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Litter things cost a lot

by Pat Franklin

Deposit laws are effective at reducing beverage container litter, and they recover beverage cans and bottles at a higher rate than all other recycling programs combined.

Cigarette butts, polystyrene cups, beer bottles and soda cans are among the items that litter the nation's roadways and denigrate the natural beauty of its beaches, parks and waterways. One approach to the problem is to clean up litter after the fact; another is to prevent litter from happening in the first place.

The first step is to look at the composition of the litter stream and the related costs to recover those materials, and then compare the effectiveness of various approaches to litter reduction. Steve Stein recently performed such an analysis in an article titled "Sweating the litter things" (*Resource Recycling*, May 2005). The article summarized the results of a study by Gershman, Brickner and Bratton (Fairfax, Virginia) conducted for New Jersey's Clean Communities Council (Trenton) and contained numerous pieces of information and misinformation that need to be addressed.

Studying the litter things

Hundreds of litter surveys conducted over the past 35 years have measured the composition of the litter stream and compared litter abatement programs. Government agencies, citizen groups and non-profit organizations that fund and conduct litter surveys generally do not have a hidden agenda of promoting container deposit legislation for its own sake. Surveys and studies funded by the beverage and/or retail industries, on the other hand, are designed to triv-

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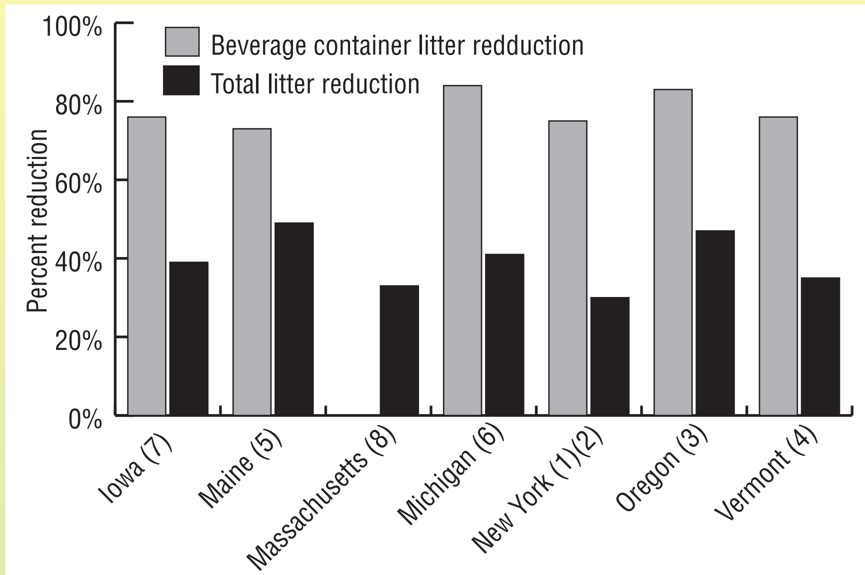
ialize the effectiveness of deposit laws as litter reduction measures and de-emphasize the problem of beverage container litter. Litter taxes are the industry's counterproposal to adopting new deposit laws and expanding existing laws.

Before-and-after litter surveys are a good indication of how effective deposit laws are as litter reduction measures. Stein stated that "before-and-after surveys conducted in Michigan, California, New York and Pennsylvania indicate that such a system does not appear to have a significant effect on reducing non-container litter." The fact that deposit laws do not significantly affect non-container litter should be obvious, since they were not designed to target anything but beverage containers. However, because beverage containers represent a significant portion of the litter stream, these laws do reduce overall litter substantially, according to numerous state-funded studies.

A government-funded study found that New York's deposit law reduced beverage-container litter by 70 to 80 percent, and total litter by 30 percent (*Final Report of the Temporary State Commission on Returnable Beverage Containers*, 1985). The Michigan Department of Transportation (Lansing) found that the deposit law reduced beverage-container litter by 84 percent and total litter by 41 percent (*Michigan Roadside Litter Composition Study: Final Report*, 1979).

The California study Stein refers to shows that beverage containers made up only 2.6 percent of total litter in California -- the lowest of any of the 14 states he lists in Tables 1 and 2. He failed to note, however, that in 1993, when the study was conducted, the deposit, or CRV as it is called in California, was only 2.5 cents per single-serve container: lower than any other deposit state. In January 2004, the CRV was increased to four cents, and beverage container recycling rates have increased dramatically. It will be interesting to see how the increase has affected beverage container litter.

Figure 1 **Litter reduction after implementation of bottle bill legislation, in percents**



*Each state study was completed within varying periods after the implementation of the state's bottle bill, by different groups and with slightly different methodologies. However, the percent reduction of the states where studies were completed fall within a range that varies by only 14 percentage points.

1. Final Report of the Temporary State Commission on Returnable Beverage Containers, March 27, 1985, pg. 62.
2. Projection from Center for Management Analysis, School of Business and Public Administration of Long Island University. New York State Returnable Container Act: A Preliminary Study (1984).
3. Oregon Department of Environmental Quality, Oregon's Bottle Bill: The 1982 Report, pg. 26.
4. U.S. General Accounting Office. Report by the Comptroller General of the United States, Potential Effects of a National Mandatory Deposit on Beverage Containers, December 7, 1977, pg. 54.
5. U.S. General Acounting Office. Report by the Comptroller General of the United States, State's Experience with Beverage Container Deposit Laws Shows Positive Benefits, December 11, 1980, pg. 9.
6. Michigan Department of Transportation, Maintenance Division. Michigan Roadside Litter Composition Survey, Final Report, December 1979.
7. Iowa Department of Transportaion, Highway Division. Litter Survey, April 1980.
8. Environmental Action Foundation. Bottle Bills in the 1980's: A Handbook for Effective Citizen Action, August 1987.

Source: Container Recycling Institute, 2005.

Beyond the litter things

Beverage-container deposit laws are not only effective in reducing beverage-container litter, they recover beverage cans and bottles for recycling at a higher rate than all other recycling programs combined. According to a 2002 study by Businesses and Environmentalists Allied for Recycling (BEAR) for their Multi-Stakeholder Recovery Project, *Understanding Beverage Container Recycling: A Value Chain Assessment*, states with container deposit laws recycled an average of 490 beverage containers per capita in 1999, while non-deposit states recycled an average of 191 per capita.

The study further found that the 10 deposit states with 28 percent of the U.S. population recycled 38.2 billion beverage containers (49 percent of the U.S. total) and the 40 non-deposit states with 72 percent of the population recycled 40 billion (51 percent of the total.) Finally, the study revealed that the system costs to recycle beverage containers through a deposit system averaged 1.53 cents per container, not the 2.5 cents as Stein stated, while the costs for recovering beverage containers in non-deposit states averaged approximately 1.25 cents per container.

In one of the most flawed sections of his article, Stein states that using a deposit system to prevent beverage-container litter costs $4.24 per container. He bases this statement on a number of problematic assumptions. First, he assumes only 0.6 percent of beverage containers sold end up as litter, but offers no documentation of that assumption. Second, he assumes that the cost of a bottle bill is 2.5 cents per unit, a full cent higher than calculated in the BEAR-MSRP study. Third, his cost analysis assumes that the only benefit of deposit laws is litter reduction, completely discounting the avoided public and private costs, and the recycling benefits. Finally, Stein allocates the already over-inflated total costs of a container deposit system to the relatively small number of containers (0.6 percent) that end up in the litter stream.

A closer look at the study on which Stein's article is based, *A New Jersey Litter Survey: 2004*, reveals that the litter prevention and cleanup programs funded by litter taxes are merely temporary stopgaps and are ineffective at reducing litter generation. According to the survey, litter in New Jersey is 35-percent higher than in other states, and urban street litter is 41-percent higher than the national average. Despite the fact

Litter tax versus deposit laws

New Jersey Litter Tax
The state levies a tax on 15 categories of litter-generating products sold in New Jersey. The tax, which is paid by manufacturers, wholesalers, distributors and retails of these products, requires a government bureaucracy. The revenue from the tax funds litter clean-ups and municipal recycling programs.

There are no reported recycling rates for beverage containers in New Jersey, but the state Department of Environmental Protection (Trenton) reports the following recycling rates in 2001:

Plastic containers	20.6 percent
Glass containers	53.2 percent
Aluminum cans	49.5 percent

Despite millions of dollars spent on litter clean-ups, overall litter in New Jersey is close to the national average and urban street litter is 41 percent higher than the national average.

Litter clean-ups are a lot like mopping the floor while the toilet is overflowing.

New York Deposit Law
Consumers pay a five-cent deposit on beer, wine coolers and carbonated beverage containers sold in New York. When the empty container is returned to stores or redemption centers, the deposit is refunded. The beverage industry runs the program with no need for government bureaucracy. The bottle bill is a prime example of producer responsibility.

Today, 70 percent of the deposit containers sold are returned for the refund and recycled. The Container Recycling Institute (Arlington, Virginia) estimates that another 10 percent are recycled through curbside programs. Landfill space is saved, reducing costs for local governments and conserving energy and natural resources

The deposit law reduced beverage container litter in New York by 70 to 80 percent. The refundable deposit provides a financial disincentive to litter. If the consumer chooses to toss the can or bottle, someone else may pick it up and redeem the deposit.

that the New Jersey litter tax has failed miserably, the food and beverage industries hold it up as a more successful recycling and litter control model than deposit laws. They are sending consultants and lobbyists around the country to testify before legislative committees in favor of repealing existing bottle bills and replacing them with New Jersey-style litter taxes.

States that rely on small refundable deposits get consistently high recycling rates and substantial reductions in beverage container litter – all at no cost to taxpayers. They don't have to sweat the litter things. **RR**

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