

Article D – Frequently Asked Questions and Replies

Will this have any effect on a person's freedom to buy alcoholic products?

No. The Article is not a prohibition. It does not ban the sale of alcoholic products. The Article only addresses the smallest single-use alcohol containers of 100ml or less. These small single-use containers are one of the major sources of litter on our island.

Littering is already illegal, so why is this needed?

Litter laws already exist, but enforcement is hampered because police must observe the offense in order to issue a citation. This Article does not try to regulate individual behavior nor does it address alcohol consumption. The Article addresses the source of the littered items by regulating the commercial sale, distribution, or use of these small single-use sizes, which is considered the best solution.

Would a Massachusetts State deposit legislation solve the small nip litter problem on Nantucket?

No. Proposed state legislation to place a deposit on nip containers, suggested as five cents, has been unsuccessful in the past several legislative sessions (recently H2881/S452) and continues to be unsuccessful. Some legislators have stated that, amongst other concerns, a five-cent deposit was too low to be an effective deterrent for this litter behavior. The State has not acted with any deliberate speed on the issue due to heavy spending in opposition by special interest groups and their lawyers, leaving individual Towns to move forward.

Why not let other Towns go first?

Other Towns have already done this successfully. In Massachusetts, Falmouth and Chelsea already have bans in effect. Wareham, Newton have also banned the small single-use alcohol containers, which go into effect soon. Other towns are in the process of moving forward with their own similar bans. In Falmouth and Chelsea, the results are impressive – litter is down, all package stores have reapplied for their licenses (none have gone out of business). In Chelsea, anecdotal information from Government officials, liquor stores and bodegas is that the small container ban has not caused job loss or business failures. All stores operating prior to the ban are still open for business. All have re-applied for their licenses.

From the TON Website for the bylaw: Why are nip bottles, plastic plant pots, flushable wipes, etc. not included in the ban?

“Initially the proposed ban was more comprehensive than what was voted on at Special Town Meeting. In the future, there is the possibility for adding additional items to the bylaw.” Flushable wipes have already been added to the bylaw.

Article D – Frequently Asked Questions and Replies



Citizen Warrant Article

Primary Sponsor

Name: Bruce Mandel

Address: 10 Midland Avenue; Nantucket, MA 02554

Email: Bruce.Mandel@gmail.com

Phone #: 914-714-9740

Warrant Article Title: Containers for alcoholic beverages of less than or equal to 100 milliliters

To see if the Town will vote to amend Chapter 125A (Regulation of Sale, Distribution and Commercial Use of Certain Single-Use Plastics) of the Code of the Town of Nantucket, as follows (*NOTE: new language is shown as highlighted text, language to be deleted is shown by strikeout; these methods to denote changes are not meant to become part of the final text and, further, that non-sustentative changes to the numbering of this bylaw be permitted in order that it be in compliance with the numbering format of the Code of the Town of Nantucket*):

Chapter 125A. Single-Use Plastics

Article I. Regulation of Sale, Distribution and Commercial Use of Certain Single Use Plastics

§125A-1. Definitions and Purpose

A. Definitions

BOXED WATER - Any type of drinking water, flavored water, carbonated water, energy drink packaged in an aseptic carton, like the type often used for holding coconut water, soy milk, soups, and the like. These cartons are typically promoted as being more than 75% made from recycled paper or other fibers, but the rest is often a set of plastic parts such as a cap and pouring ring and internal layers or linings made from petroleum-based plastics such as polyethylene and aluminum.

CARBONATED WATER - Water that contains dissolved carbon dioxide gas, either artificially injected under pressure or occurring due to natural geological processes. Carbonization causes small bubbles to form, giving the water an effervescent quality. Also known as "sparkling water", "tonics", "soda water", "club soda", "tonic water", "seltzer", "pop", and the like.

COMMERCIAL USE - Use by a business, directly/indirectly for financial gain or convenience.

DRINKING WATER - Potable, unflavored, non-carbonated water that is safe to drink or to use for food preparation.

ENERGY DRINK - A type of drink containing sugar and/or other stimulant compounds when packaged in a petroleum based plastic container or package in a plastic lined paper or similar fiber package.

FLAVORED WATER - A category of beverage marketed as water which contains an array of additional ingredients, including, but not limited to, natural and artificial flavors, sugars, sweeteners, vitamins, minerals, and other "enhancements".

PETROLEUM-BASED PLASTIC - Plastic materials manufactured using petroleum-derived polymers. Compostable plastics as defined by ASTM International are exempted from this bylaw.

SINGLE-USE PLASTICS - Petroleum-based plastic products that are intended to be used only once before they are thrown away. They are "disposable" products. The items covered by this bylaw are listed herein.

- B. Purpose: The purpose of the bylaw is to protect the health and safety of Nantucket's present and future generations, protect the Town's single-source aquifer, its scenic visage, historic status, reduce litter, reduce the threat to the environment caused by rapid filling of the landfill space and by possible introduction of toxic by-products into the groundwater and general environment, protect marine animals and food sources and save the citizens of the Town money. There are safe alternatives for each of the single use petroleum-based plastic items banned.

§ 125A-2 Sale, distribution and commercial use of petroleum-based single-use plastic products.

It shall be unlawful to sell, distribute or commercially use the following single-use petroleum-based plastic products in the Town and County of Nantucket on or after June 1, 2020:

- A. Straws and drink stirrers;
- B. Flexible can and bottle yokes;
- C. Drinking cups and lids;
- D. Plates, bowls and eating utensils;
- E. Defined products in plastic, non-compostable or non-recyclable containers of one liter (34 ounces) or less;
- F. Single use, non-recyclable beverage pods;

Citizen Warrant Article

It shall be unlawful to sell, distribute or commercially use the following single-use petroleum-based plastic products in the Town and County of Nantucket on or after June 1, 2022:

- G. Flushable wipes containing plastic fibers, cloth fibers and/or anti-bacterial chemicals;
- H. Plastic stick ear buds

It shall be unlawful to sell, distribute or commercially use the following single-use petroleum-based plastic or glass products in the Town and County of Nantucket on or after June 1, 2023:

- I. Containers for alcoholic beverages of less than or equal to 100 milliliters

§ 125A-3 Exemption for emergencies and other.

- A. Drinking water. Sales occurring after a declaration of an emergency adversely affecting availability and/or quality of drinking water to Nantucket residents by the Emergency Management Director or other duly authorized Town, Commonwealth or United States official shall be exempt from this bylaw until seven calendar days after such declaration has ended.
- B. Medical packaging and medically required usage are exempted providing no recyclable alternatives are available.
- C. Compostable plastics are exempted from this bylaw, except for commercially compostable plastics that cannot be composted on Nantucket.

§ 125-4 Enforcement process.

Enforcement of this bylaw shall be the discretionary responsibility of the Town Manager or her/his designee. Police officers and health agents have the authority to enforce this bylaw. The Town Manager shall determine the inspection process to be followed, incorporating the process into other Town duties as appropriate. Any establishment conducting sales, distribution or otherwise engaging in the commercial use of the prohibited plastic products in violation of this bylaw shall be subject to a noncriminal disposition fine as specified in Article II of Chapter 1 of the Code of the Town of Nantucket under MGL c. 40, § 21D. Any such fines shall be paid to the Town of Nantucket. Enforcement shall be through the process of noncriminal disposition under MGL c. 40, § 21D, and Article of Chapter 1 of the Code of the Town of Nantucket.

§125A-5 Suspension of bylaw.

If the Town Manager determines that the cost of implementing and enforcing this bylaw has become unreasonable, then the Town Manager shall so advise the Select Board, and the Select Board shall conduct a public hearing to inform the citizens of such costs. After the public hearing, the Select Board may continue this bylaw in force or may suspend it permanently or for such length of time as they may determine.

§125A-6. Severability.

The provisions of this bylaw are severable. If any part of this bylaw should be held invalid by a court of competent jurisdiction, such invalidity shall not affect the remainder of the bylaw, and the remainder of the bylaw shall stay in full force and effect.

Citizen Warrant Article

Primary Sponsor

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- I. Single use plastic fiber tobacco filter products.

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This is a brief one-page abstract for a larger study. It is from the NIH about cigarette butts and the case for an environmental policy on hazardous cigarette waste. I've printed the abstract document for your ease of reference. There are two Figures at the end of the document which can be better seen using the link below if you want to see them. They aren't relevant to the proposed Article.

Hers is a link to this abstract:

Cigarettes butts and the case for an environmental policy on hazardous cigarette waste

<https://www.ncbi.nlm.nih.gov/195453415>

COVID-19 Information

[Public health information \(CDC\)](#)

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FULL TEXT LINKS



[Int J Environ Res Public Health](#). 2009 May;6(5):1691–705. doi: 10.3390/ijerph6051691.
Epub 2009 May 20.

Cigarettes butts and the case for an environmental policy on hazardous cigarette waste

Thomas E Novotny ¹, Kristen Lum, Elizabeth Smith, Vivian Wang, Richard Barnes

Affiliations

PMID: 19543415 PMCID: [PMC2697937](#) DOI: [10.3390/ijerph6051691](#)

[Free PMC article](#)

Abstract

Discarded cigarette butts are a form of non-biodegradable litter. Carried as runoff from streets to drains, to rivers, and ultimately to the ocean and its beaches, cigarette filters are the single most collected item in international beach cleanups each year. They are an environmental blight on streets, sidewalks, and other open areas. Rather than being a protective health device, cigarette filters are primarily a marketing tool to help sell 'safe' cigarettes. They are perceived by much of the public (especially current smokers) to reduce the health risks of smoking through technology. Filters have reduced the machine-measured yield of tar and nicotine from burning cigarettes, but there is controversy as to whether this has correspondingly reduced the disease burden of smoking to the population. Filters actually may serve to sustain smoking by making it seem less urgent for smokers to quit and easier for children to initiate smoking because of reduced irritation from early experimentation. Several options are available to reduce the environmental impact of cigarette butt waste, including developing biodegradable filters, increasing fines and penalties for littering butts, monetary deposits on filters, increasing availability of butt receptacles, and expanded public education. It may even be possible to ban the sale of filtered cigarettes altogether on the basis of their adverse environmental impact. This option may be attractive in coastal regions where beaches accumulate butt waste and where smoking indoors is increasingly prohibited. Additional research is needed on the various policy options, including behavioral research on the impact of banning the sale of filtered cigarettes altogether.

Keywords: butts; cigarette litter; environment; filters; smoking; waste.

Figures

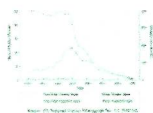


Figure 1. Market share and sales of...

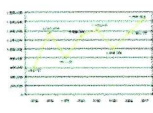


Figure 2. Cigarettes and Cigarette Filters Collected...

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Full Text Sources

[Europe PubMed Central](#)

[Multidisciplinary Digital Publishing Institute \(MDPI\)](#)

[PubMed Central](#)

[eScholarship, California Digital Library, University of California](#)

Miscellaneous

[NCI CPTAC Assay Portal](#)

This article discusses and affirms the toxicity of leachate from plastic fiber cigarette filters.

I've printed the article for your reference and it can be found from the NIH at:

Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088407/>

The conclusion is stated on the first and second pages. There is also a brief four-bullet point conclusion and a two-bullet point "What this paper adds" description just before the list of references at the end of the article.

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[Tob Control](#). 2011 May; 20(Suppl_1): i25–i29.

PMCID: PMC3088407

doi: [10.1136/tc.2010.040170](#)

PMID: [21504921](#)

Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish

[Elli Slaughter](#),^{1,2} [Richard M Gersberg](#),² [Kayo Watanabe](#),² [John Rudolph](#),³ [Chris Stransky](#),³ and [Thomas E Novotny](#),²

Abstract

Background

Cigarette butts are the most common form of litter, as an estimated 4.5 trillion cigarette butts are thrown away every year worldwide. Many chemical products are used during the course of growing tobacco and manufacturing cigarettes, the residues of which may be found in cigarettes prepared for consumption. Additionally, over 4000 chemicals may also be introduced to the environment via cigarette particulate matter (tar) and mainstream smoke.

Methods

Using US Environmental Protection Agency standard acute fish bioassays, cigarette butt-derived leachate was analysed for aquatic toxicity. Survival was the single endpoint and data were analysed using Comprehensive Environmental Toxicity Information System to identify the LC50 of cigarette butt leachate to fish.

Results

The LC50 for leachate from smoked cigarette butts (smoked filter + tobacco) was approximately one cigarette butt/l for both the marine topsmelt (*Atherinops affinis*) and the freshwater fathead minnow (*Pimephales promelas*). Leachate from smoked cigarette filters (no tobacco), was less toxic, with LC50 values of 1.8 and 4.3 cigarette butts/l, respectively for both fish species. Unsmoked cigarette filters (no tobacco) were also found to be toxic, with LC50 values of 5.1 and 13.5 cigarette butts/l, respectively, for both fish species.

Conclusion

Toxicity of cigarette butt leachate was found to increase from unsmoked cigarette filters (no tobacco) to smoked cigarette filters (no tobacco) to smoked cigarette butts (smoked filter + tobacco). This study represents the first in the literature to investigate and affirm the toxicity of cigarette butts to fish, and

will assist in assessing the potential ecological risks of cigarette butts to the aquatic environment.

Keywords: Topsmelt (*Atherinops affinis*), fathead minnow (*Pimephales promelas*), cigarette butts, aquatic toxicity, environment, toxicology

Background

Cigarette butts are the most common form of litter in the world, as approximately 5.6 trillion cigarettes are smoked every year worldwide.¹ Cigarette waste constitutes an estimated 30% of the total litter (by count) on US shorelines, waterways and on land (LitterFreePlanet, 2009). In fact, cigarette butts are the most common debris item collected along waterways during the Ocean Conservancy's yearly International Coastal Cleanup. In all, 2 189 252 cigarettes were collected during the 2009 cleanup. (Ocean Conservancy, 2010) Conservatively, this quantity of cigarettes weighs approximately 821 lb and displaces a volume of 1095 litres.² Owing to the ubiquitous nature and magnitude of cigarette butts discharged into the environment, studies are needed to determine whether cigarette butt waste can exert ecotoxic effects when in aquatic environments.

Many chemical products are used during the course of growing tobacco and manufacturing cigarettes, the residues of which may be found in cigarettes prepared for consumption.^{3 4} These include pesticides, herbicides, insecticides, fungicides and rodenticides.⁵ Additionally, over 4000 chemicals may also be introduced to the environment via cigarette particulate matter (tar) and mainstream smoke.⁴ These include chemicals such as carbon monoxide, hydrogen cyanide, nitrogen oxides, polycyclic aromatic hydrocarbons, ammonia, acetaldehyde, formaldehyde, benzene, phenol, argon, pyridines and acetone, over 50 of which are known to be carcinogenic to humans.⁴ A study performed by Moriwaki *et al* found that arsenic, nicotine, polycyclic aromatic hydrocarbons and heavy metals are released into the environment by littered 'roadside waste' cigarette butts.⁶ Moreover, previous studies have shown chemicals in cigarette butt leachate can be acutely toxic to aquatic organisms.^{2 7 8} Register found leachates from smoked cigarette tobacco, smoked cigarette filters and unsmoked cigarette filters to be acutely toxic to the freshwater cladoceran *Daphnia magna* between 0.125 and 0.25, 1 and 2, and >16 cigarette butts/l (48-hour LC50 (lethal concentration the concentration that kills 50% of a sample population)), respectively.² Warne *et al* found leachates from smoked cigarette butts, smoked cigarette filters, and unsmoked cigarette filters to be acutely toxic to the freshwater cladoceran *Ceriodaphnia cf dubia* at 0.06, 0.16, and 1.7 cigarette butts/l, respectively (48-hour EC50 (immobilisation)), and to the marine bacterium *Vibrio fischeri* at 0.58, 1.25, and >970 cigarette butts/l, respectively (30-minute EC50 (bioluminescence)).⁷ The EC50 is the concentration at which 50% of the test organisms exhibit a specified effect (eg, immobilisation). Lastly, Micevska *et al* found that leachate from various brands of smoked cigarette butts were toxic to *Ceriodaphnia cf dubia* at concentrations between 8.9 and 25.9 mg butts/l (which corresponds to 0.03–0.08 butts/l) (48-hour EC50 (immobilisation)) and to *Vibrio fischeri* at concentrations between 104 and 832 mg butts/l (which corresponds to 0.3–2.7 butts/l) (30-minute EC50 (bioluminescence)).⁸ This research also found that toxicity for both test species was related to cigarette brand as well as tar content. There is no research to support that flavoured cigarettes (eg, menthol) alter toxicity or impart additional toxicity.

All previous studies used non-vertebrate species (ie, daphnids and marine bacteria) for testing the toxicity of cigarette butts in water, while similar studies investigating the toxicity to vertebrates, specifically marine and freshwater fish, have not been performed. Fish are ecologically important organisms, and are often used as bioindicators of healthy aquatic systems. Furthermore, toxicity data for a number of aquatic species are the minimum needed to derive water quality guidelines or to conduct hazard assessments. Therefore, it is important to determine the toxicity of cigarette butt

leachate to fish. In this study, we investigated the toxicity of smoked cigarette butts (smoked filter + tobacco), smoked cigarette filters (no tobacco), as well as unsmoked cigarette filters (no tobacco) to the marine fish, topsmelt (*Atherinops affinis*), and to the freshwater fathead minnow (*Pimephales promelas*) in order to better understand the impact of cigarette waste on both marine and freshwater ecosystems. The specific aims of this study were to:

1. Determine if smoked cigarette butts (SCB) (smoked filter + tobacco), smoked filters (SF) (no tobacco) and unsmoked filters (USF) (no tobacco) were acutely toxic to a representative marine and freshwater fish.
2. Determine whether most of the toxicity of a cigarette butt was in the filter or the remnant tobacco.
3. Compare the sensitivity of fish to cigarette butts with other aquatic test organisms.
4. Determine if smoking increases the toxicity of cigarette filters.

Materials and methods

Toxicity test methods followed US Environmental Protection Agency (EPA) acute protocols.⁹ Tests on both topsmelt and fathead minnows were performed utilising three different cigarette leachates: (1) leachate from smoked cigarette butts (SCB), with 1–2 cm of remnant tobacco left intact with the filter. This test was performed twice, once with artificially smoked cigarettes and again with naturally smoked cigarettes; (2) leachate from smoked cigarette filters (SF), with all remnant tobacco removed. This test was performed three times, once with artificially smoked cigarettes and twice with naturally smoked cigarettes; (3) leachate from unsmoked cigarette filters (USF), without tobacco. This test was performed once.

Test cigarettes consisted of regular filtered cigarettes (ie, no flavoured or light cigarettes were used). Cigarettes were purchased new and artificially smoked at the University of California, San Francisco, in order to control for variability and to decrease the risk of contamination from external sources. Cigarettes were smoked according to ISO Standard 3308:2000 using a TE10z smoking machine (Teague Enterprises, 530-406-88931237 E Beamer, Suite E Woodland, CA 95776, USA). Cigarettes that self-extinguished prior to completion of a complete smoking cycle were relit with a disposable butane lighter. For comparative purposes, toxicity tests were also carried out using naturally smoked cigarettes, defined as cigarettes that were actually smoked by people, extinguished in cigarette disposal units and collected within 24 hours of deposition.

To produce the leachate stock, cigarette butts were submerged and allowed to soak in dilution water (diluted mineral water for freshwater tests and natural seawater for saltwater tests), prepared according to EPA protocol, for 24 hours.⁹ Diluted mineral water consisted of eight parts nanopure deionised water for every two parts Perrier mineral water. Following overnight aeration, the diluted mineral water would yield a pH range of 7.9–8.3 and a hardness range of 80–100 mg/l CaCO₃. Natural seawater was obtained from Scripps Institution of Oceanography and transported to the laboratory. Seawater was held in a flow-through system with a 20 µm in-line fibre filter and chiller unit. The leachate stock for the smoked cigarette butt (SCB) (smoked filter + tobacco) test was made by adding eight cigarette butts to 2 litres of dilution water. A 0.5× dilution series was then performed to obtain subsequent lower concentrations. Concentrations for this test were 4, 2, 1, 0.5, 0.25, 0.125 cigarette butts/l. The leachate stock for the smoked cigarette filter (SF) (no tobacco) test was made by adding 16 filters to 2 litres of dilution water. Concentrations for this test were 8, 4, 2, 1, 0.5, 0.25, 0.125 cigarette butts/l. The leachate stock for the unsmoked cigarette filter (USF) (no tobacco) test was made by adding 32 filters

to 2 litres of dilution water. Concentrations for this test were 16, 8, 4, 2, 1, 0.5 cigarette butts/l. All tests were run with laboratory controls comprised of clean dilution water of either natural seawater for the saltwater tests or diluted mineral water for the freshwater tests.

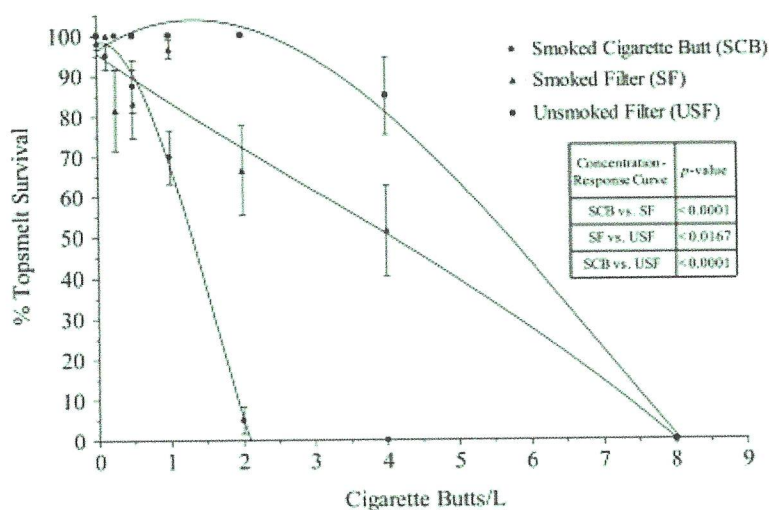
There were four replicates for every concentration, each replicate containing five fish, for a total of 20 fish per concentration. Topsmelt were 7–14 days old and fathead minnows were 12–14 days old. Both were fed *Artemia* (brine shrimp) prior to initiation and again after 48 hours of testing. Fish were provided by Aquatic Bio Systems in Fort Collins, Colorado. All tests received continuous light aeration, a water renewal at 48 hours, and a light cycle of 16 hours of light and 8 hours of darkness. Water quality readings (pH, conductivity, salinity, dissolved oxygen and temperature) and survival counts were performed on a daily basis until test termination at 96 hours, to ensure a controlled environment. Water was to have a dissolved oxygen content between 6 mg/l and 9 mg/l at initiation and at the 48-hour renewal, and was never allowed to fall below 4 mg/l during testing. Temperature was to remain between $20\pm 1^{\circ}\text{C}$ for saltwater tests and $25\pm 1^{\circ}\text{C}$ for freshwater tests. Water quality parameters were measured by various meters: the Orion 250A+ pH meter, the YSI 550A dissolve oxygen meter and the Orion 130 to measure temperature, conductivity and salinity. Mean survival in the laboratory controls must be 90% or greater in order for the test to be deemed acceptable.⁹

Survival was the endpoint evaluated and data were analysed to identify the median lethal effect concentration (LC50), the concentration of cigarette butt leachate resulting in 50% mortality. LC50 values were determined using the Trimmed Spearman-Kärber method, as outlined in US EPA 2002, using Comprehensive Environmental Toxicity Information System v1.6.3revE, Tidepool Scientific Software.^{9 10} To determine whether there were statistically significant ($p < 0.05$) differences in the toxicity of cigarette butt leachates, concentration-response curves were compared with an F test using Prism version 4.02, GraphPad Software, Inc.¹¹

Results

Toxicity of leachate from smoked cigarette butts

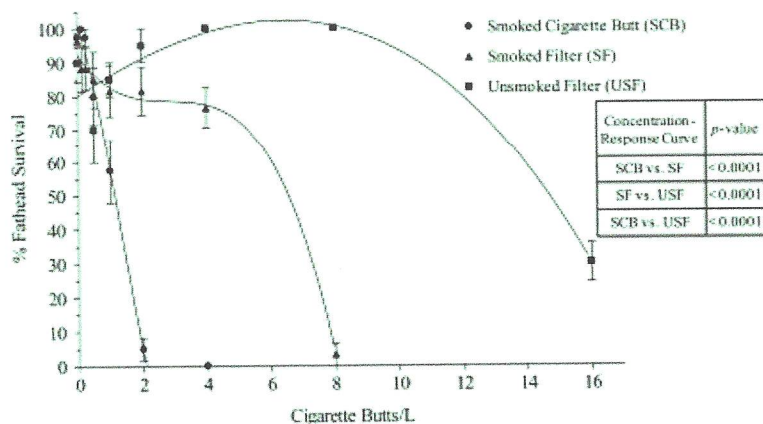
Leachate from smoked cigarette butts (SCB) (smoked filter + tobacco) was found to be acutely toxic to both the saltwater topsmelt (*Atherinops affinis*) and the freshwater fathead minnow (*Pimephales promelas*). An LC50 of approximately 1 cigarette butt/l of water was obtained for both species. The concentration-response curve for the topsmelt is shown in [figure 1](#) and for the fathead minnow in [figure 2](#). Survival in all laboratory controls was 90% or greater, as required by EPA protocol for test validity.⁹ For comparative purposes, this test was performed twice, once with artificially smoked cigarettes and again with naturally smoked cigarettes. Both methods of smoking the cigarette yielded similar results, as concentration-response curves for this test were not found to be statistically different (as $p > 0.05$) when comparing artificially smoked versus naturally smoked cigarette leachates for either fish species.



[Open in a separate window](#)

Figure 1

Concentration-response curves for topmelt (*Atherinops affinis*). LC50 values for leachate from smoked cigarette butts (SCB) (smoked filter + tobacco), smoked cigarette filters (SF) (no tobacco) and unsmoked cigarette filters (USF) (no tobacco) were determined to be 1.1, 1.8 and 5.1 cigarette butts/l, respectively. Survival in all laboratory controls exceeded 90%. Error bars represent one SE of the mean. Dose-response curves are significantly ($p < 0.05$) different.



[Open in a separate window](#)

Figure 2

Concentration-response curves for the fathead minnow (*Pimephales promelas*). LC50 values for leachate from smoked cigarette butts (SCB) (smoked filter + tobacco), smoked cigarette filters (SF) (no tobacco) and unsmoked cigarette filters (USF) (no tobacco) were determined to be 0.97, 4.3, and 13.5 cigarette butts/l, respectively. Survival in all laboratory controls exceeded 90%. Error bars represent one SE of the mean. Dose-response curves are significantly ($p < 0.05$) different.

Toxicity of leachate from smoked cigarette filters

Leachate from smoked cigarette filters (SF) (no tobacco) was also found to be acutely toxic to topsmelt at the concentration of 1.8 cigarette butts/l ([figure 1](#)), and to fathead minnows at 4.3 cigarette butts/l ([figure 2](#)). Survival in all laboratory controls was 90% or greater, as required by EPA protocol for test validity.⁹ The toxicity tests for smoked filters (SF) (no tobacco) were performed three times, once with artificially smoked cigarette filters and twice with naturally smoked cigarette filters. The different methods of smoking the cigarette yielded different results. Concentration-response curves for both species were found to be statistically different ($p < 0.05$) when comparing artificially smoked versus naturally smoked filter leachates. Artificially smoked filters were found to be more toxic than naturally smoked filters for both fish species. The reasons for this discrepancy are unclear.

Toxicity of leachate from unsmoked cigarette filters

One surprising result of our study was that leachate from unsmoked cigarette filters (USF) (no tobacco) was found to be acutely toxic to both fish species with an LC50 value of 5.1 for the topsmelt ([figure 1](#)) and 13.5 cigarette butts/l for the fathead minnow ([figure 2](#)). Survival in all laboratory controls was 90% or greater, as required by EPA protocol for test validity.⁹

Discussion

Sensitivity of fish to smoked cigarette leachate compared to other species

A summary of toxicity (LC50 and EC50 values) from all research completed to date can be found in [table 1](#). Results of a previous study found that smoked cigarette butt (SCB) leachate was acutely toxic to the daphnid, *Ceriodaphnia cf dubia*, at concentrations between 8.9 and 25.9 mg butts/l when remnant tobacco is left intact.⁸ Given that the mean weight of a single smoked cigarette butt is approximately 310 mg, it can be calculated that smoked cigarette butt (SCB) leachate was found to be acutely toxic to daphnids between 0.03 and 0.08 cigarette butts/l (48-hour EC50 (immobilisation)). A study conducted by Warne *et al* supports this finding, as a similar EC50 (48-hour (immobilisation)) of 0.06 cigarette butts/l was identified, utilising the same test species.⁷ However, a study conducted by Register found leachate from smoked cigarette tobacco (no filter) to be acutely toxic to *Daphnia magna* at slightly higher concentrations, between 0.125 and 0.25 cigarette butts/l (48-hour LC50).² In comparison, our current study found smoked cigarette butt (SCB) leachate to be less toxic to topsmelt and fathead minnows, than to daphnids tested in previous studies, as the LC50 (96-hour) for fish was identified as approximately 1 cigarette butt/l.

Table 1

Toxicity summary

Species	Cigarette butts/l		
	USF	SF	SCB
Topsmelt LC50	5.1 (4.6–5.7)	1.8 (1.5–2.0)	1.1 (0.95–1.3)
Fathead minnow LC50	13.5 (11.4–15.9)	4.3 (3.7–5.1)	0.97 (0.84–1.1)
Daphnid (<i>D magna</i>) [*] LC50	>16	1.0–2.0	0.125–0.25 [†]
Daphnid (<i>C cf dubia</i>) [‡] EC50 (immobilisation)	NA	NA	0.03–0.08 (0.02–0.12)
Daphnid (<i>C cf dubia</i>) [§] EC50 (immobilisation)	1.7 (1.4–2.06)	0.16 (0.09–0.27)	0.06 (0.05–0.08)
Marine bacterium (<i>V fischeri</i>) [‡] EC50 (bioluminescence)	NA	NA	0.3–2.7 (0.3–3.5)
Marine bacterium (<i>V fischeri</i>) [§] EC50 (bioluminescence)	> 970	1.25 (1.21–1.33)	0.58 (0.53–0.63)

[Open in a separate window](#)

LC50 and EC50 values (with 95% CIs) for leachates from unsmoked cigarette filters (USF) (no tobacco), smoked cigarette filters (SF) (no tobacco), and smoked cigarette butts (SCB) (smoked filter + tobacco).

^{*}Courtesy: Register.² No CIs reported.

[†]Test utilised smoked cigarette tobacco (no filter).

[‡]Courtesy: Micevska *et al.*⁸ 95% fiducial limits reported.

[§]Courtesy: Warne *et al.*⁷

The toxicity of smoked cigarette butts (SCB) has also been evaluated using a marine bacterium (*Vibrio fischeri*). Warne *et al* found SCB leachate to be acutely toxic to *V fischeri* at 0.58 cigarette butts/l (30-minute EC50 (bioluminescence)) and Micevska *et al* supported this finding with a SCB leachate EC50 (30-minute bioluminescence) between 0.3 and 2.7 cigarette butts/l.^{7 8} Since fish were found to have an LC50 of 1 cigarette butt/l for this same cigarette leachate, fish and marine bacteria may have similar sensitivities to smoked cigarette butt (SCB) leachate.

Register found leachate from smoked cigarette filters (SF) (no tobacco) to be toxic to *D magna* between 1 and 2 cigarette butts/l (48-hour LC50).² Warne *et al* found daphnids to be more sensitive to leachate from smoked filters (SF) (no tobacco), as leachate was found to be toxic to *C cf dubia* at approximately 0.16 cigarette butts/l (48-hour EC50 (immobilisation)).⁷ Compared to the current study, fish were found to be less sensitive to smoked filter (SF) leachate than daphnids in previous studies, with LC50s of 1.8 and 4.3 cigarette butts/l for the topsmelt and fathead minnow, respectively.

The reason for the greater sensitivity of daphnids to cigarette butt toxicity, compared to fish, is currently unknown, but may be due to the presence of nicotine and/or pesticide residues in cigarette butt leachates, or to metabolic differences between the species. Daphnids, specifically *Daphnia magna* and *Ceriodaphnia dubia*, are largely herbivorous and detritivorous and are known to be more susceptible to nicotine than fish.¹²

Potential causes of toxicity

Pesticides, potentially remaining in unsmoked cigarettes, may contribute to the toxicity of cigarette leachate. Daphnids may be more sensitive to pesticides than are fish, which would explain the observed greater sensitivity to cigarette leachate with daphnids, compared to fish. A US Government Accountability Office report discusses the use of pesticides on cigarette tobacco crops.¹³ The US EPA regulates which specific pesticides may be used on tobacco crops, as well as how they are used, but it does not regulate pesticide residues on tobacco, as is required for human foods and animal feed crops. The USDA, however, has found that some imported and domestic tobacco exceeds current residue limits considered safe for human health and environmental effects.¹³ A 2006 study performed by Dane *et al* also found three previously undetected pesticides (flumetralin, pendimethalin and trifluralin) in both mainstream and sidestream cigarette smoke, which could also be retained by the cigarette filters causing toxicity to aquatic organisms as they leach out of the cigarette butts.¹⁴

Micevska *et al* conducted toxicity identification evaluations (TIEs) on smoked cigarette butt leachates and found that nicotine and ethylphenol may play significant roles in causing the toxicity observed in daphnids and marine bacteria.⁸ Nicotine is an antiherbivore chemical derived from the tobacco plant *Nicotiana* sp and it has commonly been used as an insecticide.¹⁵ It has also been reported that ethylphenol is commonly used in the tobacco industry as a tobacco flavouring agent and is present in cigarette smoke.¹⁶⁻¹⁸ Ethylphenol has been shown to be capable of bioconcentration in aquatic organisms.¹⁹

Chemical additives are often introduced to make tobacco products more attractive to consumers. For example, sugars and humectants make smoke milder and easier to inhale, humectants can prolong shelf life, ammonia may enhance the delivery of nicotine and menthol and eugenol effectively numb the throat.⁵ In fact, approximately 600 additives were in use by major American cigarette companies in 1994.²⁰ Many of these chemicals may be harmful to humans as a result of smoking. The major humectants used for cigarettes are glycerol, diethylene glycol and/or propylene glycol which may be carcinogenic to humans.⁴ However, little is known about the fate of such additives in cigarette butt leachates.

There are several chemicals in an unsmoked cigarette filter that may contribute to aquatic toxicity. The filter of a filter-tipped cigarette is composed of cellulose acetate fibres.²¹ These fibres, each approximately 20 µm in diameter, are treated with titanium dioxide (a delustrant) and over 15 000 of them are packed tightly together, using triacetin (glycerol triacetate) as a binding agent, to create a single filter.^{22 23} Most cigarette filters are surrounded by two layers of paper and/or rayon wrapping, which contain chemicals, such as glues to hold the paper together, and alkali metal salts of organic acids (eg, sodium acetate) in order to maintain burning while the cigarette is being smoked.²² It is also possible that cigarette filters attached to tobacco absorb toxicants from the adjacent unsmoked tobacco column; however, this has not been investigated in the literature.

Toxicity of leachate from smoked cigarette butts, smoked filters and unsmoked filters

Both fish species exhibited statistically different concentration-responses to the different cigarette leachates, as reported by the p values in [figures 1](#) and [2](#). For both fish species, the toxicity increased significantly from unsmoked filters (USF) to smoked filters (SF) to smoked cigarette butts (SCB). These findings are consistent with findings published by Register and Warne *et al*, who also found a progressive increase in toxicity from USF to SF to SCB.²⁷ Although, it has been shown that less than 2% of the quantity of all elements in cigarette tobacco and paper adsorb onto the filter as a result of smoking, our results show that the chemicals solely in the smoked filter still exert considerable toxicity to fish.²⁴ However, the remnant tobacco of the cigarette butt contributed a degree of toxicity (to both topsmelt and fathead minnows) significantly ($p < 0.05$) greater than that conferred by chemicals trapped and leached from the smoked filter itself. Remnant tobacco comprised unburned tobacco as well as a burnt tobacco tip and including such remnant tobacco effectively exacerbated toxicity. The chemicals in smoked cigarette butts (SCB) may be significantly greater and different from those retained within the smoked filter (SF) itself; the former may contain additional toxic products of combustion. Chemicals in smoked versus unsmoked cigarette butts may not only contribute differently to toxicity, but also may have different fates and/or potential for bioaccumulation in the environment.

Despite the gathering evidence on the toxicity of cigarette butt leachates to various organisms, it is difficult to assess the risk that cigarette waste may have on the actual aquatic environment. Pathways of cigarette waste to aquatic environments are complex and varied. In 2002, a hazard assessment concluded that, while definitive quantification is still needed, it is likely that littered cigarette butts pose a low to moderate risk to aquatic organisms.⁷ However, aside from toxicity, little is known about the specific chemicals, fate and bioaccumulation potential of such cigarette butt leachates, and the actual effects they may have on aquatic life. This study represents the first in the literature to show that cigarette butt leachate is toxic to representative marine and freshwater fish species. Additional research is necessary to explore the actual risks that cigarettes pose to freshwater and marine environments.

Conclusion

- Smoked cigarette butts (SCB) (smoked filter + tobacco), smoked cigarette filters (SF) (no tobacco) and unsmoked cigarette filters (USF) (no tobacco) were all found to be acutely toxic to representative marine and freshwater fish.
- Remnant tobacco was found to contribute a degree of toxicity above that which was conferred by the smoked filter alone.
- Fish were found to be less sensitive to cigarette butt leachate than daphnids previously tested, but to have a similar sensitivity as marine bacteria.
- Smoking was found to increase the toxicity of cigarette filters.

What this paper adds

- Cigarette butts are the most common form of litter in the world. Thousands of chemicals are present in a cigarette, the residues of which may be found in littered cigarette butts. Previous studies have shown chemicals in cigarette butt leachate can be acutely toxic to aquatic organisms; however, all previous studies used non-vertebrate species for testing.
- This study represents the first in the literature to show that leachate from cigarette butts is acutely toxic to representative marine and freshwater fish species. Leachates from smoked cigarette butts with remnant tobacco were significantly more toxic to fish than the smoked

filters alone, but even unsmoked filters exhibited a small level of toxicity.

Acknowledgments

We thank Dr Suzaynn Schick, University of California San Francisco, for kindly generating the artificially smoked cigarettes, and Christina Meyer, San Diego State University, for laboratory technical support.

Footnotes

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Competing interests: None.

Provenance and peer review: Not commissioned; externally peer reviewed.

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This two-page document is from the Plastic Health Coalition's website. Sorry the photo's colors are not too crisp.

From the Plastic Health Coalition:

THE DIRTY TRUTH ABOUT CIGARETTE FILTERS

<https://www.plasticealthcoalition.org/blog/the-dirty-truth-about-cigarette-filters/>

Home (<https://www.plasticealthcoalition.org>) > Blog (<https://www.plasticealthcoalition.org/.blog/>) > The dirty truth about cigarette filters

THE DIRTY TRUTH ABOUT CIGARETTE FILTERS

Posted by Plastic Soup Foundation at 14 March 2019

(<https://www.plasticealthcoalition.org/blog/the-dirty-truth-about-cigarette-filters/>)



Photo by Jeroen Gosse

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([HTTPS://WWW.PLASTICEALTHCOALITION.ORG](https://www.plasticealthcoalition.org))

Blue smoke curls up from my terrace. After the last puff, a flesh-coloured filter is thrown carefully into the garden, disappearing between the roses and the rhododendrons. I'm shocked. I think it's messy, cigarette filters in my garden, on the street and on the beach. "Don't worry, it will disappear" is the standard reply to my mild disgust. And that always silences me: if it's going to disappear, am I not being too critical to make a point of it?

My shock deepens after reading the *dirty truth about cigarette filters* on the CNN website. The reality? There is cellulose acetate in cigarette filters, a kind of plastic that only disappears under extreme circumstances. That might be OK in a wastewater treatment plant: but in my garden or on the beach the filters are almost indestructible. There they will gradually disintegrate into continually smaller particles which, in the end, will be invisible to the naked eye. It looks as if the filter has disappeared: but the plastic is still there. It's in the soil and in the water. And who knows: maybe it's in my roses and in the frog-spawn as well....

There are a mind-blowing number of cigarette butts littering the world. It's the number one plastic item that we throw away. Every year, 6 trillion cigarettes are sold: 90% have a plastic filter. That's more than a million tons of plastic rubbish. *Clean-ups* on the Dutch tourist beaches have shown the same result: the cigarette filter is the most commonly-found plastic item. And yes: as I stroll along the loose sand on the beach, I often feel a filter between my toes.

Cigarette filters don't contain only plastic, but also a cocktail of toxic substances: arsenic (rat poison!), lead, nicotine and pesticides. As the filter disintegrates, the chemicals seep into the soil or the water. A university in the US did a test with fishes: they let them swim around in water where cigarette filters had been floating for 24 hours (one filter per litre of water). After a couple of days, half of the fish were dead.

Filters were invented to improve the health of smokers. They don't, according to another survey. The chance of getting lung cancer actually increases as a result of the filter.

I wish that I *could* say that I was too critical with my disgust for cigarette filters. I would happily accept all those filters shot between my roses and rhododendrons – and those between my toes on the beach. But the truth is unfortunately much dirtier than I thought.

Luckily, the solution is easy: it's there just waiting to be picked up. Ban the filter cigarette.

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I accept

From: [Denice Kronau](#)
To: [Jill Vieth](#); [Christopher Glowacki](#); [Denice Kronau](#); [Joanna E. Roche](#); [Joseph Grause](#); [Peter McEachern](#); [Peter Schaeffer](#); [Stephen Maury](#); [George Harrington](#)
Cc: [Mariya Basheva](#); [Brian Turbitt](#)
Subject: Fw: Article D information
Date: Monday, January 17, 2022 1:42:55 PM
Attachments: [image.png](#)
[AG Nip Ban Ruling - Falmouth9915A APP Art26 Art34 \(1\).pdf](#)
[Article D - FAQs.docx](#)
[Article D-small single-use plastic alcohol containers.pdf](#)

Dear FinCom:

Please see Bruce's email and attachments for our meeting on Thursday 1/20/22.

Thanks,

Denice

From: Bruce Mandel <bruce.mandel@gmail.com>
Sent: Sunday, January 16, 2022 1:47 PM
To: Denice Kronau
Subject: Article D information

Dear Denice:

Good wishes for a healthy 2022.

This is one of two emails I am sending to you. Each is about either Article D or Article E. We will be reviewing these this coming Thursday. Both Articles are an attempt to address litter reduction and the reduction of toxic elements flowing into the groundwater, the aquifer and our environment.

This email addresses Article D which seeks to add small single-use plastic alcohol containers (known as "nips") to our single-use plastic bylaw.

- These are one of the most littered items on our island. The Clean Team and others who pick up litter across our island collect thousands of these toxic items each year.
- This is not about drinking alcohol. It is about protecting Nantucket's environment, groundwater and aquifer from a nuisance and toxic type of litter.
- The Article is not a "prohibition," nor does it ban the sale of alcoholic products.
- These small containers are not recyclable. They are rarely deposited in the plastic bins at our landfill.
- There are alternatives available. These are the smallest size of any single-use plastic alcohol containers. There are other small size containers available as alternatives which are less likely to be littered – and are easier

to pick up. Many of the alternatives are made from a sturdy glass, which is more easily reused / recycled by our landfill. Alternative sizes are available as 187ml, 200ml, 375ml, 500ml and larger.

- There are site-specific areas where this litter is more prevalent than other areas. For example, the area between the High School property and Nantucket Auto Body property, the Lover's Lane area near Old South Road, the State Forest and Disc Golf area, along our bike paths, on our beaches and in the parking areas. Vendors have no part in picking up the littered items – that pick up is left to the Clean Team and others. Deposit programs to address this litter problem fail annually at the State legislative. Nantucket is on its own to deal with this litter problem.
- Other Towns have already successfully banned these single-use alcohol containers. Examples from Massachusetts include Chelsea, Falmouth, Wareham and Newton. See the attached FAQs for more info. Fair share revenue has not been affected as consumption behavior shifted to alternatives. Mashpee, Bourne, Framingham, Winthrop and others are trying to move forward, too.
- The State Attorney General has already approved the ban of these items in other Towns.
- Enforcement will be passive, as set forth in the existing bylaw.

I've attached a few files for your reference. A copy of the proposed Article D; a copy of the Attorney General's letter to Falmouth (see pages 4 & 5); examples of Frequently Asked Questions.

Thank you,
Bruce Mandel



From: [Denise Kronau](#)
To: [Jill Vieth](#); [Christopher Glowacki](#); [Denise Kronau](#); [Joanna E. Roche](#); [Joseph Grause](#); [Peter McEachern](#); [Peter Schaeffer](#); [Stephen Maury](#); [George Harrington](#)
Cc: [Mariya Basheva](#); [Brian Turbitt](#)
Subject: Fw: Article E information
Date: Monday, January 17, 2022 1:43:52 PM
Attachments: [Article E-plastic fiber filters.pdf](#)
[FilterHazardWaste.pdf](#)
[FilterPlasticHealth.pdf](#)
[FilterLeachateToxic.pdf](#)

Dear FinCom:

The second email from Bruce.

Thanks,

Denise

From: Bruce Mandel <bruce.mandel@gmail.com>
Sent: Sunday, January 16, 2022 2:09 PM
To: Denise Kronau
Subject: Article E information

Dear Denise:

This is the second of two emails I sent to you today. This one is about or Article E (copy attached for ease of reference). We will be reviewing this during our Zoom session this coming Thursday. Both Article D and this Article E are attempts to address litter reduction and the reduction of toxic elements flowing into the groundwater, the aquifer and our environment.

This email addresses Article E which seeks to add small single-use plastic acetate fiber filters (known as "butts") to our single-use plastic bylaw. There are references and footnotes provided in this email below for your information. There are three documents attached that provide information about the toxicity of these elements. Two are from NIH and one is from the Plastic Health Coalition.

- The Article is about single-use plastic acetate fiber "filters." There are other less environmentally toxic and harmful types of filters. And of course, there are non-filtered cigarettes. It's not about smoking.
- These are one of the most littered items on our island (and in the world). The Clean Team and others who pick up litter across our island have picked up thousands of these toxic items each year.
- This is a health and safety subject for our community. It is not intended to stop smoking nor to change smokers' behavior, other than to try to reduce littering of toxic cigarette butts.
- They are made from a non-degradable plastic called cellulose acetate. These are not biodegradable, not compostable.
- These littered, discarded plastic items are toxic to our island's environment and endanger our groundwater. They contain toxic chemicals. Did you know that a chemical is added to them to turn the fibers brown when exposed to smoke.^[1] Once littered, they leach toxins, including highly poisonous nicotine, arsenic, polycyclic aromatic hydrocarbons and heavy metals, into our environment.
- There will be no adverse financial affect for the Town. Enforcement will not cause additional expense to the town because it will be handled as set forth in the existing bylaw.
- They are made from a non-degradable plastic called cellulose acetate. Not biodegradable, not compostable. They can take decades to break into only smaller microplastic fibers.
 - According to the World Health Organization ("WHO"), tossing a cigarette butt onto the ground has become an almost acceptable form of littering.^[2] They litter our roads, bike paths, beaches, sidewalks, grassy areas. The WHO report states that harmful chemicals leached from discarded butts contain nicotine, arsenic and heavy metals that are toxic.
- They pose threats to our aquifer and groundwater.
 - This type of product contributes hazards to our health, marine life, wildlife, and our environment. Animals

ingest then, mistaking them for food, poisoning and killing them.

- There are alternate products available - non-plastic acetate types of “filters.” There are readily available filter-less cigarettes (i.e.-Pall Mall, Camel, Lucky Strike, American spirit, Gauloises, etc.) and e-cigarettes.
- These toxic plastic fiber items are labeled as “filters” for marketing purposes, however a World Health Organization study determined they provide no protection to smokers. {reference: WHO, Tobacco and its environmental impact: an overview, 2017.}:

According to the World Health Organization (WHO), which published a report on the impact tobacco has on the environment ⁽¹⁾, ‘tobacco waste is the largest type of litter by count globally. Up to 10 billion of the 15 billion cigarettes sold daily are disposed of in the environment. Cigarette butts account for 30-40 % of all items collected in coastal and urban clean-ups’. For its part, the American non-governmental organization Ocean Conservancy confirms that cigarette butts top the list of the 10 items most collected during international beach clean-up operations ⁽²⁾. Many reports demonstrate that because of the multiple toxic components they contain, cigarette butts are hazardous waste.

According to the WHO, it has not been proven that they have a positive effect on smokers’ health.

⁽¹⁾ WHO, Tobacco and its environmental impact: an overview, 2017. https://www.europarl.europa.eu/doceo/document/E-9-2020-001678_EN.html

⁽²⁾ Ocean Conservancy, 2019 Cleanup Report (<https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/annual-data-release/>), 2019.

^[1] The tobacco industry determined that the illusion of filtration was more important than the actual filtration. It added chemicals to the filter, so its color becomes darker when exposed to smoke. This chemical, still used, was invented in 1953 by Claude Teague working for R.J. Reynolds Tobacco Company

^[2] Novotny TE, Lum K, Smith E, et al. (2009). “Cigarettes butts and the case for an environmental policy on hazardous cigarette waste”. International Journal of Environmental Research and Public Health. **6** (5): 1691–705. doi:10.3390/ijerph6051691. PMC 2697937. PMID 19543415.

From: [Denice Kronau](#)
To: ackjas108@comcast.net; [Stephen Maury](#); [Mariya Basheva](#); [Brian Turbitt](#)
Subject: Re: Amendment to Single-use plastic ban to include "nip" bottles
Date: Tuesday, January 18, 2022 11:39:04 AM

Dear Joan,

Many thanks for this email and your second one. I have forwarded both to the Finance Committee.

Your civic engagement is very much appreciated.

Kind regards,
Denice

From: ackjas108@comcast.net <ackjas108@comcast.net>
Sent: Monday, January 17, 2022 10:27:26 PM
To: ackjas108@comcast.net
Subject: Amendment to Single-use plastic ban to include "nip" bottles

Good morning. I am writing to ask that you support the amendment to the single-use plastic ban that would add "nip" bottles (i.e. containers for alcoholic beverages of less than or equal to 100 milliliters). They are one of the most common forms of litter I pick up on my walks around Nantucket. Other communities have banned these single-use plastics with no adverse financial effects on their package stores. Thank you for your consideration.

Joan Alison Stockman
13 Wherowhero Lane
Nantucket, MA 02554

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From: [Denice Kronau](#)
To: [Adam Dread](#)
Cc: [Stephen Maury](#); [Brian Turbitt](#); [Mariya Basheva](#)
Subject: Re: Citizen Warrant Article 125A-Request from a Clean Team Member
Date: Thursday, January 13, 2022 8:52:11 AM

Dear Adam:

Thank you for your email and document, which we will take into consideration as we discuss Article E on Jan. 20th at 4PM via Zoom.

You are welcome to attend; the link will be in the posted agenda.

Many thanks, as well, for all that you do for Nantucket.

Kind regards,
Denice

From: Adam Dread <adam@adamdread.com>
Sent: Wednesday, January 12, 2022 11:39:08 AM
To: Denice Kronau; Stephen Maury; Christopher Glowacki; Peter McEachern; Joseph Grause; gharrington@nantucket-ma.gov; Joanna E. Roche; Peter Schaeffer; Libby Gibson; Erika Mooney; Jason M. Bridges; dhillhodgate@nantucket-ma.gov; Matt Fee; Melissa B. Murphy; Kristie Ferrantella
Cc: Adam Dread
Subject: Citizen Warrant Article 125A-Request from a Clean Team Member

Dear Select Board, Finance Committee Members, et al;

I am writing you today from my position as long time Clean Team member. As you know, our all-volunteer group spans out to different points on the island on Saturdays much of the year. One common problem (and mess) is cigarette butts.

Not only are they disgusting to pick up, they are difficult to retrieve as they get caught between cobblestones, etc. This is a very time-consuming process and takes up time we could be tackling bigger messes in the interest of keeping our island clean.

Please consider amending Chapter 125A to include Paragraph I. "Single Use Plastic Fiber Tobacco Filter Products", for the good of our island.

In the alternative, it would be nice to have the Select Board add a \$500.00 fine to the books for littering cigarette butts. Granted, this would be hard to enforce, but if we just do it a few times, I think word would spread, and we would see a difference on our streets, especially downtown and around bus stops and other gathering areas.

Thank you for your consideration.

Respectfully,

Adam Dread, Esq.

1709 19th Ave. South

Nashville, TN. 37212

2 Doc Ryder Drive

Nantucket, MA. 02554

(615) 252-9937 O

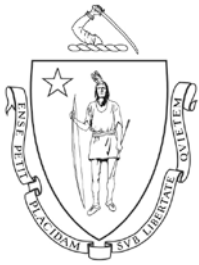
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ATTORNEY GENERAL

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March 22, 2021

Michael Palmer, Town Clerk
Town of Falmouth
59 Town Hall Square
Falmouth, MA 02540

Re: Falmouth Annual Town Meeting of June 22, 2020 --- Case # 9915
Warrant Articles # 19, 21, and 22 (Zoning)
Warrant Articles # 4, 6, 18, 26, 33, and 34 (General)

Dear Mr. Palmer:

Under Article 26 the Town adopted a new general by-law, Chapter 60, "Security Posted in Connection with Licenses, Permits & Approvals," that authorizes local officials, boards and commissions, to require a form of security to secure performance of conditions and obligations imposed under local permits and other approvals. The by-law also allows the use of security funds to pay for the Town's attorney fees when an applicant appeals a decision of a local board. As explained in more detail below, we approve Article 26 except for text regarding the use of security funds ¹

Under Article 34 the Town voted to ban the sale of alcoholic beverages in containers less than or equal to 100 milliliters, commonly referred to as "nips." As explained in more detail below, we approve Article 34 because we conclude that it is not in conflict with state law.

In this decision we summarize the Attorney General's standard of review of town by-laws, and then explain why, based on our standard of review, we approve Article 26, in part, and approve Article 34 in its entirety

I. ATTORNEY GENERAL'S STANDARD OF REVIEW

Our review of Articles 26 and 34 is governed by G.L. c. 40, § 32. Pursuant to G.L. c. 40, § 32 the Attorney General has a "limited power of disapproval," and "[i]t is fundamental that every presumption is to be made in favor of the validity of municipal by-laws." Amherst v. Attorney General, 398 Mass. 793, 795-96 (1986). The Attorney General does not review the policy arguments for or against an enactment. Amherst, 398 Mass. at 798-99 ("Neither we nor the Attorney General

¹ In a decision date December 22, 2020, this Office approved Articles 4, 6, 18, 19, 21, 22, and 33 and placed Articles 26 and 34 on a 90-day extension.

may comment on the wisdom of the town's by-law." Rather, in order to disapprove a by-law (or any portion thereof), the Attorney General must cite an inconsistency between the by-law and the Constitution or laws of the Commonwealth. Id. at 796. "As a general proposition the cases dealing with the repugnancy or inconsistency of local regulations with State statutes have given considerable latitude to municipalities, requiring a sharp conflict between the local and State provisions before the local regulation has been held invalid." Bloom v. Worcester, 363 Mass. 136, 154 (1973) (emphasis added). "The legislative intent to preclude local action must be clear." Id. at 155.

II. ANALYSIS OF ARTICLE 26

Under Article 26 the Town adds to its general by-laws a new Chapter 60, "Security Posted in Connection with Licenses, Permits, & Approvals." The by-law governs the use of performance security funds ("security funds") required by the Town under a contract, license, permit, or other local approval ("local approval") to secure the performance of work, obligations and conditions ("obligations") imposed under such local approval. Section 2 "Scope." The by-law was adopted pursuant to G.L. c. 44, § 53G ½ that authorizes separate accounts for the deposit of security funds required to secure performance of obligations imposed under local contracts, licenses, permits, and other local approvals. Section 1 "Purpose and Authority." The by-law provides that any deposits of money shall be held by the Town Treasurer in a special account separate from other funds. Section 3B. The by-law includes provisions for determining when someone is in default and what actions a local board or official can take when an applicant is in default. Section 5. Finally, Section 6 of the by-law pertains to the procedures for the return of security funds. Section 6B allows for the use of surety funds to pay for the Town's attorney fees when an applicant appeals a local decision and provides as follows:

If any applicant appeals from an act or omission of any Town officer, board, committee or commission hereunder, whether by means of an action in the nature of mandamus and certiorari or otherwise, and such action results in a judgment in favor of such officer, board, committee or commission, then the latter's reasonable attorneys' fees and expenses incurred in defense against such action may be reimbursed from the surety posted by such applicant.

A. Town's Use of Performance Security Funds Pursuant to G.L. c. 44, §§ 53 and 531/2.

General Laws Chapter 44, Section 53 requires all revenue, received or collected from any source and by any department, including performance security funds, to be deposited into the Town's general fund (and subject to future appropriation), unless the Legislature has expressly made other provisions that are applicable to such receipt. An example of such legislative authority is G. L. c. 44, § 53G ½ that allows the deposit of security funds into a special account under certain circumstances.

General Laws Chapter 44, Section 53G ½ authorizes town by-laws that create separate accounts for the deposit of security funds required to secure performance of obligations imposed under local approvals. The money in these special accounts may be expended by the authorized entity without further appropriation to complete the obligations required under the local approvals. Section 53G ½ requires that the by-law specify: (1) the type of financial guarantees required; (2) the treatment of investment earnings, if any; (3) the performance required and standards for determining satisfactory completion or default; (4) the procedures the applicant must follow to obtain a return of the monies or other security; (5) the use of monies in the account upon default; and (6) any other

conditions or rules as the town determines are reasonable to ensure compliance with the obligations. Section 53G ½ provides as follows (with emphasis added):

Notwithstanding section 53, in a...town that provides by by-law...rule, regulation or contract for the deposit of cash, bonds, negotiable securities, sureties or other financial guarantees to secure the performance of any obligation by an applicant as a condition of a license, permit or other approval or authorization, the monies or other security received may be deposited in a special account. Such by-law...rule or regulation shall specify: (1) the type of financial guarantees required; (2) the treatment of investment earnings, if any; (3) the performance required and standards for determining satisfactory completion or default; (4) the procedures the applicant must follow to obtain a return of the monies or other security; (5) the use of monies in the account upon default; and (6) any other conditions or rules as the...town determines are reasonable to ensure compliance with the obligations. Any such account shall be established by the municipal treasurer in the municipal treasury and shall be kept separate and apart from other monies. *Monies in the special account may be expended by the authorized board, commission, department or officer, without further appropriation, to complete the work or perform the obligations, as provided in the by-law...rule or regulation.* This section shall not apply to deposits or other financial surety received under section 81U of chapter 41 or other general or special law.

For the Town to deposit security funds into a special account, the Town must comply with the requirements of G.L. c. 44, § 53G ½. Otherwise, the funds must be deposited into the Town's general fund, pursuant to G.L. c. 44, § 53. The Town should consult with Town Counsel with any questions on this issue.

B. The By-law's Authorization of Security Funds to Pay for Attorney Fees is Inconsistent with G.L. c. 44, § 53G ½.

As stated, G.L. c. 44, Section 53G ½, authorizes the use of a special account for the deposit of security funds *"to secure the performance of any obligation by an applicant as a condition of a license, permit or other approval or authorization."* (emphasis added). Money in the special account may be expended by the local authorized board, commission, department or officer, without further appropriation, *"to complete the work or perform the obligations, as provided in the by-law, . . . rule or regulation."* (with emphasis added.) According to the Department of Revenue, Division of Local Services, ("DOR/DLS") the language in Section 53G ½ allows expenditures without appropriation only to complete the work or perform the obligations required under a local approval. It is DOR/DLS's position that security funds deposited into a Section 53G ½ account may not be expended for the Town's legal fees.² For these reasons, we conclude that it is inconsistent with G.L. c. 44, s. 53 and G.L. c. 44, s. 53G ½ to use surety funds in a Section 53G ½ fund to pay for the Town's legal fees. Therefore, we disapprove and delete Section 6B from the new Chapter 60. We approve the remaining portions of Chapter 60 because they are consistent with G.L. c. 53G ½'s requirements. The Town should consult with Town Counsel regarding any questions on this issue.

² DOR/DLS issued its official guidance on the use of special revolving funds for performance security funds in IGR 2017-16 <https://www.mass.gov/doc/igr-17-16-special-revolving-funds-for-performance-surety-deposits/download> In Section D.1 of the IGR, "Allowable Use," DOR/DLS provides those instances where security funds may be spent without appropriation.

III. ANALYSIS OF ARTICLE 34

Under Article 34 the Town voted to add to the Town's general by-laws a new Chapter 79-4, prohibiting the sale of alcoholic beverages in containers commonly referred to as "nips." The new Chapter 79-4 prohibits the sale of alcoholic beverages in containers less than or equal to 100 milliliters. The prohibition will take effect on October 1, 2021 as follows:

The sale of alcoholic beverages in containers less than or equal to 100 milliliters is prohibited within the Town of Falmouth. Effective October 1, 2021.

A. Article 34's Ban on the Sale of Alcoholic Beverages in Nips Does Not Conflict with State Law.

The Town's prohibition on the sale of "nips" in Town is consistent with its authority under the Home Rule Amendment, Mass. Const. amend. art. 2, § 6. Towns have used their home rule power to prohibit, within their borders, certain commercial activities that state statutes generally recognize as lawful and that are widely accepted in the remainder of the Commonwealth. See Amherst, 398 Mass. 793, at 798, n. 8 (town by-law prohibiting the discharge of firearms within the town limits was not inconsistent with the State's hunting statutes). For example, this Office has approved by-laws banning the sale of plastic water bottles; plastic straws; Styrofoam containers; plastic bags; soft drinks; and balloons.³

In addition to the general grant of power under the Home Rule Amendment, G.L. c. 40, § 21 authorizes municipalities to adopt certain specific categories of local legislation, including "[f]or directing and managing their prudential affairs, preserving peace and good order...", and "[c]onsiderable latitude is given to municipalities in enacting local by-laws." Mad Maxine's Watersports, Inc. v. Harbormaster of Provincetown, 67 Mass. App. Ct. 804, 807 (2006) (town by-law restricting personal watercraft use in the town harbor was not inconsistent with the State's boating statutes). The Town's ban on the sale of nips appears to be consistent with this statutory grant of authority. For the reasons discussed herein, and under our standard of review, we approve Article 34 because we find no conflict with state law.

1. *The Town's Ban on the Sale of Nips is Not Preempted by General Laws Chapter 138, "Alcoholic Liquors."*

Municipalities have "considerable latitude" in legislating, so there must be a "sharp conflict" with state law before a local enactment may be disapproved. Bloom, 363 Mass. at 154. "The legislative intent to preclude local action must be clear." Id. at 155. "This intent can be either express or inferred." St. George Greek Orthodox Cathedral of Western Massachusetts, Inc. v. Fire Dept. of Springfield, 462 Mass. 120, 125-26 (2012). Local action is precluded in essentially three instances, paralleling the three categories of federal preemption: (1) where the "Legislature has made an explicit

³ See, e.g., our decisions to the Towns of: Concord dated September 5, 2012 (Case # 6273); Rockport dated September 17, 2018 (Case # 9140); Hamilton dated July 27, 2015 (Case # 7516); Marblehead dated August 14, 2014 (Case # 7178); West Tisbury dated October 4, 2019 (Case # 9358); and Nantucket dated August 5, 2015 (Case # 7525), respectively.

indication of its intention in this respect”; (2) where “the State legislative purpose can[not] be achieved in the face of a local by-law on the same subject”; or (3) where “legislation on a subject is so comprehensive that an inference would be justified that the Legislature intended to preempt the field.” Wendell v. Attorney General, 394 Mass. 518, 524 (1985). “The existence of legislation on a subject, however, is not necessarily a bar to the enactment of local ordinances and by-laws exercising powers or functions with respect to the same subject[, if] the State legislative purpose can be achieved in the face of a local ordinance or by-law on the same subject[.]” Bloom, 363 Mass. at 156; see Wendell, 394 Mass. at 527-28 (“It is not the comprehensiveness of legislation alone that makes local regulation inconsistent with a statute. . . . The question . . . is whether the local enactment will clearly frustrate a statutory purpose.”). Because Article 34’s ban on the sale of nips pertains to alcoholic beverages, we specifically address Article 34’s consistency with G.L. c. 138, “Alcoholic Liquors.” For the reasons provided below, we cannot conclude that a by-law banning the sale of nips is inconsistent with G.L. c. 138.

The “[r]egulation of the liquor industry in Massachusetts is comprehensive and pervasive.” Cellarmaster Wines of Mass. Inc. v. Alcoholic Bevs. Control Comm., 27 Mass. App. Ct. 25, 27 (1989). The Legislature set out a broad prohibition in the first sentence of G.L. c. 138, § 2 that provides, in pertinent part: “No person shall ... sell or expose or keep for sale, store, transport ... alcoholic beverages or alcohol, *except as authorized by this chapter* (with emphasis added.) Pursuant to G.L. c. 138, the local liquor licensing authority (LLA) issues retail licenses for both on-premises consumption and off-premises consumption of alcoholic beverages. G.L. c. 138, §§ 12 and 15, respectively. Once the LLA grants a license, the Alcohol Beverage Control Commission (“ABCC”) approves the license, and then the LLA issues the license upon the payment of the required fees. See, e.g., G.L. c. 138, § 15. The LLA is authorized to adopt reasonable rules and regulations with respect to the issuance of these licenses. G.L. c. 138, § 23. Although G.L. c. 138 is a comprehensive statute that governs alcoholic beverage licenses, there is no precedent suggesting that the laws pertaining to the licensing of alcohol sales preempt a local by-law prohibiting the sale of nips. In sum, this is not a situation where “the local enactment will clearly frustrate a statutory purpose.” Wendell, 394 Mass. at 527-28.

In addition, the ABCC recently issued a decision acknowledging that the ABCC has no jurisdiction to review bans on the sale of nips when such bans are adopted as a regulation by the LLA pursuant to G.L. c. 138, § 23. In the ABCC’s decision, 180 Broadway Liquor Inc., et al, May 26, 2020 (<https://www.mass.gov/doc/chelsea-9-licensees-appeal-no-nips-5-26-2020/download>) the ABCC acknowledged that LLAs are authorized to adopt reasonable requirements with respect to alcohol licenses. See G.L. c. 138, § 23 and City of Revere v. Aucella, 369 Mass. 138, 145 (1975) (local licensing authorities have the power to make regulations governing the conduct of the licensed business.) The ABCC noted that the LLA adopted the regulation banning the sale of nips pursuant to its Section 23’s authority to adopt regulations applicable to all licensees to protect the public’s health and safety.

For the reasons we approve Article 34 as consistent with state law. Amherst, 398 Mass. at 796.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,
MAURA HEALEY
ATTORNEY GENERAL

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cc: Town Counsel Frank K. Duffy