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New Study Finds That Cleanups Do Not Stop Cigarette Butt Pollution

Research shows litter returns quickly, pointing to the need for prevention rather than repeated cleanups

San Diego, CA — March 25, 2026 — A new study from San Diego State University's Center for Tobacco and the Environment finds that cigarette butt cleanups do not lead to lasting reductions in cigarette butt pollution. Published in *ACS ES&T Water*, the study shows that cigarette butts accumulate on sidewalks and streets and quickly return after they are removed. This indicates that cleanup-only methods are ineffective unless carried out with unrealistic frequency.

Cigarette butts are the most littered items in the world and are a major source of environmental microplastic and chemical pollution. Although cities and volunteer groups often organize cleanup efforts to remove visible litter, the findings suggest that these efforts alone are not enough to prevent cigarette butt pollution from returning.

Researchers examined areas around 29 storm drains in San Diego's Pacific Beach neighborhood, where urban runoff flows into the Kendall Frost Reserve at the north end of Mission Bay. They found that about 80 cigarette butts accumulated each day across the study sites, totaling roughly 29,000 cigarette butts annually. Even after multiple complete removals, cigarette butt litter quickly reaccumulated. Within two weeks, the number of cigarette butts had rebounded to about half of previous levels. To keep discarded cigarette butts down to just 10% of prior levels, complete cleanups would need to happen every other day — a pace beyond what cities and volunteer groups can realistically maintain.

"Cleanup efforts may make an area look better temporarily, but they do not solve the underlying problem," said Georg Matt. "As long as cigarettes include a cellulose acetate filter, and the butts with these filters continue to be discarded at current rates, they will keep building up in the same locations. There, they can continue to release microplastics and toxic chemicals that may be carried into bays, rivers, and coastal waters."

The authors conclude that meaningful reductions in tobacco product waste will require prevention-focused strategies that target the source of litter. These strategies include educating the public about the environmental damage caused by cigarette butts, expanding smokefree outdoor areas, and banning cigarette filters.

The findings add to growing evidence that lasting progress on cigarette butt pollution will require a shift from repeated cleanups to upstream prevention.

Article

"Why Cleanups Do Not Work: Accumulation and Reaccumulation of Cigarette Butts on Runoff-Contributing Surfaces near Storm Water Inlets" *ACS ES&T Water*

<https://pubs.acs.org/doi/10.1021/acsestwater.5c01109>

About the Center for Tobacco and the Environment

The Center for Tobacco and the Environment at San Diego State University conducts research on the impacts of commercial tobacco products in indoor and outdoor environments.

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