

**Talking Points for Legislation on Single-Use Plastic Bags**

**Local-Option Bag Bill:** Local governments have the option to establish a fee (typically $0.10) on disposable bags provided by retail stores. “Disposable bag” means a bag of any material, commonly plastic or kraft paper, which is provided to a consumer at the point of sale to carry purchases. Funds from said fee would be returned directly to retailers or flow into programs for litter prevention, reduction and environmental education.

**National Facts**

The EPA estimates that 500 billion - 1 trillion single-use plastic bags are used every year, and less than 3% are recycled.[[1]](#endnote-1) An average American citizen is estimated to use roughly 320 plastic bags each year.[[2]](#endnote-2) With a population of 8.47 million citizens in Virginia, that’s 3 billion bags annually consumed within the state. The use of plastics, which has exponentially increased in recent decades, poses a significant threat to Virginia’s environment and economy.

A recent study in PLOS ONE[[3]](#endnote-3) estimated that there's more than 5 trillion pieces of plastic in the ocean, weighing over 250,000 tons in total. The EPA is concerned enough about microplastic pollution (created by the degradation of plastic bags and bottles, among other things) that it established the EPA Trash-Free Waters program. An expert forum[[4]](#endnote-4) on possible human health risks from microplastic pollution stopped short of specifically outlining regulatory suggestions, but only because the study of microplastics is nascent. They reiterated extreme concern about the issue and suggested extensive further study. The EPA issued another white paper[[5]](#endnote-5) that found the following:

* Recent estimates suggest that 4.8 to 12.7 million metric tons of plastic waste entered the global marine environment in 2010 (these are statistics that are difficult to collate every year, but we can safely assume[[6]](#endnote-6) they've at least held steady if not increased.)
* Plastic particles are generally the most abundant type of debris encountered in the marine environment with estimates suggesting that plastics comprise between 60% and 80% of total marine debris.
* The ingestion of plastics establishes an exposure pathway for other chemical contaminants including metals, and persistent, bioaccumulative, and toxic contaminants that may be absorbed from the water column to plastic or incorporated into the plastics during manufacture. Preliminary studies from other organizations have found that microplastic ingestion does harm to a myriad[[7]](#endnote-7) of organisms[[8]](#endnote-8). Studies on the impact of human health are currently in process but no conclusions have been made.

**Impacts on Virginia**

*Environment & Public Health*

It’s difficult to overstate the impact that 3 billion plastic bags have on Virginia’s environment. Ingestion of or entanglement in plastic bags often proves fatal for wildlife.[[9]](#endnote-9) Turtles[[10]](#endnote-10), birds[[11]](#endnote-11), fish[[12]](#endnote-12), mammals, and important filtering bivalves like oysters and mussels[[13]](#endnote-13) mistake plastic items for food. Other issues include:

* **Public Health** - Plastics can leach potentially harmful chemicals into water and attract other persistent, bioaccumulative, and toxic (PBT) chemicals that can be passed back up the food chain via seafood to humans. This research is still nascent but compelling.[[14]](#endnote-14)
* **Microplastics** - One recent NOAA study[[15]](#endnote-15) found microplastics in 98% of all water samples from the Chesapeake Bay, and both VIMS and University of Maryland are currently researching microplastics’ effects on sediments and submerged aquatic vegetation, the bedrocks of the ecosystem.
* **Marine Debris** - While Virginia is primarily concerned with local streams, rivers and the Chesapeake Bay, the state has a legal responsibility to stop litter from entering the Atlantic Ocean. According to NOAA and Virginia’s Marine Debris Reduction Plan[[16]](#endnote-16), 80% of all marine debris originates on land.
* **GHG** - It should be noted that disposable plastic bags are typically made from fossil fuels (and in some situations, natural gas) — specifically, from High Density Polyethylene. Consequently, not only do these bags cause environmental harm after use, but they generate harmful greenhouse gases from the moment they’re made.

*Jobs & Economy*

The economy is regularly cited as a reason not to have legislation on single-use bags, but this couldn’t be further from the truth. Virginia spends millions of dollars a year cleaning up litter on the taxpayers’ dime. Furthermore, an unhealthy Bay endangers the local fishing and tourism industries. No one wants to tan on a littered beach. Cotton farmers loathe plastic bags because bags catch in the gin and contaminate entire bales. Finally, retailers save when they are no longer expected to provide single-use bags free of charge!

* **Government** - Virginia spends millions of dollars a year cleaning up litter on the tax-payers’ dime. VDOT estimates that it spends $6 million a year picking up litter on roadways (not including its Adopt-A-Highway program, which provides annual savings of $1.35 million). This only scratches the surface of the costs that municipalities pay to curb the disposable bag problem. Because plastic bags are not something that local recovery centers can recycle, plastic bags are a major source of contamination during the recycling process. Despite consistent messaging, many residents put plastic bags into recycling bins, or send recyclables within a plastic bag. This, coupled with a shrinking recyclables market due to China’s embargo on contaminated US recyclables, is a major problem in waste management. Indeed, the economic impact is vastly underestimated because environmental services, the value that the environment adds to the economy, are difficult to quantify. Cities and researchers have attempted to quantify the cost of bags, factoring in environmental costs as well as costs to municipalities, settling on $0.10 – $0.20 per bag.[[17]](#endnote-17)
* **Tourism** – Littered beaches are less valuable than clean beaches, which should not be surprising. One study conducted in California[[18]](#endnote-18) found that a 75% reduction in beach debris was valued at $46.39 per visitor. Even a 25% reduction resulted in $14.09 more per visitor. While that dollar amount can’t directly be used to quantify the economic value of a cleaner Virginia beach, it does provide context. *Cleaner beaches = stronger tourism.*
* **Fishing** – Plastics are ingested by marine organisms that are vitally important to Virginia’s economy. Microplastics are now found in oysters[[19]](#endnote-19) and other shellfish around the world. Fish also mistake plastic for food[[20]](#endnote-20) and said plastic has been shown to alter reproductive success[[21]](#endnote-21) and liver function. *Less plastic = resilient fisheries.*
* **Cotton Farming** – Plastic bags are not a friend of the cotton farmer. The bags are sometimes swept up in baling machinery, which destroys the entire cotton bale, causing hundreds if not thousands of dollars in losses.
* **Retailers** - At the moment, retailers bear the entire brunt of the cost for disposable bags, though they likely pass that cost to consumers through subtly higher pricing. Consequently, retailers and consumers will both save when retailers are no longer expected to shoulder the cost of providing single-use bags free of charge. The only consumers that will continue to pay are the ones that are actively willing to do so!

**Policy & Legislation**

Research finds that a bag fee is likely the most effective way to curtail single-use bag usage. Funds generated by said fee would go directly back into funding towards cleanup programs and education that helps reduce waste. Why local option instead of statewide? Individual municipalities know their own needs better than we do, and should be able to choose!

Virginia is fortunate that many other cities, counties, states and even countries have enacted similar legislation against disposal bags in the past decade. In the United States, there are at least 311 local bag ordinances in 24 states (and Washington DC).[[22]](#endnote-22) California is the sole state with a total ban on disposable bags. Consequently, there is ample research[[23]](#endnote-23) on the consequences of said legislation, which gives us an advantage that they did not have! Without getting too bogged down in the details, let’s briefly discuss this legislation:

* **Bag bans** have been around for a while, with mixed results. Cities that pursued these plastic bag bans have encountered unintended consequences. The city of Chicago passed a bag ban in 2016, only to see retailers give away thicker, technically “non-disposable” plastic bags in response. The city wisely repealed that ban in 2017, and put a $0.07 fee in its place. The city of Austin was recently forced to end its bag ban after the law was ruled unconstitutional.[[24]](#endnote-24) Nonetheless, San Francisco’s bag ban has been largely successful.
* **Bag fees** are considered second-generation bag bills, and have had markedly better results[[25]](#endnote-25) because they essentially apply a cost to the damage that disposable bags cause. Washington DC and Montgomery County, MD have both implemented a polystyrene ban as well as a 5-cent fee on plastic bags to address the Anacostia River’s pollution problem. City officials and Alice Ferguson Foundation reported a 50-70% decrease[[26]](#endnote-26) in household plastic bag usage. Revenues from the bag fee ($2+ million annually) are used to implement education, trash capture, and stream restoration projects throughout the Anacostia Watershed. Additionally, funds are used to distribute reusable bags to low-income and aging populations throughout the District.
* **Hybrids of the ban/fee methods** are typically the most effective bag bills. Seattle banned disposable plastic bags and established a $0.10 fee on paper bags, resulting in a 50% decrease of plastic bags in residential waste (from 2010-2014)[[27]](#endnote-27) despite a 10% increase in the city’s population. Santa Barbara enacted similar legislation and total consumption of bags decreased by 89.3%.[[28]](#endnote-28) Why is this approach so effective at changing behavior? It takes the most environmentally harmful option completely off the table (plastic bags), and provides economic disincentives on other options (paper bags) that are just strong enough to deter most people.

What would be the ideal solution to this problem? It would likely take the form of a hybrid of the ban/fee methods, a la Seattle. There would be a ban on most disposable plastic bags and a fee on paper bags. A generous deposit program for plastic bags that aren’t banned would create incentives towards recycling them. Programs on reuse would educate the public on the value of a zero waste lifestyle, and Share A Bag programs[[29]](#endnote-29) would ensure that reusable bags already in circulation are used as many times as possible.

**Rebutting Myths**

Unfortunately, there are so many myths out there about litter prevention and bag bills (propagated by the plastic bag industry) that we have to provide a section on this. In brief: plastic bags are very rarely recycled (and there are almost no local jobs involved in plastic bag recycling), they don’t reduce greenhouse gases (they typically increase them), they aren’t reused enough to justify their ubiquity, and they certainly aren’t healthier than reusable bags.

***“Plastic bag bills don’t work”***

They certainly do (see all research above). It’s fair to say that some work better than others, but there’s ample evidence that bag bills do work, and little to no evidence that they don’t.

***“Plastic bags are recycled!”***

It’s true that many grocers offer plastic bag recycling. It’s also true that these programs have failed, impressively. Plastic bags are recycled at historically low rates of 1-3%.[[30]](#endnote-30) In other words, 97-99% of all plastic bags are thrown away. Some research has shown that offering recycling can actually increase the consumption of free items because people believe they are engaging in a pro-environment behavior.

***“Plastic bag recycling provides jobs!”***

None of the presented bag bills would adversely hurt companies that use recycled plastics such as Trex in Winchester, as there is a plethora of plastic available to recycle in the United States. If someone says this to you, ask them to prove it! With numbers!

***“Citizens cannot afford the financial burden of this fee”***

While concern for fellow Virginians’ financial welfare is admirable, it’s unfounded. LA County studied the economic consequences[[31]](#endnote-31) of a bag fee and found a maximum burden of $3-4 a year per household. Even this is likely an overestimate. Reusable bags are already incredibly common in US households, and many non-profits in Virginia give away reusable bags free-of-charge. Furthermore, Virginia spends millions of dollars a year cleaning up litter on the tax-payers’ dime. Additionally, an unhealthy Bay endangers the local fishing and tourism industries. No one wants to tan on a littered beach or slurp from an oyster shell filled with microplastics. Cotton farmers loathe plastic bags because bags catch in the gin and contaminate entire bales. **It seems that citizens cannot afford the harmful effects of plastic bags.**

***“I reuse my plastic bag! I pick up after my dog with plastic bags!”***

Woof! While we completely appreciate the reuse of plastic bags, this does not justify the production and use of billions of plastic bags each year. Retailers and taxpayers should not be required to supply pet owners with plastic bags free of charge. Pet owners (and everyone else) should purchase their own bags, which illustrates to them that there are real costs to these materials.

***“Plastic bag litter only makes up a small portion of the litter”***

It’s important to note that yes, there are many sources of pollution that need to be curtailed. But plastic bags are a big source. According to Clean Virginia Waterways at Longwood University, plastic bags are always among the top 10 littered items found[[32]](#endnote-32) during Virginia cleanups.

***“Plastic bags create less greenhouse gases than paper or reusables”***

This is a grey area and a small point of contention in the environmental community. The production of one disposable plastic bag creates less GHGs than one reusable bag. To make the math work you must, you know… reuse your reusable bag to make it sustainable. And some reusable bags, like cotton bags, may never be used enough to be a truly “green” option. Still, most experts agree[[33]](#endnote-33) that a reusable bag sourced from sustainable or recycled materials is the best option when considering environmental health. This is a moment to emphasize that this law is only a starting point. Educating the public about maximum reuse of bags will be necessary to make the most out of this opportunity!

***“Plastic bags are sterile – reusable bags harbor unsafe bacteria”***

This is a classic case of lying with data. The American Chemistry Council invested in studies that found high rates of bacteria in reusable bags. *This is technically a valid finding (though the methodology is terrible)*. What isn’t said is that the bacteria found are not harmful. According to Consumer Reports[[34]](#endnote-34): “A person eating an average bag of salad greens gets more exposure to these bacteria than if they had licked the insides of the dirtiest bag from this study.” Basically, most \*things\* in everyday life have bacteria like e. coli lingering on their surfaces. While the risk of food-borne illnesses from reusable bags is very very small, washing your bags occasionally is still a good idea, and rids the bags of 99.9% of all bacteria. And as always, it’s wise to wash any produce you eat, reusable bag or otherwise!

***“Retailers will flounder under the fee”***

Unfortunately, retailers (and customers) already pay the fee; it’s just not obvious to the public. By making a fee explicit, retailers won’t have to pay for bags at all, and people can choose whether it’s something they need.

1. https://www.ncbi.nlm.nih.gov/pubmed/28935376 [↑](#endnote-ref-1)
2. https://www.usitc.gov/publications/701\_731/pub4605.pdf [↑](#endnote-ref-2)
3. https://doi.org/10.1371/journal.pone.0111913 [↑](#endnote-ref-3)
4. https://www.epa.gov/sites/production/files/2017-02/documents/tfw-microplastics\_expert\_forum\_meeting\_summary\_2015-02-06.pdf [↑](#endnote-ref-4)
5. https://www.epa.gov/sites/production/files/2017-02/documents/tfw-trash\_free\_waters\_plastics-aquatic-life-report-2016-12.pdf [↑](#endnote-ref-5)
6. https://www.epa.gov/sites/production/files/2016-11/documents/2014\_smmfactsheet\_508.pdf [↑](#endnote-ref-6)
7. https://pubs.acs.org/doi/abs/10.1021/acs.est.5b04026?journalCode=esthag [↑](#endnote-ref-7)
8. https://www.sciencedirect.com/science/article/pii/S0960982213012530 [↑](#endnote-ref-8)
9. https://www.bbc.co.uk/news/science-environment-45509822 [↑](#endnote-ref-9)
10. https://www.washingtonpost.com/news/speaking-of-science/wp/2015/09/15/more-than-half-the-worlds-sea-turtles-have-eaten-plastic-new-study-claims/?utm\_term=.90792679d1fe [↑](#endnote-ref-10)
11. https://www.washingtonpost.com/news/speaking-of-science/wp/2015/09/01/nearly-all-of-the-worlds-seabirds-have-eaten-plastic-study-estimates/?utm\_term=.1805cf43bc81 [↑](#endnote-ref-11)
12. https://www.washingtonpost.com/national/health-science/the-bad-news-is-that-fish-are-eating-lots-of-plastic-even-worse-they-may-like-it/2017/09/01/54159ee8-8cc6-11e7-91d5-ab4e4bb76a3a\_story.html?utm\_term=.3d9f2f6ee8c5 [↑](#endnote-ref-12)
13. https://www.npr.org/sections/thesalt/2017/09/19/551261222/guess-whats-showing-up-in-our-shellfish-one-word-plastics [↑](#endnote-ref-13)
14. https://www.epa.gov/sites/production/files/2017-02/documents/tfw-microplastics\_expert\_forum\_meeting\_summary\_2015-02-06.pdf [↑](#endnote-ref-14)
15. https://marinedebris.noaa.gov/research/analysis-microplastics-chesapeake-bay-and-coastal-mid-atlantic-water-samples [↑](#endnote-ref-15)
16. https://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/MarineDebris.aspx [↑](#endnote-ref-16)
17. https://www.ncbi.nlm.nih.gov/pubmed/28935376 [↑](#endnote-ref-17)
18. https://marinedebris.noaa.gov/sites/default/files/publications-files/MarineDebrisEconomicStudy\_0.pdf [↑](#endnote-ref-18)
19. https://www.npr.org/sections/thesalt/2017/09/19/551261222/guess-whats-showing-up-in-our-shellfish-one-word-plastics [↑](#endnote-ref-19)
20. https://news.nationalgeographic.com/2017/08/ocean-life-eats-plastic-larvaceans-anchovy-environment/ [↑](#endnote-ref-20)
21. http://www.fao.org/3/a-i7677e.pdf [↑](#endnote-ref-21)
22. https://www.plasticbaglaws.org/factsheet [↑](#endnote-ref-22)
23. https://www.ncbi.nlm.nih.gov/pubmed/28935376 [↑](#endnote-ref-23)
24. https://www.texastribune.org/2018/07/03/report-austin-end-its-bag-ban-after-texas-supreme-court-ruling/ [↑](#endnote-ref-24)
25. https://dataspace.princeton.edu/jspui/handle/88435/dsp014q77fr47j [↑](#endnote-ref-25)
26. http://static1.squarespace.com/static/59bd5150e45a7caf6bee56f8/59bd52c67e2a5fb4e246e297/59bd52ad7e2a5fb4e246df8c/1505579693800/study\_DC-DDOE-2013-Bag-Law-Survey.pdf?format=original [↑](#endnote-ref-26)
27. https://www.seattle.gov/util/cs/groups/public/@spu/@diroff/documents/webcontent/1\_055348.pdf [↑](#endnote-ref-27)
28. https://www.sciencedirect.com/science/article/pii/S0956053X17306335 [↑](#endnote-ref-28)
29. https://zerowaste.dc.gov/shareabag [↑](#endnote-ref-29)
30. http://www.calrecycle.ca.gov/plastics/AtStore/AnnualRate/2009Rate.htm [↑](#endnote-ref-30)
31. http://ladpw.org/epd/aboutthebag/PDF/Bag%20Ban%20Status%20Nov%202012.pdf [↑](#endnote-ref-31)
32. http://www.longwood.edu/cleanva/ [↑](#endnote-ref-32)
33. https://www.theverge.com/2018/5/12/17337602/plastic-tote-bags-climate-change-litter-life-cycle-assessments-environment [↑](#endnote-ref-33)
34. https://www.consumerreports.org/cro/news/2010/07/can-reusable-grocery-bags-make-you-sick-or-is-that-just-baloney/index.htm [↑](#endnote-ref-34)