rejects Bill Prohibiting Plastic Bag Bans*, LAW 360 (July 3, 2017), https://www.law360.com/articles/940491/pa-gov-rejects-bill-prohibiting-plastic-bag-bans.

¹¹⁸ *Id.*

¹¹⁹ Id

Vaishnavi Chandrashekhar, *In India's Largest City, A Ban on Plastics Faces Big Obstacles*, YALE ENV'T 360 (Aug. 28, 2018), https://e360.yale.edu/features/as-indias-largest-city-shows-banning-plastics-is-easier-said-than-done.

How, NAT'L GEO. (May 21, 2018), https://www.nationalgeographic.com/news/2018/05/denmark-uses-less-plastic-bags-usa-culture/.

bags each year—one every single day. 122 There are no free bags at grocery stores in Denmark; shoppers must bring their own or purchase a large, durable bag. 123

Bangladesh became the first country in the world to ban thin plastic shopping bags in 2002.¹²⁴ The ban was enacted due to clogged drainage and sewer systems which caused harmful bacteria and microbes to spread.¹²⁵ Abandoned bags also became breeding grounds for mosquitos, which threatened to spread disease.¹²⁶ Mosquitos are a known source of diseases that threaten human health. This ban has not been extremely successful in Bangladesh, as it was not properly enforced, and cheap alternatives to plastic bags were not available for consumer use.¹²⁷

Kenya currently has the world's toughest ban on plastic bags, which was enacted on August 28, 2017.¹²⁸ There are fines of up to \$40,000 and a potential prison sentence of up to four years for anyone found manufacturing, importing, or selling a plastic shopping bag.¹²⁹ Merely using a plastic bag can carry a \$500 fine or a jail sentence of up to a year.¹³⁰ As of August 2019, around 300 people in Kenya have been fined between \$500 and \$1,500, and some have been sent to jail.¹³¹

123 Id

¹²² Id.

Jane Onyanga-Omara, *Plastic Bag Backlash Gains Momentum*, BBC NEWS (Sept. 14, 2013), https://www.bbc.com/news/uk-24090603.

¹²⁵ Bangladesh: Ban on Plastic Bags Changes Shopping Habits, INTER PRESS SERV. (Jan. 29, 2002), http://www.ipsnews.net/2002/01/bangladesh-ban-on-plastic-bags-changes-shopping-habits/.

¹²⁶ *Id.*

¹²⁷ Chandrashekhar, *supra* note 120.

¹²⁸ Jonathan Watts, Eight Months On, Is The World's Most Drastic Plastic Bag Ban Working?, THE GUARDIAN (Apr. 25, 2018, 12:00 AM), https://www.theguardian.com/world/2018/apr/25/nairobi-clean-up-highs-lows-kenyas-plastic-bag-ban.

¹²⁹ Has Kenya's Plastic Bag Ban Worked?, BBC NEWS (Aug. 28, 2019), https://www.bbc.com/news/world-africa-49421885.

¹³⁰ *Id.*

¹³¹ *Id.*

Ireland began charging fifteen cents per plastic grocery bag in 2002 instead of giving them away for free. ¹³² It worked. Annual bag usage dropped from 350 to 14 per person by 2012. ¹³³ Now, Ireland is looking towards targeting disposable coffee cups and lids, and the government is considering a 15 cent fee on all disposable coffee cups, which would be the first of its kind. ¹³⁴

In 2016, France passed a law banning plastic cups, plates, and utensils in addition to its previous plastic bag ban. The law is a part of France's Energy Transition for Green Growth Act and went into effect in 2020, but there are exceptions in place for compostable items.

In March 2019, the European Parliament passed the Single-Use Plastics Directive, which will ban single-use plastics by 2021.¹³⁷ This legislature will affect plastic straws, drink bottle caps, and cotton bud sticks.¹³⁸ Canada will ban single-use plastics by 2021, after its government analyzes which products to ban.¹³⁹ Canada's Prime Minister, Justin Trudeau, has announced that Canada expects to follow the European Union's example and ban the 10 single-use plastic products that are found in the ocean most often.¹⁴⁰ Until Canada's ban is officially enacted, some retailers have created plastic

¹³² Plastic Bag Bans Work, SMITHSONIAN, https://ocean.si.edu/conservation/pollution/plastic-bag-bans-work (last accessed Jan. 12, 2020).

¹³³ Joe Curtin, *Ireland Can Lead Charge in War Against Plastic*, THE IRISH TIMES (Jan. 31, 2018, 1:00 AM), https://www.irishtimes.com/opinion/ireland-can-lead-charge-in-war-against-plastic-1.3374066.

¹³⁴ Id.

BUS. TODAY, *supra* note 103.

James McAuley, France Becomes the First Country to Ban Plastic Plates and Cutlery, THE WASH. POST (Sept. 19, 2016), https://www.washingtonpost.com/news/worldviews/wp/2016/09/19/france-bans-plastic-plates-and-cutlery/.

Hillary Leung, E.U. Sets Standard with Ban on Single-Use Plastics by 2021, TIME (Mar. 28, 2019), https://time.com/5560105/european-union-plastic-ban/.

¹³⁸ *Id.*

Dan Bilefsky, *Canada Plans to Ban Single-Use Plastics, Joining Growing Global Movement*, N.Y. TIMES (June 10, 2019), https://www.nytimes.com/2019/06/10/world/canada/single-use-plastic-ban.html.

¹⁴⁰ *Id.*

bags with logos designed to embarrass the shopper, with sayings like "The Colon Care Co-Op" written on the bag.¹⁴¹

China, too, has a plastic ban in place. In 2008, China's cabinet outlawed the use of plastic bags less than .025mm thick and banned marketplaces from giving customers free bags. 142 However, in 2018, Zero Waste Alliance surveyed 1,101 retailers in nine different Chinese cities and found that most retailers violated the regulations and provided the bags for free. 143 Only 89 of the 1,101 shops fulfilled all the requirements and charged for the plastic bags. 144 The ban does not seem to have been carried out effectively, especially since many of the retailers still provide the ultra-thin .025mm bags that were expressly banned. 145 The decision to ban only a certain thickness of bag could be a reason why the ban was not effective, as it is difficult to tell how thick a plastic bag may be at first glance. There are ways to fix the issues that have caused China's ban to be unsuccessful. Increasing fines for violations and changing the fee structure so that producers of the bags, not retailers, are charged are two of the simplest options. 146 In January 2020, China announced plans to further its efforts and ban single-use plastics across the country. 147 This ban will include disposable plastic tableware and cotton swabs by the end of 2020. 148

¹⁴¹ *Id*.

Ma Chi, Govt Moves to Tackle White Pollution, CHINA DAILY (July 4, 2108), http://www.chinadaily.com.cn/a/201807/04/WS5b3bf8eba3103349141e0804.htm l.

Wang Danlin, 10 Years on from the Ban on Free Plastic Bags, CHINA DEV. BRIEF (June 14, 2018), http://www.chinadevelopmentbrief.cn/articles/10-years-on-from-the-ban-on-free-plastic-bags/.

¹⁴⁴ Id.

John Upton, China's Plastic-Bag Ban Turns Five Years Old, GRIST.ORG (June 4, 2013), https://grist.org/article/chinas-plastic-bag-ban-turns-five-years-old/.

Danlin, *supra* note 143.

¹⁴⁷ Trevor Nace, *China to Ban All Single-Use Plastics*, FORBES (Jan. 20, 2020), https://www.forbes.com/sites/trevornace/2020/01/20/china-to-ban-all-single-use-plastics/#5c86e3972939.

¹⁴⁸ *Id.*

Italy proposed a new tax on single-use plastic on November 6, 2019. Producers would owe one euro per kilo of non-re-usable, non-compostable plastic according to the Italian Senate's proposed budget. The tax plan is intended to raise almost one billion euros. However, there has been backlash from Confindustria, the confederation of Italian industry, which argues that the tax penalizes products, not behavior. The president of Confindustria called the impact it will have on businesses "disastrous." The Italian finance minister's response was idyllic: "[w]e cannot applaud the children who campaign for a better environment and then not take action." Italy's decision to tax plastic producers by the kilo is representative of the polarizing nature of plastic bag bans: lawmakers are trying to solve the problem of plastic in the oceans retroactively, but businesses and workers are suddenly impacted in ways that they are financially unprepared to handle.

III. ARGUMENT

A. America's Options

The question comes down to what system would work better: taxes or an outright ban. At least eight states (Maine, Vermont, Oregon, California, New York, Delaware, Connecticut, and Hawaii) would presumably say that banning single-use plastics is the superior option. However, countries like Ireland and Denmark have had

Janna Brancolini, *Italy Introduces Single-Use Plastic Tax Despite Industry Objections*, BLOOMBERG LAW NEWS (Nov. 6, 2019, 3:36 PM), https://www.bloomberglaw.com/document/X8BDH7H8000000? bna_news_filte r=daily-tax-report-international&jcsearch=BNA%25200000016e41aad934af6 ed1ef77650000#jcite/.

¹⁵⁰ *Id.*

 ¹⁵¹ Italy to Tax Plastic and Sugar, Angering Producers, REUTERS (Oct. 28, 2019,
 1:47 PM), https://www.reuters.com/article/us-italy-budget-plastic/italy-to-tax-plastic-and-sugar-angering-producers-idUSKBN1X71XF.

Angela Giuffrida, *Italy's Plastic Tax Plan Under Threat After Industry Outcry*, THE GUARDIAN (Nov. 4, 2019, 8:59 AM), https://www.theguardian.com/world/2019/nov/04/italy-plastic-tax-plan-under-threat-after-industry-outcry.

¹⁵³ *Id.*

¹⁵⁴ *Id*.

¹⁵⁵ *Id.*.

enormous success by imposing taxes. Ireland's per-bag price is 22 euro cents, which is about 33 U.S. cents. ¹⁵⁶ Irish citizens now keep cloth bags in their cars and offices; the tax changed the habits of an entire country within a matter of weeks. ¹⁵⁷ Further, the money from the tax any time someone does pay for a plastic bag goes toward clean-up projects. ¹⁵⁸

There are two main ways a tax could be imposed. The United States could choose between implementing a tax at the production or consumption levels. 159 Like Ireland, the United States could impose a tax that the consumer must pay at the time of a purchase. 160 It could also follow Italy's footsteps and impose a tax at the producer level, using the "polluter pays" rationale. 161 The polluter pays principle is the concept that those who cause environmental harm should be responsible for dealing with the problem they create. 162 In deciding between production or consumption level taxes, lawmakers should take into account the goal of the tax. If they are trying to influence plastic-makers to stop creating single-use products, then taxing at a production level makes sense. However, if they would like consumers to choose alternatives to single-use plastic products, with the goal of reducing plastic consumption, then taxing at a consumer level would be a better option. If the goals of the United States are to reduce plastic use nationwide and to incentivize reuse and recycling, the purpose of the tax should be to change the behavior of consumers. 163

¹⁵⁶ Elisabeth Rosenthal, *By Bagging It,' Ireland Rids Itself Of A Plastic Nuisance*, N.Y. TIMES (Jan. 31, 2008), https://www.nytimes.com/2008/01/31/world/europe/31iht-bags.4.9650382.html.

¹⁵⁷ *Id.*

¹⁵⁸ Id

The Price is Right ... Or Is It? The Case for Taxing Plastic, RETHINK PLASTIC, http://zerowasteeurope.eu/wp-content/uploads/2018/09/PlasticsTax_FINAL.pdf (last accessed Jan. 12, 2020).

¹⁶⁰ Plastic Bag Levy, IRISH ENV'T (Oct. 1, 2015), http://www.irishenvironment.com/iepedia/plastic-bag-levy/.

RETHINK PLASTIC, *supra* note 159.

¹⁶² Id.

¹⁶³ Id.

A study by Zero Waste Europe points out that once imposed, plastic bag charges are shown to be popular in Europe. ¹⁶⁴ In fact, in Ireland, the plastic bag tax has become so popular that it would be politically damaging to remove it. ¹⁶⁵ There are several theories about why taxes are effective. Some view the bag charge as an economic instrument that discourages the purchase of the item by altering the cost-benefit analysis. ¹⁶⁶ Another view is that the fees disrupt the automatic use of the plastic bag, therefore changing people's typical bag-use routine. ¹⁶⁷

A ban is also an option; however, it is important to be specific in order to make any real progress. For instance, China's ban on plastic bags specified that only nonbiodegradable bags thinner than .025 millimeters are prevented from being produced, sold, or used. However, there is a critique from environmental experts that China's ban has not curbed consumers' wasteful habits because most shoppers do not bring their own reusable bags when they go to the store. Instead, they just purchase a plastic bag for a small fee that equates to about \$.04 American. It is important to recognize that consumers found a way around the ban in China, proving that it may not be effective at changing the behavior of enough people to truly

RETHINK PLASTIC, supra note 159.

¹⁶⁵ Frank Convery et al., The Most Popular Tax in Europe? Lessons from The Irish Plastic Bags Levy, 38 ENVTL. & RESOURCE ECON. 1, 2 (2007), https://www.researchgate.net/publication/5146973_The_Most_Popular_Tax_in_Europe_Lessons_from_the_Irish_Plastic_Bags_Levy/link/0912f510bfb91981f4000000/do wnload.

¹⁶⁶ Johane Dikgang et al., Analysis of the Plastic-Bag Levy in South Africa, 66 RESOURCES, CONSERVATION & RECYCLING 59, 63 (2012); see also Gregory Owen Thomas et al., The English Plastic Bag Charge Changed Behavior and Increased Support for Other Charges to Reduce Plastic Waste, 10 FRONTIERS IN PSYCHOLOGY (2019), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6399129/.

Wouter Poortinga et al., *The Introduction of a Single-Use Carrier Bag Charge in Wales: Attitude Change and Behavioural Spillover Effects*, 36 J. ENVIRON. PSYCHOL. 240 (2013), https://doi.org/10.1016/j.jenvp.2013.09.001; *see also* Thomas et al., *supra* note 166.

¹⁶⁸ Li You, Experts Question China's Ban on Free' Plastic Bags, SIXTH TONE (June 13, 2017), https://www.sixthtone.com/news/1000322/experts-question-chinas-ban-on-free-plastic-bags.

¹⁶⁹ *Id.*

¹⁷⁰ *Id*.

make an impact on the environment. 171 If the United States chose to ban single-use plastic bags, it would be prudent to recognize the intent of the ban is not to use bags that are more durable than those that are .025 millimeters, instead the goal is to stop consumers from using plastic bags one time and then throwing them in the trash. Therefore, a potential ban should likely not specify the thickness of the bags that are banned because it is easy to come up with other plastic alternatives once a thickness is mentioned in the law.¹⁷² Additionally, nonbiodegradable products have been falsely marketed as biodegradable and used in Chinese marketplaces, showing that qualifying bags based on environmental friendliness may make legal and illegal products hard to distinguish. 173 If plastic bags are to be banned, it seems as though the only alternatives that grocery stores or other retail outlets should allow are paper or reusable options. Qualifying shopping bags based on thickness or environmental friendliness make enforcing the ban difficult. 174

In light of the United States' overwhelming plastic bag consumption, it seems like a ban may be the best option for the environment. If the 100 billion single-use plastic bags that Americans use every year can be reduced even slightly, 175 they will not clog recycling machines, end up in oceans, or be burned after being sent to other countries without the infrastructure to handle the recycling process. In Great Britain, use of plastic bags has fallen 80% since taxes were implemented in Wales, Northern Ireland, and Scotland. 176 If the United States could have a similar drop in plastic bag use, it would significantly impact the entire world. Realistically, the United States could start off by implementing a tax on single-use plastic bags that would be high enough to deter consumers from using too many.

172 Kate Bratskeir, *How to Recycle Plastic Bags the Right Way*, HUFFPOST (Jan. 1, 2019, 8:00 AM), https://www.huffpost.com/entry/how-to-recycle-plastic-bags_n_5c4b80f8e4b0e1872d43b9a4.

¹⁷¹ I.d

¹⁷³ You, *supra* note 168.

¹⁷⁴ *Id*.

¹⁷⁵ The problem with plastic bags, CENTER FOR BIOLOGICAL DIVERSITY https://www.biologicaldiversity.org/programs/population_and_sustainability/sust ainability/plastic_bag_facts.html#:~:text=Americans%20use%20100%20billion%20plastic,plastic%20shopping%20bags%20a%20year, (last accessed April 30, 2021).

Thomas et al., *supra* note 166.

Then, after several years, once consumer behavior patterns have changed, the country could move to an outright ban on plastic bags. While single-use plastic bags are not the only plastic product that is problematic, they would be the easiest product to tax and outlaw, as there are viable alternatives like paper or reusable bags. Other countries have implemented bans or taxes on the product, so the United States can study their successes and missteps in order to draft a law that would be effective. Once single-use plastic bag consumption has been reduced, the country can look towards other single-use plastic products, but the United States needs to start somewhere, and plastic bags are the most viable choice at this time.

B. Negative Effects and Issues

One major argument against enacting a plastic ban is that many small business owners, especially restaurant owners, would be negatively affected. Polystyrene containers are very low cost, and they maintain desired food temperatures. The Eradicating a cheap to-go food option could also negatively affect street vendors. For instance, New York City began banning polystyrene containers in January 2019 but gave businesses a six-month grace period until July before it began enforcing the ban. Despite the grace period, many street vendors claimed they had no knowledge of the ban, leaving them vulnerable to a \$250 first offense fine. The increased prices of new types of to-go container options are also hurting the bottom lines of these food vendors. Experts say measures should be tailored to each country's socioeconomic situation — sudden bans can be devastating in low-income communities where small businesses operate on tiny margins."

Another issue is whether a ban is the best policy, due to the amount of people who reuse plastic bags to pick up after pets, or as

Del Valle, *supra* note 95.

¹⁷⁸ Allie Griffin et al., *Styrofoam-slinging Food Cart Vendors Don't Know It's Banned*, N.Y. POST (July 1, 2019), https://nypost.com/2019/07/01/styrofoam-slinging-food-cart-vendors-dont-know-its-banned/.

¹⁷⁹ *Id.*

¹⁸⁰ Id.

¹⁸¹ Chandrashekhar, *supra* note 120.

trash can liners.¹⁸² Trash bags sold in stores are not part of the regulations on single-use plastics. Therefore, when plastic bags are banned, sales of trash bags go up and somewhat offset the reduction of plastic use that the ban created.¹⁸³ This is problematic because trash bags are thicker than typical shopping bags, which means they use more plastic.¹⁸⁴

The American Progressive Bag Alliance, a major opponent of single-use plastic bans, cites that paper bags need to be used between three and forty-three times to have a lower environmental impact than a conventional plastic bag. ¹⁸⁵ Paper bags also require more energy and greenhouse gas emissions to produce. ¹⁸⁶ This is because it takes a lot of energy to create the pulp to manufacture a paper bag than it does to make a plastic bag from oil. ¹⁸⁷ While that may be true, paper biodegrades more quickly than plastic, with paper taking only about two to six weeks to decompose. ¹⁸⁸ Further, marine animals are negatively affected by plastic, not paper. ¹⁸⁹ Paper bags do not look like jellyfish, unlike plastic bags, which sea turtles often confuse for food. ¹⁹⁰ Waterlogged paper is not sharp enough to pierce the intestinal lining of a marine animal, causing death. ¹⁹¹ If the reason for banning plastic is to protect marine animals (and the humans who eat them), then the argument that plastic bags have a lower

Repulations on Unregulated Bags, 93 J. OF ENVIL. ECON. AND MGMT., 254, 255 (2019), https://doi.org/10.1016/j.jeem.2019.01.001.

¹⁸³ *Id*.

¹⁸⁴ Greg Rosalsky, *Are Plastic Bag Bans Garbage?*, NPR (Apr. 9, 2019, 8:04 AM), https://www.npr.org/sections/money/2019/04/09/711181385/are-plastic-bag-bans-garbage.

¹⁸⁵ The Frontline Defense Against Plastic Bag Bans and Taxes Nationvide, AM. RECYCLABLE PLASTIC BAG ALLIANCE, https://bagalliance.org (last accessed Jan. 12, 2020).

Plumer, supra note 19.

¹⁸⁷ *Id.*

¹⁸⁸ How Long Does It Take Garbage to Decompose?, ENVIRONMENT.ABOUT.COM, http://storage.neic.org/event/docs/1129/how_long_does_it_take_garbage_to_decompose.pdf (last accessed Jan. 12, 2020).

¹⁸⁹ *Marine Plastics*, SMITHSONIAN, https://ocean.si.edu/conservation/pollution/marine-plastics (last accessed Jan. 12, 2020).

¹⁹⁰ Id.

environmental impact should weigh less heavily. While paper bags do have a large carbon footprint, they are easy to recycle or compost, making it less likely that they will end up in the ocean. ¹⁹² It is unfortunate that the choice must be between clean water or lower carbon emissions, but preserving our ocean animals and concern for human health should take precedent at present. There are more options than paper bags, and eventually, consumers should be trained to bring reusable bags each time they shop.

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Another argument against having a nationwide plastic bag ban is that plastic bags may negatively impact the economy. According to the State Chamber of Oklahoma, in areas with plastic bans in place, the rates of theft for shopping carts and shopping baskets are higher than places without plastic bans. ¹⁹³ Consumers also use more plastic produce bags, which undercuts the effect of the plastic bag ban. ¹⁹⁴ However, with several large grocery stores, such as Trader Joe's, turning to biodegradable and compostable produce bags, consumption of plastic produce bags for loose fruits and vegetables seems relatively minor compared to single-use carryout bags. ¹⁹⁵

Jobs may also be at stake. Plastic bags help sustain 30,900 American jobs, according to the Plastics Industry Association. A survey from Los Angeles County found that stores that banned plastic bags reduced their employment by over 10%, as opposed to stores in areas without bag bans. There may be other reasons for

Mia Mercado, Some of Your Favorite Trader Joe's Products Are About to Get A Packaging Makeover, BUSTLE (Mar. 6, 2019), https://www.bustle.com/p/trader-joes-plastic-packaging-is-changing-to-take-steps-toward-sustainability-16816167.

¹⁹² Claire Thompson, *Paper, Plastic or Reusable?*, STANFORD MAG., (Sept. 2017), https://stanfordmag.org/contents/paper-plastic-or-reusable.

¹⁹³ How Plastic Bag Bans Impact The Economy & Environment, St. Chamber of Okla.,

https://uniformityofcommerce.org/documents/Plastic%20Bag%20Fact%20Sheet[1].pdf (last accessed Jan. 12, 2020).

¹⁹⁴ *Id*,

¹⁹⁶ How Plastic Bag Bans Impact the Economy, PLASTICS INDUSTRY ASS'N, https://www.thisisplastics.com/economic-impact/how-plastic-bag-bans-impact-the-economy/ (last accessed Jan. 12, 2020).

¹⁹⁷ ST. CHAMBER OF OKLA., *supra* note 193.

the employment decline though. Retail jobs have declined by more than 140,000 since January 2017, but the reduction is attributed to self-checkout. 198 While plastic bag bans may have a minor impact on retail employment, compared to the entire decline of the industry, plastic bags are not the biggest issue.

An unexpected negative impact of plastic bag bans is that bacteria can live in reusable grocery bags and can cause health risks. ¹⁹⁹ Plastic grocery bags which are disposed of after carrying food do not have these health risks that stem from coliform bacteria (including E. coli). ²⁰⁰ Proper cleaning and organizational systems can prevent people from being affected by any bacteria, however. Laundering canvas or cloth bags, wiping out reusable shopping bags, and designating specific bags for meat, dairy, and produce are all ways to reduce any bacterial risk. ²⁰¹ For centuries, people used baskets to carry goods. More recently, consumers turned to paper wrapped items, brown paper bags, and glass containers. ²⁰² Consumers throughout history have been able to survive using these products – lack of public health and knowledge of safe practices is not a justification for failing to implement responsible environmental practices.

Additionally, a study from the National Center for Policy Analysis claims that banning plastic bags at grocery stores and retail

Mary Marlowe Leverette, *How to Keep Reusable Grocery Bags Clean and Safe to Use*, The Spruce (Feb. 2, 2019), https://www.thespruce.com/keep-reusable-bags-clean-and-usable-2147015.

Anne Stych, Self-Checkouts Contribute to Retail Jobs Decline, BIZWOMEN (Apr. 8, 2019), https://www.bizjournals.com/bizwomen/news/latest-news/2019/04/self-checkouts-contribute-to-retail-jobs-decline.html?page=all.

Make Us Sicker, FINANCIAL POST (Jan. 9, 2018, 7:00 AM), https://business.financialpost.com/opinion/banning-plastic-bags-is-actually-terrible-for-the-environment-and-makes-us-sicker.

²⁰⁰ Id.

Mark Blackburn, *Life Before Plastic*, ONE BROWN PLANET (July 12, 2016), https://www.onebrownplanet.com/life_before_plastic/.

outlets can negatively impact the sales in the ban area.²⁰³ In the study, eighty large stores and supermarkets were surveyed, and stores within the ban area had an average sales decline of nearly 6%, while counterparts outside the banned area had a sales growth of 9%.²⁰⁴ If anything, this study should be seen as a reason to ban plastic bags nationwide, because then consumers would not have the option of going to a store with plastic bags, and stores with plastic bag bans would not have to risk sales declines to be environmentally-friendly. Right now, it is a convenient habit for shoppers to use plastic bags, but that habit can be broken.²⁰⁵ A national ban would not disproportionally impact stores within ban zones, so it would protect retailers.

IV. CONCLUSION

The United States is one of the wealthiest nations in the world. ²⁰⁶ It is the world's most dominant economic and military power. ²⁰⁷ It is a leader in so many arenas, but it is clearly lacking in its ability to be environmentally-friendly. The United States has yet to even ratify the United Nations Convention for the Law of the Sea (UNCLOS), a Convention that has been ratified by 67 countries, including Canada, China, and the European Union. ²⁰⁸ Among other features of the Convention, "UNCLOS assigns the fundamental obligation and responsibility of protecting and preserving the marine environment to all States, and requires them to take every necessary

Linda Tufano, Cleaning Up Consumer Behavior with Plastic Bag Fees, WASTE DIVE (Aug. 17, 2015), https://www.wastedive.com/news/cleaning-up-consumer-behavior-with-plastic-bag-fees/404042/.

²⁰³ Heather Caliendo, *The Economic Effect of Plastic Bag Bans*, NAT'L CTR FOR POL'Y ANALYSIS (Feb. 6, 2013), http://www.ncpathinktank.org/media/the-economic-effect-of-plastic-bag-bans.

²⁰⁴ Id.

Grant Suneson, *These Are The 25 Richest Countries in The World*, U.S.A. TODAY (July 7, 2019, 10:00 AM), https://www.usatoday.com/story/money/2019/07/07/richest-countries-in-the-world/39630693/.

²⁰⁷ United States, U.S. NEWS & WORLD REP., https://www.usnews.com/news/best-countries/united-states (last accessed Jan. 12, 2020).

²⁰⁸ United Nations Convention on the Law of the Sea, U.N., https://www.un.org/Depts/los/convention_agreements/convention_declarations. htm (last accessed Jan. 12, 2020).

measure to prevent, reduce and control pollution of the oceans."²⁰⁹ While the United States may not be ready to publicly commit to protecting and preserving the marine environment, the safety and health of Americans are also at stake. UNCLOS may be too big and idealistic of a commitment for the United States to make at present, but microplastics are being consumed when citizens eat fish from the ocean. Microplastics were a big enough concern that the United States banned microbeads, so why would plastic bags that are consistently broken down into microplastics be any different? The United States has an opportunity to join other similarly-situated world powers in an effort to reduce ocean pollution and plastic pollution in general. The reasons not to impose a national ban on plastic bags are not significant enough concerns to outweigh the necessity of reducing plastics in the ocean.

Plastic bags are hard to recycle properly, and since they require different facilities to process them, the recycling process is costly. It is not economically feasible to continue providing free plastic bags, because recycling efforts are either too complicated if processed in the United States, or if bags are sent to other countries to be recycled, they are not processed properly. The United States should handle its own waste, and the easiest way to handle it is to stop producing as much of it.

Among the many reasons that the United States should take action on single-use plastics are the many classic public policy reasons that all environmental issues share. The saying "we don't inherit the earth from our ancestors, we borrow it from our children" sums up the reasoning. If we don't protect the earth from further damage, the resources available to future generations will be scarce and damaged. While this should not be a partisan issue, environmental issues tend to be considered liberal. But American health is at risk. Microplastic particles have been found in human stomachs, blood,

²⁰⁹ Oceans: The Lifeline of Our Planet, U.N., https://www.un.org/depts/los/convention_agreements/convention_20years/oceansthelifeline.htm (last accessed Jan. 12, 2020).

²¹⁰ Kevin E. Trenberth, *Graduation Address to Bridge School, Boulder, Are We Good Stewards of the Planet Earth?* (May 30, 2008), http://www.cgd.ucar.edu/cas/Trenberth/website-archive/gradSp2-moved.pdf.

and lungs.²¹¹ The impacts of human consumption of plastic are not well-researched, but it is reasonable to assume that there will be negative effects. Since American health is at risk, perhaps it will be easier to pass a nationwide plastic bag ban than other environmentally-friendly policies.

The amount of animals that have been killed because of plastic pollution in the oceans is already a tragedy. Without a good way to eradicate the plastic soup (although there are many valiant cleanup efforts that help reduce the floating plastic problem), animals will continue to die. Several cleanup efforts, such as The Ocean Cleanup, have not been as successful as promised. While cleaning up the oceans is an important long-term goal, a much easier goal to accomplish is cutting off the flow of plastic into the ocean, or at least reducing the United States' contribution to the plastic soup.

The United States has many mentors to turn to in creating a policy that will work. Many other countries have taxed, restricted, or banned plastic bags and other single-use plastic items. The United States can and should examine the laws that Canada, China, Ireland, and many other countries have made when drafting a bill. There are countries that have similar politics, size, and corporate considerations that have adopted single-use plastic legislature that the United States can compare itself to, so it has a high likelihood of creating effective policy. Ireland's taxation plan that led to a nationwide ban would likely work well for the United States. That would provide ample time for citizens to get used to the idea of either using paper bags or bringing reusable bags to the store, and the tax from the bags could go towards a government program to help reduce plastic pollution or subsidize recycling efforts. Within two years of the tax being imposed, the United States should phase out plastic bags entirely.

²¹¹ Erik Solheim, *The Planet Is on Edge of A Global Plastic Calamity*, THE GUARDIAN (June 5, 2018), https://www.theguardian.com/environment/2018/jun/05/the-planet-is-on-edge-of-a-global-plastic-calamity.

²¹² FAQ, THE OCEAN CLEAN UP, https://theoceancleanup.com/faq/ (last accessed Jan. 12, 2020).

²¹³ Marcus Fairs, *The Ocean Cleanup Labelled "A Dream That Seduced Many People*," DEZEEN.COM (May 23, 2019), https://www.dezeen.com/2019/05/23/the-ocean-cleanup-failure-great-pacific-garbage-patch-plastic/.

The United States is already behind on passing a nationwide ban on single-use plastics, but imposing a tax on plastic grocery bags is a good place to start. Eventually, polystyrene, plastic straws, plastic utensils, and other single-use plastic items should be banned. If single-use plastics continue to be used and discarded at a rapid rate, the oceans have no chance of improving. Currently, sea creatures are the ones that are most directly harmed, but if Americans are allowed to continue discarding plastic, humans will pay the price.