Testimony of Ted Danson
Vice Chair, Oceana Board of Directors
House Committee on Natural Resources
Subcommittee on Water, Oceans, and Wildlife
October 29, 2019

Good afternoon. Thank you, Chairman Huffman, Ranking Member McClintock and members of the committee, for the opportunity to testify today on plastic pollution's effects on our oceans. My name is Ted Danson, and I am the vice chair of Oceana's board of directors. Oceana is the largest international advocacy organization dedicated solely to ocean conservation. We work in North, South and Central America, Asia and Europe to advocate for science-based policies that will restore the ocean's abundance and biodiversity.

I've been working on ocean issues for more than 30 years. My interest in the oceans started when one day, I decided to take my daughters — who were 4 and 8 years old at the time — to go swimming at the beach in Southern California. We were ready to go and running toward the water, but were stopped by a sign that said, "no swimming, ocean polluted."

My girls couldn't believe it, and neither could I. The ocean was closed. They asked me, "Why, why can't we go swimming — in this beautiful ocean?" So, in the late 1980s, I co-founded the American Oceans Campaign to clean up beaches and the ocean. And for 15 years, we worked to protect the oceans from oil drilling and other threats.

To expand the capacity of the American Oceans Campaign, we decided to join with Oceana in 2002. Oceana has protected more than 4.5 million square miles of ocean and won over 200 victories to stop overfishing, habitat destruction, pollution and the killing of threatened species. I am here today to testify about the growing problem of plastic pollution that is threatening our oceans.

Almost from the moment we wake up to the time we go to bed, we are faced with throwaway plastic. We face it when we brush our teeth with a toothbrush made of plastic and squeeze toothpaste out of a plastic tube, and when we wash our hair with shampoo and conditioner from plastic bottles. The rest of our daily routines might include one or several coffees in cups with plastic lids, lunch in plastic takeout containers with plastic utensils, and grocery shopping, where single-use plastic is unavoidable.

If you tried to avoid the plastic typically encounter in a day, you'd hit countless obstacles. There was an article in *The New York Times* earlier this year about people who managed to maintain generally plastic-free lifestyles — their days involved using homemade shampoo, toothpaste and more. This effort is extraordinarily admirable, but not many could manage it.[1] Millions of consumers should not have to restructure their daily routines to avoid plastic when the country's leading producers of food, personal care products and other everyday staples could start using sustainable alternatives to single-use plastic, stopping the problem at the source.

Plastic hasn't been around for as long as you might imagine, considering the level of plastic pollution we're seeing in the environment. It wasn't being used for consumer goods like beverage bottles until the 1940s. By the 1950s, we had entered the era of "throwaway living" — meaning our current culture of relying on single-use, disposable materials to make our lives more efficient and convenient. Plastic was convenient for producers too — it was a cheap, durable and lightweight material. This trend's environmental impact was evident within just a few years. Disposable items were suddenly cluttering roadsides around the country.

Fast forward to today, and we're seeing plastic floating on the surface of the sea, washing up on the world's most remote coastlines, melting out of Arctic sea ice and sitting at the deepest point of the ocean floor.[2] There isn't a place on earth untouched by plastic pollution. In fact, it's now cemented in our fossil record. For the first time, researchers have documented plastic building up exponentially in the sediments off the coast of Santa Barbara, California, that precisely mirrors the massive expansion in global plastic production from 1945 to the present decade.[3]

We are leaving behind a permanent legacy of plastic pollution for future generations.

The list of marine animals affected by plastic pollution is continually growing. Plastic has been consumed by an estimated 90% of seabird species and eaten by every species of sea turtle.[4] Some organisms, such as corals, appear even more attracted to plastic than food.[5] What's worse, studies have shown when corals come into direct contact with plastic debris, their likelihood of disease increases from 4% to a staggering 89%.[6] At least 17% of the species observed to be affected by marine debris are listed as threatened or near threatened with extinction by the International Union for the Conservation of Nature, indicating that marine plastic debris may be contributing to the possibility of these species' extinction.[7]

One study estimated that up to 51 trillion microplastic particles were present in the ocean in 2014. This number is only expected to increase as plastic continues to pour into our oceans and breaks up into smaller pieces.[8]

In addition to polluting the marine environment, plastic poses a risk to human health. We're now seeing plastic in our water, our food, our soil, our air and our bodies.[9] Plastic particles have been found in everything from our water and beer to honey, salt and tea.[10] The particles also make their way into the seafood we eat.[11] Scientists are still studying the potential impacts the plastic particles themselves are having on our health.

Plastic is also affecting our climate. If plastic was a country, it would be the planet's fifth-largest emitter of greenhouse gases.[12] Studies have shown that plastic contributes to climate change by using fossil fuels and emitting greenhouse gases throughout its life cycle, from production and transportation to waste management. Plastic at the ocean's surface and on land continually releases methane and other greenhouse gases throughout its existence, and these emissions increase as plastic breaks apart in sunlight.[13] With plastic production rates anticipated to increase, so will plastic's effects on our climate.

Perhaps the single most important thing to remember about plastic is that it lasts for centuries.[14] Most of the plastic you've used in your lifetime still exists on the planet in some form or another. This

is what makes single-use plastics so profoundly flawed. Single-use plastics are created from a material made to last forever, but are designed to be used once and thrown away. Sometimes single-use plastics are only used for a few moments before polluting the earth for years to come.

Half of all the plastic ever made in our planet's history was produced in the past 15 years.[15] Plastic production is expected to quadruple between 2014 and 2050, rising 40% in just the next decade.[16] Waste-management options don't have a chance at keeping up. Take recycling, for instance. Now that companies are seeing their names on the bottles floating in the ocean and polluting our beaches, plastic producers frequently tout their commitments to improving recycling rates and their investments in waste-management systems. They proclaim recycling as the panacea to our plastic problem.

But of all the plastic waste ever generated as of 2015, only 9% has been recycled. That means the vast majority, 91%, either was sent to a landfill, was incinerated or ended up polluting our natural environment — including our oceans. [17] Simply improving recycling rates will not solve this crisis.

In fact, not everything that goes into the recycling bin actually gets recycled. Some is disposed of in landfills or lost in the recycling process. Some is turned into lower-value products, known as "downcycling." And some is exported to developing nations with less robust waste management systems. This means the plastic we thought was being recycled often ends up in a landfill or in the ocean on the other side of the globe.[18] The United States is no exception. In 2015, plastic recycling rates in the U.S. were only 9%.[19] The U.S. and other developed countries have been adding to the problem by shipping some of our plastic waste to countries in Asia because it's cheaper than dealing with it at home.[20]

The truth is, recycling can't solve the ever-growing plastic crisis. Recycling is like trying to mop up water from an overflowing bathtub while the faucet is still running. We need to turn off the faucet and reduce the production of single-use plastic. Companies that have created this problem need to change the way they do business. They must do more than recycle. We need them to significantly reduce the amount of single-use plastic they are putting onto the market and offer consumers plastic-free choices for their products.

Unfortunately, those companies aren't doing enough, and that's why we need your help. It's up to our national, state and local governments to require companies to reduce single-use plastic. Policies governing the production and use of single-use plastic are the most effective way to stem the flow of it into our oceans, and these policies are becoming more common around the world.[21]

The European Union, Peru, Chile and Canada have all announced or are implementing policies to reduce plastic pollution. The United States should create a national policy that comprehensively addresses the plastics crisis threatening our future. U.S. cities, towns, counties and states have recognized the urgency of the issue and taken the initiative on their own, passing policies to reduce single-use plastics. Effective policies include bans, taxes, deposit return systems and extended producer responsibility.

Here are a few examples:

In 2018, the European Union announced a phaseout of single-use plastics by 2021. The Single-Use Plastics Directive bans single-use plastic products, including plates, cutlery, polystyrene food and beverage containers, and other items that are estimated to represent 85% of single-use plastic found on beaches in the EU.[22]

Earlier this year, Santa Monica, California prohibited food and beverage sellers from offering disposable food ware, including plates, cups, bowls, trays and utensils, made predominantly with plastic. The city has already banned expanded polystyrene products.[23]

In 2019, Vermont passed a law that includes a ban on single-use plastic bags, a ban on expanded polystyrene food service products, a minimum 10-cent tax on recyclable paper bags, a ban on single-use plastic stirrers, and a policy making straws available by request-only in food service establishments.[24]

On the federal level, this committee should use its authority to tackle the plastic pollution problem. I applaud you for stopping the use of plastic water bottles in committee hearings and votes, the rest of Congress should take this same step. There's no need to wait. In 2011, the National Park Service implemented a policy to encourage national parks to stop selling water in plastic bottles. Unfortunately, the policy has been reversed. The committee should make our national parks, national wildlife refuges, marine sanctuaries and other federal lands and waters into single-use plastic free zones, stopping the sale of single-use plastics including plastic beverage bottles throughout the Department of Interior system.

Local and state policies move us in the right direction, and ultimately comprehensive U.S. federal action is needed — and soon. I urge you, our policy-makers tasked with protecting our country's natural resources, to pass federal legislation that stops plastic pollution at the source, significantly reduces the production of this everlasting pollutant, holds corporations responsible for this global crisis and enables states and cities to continue to lead the way on solutions. Don't fall for the false promise of recycling and don't stoop to incineration. We must stop the runaway increase in plastic production and reduce the amount of plastic companies are making and foisting on us, because it will last for centuries. We have no more time to waste.

---

[1] Kurutz, S (2019) Life Without Plastic Is Possible. It's Just Very Hard. *The New York Times*. Available: https://www.nytimes.com/2019/02/16/style/plastic-free-living.html. Accessed Oct 23, 2019.

[2] Lavers JL and Bond JL (2017) Exceptional and rapid accumulation of anthropogenic debris on one of the world's most remote and pristine islands. *PNAS* 114: 6052-6055. doi: 10.1073/pnas.1619818114; Peeken I, Primpke S, Beyer B, *et al.* (2018) Arctic sea ice is an important temporal sink and means of transport for microplastic. *Nature Communications* 9. doi: 10.1038/s41467018-03825-5; Chiba S, Saito H, Fletcher R, *et al.* (2018) Human footprint in the abyss: 30 year records of deep-sea plastic debris. *Marine Policy* 96: 204-212. doi: 10.1016/j.marpol.2018.03.022

[3] Brandon JA, Jones W and Ohman MD (2019) Multidecadal increase in plastic particles in coastal ocean sediments. Science Advances 5. doi: 10.1126/sciadv.aax0587

[4] Wilcox C, van Sebille E and Hardesty BD (2015) Threat of plastic pollution to seabirds is global, pervasive and increasing. *PNAS* 112: 11899-11904. doi: 10.1073/pnas.1502108112; Kuhn S, Bravo Rebolledo EL and van Franeker JA (2015) Deleterious Effects of Litter on Marine Life. In: *Marine Anthropogenic Litter*. Cham: Spinger International Publishing.

[5] Rotjan RD, Sharp KH, Gauthier AE, *et al.* (2019) Patterns, dynamics and consequences of microplastic ingestion by the temperate coral, *Astrangia poculata*. *The Royal Society*. doi: 10.1098/rspb.2019.0726
[6] Lamb JB, Willis BL, Fiorenza EA, *et al.* (2018). Plastic waste associated with disease on coral reefs. *Science* 26: 460-462. doi: 10.1126/science.aar3320
[7] Gall SC and Thompson RC (2015) The impact of debris on marine life. *Marine Pollution Bulletin* 92: 170–179. doi: 10.1016/j.marpolbul.2014.12.041
[8] van Sebille, E., Wilcox, C., Lebreton, L., et al. (2015) A global inventory of small floating plastic debris. Environmental Research Letters.
[9] -- (2019) Plastic and Health: The Hidden Costs of a Plastic Planet. Center for International Environmental Law. 84p.; Boots B, Russell CW and Green DS (2019) Effects of microplastic in soil ecosystems: above and below ground. *Environmental Science and Technology*. doi: 10.1021/acs.est.9b03304; Schwabl P, KöppelS, Königshofer P, *et al.* (2019) Detection of various microplastics in human stool: a prospective case series. *Annals of Internal Medicine*. doi: 10.7326/M19-0618; Dris R, Gasperi J, Mirande C, *et al.* (2017) A first overview of textile fibers, including microplastics, in indoor and outdoor environments. *Environmental Pollution* 221: 453–458. doi: 10.1016/j.envpol.2016.12.013
[10] Kosuth M, Mason SA and Wattenberg EV (2018) Anthropogenic contamination of tap water, beer, and sea salt. *PLoS ONE* 13. doi: 10.1371.journal.pone.0194970; Hernandez LM, Xu EG, Larsson HCE, *et al.* (2019) Plastic teabags release billions of microparticles and nanoplastics into tea. *Environmental Science and Technology.* doi: 10.1021/acs.est.9b02540
[11] Li J, Green C, Reynolds A, Shi H and Rotchell JM (2018) Microplastics in mussels sampled from coastal waters and supermarkets in the United Kingdom. Environmental Pollution 241: 35–44. doi: 10.1016/j.envpol.2018.05.038;
Rochman CM, Tahir A, Williams SL, et al. (2015) Anthropogenic debris in seafood: Plastic debris and fibers from textiles in fish and bivalves sold for human consumption. Scientific Reports 5 doi: 10.1038/srep14340
[12] Zheng J and Suh S (2019) Strategies to reduce the global carbon footprint of plastics. Nature Climate Change 9: 374–378. doi: 10.1038/s41558-019-0459-z; -- CO2 Emissions | Global Carbon Atlas. Available: http://www.globalcarbonatlas.org/en/CO2-emissions. Accessed Oct 9, 2019a.
[13] -- (2019) Plastic and Climate: The Hidden Costs of a Plastic Planet. Center for International Environmental Law.
[14] -- (2018) A Guide to Plastic in the Ocean. *NOAA's National Ocean Service.* Available: https://oceanservice.noaa.gov/hazards/marinedebris/plastics-in-the-ocean.html. Accessed June 6, 2019.
[15] Geyer R, Jambeck JR and Law KL (2017) Production, use, and fate of all plastics ever made. *Science Advances* 3. doi: 10.1126.sciadv.1700782
[16] UNEP and GRID-Arendal (2016) Marine Litter Vital Graphics. Nairobi: United Nations Environment Programme and Arendal: GRID-Arendal.; -- (2019) Plastic and Climate: The Hidden Costs of a Plastic Planet. Center for International Environmental Law. 108p.
[17] Geyer R, Jambeck JR and Law KL (2017) Production, use, and fate of all plastics ever made. *Science Advances* 3. doi: 10.1126.sciadv.1700782
[18] Brooks AL, Wang S and Jambeck JR (2018) The Chinese import ban and its impact on global plastic waste trade. *Science Advances* 4. doi: 10.1126/sciadv.aat0131
[19] -- (2018) Advancing Sustainable Materials Management: 2015 Tables and Figures. Environmental Protection Agency.
[20] -- (2019) Global Exports of Plastic Scrap by Country and Year (in metric tons). *Institute of Scrap Recycling Industries, Inc.* Available: https://www.isri.org/docs/default-source/commodities/international-scrap-trade-database/plastic-ex-comtrade-2019---28mar2019.pdf?sfvrsn=6. Accessed Sept 30, 2019.
[21] UNEP (2018) Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches - summary for policy makers. Available: https://papersmart.unon.org/resolution/uploads/unep_aheg_2018_1_inf_3_summary_policy_makers.pdf. Accessed Jul 31, 2019
[22] Directive 2019/904 of the European Parliament and of the Council of 5 June 2019 On the Reduction of the Impact of Certain Plastic Products on the Environment, 2019 O.J. (L 155) 1–19 (EU).
[23] SANTA MONICA, CAL., MUN. CODE ch. 5.44 (2019).
[24] VT. STAT. ANN. tit. 10 §§ 6691–6700 (effective July 1, 2020).