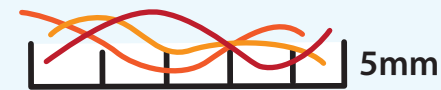


Microplastics & the Columbia River: A Not So Tiny Problem

You may already be familiar with microplastics polluting oceans, or perhaps you have heard of the Great Pacific Garbage Patch. But did you know that microplastics contaminate rivers as well? Microplastics in the Columbia River may be a bigger problem than you thought.

What are Microplastics?

Microplastics are plastic debris measuring less than five millimeters. They come from larger plastics that break apart, fibers from synthetic clothing (like nylon, fleece, or polyester) that come off in the wash, or personal care products (like toothpaste and exfoliating face washes) that contain microbeads.



What's the Problem?

Fossil fuels, an essential resource for plastics production, drive climate change. And once created, plastics don't go away. Recycling may seem like a viable alternative, but only 9% of plastics created have ever been recycled.¹ As plastics degrade they break into smaller and smaller pieces, polluting our rivers and oceans and leaching toxic chemicals into the environment.

Are Microplastics in the Columbia?

Unfortunately microplastics are incredibly pervasive in the Columbia and other Oregon rivers—scientists have even found microplastics in remote and undeveloped stretches of river.² One study on the Snake and Columbia rivers found microplastics in 92% of their samples.³

How is Plastic Pollution Harmful?

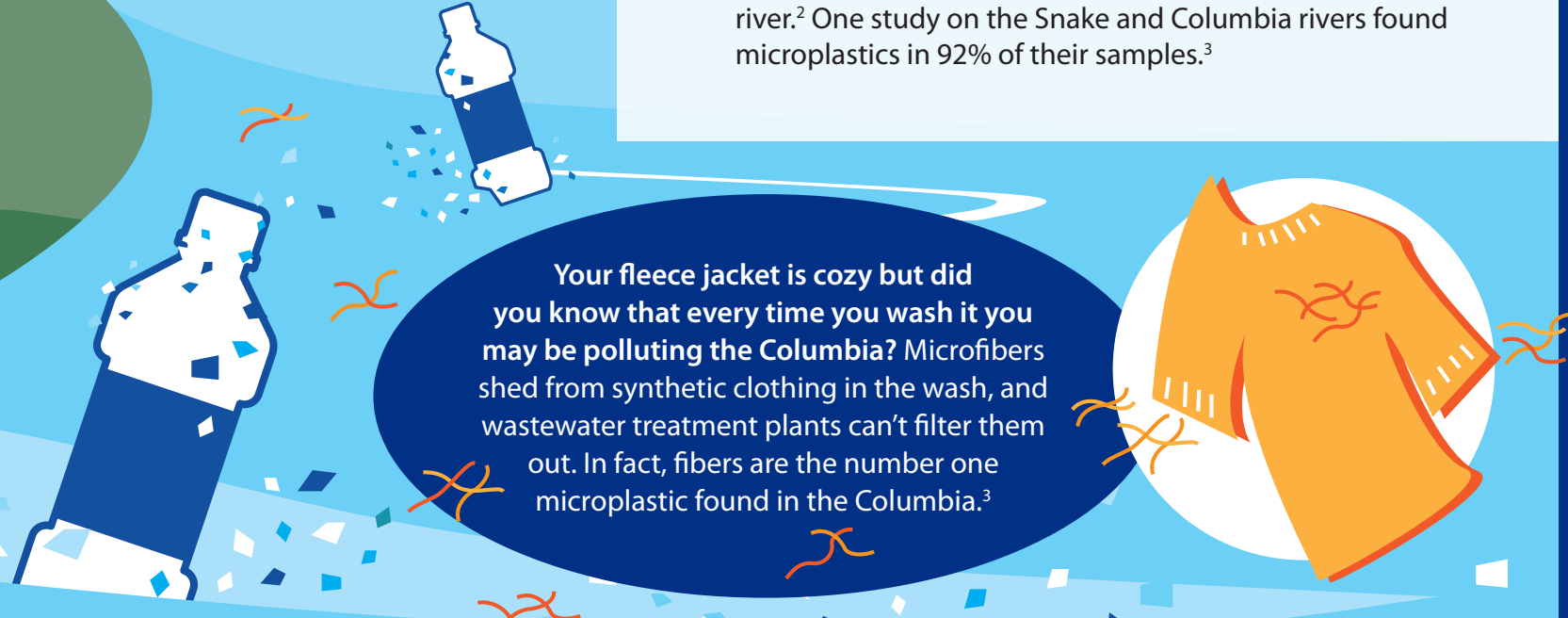
Fish and wildlife may ingest plastics, which can obstruct their digestive systems causing malnourishment and even death. Many plastics leach chemicals that are associated with cancer and endocrine disruption. And it gets worse: plastic particles act as an attractant, accumulating other contaminants—such as polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pesticides, metals, and even pathogens.⁴

Scientists don't yet fully understand the effects of microplastics on human health.⁵ Here's what we do know: because microplastics are pervasive in the environment, they wind up in our bodies. How? People consume plastic-contaminated food and water, inhale particles, and absorb microplastics through their skin.

What can we do?

There's no single way to solve our plastic problems, but there are some things you can do:

- Advocate for stronger restrictions on microplastics pollution.
- Speak up for consumer product changes that reduce microplastics in the environment.
- Limit personal plastic use.
- Join a clean up or pick up plastic litter on your own.
- Educate yourself on the limits of plastic recycling.
- Try products like the Cora Ball designed to capture microfibers from the laundry.
- Be creative and support small and large-scale solutions.



Your fleece jacket is cozy but did you know that every time you wash it you may be polluting the Columbia? Microfibers shed from synthetic clothing in the wash, and wastewater treatment plants can't filter them out. In fact, fibers are the number one microplastic found in the Columbia.³

¹ <https://advances.sciencemag.org/content/3/7/e1700782>

² Valine, A.E., Peterson, A.E., Horn, D.A., Scully-Engelmeyer, K.M. and Granek, E.F. (2020). Microplastic Prevalence in 4 Oregon Rivers Along a Rural to Urban Gradient Applying a Cost-Effective Validation Technique. *Environ Toxicol Chem*, 39: 1590-1598. <https://doi.org/10.1002/etc.4755>

³ Kirsten J. Kapp, Ellen Yeatman, Microplastic hotspots in the Snake and Lower Columbia rivers: A journey from the Greater Yellowstone Ecosystem to the Pacific Ocean, *Environmental Pollution*, Volume 241, 2018, Pages 1082-1090, ISSN 0269-7491, <https://doi.org/10.1016/j.envpol.2018.06.033>

⁴ <https://labs.waterdata.usgs.gov/visualizations/microplastics/index.html>

⁵ Campanale, Claudia et al. "A Detailed Review Study on Potential Effects of Microplastics and Additives of Concern on Human Health." *International journal of environmental research and public health* vol. 17,4 1212. 13 Feb. 2020. doi:10.3390/ijerph17041212