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NEW STUDY REVEALS STUNNING SCALE OF TOBACCO WASTE IN SAN DIEGO COUNTY

SAN DIEGO, CA — JANUARY 8, 2025— San Diego State University (SDSU) researchers released a new study that shows the magnitude of tobacco product waste on the streets of San Diego County – and the results are disturbing.
Read the study in PLOS ONE journal

The researchers' key finding is that there are around 9 million items of tobacco product waste in public spaces of San Diego County's eight largest cities at any given moment. The overwhelming majority of this waste, about 8.5 million items, is cigarette butts. If 8.5 million cigarette butts were lined up end-to-end, they would reach from the United States – Mexico border in San Ysidro, California, to downtown Los Angeles. The researchers estimate over 200 million cigarette butts are discarded in the eight largest cities over the course of a year.

"Tobacco product waste is not only a public nuisance but an environmental and public health threat," said Dr. Georg Matt, the principal investigator of the project. "This new study demonstrates the scale of the environmental disaster lurking in San Diego County and beyond because of cigarette filters."

For round one of the study, the Tobacco Product Waste Reduction Project at San Diego State University's Center for Tobacco and the Environment collected almost 30,000 pieces of tobacco-related waste items, such as cigarette butts and vape cartridges, in just 60 census blocks across San Diego County. In a second round of collection on these same blocks, they collected another 29,000 pieces. Approximately 90% re-accumulated within two months. These census blocks were in the eight largest cities in the county: Carlsbad, Chula Vista, El Cajon, Escondido, Oceanside, San Diego, San Marcos, and Vista.

"Contrary to popular belief, cigarette butts are not biodegradable," explains Lydia Greiner, DrPH, an investigator on the project. The filter attached to 99% of all cigarettes sold in the U.S. is made of a plastic called cellulose acetate, which breaks down into microplastics. The microplastics contaminate the environment and may enter the human food chain. Chemicals in the filters, including nicotine from tobacco smoke, get into aquatic environments, such as surface water, landfill leachates, sewers, and wastewater treatment plants.

"There are huge quantities of cigarette butts discarded in our neighborhoods every day, creating mountains of microplastics," said Georg Matt, PhD.

“Unlike many other forms of environmental pollution, we know exactly where these contaminants come from: tobacco products. Our ultimate goal is to figure out how to get tobacco product waste completely out of our neighborhoods, shopping malls, parks, and beaches to eliminate the harm they cause,” he added.

“Tobacco product waste is a problem that community members notice,” said Kris Tran, who coordinated data collection for the project. “It bothers them.” Tran said that when neighborhood residents talked with project researchers during collection events, they supported the project and suggested nearby spots where many cigarette butts were often found.

The researchers found that census blocks with more residents who smoked, more male residents, more walkable areas, and areas with a mix of residential and nonresidential land use had higher cigarette butt counts and greater re-accumulation.

“This study highlights the environmental consequences of smoking and the need to find effective upstream remedies for the problem of tobacco product waste,” emphasized SDSU Professor Emeritus Thomas Novotny, the co-investigator on the project. **“While organized clean-ups bring awareness to the waste problem, this study shows that cleanups are not a lasting solution.”**

Tobacco product waste re-accumulates rapidly and repeatedly, so effective efforts to reduce the source of the waste are needed. Such efforts might include educating the public that cigarette filters are made of plastic, recognizing and regulating cigarette filters as single-use plastic items, broadening outdoor smoking restrictions, and reducing tobacco distributor densities. Another effort could be banning the sale of single-use plastic tobacco products, including filtered cigarettes, plastic-tipped cigars, single-use vapes, and disposable smokeless tobacco pouches. Santa Cruz County has recently taken the first step in this direction with a ban on the sales of filtered cigarettes. Addressing tobacco product waste through such policies will benefit both public health and the environment.

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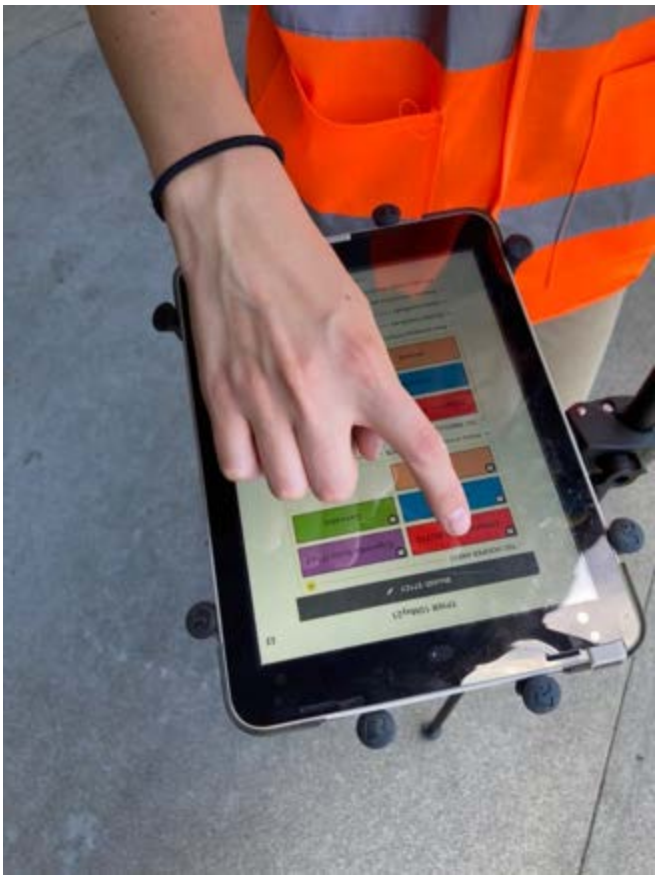
The researcher and community members found 60,000 tobacco product waste items over two collections in 60 census blocks.


Cigarette butts create microplastics and release toxic chemicals in the environment.

While the majority of the waste was cigarette butts, the researchers also found vapes, like the one Marrion-Yna Macandog, an assistant project manager, found here.



The researchers recorded what type of tobacco product waste they found on iPads.

Rebeca Jimenez, a research specialist on the project, shows the amount of tobacco product waste she found on this day of the collection.