Cigarette Butts: The Environmental Case

The Cigarette Butt Pollution Project

Thomas E. Novotny, MD MPH
Professor of Epidemiology
Key Take-aways

• Cigarette butts are ubiquitous, environmentally harmful, toxic and hazardous waste
• Stronger partnerships between environmental and tobacco control groups are important
• Expanded thinking needed:
  – Raise consciousness about hazard of butt waste
  – Ban smoking in diverse public places
  – Ban sale of filtered cigarettes?
  – Hold tobacco industry accountable – Expanded Producer Responsibility (EPR)
  – Waste/cleanup recovery, fines, take backs, and policy other interventions.
Cigarette Butt Pollution Project: www.cigwaste.org

- **Research**
  - Economic, Social Studies
  - Toxicity studies
  - Industry Response

- **Policy advocacy**
  - Strengthen environmental regulation and enforcement
  - Ban smoking in all public parks and beaches
  - Litter abatement fee
  - Ban on sale of filtered cigarettes

- **Partnering**
  - American Legacy Foundation,
  - California Tobacco Control Program,
  - Friends of the Earth, Surfrider Foundation, other national and local environmental groups
Butts and the Environment

- Smoking-related waste is over 30% of all debris items collected nationally from beaches, rivers and streams on annual cleanup days
- 5.5 trillion cigarettes are consumed globally every year;
- Of these, 4.95 trillion are filtered, deposited into the global environment
- Number one item collected at International Coastal Cleanups over the past 26 years
Possible Effects of Cigarette Butt Waste

• Environmental toxicity
  – Leachates
  – Sediment contamination
  – Bottom feeding fish, sea birds, turtles, pets, and other animals may consume
  – Toxic to important micro-organisms in food chain

• Urban/outdoor environment degradation

• Cleanup costs to communities (externality)
Toxicity of Cigarette Butt Leachates

- Toxic metals: arsenic, beryllium, lead, chromium, cadmium;
- >50 cancer-causing chemicals: Polynuclear aromatic hydrocarbons, N-Nitrosamines, Aromatic amines, Aldehydes, benzene, vinyl CL, and inorganic compounds (polonium-210);
- Nicotine: a plant pesticide
The Problem with Filters

- Cigarette filters are cellulose acetate, a plastic slow to degrade in the environment.
- Cigarette filters are specifically designed to accumulate particulate smoke components including toxic chemicals
- There are a lot of them!

Photo copyrighted by Chris Register
Other Problems with Filters

• They are not a health device but are rather a *marketing tool*
• They make it *easier* for kids to start and *discourage* quitting
• They permit *deeper inhalation* of smoke (possible shift in cancer type)
• They may be ‘*defective,*’ allowing ‘*fallout*’ of plastic particles that lodge in smokers’ airways

‘Micronite’ (asbestos) filter
The Fish Toxicity, SDSU 2009

Topsmelt - Marine

Fathead Minnow - Freshwater
Smoked Cigarette Butts With Tobacco

Fig. 1 The percent survival of Pacific topsmelt (A. affinis) and fathead minnow (P. promelas) in the bioassay of leachate from smoked cigarette butts (with 1-2cm of remnant tobacco). The mean LC50 was 1.1 cigarette butts/L for both species. Error bars represent one standard error of the mean.
The Costs of Tobacco Product Litter Cleanup: Costs and Abatement Fees in San Francisco

John E. Schneider, PhD
Oxford Outcomes, Inc.
San Francisco Litter Abatement Ordinance
Maximum Permissible Fee/pack sold

Calculation of Per-Pack Maximum Permissible Fee

<table>
<thead>
<tr>
<th>Measure</th>
<th>Estimate</th>
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<tbody>
<tr>
<td>Cigarette Packs Purchased in SF (2008)</td>
<td>30,611,026</td>
</tr>
<tr>
<td>Total Litter Mitigation Costs (2009)^a</td>
<td>$7,487,916</td>
</tr>
<tr>
<td>Total Litter Mitigation Costs Adjusted for In-migration (2009)^b</td>
<td>$6,649,270</td>
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<tr>
<td>Total Litter Mitigation Costs per Pack (2009)</td>
<td>$0.22</td>
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</tbody>
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Sources and Notes: (a) from Table 2 Column [4]; (b) assumes commuter and tourist visitors to San Francisco purchase 50% of their cigarettes outside of San Francisco, resulting in an 11.2% reduction in mitigation costs associated with TPL purchased within the boundaries of the City.
The Tobacco Industry’s Main Response

- Educate smokers (‘accommodation’)
- Pocket ashtrays
- Provide outdoor butt receptacles
- Sponsor anti-litter campaigns (29 env. groups funded by Altria)

For ‘...adults over 21 who have been brainwashed with environmental propaganda’

-from “The Future of RJR Litter Initiatives” in 1996 (ard97c00)
“Keep America Beautiful, Inc. acknowledges the important contributions of *Philip Morris USA*, a longtime supporter and sponsor of our organization.”
Possible Interventions

• More in-depth research on toxicity, social and economic impacts, policy options
• Toxic hazardous waste labeling?
• Deposit/return scheme (‘bottle bill’)?
• Waste fee added to local cost of cigarettes
• Enforcement of existing litter legislation
• Extended producer responsibility - EPR
• Ban sale of filtered cigarettes?
• Litigation?
A special, 48-page supplement: “The Environmental Burden of Cigarette Butts,” published in April 2011

Brings together scientific, economic, environmental burden, policy, and regulatory issues as basis for future research, initiatives, and action

Free download at: www.legacyforhealth.org/buttreally
‘The End’

www.Cigwaste.org