



Testimony of  
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Anacostia Watershed Society  
to the  
Maryland Senate  
Education, Energy & the Environment Committee  
SB 642, Maryland Beverage Container Recycling  
Refund and Litter Reduction Program  
March 5, 2024

Good afternoon. I am testifying today on behalf of the 10,000 members, supporters and volunteers of the Anacostia Watershed Society (AWS). The Anacostia watershed is a 176 square mile area drained by the Anacostia River, two-thirds of which is in Prince George's and Montgomery counties in Maryland. The mission of AWS is to protect and restore the Anacostia watershed for all who live here and for future generations.

Of all the threats to river health that plague the Anacostia watershed – sewage overflows, toxic pollutants, urban run-off, sedimentation, wetlands and forest loss – the most starkly visible is trash. Particularly after a heavy rain, thousands of pounds of trash flows from streets, parking lots, and storm drains into streams across the watershed and ultimately into the river's mainstem. Every visitor to the river has seen the result, every eddy and small inlet cluttered with food wrappers, chip bags, single use plastic cups and lids, straws, and plastic beverage bottles. Of all the trash collected by AWS trash traps, which are designed to intercept trash flowing into the river, by far the most ubiquitous piece of trash is the plastic beverage bottle. This trash fouls wildlife habitat, interfering with foraging, feeding, and other behaviors, and is sometimes ingested by wildlife. Moreover, the data suggest that over 70% of the pieces of trash flushed into the river will ultimately sink beneath the surface, raising troubling questions about just how much plastic waste is accumulating on the riverbed and in the water column, and how much that unseen trash is affecting the fish, wildlife and plants of the Anacostia River ecosystem.

In addition, plastic bottles and other trash foul natural areas important to people. The 176 square mile Anacostia watershed is entirely urban and suburban, and many of the parks and green spaces in Prince George's and Montgomery County are along streams and creeks in the watershed. These spaces foster social interaction, exercise, play, and provide places to get away from the noise and bustle of the city. There is a growing body of evidence that access to urban

green spaces is vitally important for our mental, physical, social, and emotional health.<sup>1</sup> Specific benefits include a higher reported quality of life, lower stress, better mood, and a reduction in mental distress. However, the benefits of urban green space are diminished if the green space itself is stressful or unpleasant to be in. Visible litter makes the environment less inviting, and reduces these benefits.

As the plastic trash decomposes, microscopic pieces are chipped off. These microplastics persist in the environment for many years, and we are only beginning to learn about their potential negative impacts. For example, a study on the impact of microplastics on fish found damaged digestive and reproductive systems, and an increased chance of mortality.<sup>2</sup> Mussels, organisms essential to the health of the Anacostia watershed, can also be highly impacted by microplastics. Several studies from other watersheds have found that mussel populations exposed to microplastics suffer from reduced reproductive success, which reduces the resiliency of the population in the face of other challenges of living in an urban river.<sup>3</sup> In other words, microplastics can have cascading health effects for the organisms and populations exposed to them including, potentially, humans. In fact, studies show that humans are ingesting more and more micro- and nano-plastics, and the damaging health effects are only just beginning to be understood.<sup>4</sup>

Five point two billion single use beverage containers are sold in Maryland every year.<sup>5</sup> That is an average of over 14 million plastic bottles, aluminum cans and glass bottles purchased, used, and disposed of every day. However, despite curbside pick-up, **less than a quarter of all that trash is actually captured for recycling**. The rest, 4 billion otherwise recyclable containers, never get into the recycling stream. That is almost 2 bottles and cans per each of Maryland's 6.2 million residents **per day, every day**, going to rapidly filling, often leaking landfills, to incinerators to be burned into toxic air pollution, or into our neighborhood streets, parks, and rivers.

In AWS's corner of Maryland, the dedicated volunteers of AWS have removed on average about 42 tons of trash per year from the stream and wetlands of the Anacostia watershed since 1989. Today, almost 60% of that trash by weight is plastic bottles. We're proud of our clean-up efforts, but we can only round up a small fraction of the millions of beverage containers that foul the watershed so thoroughly that it is one of only three bodies of water in the U.S. that must be regulated for trash under the federal Clean Water Act (TMDL).

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<sup>1</sup> Numerous studies support this conclusion. See <https://link.springer.com/article/10.1007/s10708-021-10474-7/tables/2>

<sup>2</sup> Buyun. Md Simul, *Effects of Microplastics on Fish and Human Health*, *Frontiers in Environmental Science*, vol. 10, March 2022

<sup>3</sup> Scherer, Christian et al, *Interactions of Microplastics with Freshwater Biota*, *The Handbook of Environmental Chemistry* vol. 58

<sup>4</sup> Kieran D. Cox, Garth A. Covernton, Hailey L. Davies, John F. Dower, Francis Juanes, Sarah E. Dudas, *Human Consumption of Microplastics*, *Environ. Sci. Technol.* 2019, 53, 12, 7068–7074, June 5, 2019

<sup>5</sup> Container Recycling Institute, Beverage Marketing Data, 2019

AWS believes that SB 642 will significantly reduce litter and plastic pollution in the Anacostia and in all of Maryland's rivers and streams. Data from other jurisdictions that have implemented such programs are encouraging. In 6 of the 10 states with recycling/refund laws, researchers have examined the impact of the recycling/refund program on litter found on highways. These states— Iowa, Maine, Michigan, Oregon, Vermont, and New York— have seen a 40-80% decrease in container litter, which contributed to a 10-39% reduction in total litter.<sup>6</sup>

Data from river cleanups in Massachusetts, another recycling/refund state, suggest that their program has a substantial impact on the amount of litter in rivers, streams, and wetlands as well. In Massachusetts, only containers holding carbonated drinks (beer, malt, carbonated soft drinks) and mineral water were eligible to be returned. Beverage market share data showed that deposit eligible containers made up 76% of sales, and non-deposit eligible containers were 24% of sales. Yet data collected from river clean-ups revealed that deposit eligible containers made up only 19% of the containers collected and non-deposit containers made up 81%. The evidence strongly suggests that the incentive provided by the recycling/refund program in Massachusetts routed the bulk of eligible beverage containers to reuse and recycling, while containers with no such incentive littered the riverbanks.<sup>7</sup>

We are facing not just a “litter” problem in Maryland. This is an environmental and impending public health crisis that needs to be forcefully addressed without delay. The much discussed, pending Recycling Needs Assessment will not provide a more effective and efficient solution than the type of deposit return/recycle system laid out in SB 642 that has dramatically increased recycling rates in 10 U.S. states and across Europe. In fact, it has been demonstrated that return recycle incentive systems work and in hand and indeed are a necessary part of Extended Producer Responsibility programs. As stated above, in Maryland less than 25% of recyclable beverage containers are captured for recycling; in deposit/return states, that figure is 60% and higher, sometimes much higher. And we have decades of data to demonstrate these systems reduce pollution and are remarkably cost effective. There is no reason to delay and every reason to get deposit/return in place as soon as possible. AWS strongly supports SB 642 and urges the Committee to favorably report out the bill.

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<sup>6</sup> Schuyler, Qamar et al, *Economic incentives reduce plastic inputs to the ocean*, Marine Policy, vol. 96, pp 250-255

<sup>7</sup> Cohen, Russ, Worcester Earth Day Cleanup, April 2003; Cohen, Russ, Blackstone Valley Riverways Clean Up Day, October 2007, Massachusetts Riverways Program. See [bottlebill.org](http://bottlebill.org)