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Buried in Bottles

A Survey of Beverage Containers in New York's Litter

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Summary
The New York Public Interest Research Group conducted litter surveys at twenty sites across New York State in October and November 2007. Cleanups were held at a variety of locations, including beaches (5), college campuses (2), urban neighborhoods (6), parks (4), riverfronts (2), and along a highway (1). Results showed that litter from non-carbonated beverage containers (bottled water, juice, sports drinks, etc.), which are not currently included in the state's nickel deposit system (commonly known as the Bottle Bill), far outnumbered litter from beverage containers currently covered under the state's Bottle Bill (soda, beer, sparkling water, malt beverages, and wine coolers). Even though non-carbonated beverages make up less than 30% of the U.S. beverage market,[1] containers from these products accounted for 61% of the beverage container litter, and 21% of the total litter volume. Expanding the state's Bottle Bill to include non-carbonated beverages would significantly reduce the number of bottles and cans that end up as litter in our neighborhoods, on our beaches, in our parks, and along our waterways and highways.

Background / Introduction

Passed in 1982, the New York State Returnable Container Act, commonly known as the Bottle Bill, has been highly effective at capturing carbonated beverage containers. The Bottle Bill places a 5-cent deposit on carbonated beverage containers, which is fully refundable to consumers who return their bottles and cans to their local store or redemption center. Between 1983, when the Bottle Bill went in effect, and 2005, the most recent year for which New York has reported statistics, the Bottle Bill achieved an average redemption rate of 73.6%, with additional containers being captured by curbside programs.[2] Curbside programs are best at capturing recyclables such as soup cans and other products that are typically consumed within the home, but beverage containers pose a different challenge. The deposit system is the most effective way to capture beverage containers because they are typically consumed "on the go" and disposed of away from home. According to a 2002 report, the 10 states with deposit systems recovered beverage containers at 2.5 times the rate of states without deposits.[3] The authors of the original Bottle Bill had no way of knowing that 25 years later, bottled water and other non-carbonated drinks would see such a rise in popularity. According to the New York State Department of Environmental Conservation, bottled water sales have risen more than ten-fold in the last decade alone.[4] At the current rate of growth, the Container Recycling Institute projects that sales of non-carbonated beverages will surpass soda sales by 2010.[5]

Survey Method

Students and community volunteers conducted a total of 20 litter cleanups in a variety of locations across the state, including beaches (5), college campuses (2), urban neighborhoods (6), parks (4), riverfronts (2), and along a highway (1). Survey participants used uniform-sized garbage bags and separated beverage container litter from other garbage. They then counted the total number of bags (estimated to the nearest ¼ bag) of garbage collected and the number of bags containing only beverage container litter. Litter volume was calculated based on the size of garbage bags used in each cleanup. Participants then separated deposit from non-deposit containers and conducted a physical count of containers in each category. Results were compiled and calculated by location type, using litter volume estimates and beverage container counts.

Results

Beverage containers accounted for a substantial portion (35% by volume) of the total litter recovered. Additionally, the majority of beverage container litter collected (61%) consisted of non-deposit bottles and cans, which alone accounted for 21% of the total litter volume.

Table 1- Summary of Results

Location Type	Number of Cleanups	Litter Volume (gal)	Beverage Litter Volume (gal)	Beverage % of Total Litter Volume	Deposit Containers		Non-Deposit Containers	
					% of Beverage Litter	% of Total Litter	% of Beverage Litter	% of Total Litter
Beach	5	3923	1220	31%	49%	15%	51%	16%
College Campus	2	315	99	31%	19%	6%	81%	25%
Neighborhood	6	1132	359	32%	36%	12%	64%	20%
Park	4	2816	1264	45%	28%	12%	72%	33%
Riverfront	2	825	206	25%	51%	13%	49%	12%
Roadside	1	169	52	31%	46%	14%	54%	17%
Total	**20**	**9180**	**3200**	**35%**	**39%**	**14%**	**61%**	**21%**

Discussion

Our finding that non-deposit containers made up 61% of the beverage containers in litter collected is consistent with previous litter surveys conducted in New York State. Scenic Hudson conducted 176 cleanups and found that 61% of the beverage containers were non-deposit.[6] The American Littoral Society found that 62% of the beverage containers across their 67 cleanups were non-deposit.[7] It is interesting to note that the previous studies were specific to waterfronts, while our study addressed a variety of locations. We found that beverage container litter made up 35% of the total litter volume, and was most prevalent in the park sites we surveyed, where they made up 45% of the total litter volume.

The undeniable finding of this survey is that non-deposit container litter made up a substantial portion of both beverage container litter and total litter volume collected during our 20 cleanup events. This is especially troubling when we consider the fact that these containers account for less than 30% of the beverage market.[8] Beverage containers without deposits often end up as litter in our neighborhoods, on our beaches, in our parks, and along our waterways and highways. In contrast, containers with refundable deposits were found in litter at a substantially lower rate. The deposit is an effective litter reduction measure.

Recommendation

In the last 25 years consumer habits have changed, and we must adapt our laws to reflect these changes. These trends will likely become more prevalent with every passing year that New York State fails to modernize its beverage container deposit system. If the trends we found hold true across the entire litter stream, then an updated Bottle Bill would target an additional 21% of New York's Litter. In order to reduce beverage container litter in our communities, the New York State Legislature should update New York's Bottle Bill to include non-carbonated beverages.

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[1] Water, Water Everywhere: The growth of non-carbonated beverages in the United States. Gitlitz, J., Franklin, P. Container Recycling Institute (February 2007).
[2] Beverage Container Deposit and Redemption Statistics (for 10/1/04-9/30/05). New York State Department of Environmental Conservation.
[3] Understanding Beverage Container Recycling: A Value Chain Assessment prepared for the Multi-Stakeholder Recovery Project. R.W. Beck (2002).
[4] Too Many Bottles - It's a Waste. Educational Flyer, New York State Department of Environmental Conservation. Retrieved February 5, 2008 from http://www.dec.ny.gov/docs/materials_minerals_pdf/waterbottles.pdf.
[5] Container Recycling Institute, *supra* note 1.
[6] The Great River Sweep: Scenic Hudson's Great River Sweep 2002 Litter Survey & Environmental Benefit Project Report. Bicking, A., Weissman, E., Scenic Hudson, Inc. (June 2002).
[7] New York State Beach Cleanups Document Beverage Containers. Toborg, B., American Littoral Society (2002).
[8] Container Recycling Institute, *supra* note 1.

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