Senate Committee On Energy and Environment
February 11th, 2025

RE: SUPPORT for Senate Bill 526

Dear Chair Sollman and Committee Members,

We would like to express our support of Senate Bill 526, which will significantly reduce the amount of microfiber pollution entering Oregon's ocean ecosystems, lands, and communities by requiring filters on washing machines sold in the state.

Washing of clothing is one of the primary pathways by which microfibers are generated and enter the environment. Shedding varies between fabrics and materials, but research shows that up to 18 million microfibers are shed during a single wash.[1] This same study estimates that the microfiber release from 100,000 fleece jackets could be as high as 0.65 – 3.91 kg (1.4 – 8.6 lbs) microfibers entering wastewater treatment plants (WWTPs). While most of the microfibers will be captured in the sewage sludge (biosolids), much of which are then directly reapplied to lands for use as fertilizers, 0.01 to 0.06 kg will be released in the final effluent directly to the aquatic environment.

Countless studies have revealed that microfibers are one of the most abundant and ubiquitous types of microplastic in the environment.[2,3] Microfibers can also act as a vector for the transport of toxic chemicals such as PFAS, brominated flame retardants, and harmful dyes, posing further risks to wildlife, the environment, and human health.[4] Although research on the human health implications is still emerging, recent research has shown a link between microfibers in lung tissue and tumor formation.[5]

Microfibers may have unique negative effects on wildlife and humans compared to other microplastics. They have a distinct shape, and are associated with a different suite of chemicals from manufacturing and via accumulation from air. Microplastics may be a source of these chemicals to wildlife and their shape may cause effects that differ from other microplastics. Although research regarding chemical fate and toxicity from microfibers is still in its infancy, findings demonstrate that microfibers can alter feeding behavior, energy budgets, reproduction, and survival.[6]

Worse yet, microfibers are a persistent pollutant. Once in the environment, they are nearly impossible to clean up, which is why upstream interventions are critical in preventing these

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[1] Galvao, A., et al. 2020. *Environ. Sci. Pollut. Res.*
[2] Barrows, A.P.W., et al. 2018. *Environ. Pollut*.
[3] Sutton, R., et al. 2016. *Mar. Pollut. Bull.*
[4] Athey, S.N. and Erdle, L.M. 2021. *Environ. Tox. Chem.*
[5] Chen, Q., et al. 2022. *Environ. Sci. Eur.*
[6] Singh, R.P., et al. 2020. *Chemosphere*.

particles from escaping into the environment in the first place. Thus, it is essential to mitigate sources of microfibers now before their environmental impact further increases.

Interventions that capture microfibers before they're released to wastewater are needed now to address microfiber pollution. The filtration systems required under SB 526 are a solution we know to be effective from laboratory studies and field investigations. A 100 µm filter can capture 90% of microfibers in a load of laundry.[7] Furthermore, they can also be an effective solution at the regional scale; a community-level study of filters installed in 97 homes in a small town in Canada showed a significant reduction in microfibers at a WWTP after installing filters.[8]

Oregon has the opportunity with SB 526 to lead the nation in addressing microfiber pollution. With effective filtration solutions available, we cannot afford to wait to address the threats of microfiber pollution flowing into our environment. As leading scientific experts on microplastics, we suggest acting now, before environmental concentrations reach an even higher level that exacerbates harm to wildlife, people, and the planet.

We urge your support for SB 526.
Sincerely,

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[7] McIlwraith, H.K., et al. 2019. *Mar. Pollut. Bull.*

[8] Erdle, L.M., et al. 2021. *Front. Mar. Sci.*

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