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SCIENTISTS PROPOSE NEW SECTOR-BASED FRAMEWORK TO ADDRESS THE PLASTIC POLLUTION CRISIS
Upstream Interventions Focused on “Sectors” of Plastic Use in Society Can Lead to
More Effective Solutions

SANTA MONICA, CALIFORNIA (June 30, 2023) – A research paper published today in *Marine Pollution Bulletin* presents a framework to better solve for plastic pollution by framing strategies and solutions in the context of specific sectors of plastic use in society. Scientists at The 5 Gyres Institute outline practical steps for scientists, policymakers, and companies to disentangle the complexity of plastic pollution by utilizing this sector-based approach.

Plastic use is diverse; there are varied polymers, chemical additives, product and packaging design, pathways to the environment, and ecological, social, and economic impacts. As a result, there is no silver bullet solution for the plastics crisis. Instead, each sector of plastic use in society -- ranging from textiles to tires, agriculture to electronics -- should apply tailored solutions that mitigate the unique set of polymers, products and packaging, and their potential for leakage.

“We can’t look at plastic in construction the same way we do cosmetics or textiles. A sector framework gives an opportunity to curb the harmful impacts of plastic pollution at the source,” said Dr. Lisa Erdle, Director of Science & Innovation at The 5 Gyres Institute. “We see the effectiveness of specialization in other industries like engineering and medicine; plastic pollution should follow these examples to facilitate and expedite better mitigation strategies. There are a lot of opportunities for upstream innovations across all sectors of society.”

Policies addressing plastic pollution as a single phenomenon respond to the complexity with greater reliance on downstream mitigations, like recycling and cleanup. An abundance of innovative technologies have been deployed to clean up marine debris, but these recovery technologies focus mainly on fishing gear and do very little to address other sectors, like single-use plastics, textiles, or tires.

Different environmental compartments, including the ocean, coastlines, rivers & lakes, and terrestrial environments, are impacted by different sectors. For example, the ocean is dominated by fishing gear and single-use plastics, while terrestrial environments often reveal abundant smoking materials,

single-use plastics, and illegal dumping. Environmental compartments should be monitored, but solutions must be implemented upstream at the industry or activity that is the source of waste.

The sectors outlined in the paper include 1) textiles, 2) tires, 3) hospital and medical, 4) fishing gear, 5) home décor and furnishings, 6) shipping and transportation, 7) hygiene and cosmetics, 8) toys, sports, and recreation, 9) construction, 10) smoking materials, 11) events, travel, and hospitality, 12) agriculture, 13) food service and packaging, 14) electronics, 15) primary microplastics, 16) durable goods, and 17) appliances and machinery. However, the scientists note that there may be more or fewer sectors.

For more information, [read the paper here](#).

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About The 5 Gyres Institute

The 5 Gyres Institute (5 Gyres) is a leader in the global movement against plastic pollution with more than 10 years of expertise in scientific research, engagement, and education. With the original goal of answering a few key scientific questions about ocean plastics, co-founders Marcus Eriksen and Anna Cummins led 19 research expeditions in all five subtropical gyres, as well as many of the world's lakes and rivers. 5 Gyres continues to lead with scientific research to drive upstream solutions through education, advocacy, and community building. Learn more at 5gyres.org and [@5gyres](https://twitter.com/5gyres).