Testimony of
Christopher E. Williams, President and CEO
Anacostia Watershed Society
to the
Maryland House of Delegates
Environment and Transportation Committee
in favor of HB 0232, Maryland Beverage Container Recycling
Refund and Litter Reduction Program
February 14, 2025

Good afternoon. I am testifying today on behalf of the over 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. Founded in 1989, AWS is a small organization of activists, advocates, experts, and educators working to conserve and restore the Anacostia watershed for all who live here and for future generations. And it is so much more. AWS is hundreds of volunteers from Maryland and DC in the field almost every day, picking up trash, monitoring pollution, planting trees and wetland plants, propagating wildlife, and removing invasive species. We are thousands of young students, learning about the natural history and ecology of the watershed. We are scores of naturalists-in-training, preparing to be conservation leaders in Maryland and DC communities. We are neighbors and friends in Prince George's and Montgomery counties, brought together by a shared love for our local watershed and a common determination to see it restored to health.

AWS has long experience battling trash pollution in the Anacostia watershed. In addition to regular volunteer trash clean-ups across the region, AWS advocacy efforts have been instrumental in the establishment of local limitations or bans of Styrofoam containers, single use plastic bags, plastic straws, and plastic utensils, all of which were tremendous sources of trash pollution that have since been visibly reduced, in some cases dramatically.[1]

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. After a heavy rain, thousands of pounds of trash flows from streets, parking lots, and

[1] For example, a recent study by AWS determined that occurrence of Styrofoam in Anacostia watershed trash traps has plummeted by over 75 percent since the prohibition of Styrofoam containers in DC, Prince George's County, and Montgomery County.

storm drains into streams across the watershed and ultimately into the river's mainstem. Visitors to the river see the result: every eddy and small inlet cluttered with food wrappers, chip bags, single use plastic cups and lids, straws, and aluminum, glass, and plastic single-use beverage containers. Of all the trash collected by AWS trash traps, which are designed to intercept garbage flowing into the river, by far the most ubiquitous piece 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.

A great blue heron finds itself on an island of trash. Wildlife struggling amidst trash is an all too common sight on rivers and streams in Maryland. Note the preponderance of plastic bottles.

In addition, plastic bottles and other trash foul natural areas important to people. The 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 to our mental, physical, social, and emotional health.[2] 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 and nano-plastics 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.[3] Freshwater 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 mussels exposed to microplastics suffer from reduced reproductive success, which reduces the resilience of mussel populations facing the many other challenges of living in an urban river.[4] 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 plastic, with recent evidence suggesting that we are constantly taking in significant amounts of micro- and nano-plastics as we breathe, as we drink, and as we eat .[5]

Five point five billion single use beverage containers are sold in Maryland every year.[6] That is an average of over 15 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, over 4 billion otherwise recyclable containers, never get into the recycling stream. That is roughly 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, our dedicated volunteers have since 1989 removed on average about 42 tons of trash per year from the streams and wetlands of the Anacostia. 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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[2] Numerous studies support this conclusion. *See* https://link.springer.com/article/10.1007/s10708-021-10474-7/tables/2

[3] Buyun. Md Simul, *Effects of Microplastics on Fish and Human Health*, Frontiers in Environmental Science, vol. 10, March 2022

[4] Scherer, Christian et al*, Interactions of Microplastics with Freshwater Biota*, The Handbook of Environmental Chemistry vol. 58

[5] 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; *Dietary and inhalation exposure to nano- and microplastic particles and potential implications for human health.* Geneva: World Health Organization, 2022

[6] Container Recycling Institute, Beverage Marketing Data, 2019

The result of a volunteer clean-up on a stream in the Anacostia watershed on April 22, 2023. The transparent bags are recyclable bottles and cans. The black bags contain all other trash collected. This ratio (about 60-70% recyclables) is typical.

AWS believes that HB 0232 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 deposit/refund laws in place, researchers have examined the impact of the 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.[7]

Data specifically from river cleanups in Massachusetts, another deposit/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 are 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

[7] Schuyler, Qamar et al*, Economic incentives reduce plastic inputs to the ocean*, Marine Policy, vol. 96, pp 250-255

made up 81%. This evidence strongly suggests that the incentive provided by the deposit/refund program in Massachusetts routed the bulk of eligible beverage containers to reuse and recycling, while containers with no such incentive littered the riverbanks.[8]

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 type of deposit/return/recycle system laid out in HB 0232 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 hand 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 70% and higher, sometimes much higher. And we have decades of data to demonstrate these systems reduce pollution and are remarkably cost effective.

The proven benefits of deposit/return systems like HB 0232 include:

- A dramatically increased beverage container recycling rate in Maryland. The estimated recycling rate, currently only 25% of containers sold in the state, would increase to more than 90% with HB 0232.[9]
- Reduced beverage container litter and plastic pollution and an increase in water quality. The system would capture 3.6 billion additional beverage containers annually, including 2.3 billion plastic bottles, keeping that trash out of our neighborhoods, streets, parks, and rivers.
- Reduced greenhouse gas emissions. By reducing the production of new cans and bottles from virgin materials, the additional recycling from this program would eliminate 231,707 metric tons of CO2 equivalent annually, the equivalent of removing the emissions of 50,371 cars.
- Savings money for taxpayers and local governments. HB 0232 would require beverage producers to finance the costs of collection, processing, and recycling of beverage containers, diverting those materials from landfills and incinerators and saving costs for taxpayers and local governments.
- New job opportunities in collection, redemption, hauling, and processing recyclable material. In fact, recycling generated by a deposit program creates five times more jobs as landfilling or incineration.

There is no reason to delay and every reason to get a deposit/return system in place in Maryland as soon as possible. AWS strongly supports HB 0232, and we urge the Environment and Transportation Committee to favorably report out the bill.

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[8] Cohen, Russ, Worcester Earth Day Cleanup, April 2003; Cohen, Russ, Blackstone Valley Riverways Clean Up Day, October 2007, Massachusetts Riverways Program. *See* bottlebill.org

[9] This is the target expressed in HB 0232, and it is achievable. Among the ten U.S states with bottle bills, recycling rates today range as high as 87%. *See* https://www.tomra.com/reverse-vending/media-center/feature-articles/bottle-bill-states-and-how-they-work

A marsh in the Anacostia watershed choked with plastic bottles.