



## RESOURCES ABOUT PLASTICS

### *The Perils of Plastics* April 13, 2022

Erica Cirino, *Thicker Than Water, the Quest for Solutions to the Plastics Crisis*.

[www.ericacirino.com](http://www.ericacirino.com)

Jim Vallette: The New Coal, Plastics and Climate Change. [www.materialsresearch.net](http://www.materialsresearch.net)

#### **Organizations devoted to ending plastic pollution:**

[www.beyondplastics.org](http://www.beyondplastics.org) founded by Judith Enck, (formerly with EPA under Obama) runs an online course in Plastics with Bennington College. This website has crucial info/petitions to sign, such as asking Amazon to switch to non-plastic packaging. (in 2019 Amazon generated 465 million pounds of plastic packing waste, 22 million ended up polluting waterways)

[www.breakfreefromplastic.org](http://www.breakfreefromplastic.org)

[www.plasticpollutioncoalition.org](http://www.plasticpollutioncoalition.org) watch Jeff Bridges narrated video.

[www.lastbeachcleanup.org](http://www.lastbeachcleanup.org) – Jan Dell, engineer from Texas. (avoid false/feel good solutions)

[www.sustainablewestchester.org](http://www.sustainablewestchester.org) zerowaste.

[www.upstreamsolutions.org](http://www.upstreamsolutions.org) Miriam Gordon. Great hopeful video to watch.

[www.oceana.org/plastics](http://www.oceana.org/plastics) see their 4 min. short video

[www.storyofstuff.org](http://www.storyofstuff.org) watch their Emmy award winning film *The Story of Plastics*. They uncovered that Nestle was taking free water from the San Bernardino National Forest. Our tax dollars subsidize the fossil fuel industry AND Nestle corporate water!

[www.noplasticwaste.org](http://www.noplasticwaste.org)

[www.5gyres.org](http://www.5gyres.org) 5Gyres.org **Microbeads Free Waters Act of 2015** resulted from the diverting of 16 billion microbeads from ocean with #beadfree pledge.

[www.plasticsoupfoundation.org](http://www.plasticsoupfoundation.org)

[www.greenpeace.org](http://www.greenpeace.org) sign their petition to CocaCola, Pepsi Cola and Nestle to switch to reusable/refillable bottles.

[www.allourenergy.com](http://www.allourenergy.com)

#### **Some legislative successes, some pending legislation, with links to studies:**

1991 Suffolk County, NY pioneering ban on **Styrofoam** by Assemblyman Steve Englebright.

In 2018 Seattle **banned plastic utensils and straws**. “Strawless in Seattle”  
NYC Straw bill is not a ban but have to request straws in establishments.

**In 2020 New York's Plastic Bag Ban** went into effect. **Now banned in 9 STATES (NY, NJ, Ct, Delaware, California, Hawaii, Maine, Oregon & Vermont.)** In USA 23 billion plastic bags are used per year. America averages 1 bag per person per day. In Denmark, 4 bags per person per year.

**Jan 1, 2022: New York's statewide ban on polystyrene foam containers and packing peanuts has gone into effect.** Styrofoam, known as white packaging, insulation, and take out coffee cups, is a form of **Polystyrene**. Polystyrene is still being sold in various forms, eg. clear plastic take-out boxes. Check under take out shells and big red plastic cups. If you find a #6 PS, it's polystyrene. Styrene is a known carcinogen. Back in 1992 it was found in human connective fatty tissue. **Styrene in adipose tissue of nonoccupationally exposed persons – PubMed 1992**  
<https://pubmed.ncbi.nlm.nih.gov/1511676/>

**Recent article from Nature:** <https://www.nature.com/articles/s41598-020-64464-9> about potential toxicity of polystyrene. And: [Polystyrene and Polyethylene Microplastics Decrease Cell Viability and Dysregulate Inflammatory and Oxidative Stress Markers of MDCK and L929 Cells In Vitro Exposure and Health \(2022\)](#)

**CALIFORNIA** 1<sup>st</sup> State to tackle microplastic pollution. It recently adopted a strategy (non-regulatory) to monitor and reduce microplastics after they were found in SAN FRANCISCO BAY 3 years ago. **A study found that 7 trillion pieces of plastic washes into the San Francisco Bay each year. Including microplastics (particles under 5mm), a million pieces for each person in the Bay Area.**

<https://www.nytimes.com/2022/03/07/us/california-microplastics.html?searchResultPosition=2>

<https://www.sfei.org/documents/sf-bay-microplastics-solutions> San Francisco Estuary Institute.

**EPR: Extended Producer Responsibility Bill:** Assemblyman Steve Englebright is presenting a bill for the legislative session. The EPR bill should require reduction in packaging, reduction in toxicity and producer accountability. Together with a renewed Bottle Bill (40 years old!) both important bills will address plastics pollution in New York.

**Global Plastics Treaty:** 25 countries represented. Met February 2022 in Nairobi and delivered 67,400 signatures to support GPT. Will be evolving over the next 2.5 years for binding treaty. <https://www.cnbc.com/2022/03/03/climate-crisis-un-agrees-to-develop-treaty-to-end-plastic-pollution.html> The international resolution **addresses the full lifecycle of plastic, including production, design and disposal.** It is hoped an agreement to address the growing problem of plastic waste in the world's oceans, rivers and landscapes can be reached by the end of 2024.

**Break Free from Plastic Pollution Act** – Senate Bill 984 Senator Jeff Merkley, 14 co-sponsors. House bill 2238 Lowenthal. Currently in the finance committee. The bill sets forth provisions to encourage the reduction of single-use products, including by establishing

programs to refund consumers for returning beverage containers and by establishing a tax on carryout bags. The bill creates a temporary moratorium on new or expanded permits for certain facilities that manufacture plastics until regulations are updated to address pollution from the facilities. The Environmental Protection Agency (EPA) must publish guidelines for a national standardized labeling system for recycling and composting receptacles.

## **MICROPLASTICS**

<https://www.nytimes.com/2022/04/03/science/ocean-plastic-animals.html?searchResultPosition=4>

### ***In the Ocean, It's Snowing Microplastics April 3, 2022***

Tiny bits of plastic have infiltrated the deep sea's main food source and could alter the ocean's role in one of Earth's ancient cooling processes, scientists say.

<https://www.nytimes.com/2020/06/25/opinion/plastic-air-pollution.html?searchResultPosition=1> June 25, 2020

***You're Probably Inhaling Microplastics Right Now: A new study found plentiful evidence of these tiny particles in dust in the nation's most remote places.*** June 25, 2020 Biogeochemist Janice Brahney, Utah State University 2020. Found 2-6% of particulate aerosols contain plastic. Micro-plastic waste is moving through the atmosphere. Micro-plastics shed from clothing with every wash; they end up in environment. Even more release in the dryer.

### ***Recent Italian study found plastics in human placenta***

<https://www.sciencedirect.com/science/article/pii/S0160412020322297> Plasticenta: First evidence of microplastics in human placenta. For the first time microplastics were detected by Raman microspectroscopy in human placentas. Microplastics were found in all placental portions: maternal, fetal and amniochorial membranes.

### ***Recent Dutch study found plastics in blood***

<https://www.smithsonianmag.com/smart-news/microplastics-detected-in-human-blood-180979826/>

### ***Study Finds Microplastics In 93% Of Bottled Water***

<https://www.forbes.com/sites/niallmccarthy/2018/03/16/study-finds-microplastics-in-93-percent-of-bottled-water-infographic/?sh=761014bb73fa> The World Health Organization (WHO) has announced that it is launching a review of the potential risks of plastic particles in drinking water, after a study found tiny pieces of plastic in more than 90% of samples from the world's most popular bottled water brands. The analysis involved 259 bottles of water from 11 brands across nine countries. They were bought in China, Brazil, India, Indonesia, Mexico, Lebanon, Kenya, Thailand and the U.S. Of all the bottles tested, only 17 were found to be free of plastic. On average, each liter sold contained 325 pieces of microplastic, including polypropylene, nylon, and polyethylene terephthalate. **High levels were found in bottles of Bisleri (5,230), Gerolsteiner (5,160) and Aqua (4,713).** A bottle of Nestle Pure Life water showed the highest levels in Orb Media's study, with 10,390 particles per liter. **WHO health review after microplastics were found in 90% of bottled water**

<https://www.desertsun.com/story/news/environment/2019/06/13/nestle-still-taking-public-forest-water-its-arrowhead-label-feds-help/1362211001/> Nestlé is still taking national forest water for its Arrowhead label, with tax payers' help.

The People Versus Nestlé's Profiteering of Community Water

<https://www.sierraclub.org/sierra/people-versus-nestl-s-profiteering-community-water> Locals in Ontario, Canada, say water is a human right, not a commodity.

Additional Concerns: **Phthalates, additives to plastics**, are ubiquitous, even in kids' plastic toys.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/> Phthalates and Their Impacts on Human Health, Andrea Tittarelli, Academic Editor. **Abstract:** Phthalates are a series of widely used chemicals that demonstrate to be endocrine disruptors and are detrimental to human health. Phthalates can be found in most products that have contact with plastics during producing, packaging, or delivering. Despite the short half-lives in tissues, chronic exposure to phthalates will adversely influence the endocrine system and functioning of multiple organs, which has negative long-term impacts on the success of pregnancy, child growth and development, and reproductive systems in both young children and adolescents. Several countries have established restrictions and regulations on some types of phthalates; however, we think that more countries should establish constraints or substitute measures for phthalates to reduce health risks. This article aims to summarize the adverse impacts of phthalates on human health, analyze the toxicity mechanism, assess the risks, and finally provide feasible strategies to reduce exposure of the public to phthalates.

**SOME ROADBLOCKS to SYSTEMIC CHANGE:** 1) Fossil Fuel subsidies. 2) Halliburton Act: fracking companies are exempt from federal regulations. 3) Proliferation of ethane cracker plants, insuring plastics remain cheap. 4) Lack of Producer Responsibility

**Relevant facts:**

**NY City BAR Association. The Global Problem of Plastic Pollution: What Can New York Do?**

<https://s3.amazonaws.com/documents.nycbar.org/files/2020743-PlasticsReport.pdf>

**Myth busting: USA's contribution to OCEAN PLASTIC WASTE:** "Reckoning with the U.S. Role in Global Ocean Plastic Waste," A Consensus Study Report of The National Academies of Sciences-Engineering-Medicine, The National Academies Press, Washington, D.C.

<https://nap.nationalacademies.org/catalog/26132/reckoning-with-the-us-role-in-global-ocean-plastic-waste>

Half of all plastics made since 1950 have been made in the last 15 years.

Studies estimate that we swallow a credit card's weight in plastic every week – 5 grams a week. Plastics is made with fossil fuels and contain toxic additives like phthalates, which are endocrine disruptors. Plastics are now made from ethane gas from fracking shale. The plastics industry plans to make up for loss with renewable energy, tripling production by 2050.

Plastics Industry admits failure of Recycling, but is now pushing Chemical Recycling, which is not recycling, it's toxic burning.

Black plastics are made from recycled electronics and are never recycled.

40-48 % of plastic produced is used for single use packaging.  
25% of fish in supermarket study were found with microplastics. Also found in honey and sugar.  
Fertility docs say get rid of plastics in your kitchen.  
40-48% of plastics production is for single use.  
At the present rate, by 2050 there will be more plastic in the ocean than fish.  
***In the USA:*** 3 million water bottles are used every hour.  
500 million straws each day  
1 million single use bags used every minute  
40 billion plastic utensils every year.  
We consume 1 plastic card (5 grams) worth of plastic per week.

**We cannot recycle our way out of this problem:**

[https://youtu.be/hmGrI\\_BVInc](https://youtu.be/hmGrI_BVInc) Bloomberg UK journalist short video tracks plastic items global journey.

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League of Women Voters of Westchester  
520 White Plains Rd., Suite 500, Tarrytown, NY 10591  
[westchesterlww@gmail.com](mailto:westchesterlww@gmail.com) / 914-366-7312  
[www.lwww.org](http://www.lwww.org)