



PLASTIC: LOCAL IMPACT AND CALL TO ACTION

To participate in the discussion, email
your questions to:

plastics.capecod@gmail.com

Laura Ludwig



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Sobering Plastic Facts

- ✓ Global plastic production doubles every 10 years: 15 million metric tons (1960); 359 million metric tons (2018)
- ✓ Every piece of plastic ever made still exists in some form or other (unless it was burned)
- ✓ 300 billion tons of plastic already in the ocean
- ✓ 8 million tons of plastic added to the ocean annually
- ✓ 1 million plastic water bottles purchased every minute
- ✓ 95% of seabirds will contain plastic by 2050
- ✓ Toxins and chemicals adsorb to microplastics
- ✓ 700+ species of bird, fish, mollusk, turtle, & mammal have been killed by ocean plastic
- ✓ 94% of US drinking water contains plastic
- ✓ Impacts to human health, unknown

Coastal Studies Gear Recovery 2013-2020

Surveyed over 800 transects in Cape Cod Bay in search of lost, discarded or abandoned fishing gear.

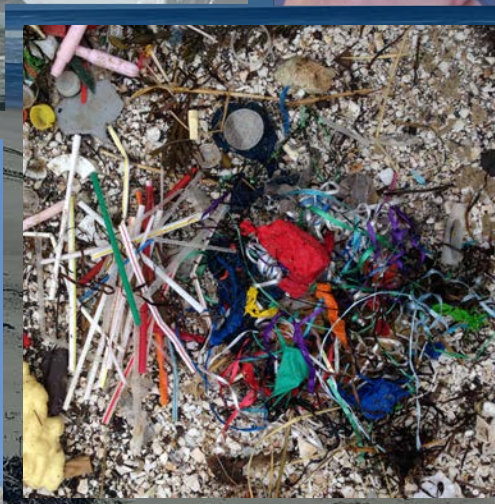
Located and recovered over 1300 lobster traps and 36 tons of nets, rope, cable & other fishing debris.

All recovered gear and debris was returned to its owner, recycled, or incinerated.



Artists give old plastic
rope new life
































Single-use
plastic is a
local
problem





Debris
impacts
wildlife and
their habitats

Plastic Free July 2020

SUN	MON	TUE	WED	THU	FRI	SAT	
			01		02	03	04
			Water Bottle Wednesday 	Thirsty Thursday: Straws 	Fireworks-Free Friday 	Plastic Free 4 th of July 	
	05	06	07	08	09	10	11
Silverware Sunday 	Microplastics Monday 	Take Care Tuesday 	Waste-Free Wednesday: Plastic Bags 	Thirsty Thursday: Drink in Bulk 	Facts Friday: Dos & Don'ts: Plastic Recycling 	Grocery Run: Fruits & Veggies 	
	12	13	14	15	16	17	18
Bathroom Talk: Oral Hygiene 	Microplastics Monday: Microfibers 	Take Care Tuesday: Cigarette Butts 	Tax Day 2020: "B" Plastic Free 	Thirsty Thursday: Drink Cups 	Facts Friday: Chemicals in Plastic 	Celebrations: Plastic-Free Style 	
	19	20	21	22	23	24	25
Bathroom Talk: Squeaky Clean, Plastic Free 	Microplastics Monday: Toxins 	Take Care Tuesday: 1620 Challenge 	Waste-Free Wednesday: Containers 	Thirsty Thursday: Got Milk? 	Facts Friday: Where does recycling go? 	Grocery Run: Meat & Cheese 	
	26	27	28	29	30	31	
Cleanup: Plastic-Free Style 	Microplastics Monday: Bioaccumulation 	Take Care Tuesday: Remote Cleanup 	Waste-Free Wednesday: Balloons 	Thrifty Thursday: Bin Liners & Compost 	Final Friday: SHARE! 		

Madhavi Venkatesan

Executive Director

 Sustainable Practices

Single-use plastic
bottles, both a U. S.
and a
local issue

There are 50 billion plastic bottles consumed every year, about **30 billion of them in the U.S.**, and the majority are from the sale and distribution of water.

There are **1,500 single-use plastic water bottles consumed per SECOND in the U.S** – that’s 90,000 per minute!

Plastic kills 1 million sea birds and over 1 million marine mammals each year and comprises **80% of beach trash** on Cape Cod.

Estimates are that there will be **more plastic than fish in the oceans by 2050** if our behavior does not change.

“The economic costs of plastic pollution affecting tourism, fisheries and shipping sectors are estimated to be at least \$8 billion annually.” – 2019 finding

Single-use plastic bottle problem

In 2018, of **359 metric tons produced**, **1/3 went to single-use packaging**, and less than 10 percent was recycled – 12 percent went to incinerators and the rest went to landfills and environment. **Nearly 8 million tons went into the sea via rivers.**

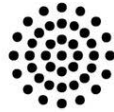
Whether fossil fuel-based or bioplastic, **plastic is an environmental hazard whose life exceeds its consumption use.** For example, a single-use plastic water bottle is designed for one-time consumption of its content, a process that literally takes a few minutes.

However, **disposal by landfill may result in 1,000 years before any sign of decomposition.** In the case of contact with light, degradation is also slow and can take centuries. In both cases, **leaching of the chemicals in plastic can spread toxins into ground water** and eventually be ingested by both plants and animals.

LIFE CYCLE OF A PLASTIC BOTTLE



PET PLASTIC IS MADE FROM OIL WHICH IS EXTRACTED FROM THE EARTH



THE OIL IS MADE INTO PELLETS WHICH FORM THE BASIS OF PLASTIC MANUFACTURING



THE PELLETS ARE MELTED INTO PLASTIC BOTTLES WHICH ARE FILLED WITH WATER AND OTHER DRINKS



IT TAKES 3L OF WATER AND 250 ML OF OIL TO MAKE 1L OF BOTTLED WATER



THE PRODUCT IS THEN TRANSPORTED TO STORES FOR PURCHASE AND CONSUMPTION



IT IS THEN PURCHASED, USED AND DISPOSED OF BY THE CONSUMER (THAT'S US!)



AROUND 27% OF PET PLASTIC BOTTLES WILL BE RECYCLED SO THEY CAN BE MADE INTO NEW PRODUCTS



THE MAJORITY WILL END UP IN THE ENVIRONMENT OR IN LANDFILL WHERE THEY TAKE UP TO 1000 YEARS TO START TO BREAK DOWN

1000 YEARS



*[HTTP://WWW.CLEANUP.ORG.AU/ALL/WHITELISE/SUPPORT/WHY-DO-WE-NEED-A-CONTAINER-DEPOSIT-LEGISLATION-.HTML](http://www.cleanup.org.au/all/whitelise/support/why-do-we-need-a-container-deposit-legislation-.html)

*[HTTPS://WWW.CLEANUP.ORG.AU/PDF/AU/CUA_PLASTIC_RECYCLING_FACT_SHEET.PDF](https://www.cleanup.org.au/pdf/au/cua_plastic_recycling_fact_sheet.pdf)

Single-use plastic bottles are resource intensive and have adverse impacts across their lifecycle.

Plastic affects health and environmental well-being

Plastic is a human and environmental health hazard.

Plastics can contain thousands of possible additives, and manufacturers are not required to disclose what their recipes are. Any plastic can leach, depending on the conditions (light, heat) and what additives it includes. The chemicals in plastic have been tied to cardiovascular disease, reproductive disorders, obesity, and developmental disorders. **Plastic has been found in the air we breathe, the water we drink and the food we eat.**

Plastic recycling is not a solution

Most single-use plastic bottles are not recycled. The plastics industry rarely uses recycled plastics in the vast majority of their products, unlike the glass and metal industries.

The recycling arrows stamped on plastic products and the cities that collect every type of plastic via their recycling programs, lead people to believe that all plastic products are recyclable and being recycled, and **that's simply not true.** In fact, for the small proportion of plastic that is recycled, it is typically turned into only one other product, which will most likely be landfilled at the end of its life.

Towns are also facing difficulty and increased costs related to the disposal of plastic waste intended for recycling.

There are better
alternatives to
bottled water for
consumers

Advertising is 10 to 15 percent of retail sales revenue and is aimed at convincing consumers that **bottled water is “healthier” than tap.**

But **45 percent of bottled is just “filtered” tap** water that is less regulated and inspected by FDA as a “low priority”.

Bottled water can **contain undisclosed, harmful chemicals. Bottled water can be contaminated by chemicals present in the plastic container in which it is held.**

Commercial Single-use Plastic Bottle Ban



Rationale

Elimination of the use of single-use plastic water bottles will have a significant impact on future plastic-based pollution including the nation's greenhouse gas footprint and is consistent with protection of the natural environment in our town, Barnstable County, our nation and our earth, which we have a common responsibility to protect and steward.

Proposed by-law

ARTICLE: To see if the Town will vote to adopt the following as a general by-law and to insert it into the Code of the Town of _____, Massachusetts.

Section 1. Sale of Single-use Plastic Water Bottles

Effective on September 1, 2021, it shall be unlawful to sell non-carbonated, unflavored drinking water in single-use plastic bottles of less than one gallon in the Town of _____. Enforcement of this regulation will begin September 1, 2021.

Section 2. Definitions

A single-use plastic bottle is a beverage container made from any type of plastic resin.

Section 3. Exemptions

Sales or distribution of non-carbonated, unflavored drinking water in single-use plastic bottles occurring subsequent to a declaration of emergency (by the Emergency Management Director or other duly authorized Town, County, Commonwealth or Federal official) affecting the availability and/or quality of drinking water to residents of the Town shall be exempt from this bylaw until seven days after the declaration has ended.

Proposed by-law
(continued)

Section 4. Enforcement

Enforcement of this article shall be the responsibility of the Town Manager or his/her designee. The Town Manager shall determine the inspection process to be followed, incorporating the process into other Town duties as appropriate.

Any establishment conducting sales in violation of this article shall be subject to a non-criminal disposition fine as specified in G. L. Chapter 40 § 21D. The following penalties apply:

First violation: Written warning

Second violation: \$150 fine

Third and subsequent violations: \$300 fine

Each day a violation continues constitutes a separate violation, incurring additional fines. Any such fines collected shall be payable to the Town of _____.

All businesses will be routinely inspected until the Town Manager deems the inspection to no longer be required.

Thank you!

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