

September 18, 2023

Governor Gavin Newsom  
1021 O Street, Suite 9000  
Sacramento, CA 95814

Submitted via email to [leg.unit@gov.ca.gov](mailto:leg.unit@gov.ca.gov)

**RE: Assembly Bill 1628 (McKinnor) - Microfiber Filtration - REQUEST FOR SIGNATURE**

Dear Governor Newsom,

The Nature Conservancy, Ocean Conservancy, and the 5 Gyres Institute are pleased to co-sponsor Assembly Bill 1628 by Assemblywoman Tina McKinnor, to require all new washing machines sold for residential and state use in California to have a microfiber filtration system by January 1, 2029. As science-driven environmental protection organizations, we are committed to using the best available science and technologies to address the greatest threats to people and our oceans. AB 1628 would be another first-in-the-nation policy in which California has the opportunity to shift an entire industry to better protect California consumers and the environment. We urge you to sign this important legislation.

Microfibers are among the most abundant types of microplastics found in California's natural environment. The scale of the problem is staggering, with an estimated 7.7 quadrillion microfibers shed into state lands and waters each year from washing machines.<sup>1</sup> To put that into perspective, that's more than the number of stars in our galaxy. Because of their small size and needle-like shape, microfibers are uniquely able to penetrate, making them the most common type of microplastic found in both wildlife and human tissues.<sup>2</sup> Microfibers have been found in human lungs, hearts, and bloodstreams, where in addition to the harm they cause themselves, like inflammation and tissue damage, they also carry thousands of chemicals from plastics that have known human health impacts.

The majority of our clothes are made from plastics and washing these clothes is a major source of microfibers entering the environment - a single load of laundry can release up to 18 million microfibers.<sup>3</sup> If not captured in washing machines, these microfibers are released into wastewater where they are most often captured in biosolids, which are then applied to agricultural lands throughout the state. Microfibers, and other microplastics, can be taken up by plants and lead to reduced agricultural growth rates and food yields.<sup>4</sup> After they're applied to lands, the microfibers are highly mobile and pose additional risks to California's already stressed water supply. Once in the

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<sup>1</sup> Geyer, R., et al. 2022., Environmental Pollution

<sup>2</sup> Athey, S.N., et al. 2022. Water.

<sup>3</sup> Galvã, A., et al. 2020. Environmental Science and Pollution Research.

<sup>4</sup> Zang, H. et al., 2020. Soil Biology and Biochemistry.

environment and the water, microfibers are all but impossible to clean up and remove, risking further impacts to Californians health and the state's natural resources.

The solution that AB 1628 proposes is based on the scientific standard established by your Administration in California's Ocean Protection Council Statewide Microplastics Strategy, published early last year following a robust literature review and public process.<sup>5</sup> The OPC specifically recommends requiring microfiber filters on new washing machines as a sector-specific solution for textiles to reduce microfiber pollution from a specific source into California's waters and lands:

*Promote, or otherwise require, the sale and use of washing machines with a filtration rate of 100 microns or smaller and develop a program to incentivize postmarket retrofits or purchases by 2024. (page 20)*

Various microfiber filters have been available for years, and laboratory and field studies have shown that these filters are effective at capturing about 90% of microfibers from laundry.<sup>6</sup> Manufacturers have already begun work to integrate filters into existing washing machine designs. Xeros, a company leading efforts to develop the technology, [notes](#) that internal filters are easily integrated into machines as currently designed. The filter, which will last the lifetime of the machine without need for a replacement, is housed in the detergent drawer without any need to remove existing parts. Xeros strongly supports AB 1628 noting, "timely, ambitious and robust legislation is critical in moving the dial, accelerating innovation, and combatting the pervasive microplastic problem."

By setting a science-based standard, not a specific technology, and by phasing this in over five years, AB 1628 allows flexibility and time for washing machine manufacturers to integrate this standard into new machines. The standard established in AB 1628 would help to significantly reduce microfiber pollution, with far-reaching and substantial environmental and economic benefits with minimal costs to the state.

According to [a new study we commissioned from Blue Sky Consulting Group](#), the costs to consumers and the state of integrating microfiber filtration systems would be minimal and amortized over time, as part of routine purchases to replace washing machines. Based on the Blue Sky analysis, the increased cost to consumers would be about \$14 to \$20 per new residential machine, or less than \$2 per year over the lifetime of a machine.

Their analysis also estimated the costs to the state across its agencies, and public colleges and universities. Given an average washing machine life of approximately ten years and the small fractional cost of filters relative to the cost of a new machine, the cost of AB 1628 would create an additional cost of \$2,500 per year for state agencies and \$37,000 per year for public colleges and universities. Over time and with economies of scale, the cost of these filtration systems is likely to decrease as the technology becomes more widespread and manufacturing costs decrease. The Department of

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<sup>5</sup> Ocean Protection Council, [Statewide Microplastics Strategy](#), February 2022. See p. 20.

<sup>6</sup> McIlwraith, H.K., et al., 2019. Marine Pollution Bulletin.

Energy estimates that the cost of washing machines decreases by 14.4 percent with every doubling of total units produced.<sup>7</sup>

In addition to their low cost to consumers and the state, we anticipate these filters will have minimal impact on consumer behavior. The filters proposed function similar to those lint filters already built into our dryers. Consumers are familiar with the process of cleaning out filters by removing contents and disposing into the trash. A pilot study conducted in a community in Canada suggests filters are easy to clean and may only need to be cleaned once every 1-3 weeks.<sup>8</sup>

AB1628 is a critical step towards protecting our environment and supporting California's economy. By implementing microfiber filtration systems, California can lead the way in addressing this urgent environmental issue and set an example for other states and countries to follow. When you sign AB 1628 into law, California will become the first state in the nation to address a major pathway of microplastic pollution. This science-based recommendation, developed by your Administration, is critical in moving the nation beyond banning intentionally-added microplastics to tackling the far more abundant problem of microplastics that are released from other plastics. Signing this law will move the markets in California and around the world to better protect people and the environment.

Thank you for your consideration and your ongoing leadership to tackle plastic pollution. Joined by dozens of leading environmental organizations, business brands, and scientists, as well as statewide and regional sanitation agency associations, we respectfully urge you to sign AB 1628.

Sincerely,

**Liz Forsburg, Ph.D.**

Director of External Affairs &  
Policy  
The Nature Conservancy

**Anja Brandon, Ph.D.**

Associate Director, U.S.  
Plastics Policy  
Ocean Conservancy

**Alison Waliszewski**

Director of Policy  
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<sup>7</sup> U.S. Department of Energy, [Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial and Industrial Equipment: Residential Clothes Washers](#), February 2023.

<sup>8</sup> Erdle, L.M., et al., 2021. *Frontiers in Marine Science*.