Final Report
Rev. 02

2008 ABA Community Survey

American Beverage Association

September 2009

R·W·BECK

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R. W. BECK
2008 ABA COMMUNITY SURVEY

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EXECUTIVE SUMMARY

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The United States Environmental Protection Agency (EPA) defines recyclables as "materials that still have useful physical or chemical properties after serving their original purpose and that can, therefore, be reused or remanufactured into new products."[1] Across the United States, recycling programs are generally established and overseen on the community level by county or municipal agencies. These community recycling programs serve many purposes – they create jobs, save resources, prevent pollution, avoid landfills, and can be a way for communities to save or make money.

Consumer packaging, including bottles, cans, and paper packages, are among the most recycled materials in the U.S. The American Beverage Association (ABA) and its members are diligent to ensure their products are packaged with materials that are designed to be recycled and are widely accepted in community recycling programs.

Regarding packaging and recycling claims, in 1992, the Federal Trade Commission (FTC) issued Guides for the Use of Environmental Marketing Claims (the Guides) with updates being issued in 1996 and 1998[2]. The Guides set down general principles that should be followed by manufacturers when making any claim about the environmental attributes of a product, package or service.

The Guides are important to ABA and its members, whose products and packaging may include markings that would be governed under the Guides.

According to the Guides, some environmental marketing claims must be substantiated and "such substantiation will often require competent and reliable scientific evidence, defined as tests, analyses, research, studies or other evidence based on the expertise of professionals in the relevant area, conducted and evaluated in an objective manner by persons qualified to do so, using procedures generally accepted in the profession to yield accurate and reliable results."[3]

This report details results from a nation-wide survey of community recycling programs, one of the largest of its kind, and provides information regarding the prevalence of recycling services for products and packaging (i.e., container materials). Though much of the information obtained deals with container materials, details of the responses for each survey question may be found in Appendix C. The information

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[1] Waste Wi$e Tip Sheet, Recycling Collection, EPA530-F-94-004. United States Environmental Protection Agency; January 1994.

[2] The FTC announced on November 26, 2007 that it would begin a new review of the Guides for the Use of Environmental Marketing Claims, beginning with a workshop to examine the emerging market for carbon offsets and renewable energy claims, and related advertising claims.

[3] Environmental Marketing Guides, 16 CFR Part 260. (§ 260.5). Interpretation and substantiation of environmental marketing claims.

herein may be used, not only as a guide for making appropriate claims regarding recycling access, but also to provide background into recycling program availability and gaps, to provide insight to the nation's community recycling system as a whole, and, if used effectively, may help increase community or consumer interest through education.

Results Summary

Notable results of the 2008 ABA Community Survey are highlighted in the bullets, tables, and graphics that follow.

High Level of Recycling Programs: Whether measured by the percentage of population or by the number of communities with access, the 2008 Survey suggests there is a high level of curbside and drop-off recycling available. Table ES-1 summarizes the estimated total population and number of communities in the U.S. with access to recycling via curbside programs, drop-off programs, and in total.

Table ES-1
2008 Recycling Program Summary

	Population with Access		Communities with Access	
	Population (Millions)	Percent of U.S. Total	Number of Communities	Percent of U.S. Total
Curbside Recycling Programs*	228.8	74%	12,842	38%
Drop-off Recycling Programs	256.0	83%	20,165	59%
Total Recycling Programs**	285.9	92%	23,374	69%

* Includes subscription programs

** Note that the total population with access is NOT equal to the sum of curbside and drop-off population with access, due to the fact that many communities have access to both a curbside and a drop-off program.

The most common beverage container types are also the most recyclable:

According to ABA, aluminum, PET, clear glass, HDPE, and steel account for about 95 percent of its members' containers[4]. As illustrated in Figure ES-1, between 81 percent and 90 percent of the population have access to recycling programs for these five materials types.

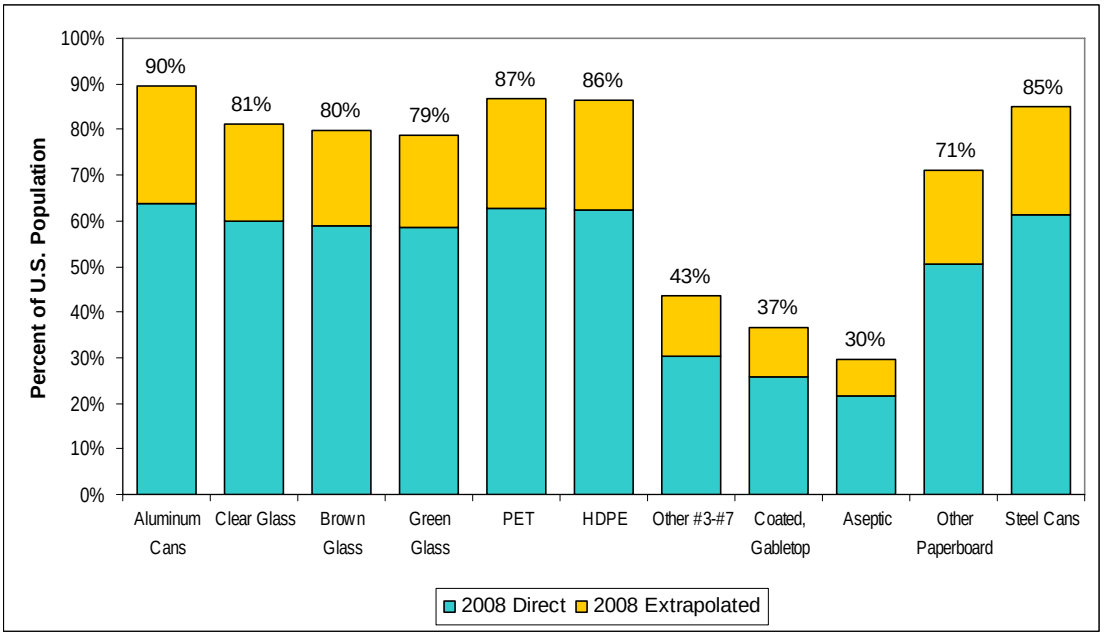
Figure ES-1 also shows the percentage of population with access to recycling for other container materials. "Direct" results represent large, county-level respondents and the "Extrapolated" results represent the estimate for the remaining portion of the nation's population developed from county-level responses and the random sampling of small communities.

Results show that recycling of other paperboard containers, which includes "fridge pack" and six-pack cartons, may be available to 71 percent of the population. Less

[4] ABA's determination is based on data compiled by Beverage Marketing Corporation in its annual series entitled "Beverage Packaging in the US."

than half of the U.S. population has access to programs that include #3-#7 plastic containers; coated paperboard, gable-top containers; and aseptic containers.

Figure ES-1
Percentage of Population with Access to Container Materials Collection



Fifty-nine percent of the population served by curbside recycling has single-stream collection service available: Single-stream collection is more common in the more populated areas, while dual stream is still more common in the smaller communities. So-called single-stream recycling – where all fiber grades and all recyclable containers are "commingled" together in one compartment on the recycling collection vehicle – exceeds dual-stream (or separate) collection for the majority of the population. However, dual-stream collection is still more widely used in smaller communities. Of those served by single-stream programs, about one in six have programs in which glass is segregated from the commingled stream or is not collected at all. Table ES-2 shows the responses provided for collection methods for the large county-level direct responses and the randomly selected community-level direct responses. Extrapolating the sample responses, we see that about 41 percent of people with curbside service have dual-stream collection, approximately 51 percent have single-stream collection including glass, and the remaining 9 percent have single-stream collection excluding glass.

Table ES-2
Recycling Collection Techniques - Population (in Millions in Response)

Collection Technique	County-level Responses	% of County-level Responses	% of County-level Responses w/ Known Answer*	Community-level Responses	% of Community-level Responses	% of Community-level Responses w/ Known Answer**
Separate	61.0	28%	40%	0.10	17%	54%
Commingled, Including Glass	81.2	38%	53%	0.03	6%	19%
Commingled, Excluding Glass	10.6	5%	7%	0.05	8%	26%
Unknown	5.9	3%		0.02	4%	
No Answer Given	56.0	26%		0.37	65%	
Total in Response to Survey	214.7	100%		0.57	100%	

* The population covered in county-level responses with known answers is 49.4% of the U.S. population.
** The population covered in community-level responses with known answers is 0.1% of the U.S. population.

Survey Background

According to Environmental Systems Research Institute, Inc. (ESRI) data for 2008, the United States contains 3,141 counties, containing a population of 309.3 million people and 33,962 communities. To estimate the extent of container materials recycling in the U.S., this study relied on the following data gathering strategies:

- **Direct Survey of Large Counties**: Because recycling is generally more prevalent in populous areas, the survey targeted county-level recycling coordinators from over 1,200 of the most populous counties in the nation. The county-level coordinators were asked to provide container materials recycling information for the 20,157 communities in their counties. Responses to the direct survey were received from 67 percent of these communities representing 77 percent of the total population of the U.S.
- **Representative Sample of Small Communities**: Of the remaining 13,800 or so communities (covering 10 percent of the U.S. population) not captured in the direct survey, a random sample of communities were targeted and responses used to extrapolate nationwide totals for the number of communities with access to container materials recycling.

Throughout the main body of this report, survey results have been reported using the percentage of population as a basis for measurement. Population is easily understood and can be readily compared against other studies that are relevant or comparable to this one. In Appendix D, results are reported based on the number of communities as defined by the U.S. Census Bureau. The results by population are most useful for trend analysis and comparison with other data sources.

Section 1
INTRODUCTION

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The United States Environmental Protection Agency (EPA) defines recyclables as "materials that still have useful physical or chemical properties after serving their original purpose and that can, therefore, be reused or remanufactured into new products."[5] Across the United States, recycling programs are generally established and overseen on the community level by county or municipal agencies. These community recycling programs serve many purposes – they create jobs, save resources, prevent pollution, avoid landfills, and can be a way for communities to save or make money.

Consumer packaging, including bottles, cans, and paper packages, are among the most recycled materials in the U.S. The American Beverage Association (ABA) and its members are diligent to ensure their products are packaged with materials that are designed to be recycled and are widely accepted in community recycling programs.

Regarding packaging and recycling claims, in 1992, the Federal Trade Commission (FTC) issued Guides for the Use of Environmental Marketing Claims (the Guides) with updates being issued in 1996 and 1998[6]. The Guides set down general principles that should be followed by manufacturers when making any claim about the environmental attributes of a product, package or service.

The Guides are important to the ABA and its members, whose products and packaging may include markings that would be governed under the Guides.

According to the Guides, some environmental marketing claims must be substantiated and "such substantiation will often require competent and reliable scientific evidence, defined as tests, analyses, research, studies or other evidence based on the expertise of professionals in the relevant area, conducted and evaluated in an objective manner by persons qualified to do so, using procedures generally accepted in the profession to yield accurate and reliable results."[7]

This report details results from a nation-wide survey of community recycling programs, one of the largest of its kind, and provides information regarding the prevalence of recycling services for products and packaging (i.e., container materials).

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[5] Waste Wi$e Tip Sheet, Recycling Collection, EPA530-F-94-004. United States Environmental Protection Agency; January 1994.

[6] The FTC announced on November 26, 2007 that it would begin a new review of the Guides for the Use of Environmental Marketing Claims, beginning with a workshop to examine the emerging market for carbon offsets and renewable energy claims, and related advertising claims.

[7] Environmental Marketing Guides, 16 CFR Part 260. (§ 260.5). Interpretation and substantiation of environmental marketing claims.

Though much of the information obtained deals with container materials, details of the responses for each survey question may be found in Appendix C. The information herein may be used, not only as a guide for making appropriate claims regarding recycling access, but also to provide background into recycling program availability and gaps, to provide insight to the nation's community recycling system as a whole, and, if used effectively, may help increase community or consumer interest through education.

The report is organized in the following sections:

- **Section 1** provides a brief summary of the survey methodology; and
- **Section 2** presents general 2008 Survey results, using the population with access to container materials recycling as a basis for measurement.

To assist the reader in understanding the results of the 2008 Survey, the remainder of this section (Section 1) summarizes the survey methodology. A complete, detailed discussion of the survey methodology is presented in Appendix A.

1.1 Definition of "Community Recycling Program"

Before conducting a community recycling survey, it is important to clearly define what is meant by "community recycling program." The criteria established for the 2008 survey were:

- Any recycling program operated by a county or city government;
- Any recycling program where private haulers are bound by contract or franchise agreement to provide recycling service;
- Any county or community where the residents receive recycling collection service along with residential solid waste collection at no additional cost; or
- Any county or community where the residents receive recycling collection service through a subscription with a private hauling company.

1.2 Summary of Survey Methodology

According to Environmental Systems Research Institute, Inc. (ESRI) data for 2008, the United States population totaled 309.3 million people. Furthermore, there are a total of 3,141 counties[8], containing a total of 33,962 communities[9] in the U.S. An

[8] The term "county" is used in a general sense, and would include other similar civil divisions such as Boroughs and Census Areas in Alaska, and Parishes in Louisiana. Additionally, some states (especially Virginia) contain Independent Cities, which are independent of any county, and thus have a status similar to that of a county. Each of these civil divisions was considered a county for the purpose of developing the survey contact list.

[9] The term "community" is also used in a general sense, and would include municipalities such as Cities, Towns, Townships, Boroughs, Villages, and the like. For the purpose of this survey, the term "community" can also refer to the unincorporated areas of a county such as Census Designated Places (CDP's) and Unorganized Territories (UT's). See Appendix A for more details on the definition of a community.

objective of the 2008 Survey was to gather information for the greatest number of communities covering the largest population, in a cost-effective manner.

Because it would be prohibitively expensive to survey individual communities directly, county-level recycling and solid waste coordinators were targeted for contact. As demonstrated in other surveys, county-level contacts are generally able to provide information on the community recycling programs that exist in their county. While some level of detail may be lost by relying on county-level contacts, it is possible to obtain data on more communities covering a greater population using this strategy.

To maximize cost-effectiveness, not all counties across the country were included in the survey. Because recycling programs are generally established in more populous areas, the 2008 Survey targeted primarily the most populous counties for inclusion in the survey. Ultimately, the 2008 Survey targeted 279.6 million people (90 percent of U.S. total) and 1,206 counties, containing 20,157 communities (60 percent of all U.S. communities).

See Appendix A for a more detailed description of the counties and communities selected for inclusion in the 2008 Community Survey.

Highlights of the 2008 Survey methodology include:

- **Survey Mail-out**: A mail-out was used to allow respondents to visually review the data provided from the 2008 Survey;
- **Population Centers Targeted**: All of the most populous counties in the U.S. were included in this survey. We included the most populous counties, from most populous to least populous, until the population surveyed was equal to 90 percent of the U.S. population.

Traditionally, materials have been collected in their own compartment on the collection vehicle, with some commingled containers (aluminum, glass, plastic, and steel bottles and jars) being placed in a separate compartment. However, as cost and efficiency concerns continue to drive the industry to re-evaluate and improve collection technologies, some communities have resorted to collecting all materials in the same compartment with commingled containers. The 2008 Survey evaluated the number of communities using this "fully commingled" collection technique (also known as "single-stream" collection), as well as the population in communities considering a switch to fully commingled (single-stream) collection.

The 2008 Survey included a random sample of a statistically representative number of smaller communities (not included under the county-level respondents) for the purpose of estimating the nationwide total number of communities with access to container materials recycling program. By surveying over 400 randomly selected communities from the areas of the country not targeted in the direct survey, U.S. totals are estimated for the population collecting container materials.

Appendix A also summarizes the methodology for conducting the survey of randomly selected communities.

As shown in Table 1-1, information was collected on eleven separate container material categories in the 2008 Survey.

Table 1-1
Container Materials Included in 2008 Survey

Aluminum Cans	Any other recyclable plastic bottles - #3 - #7
Clear Glass	Coated Paperboard, Gabletop Cartons[1]
Brown Glass	Aseptic Containers
Green Glass	Other Paperboard[2]
PET - #1 Plastic Bottles	Steel Cans
HDPE - #2 Plastic Bottles	

1 Includes polycoated milk and juice cartons
2 "Other Paperboard" category includes fridge pack cardboard boxes & six pack containers

The remaining sections of this report summarize the results of the 2008 Survey.

Section 2
RESULTS BASED ON POPULATION

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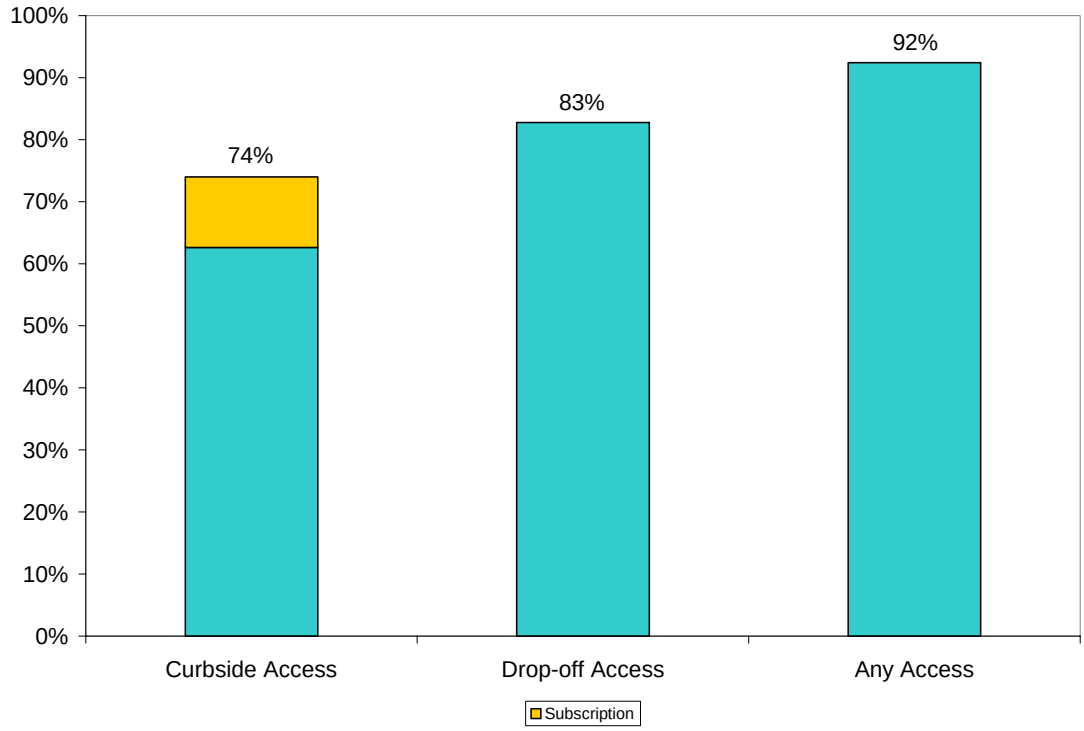
RESULTS BASED ON POPULATION

2.1 Access to Recycling

In the 2008 Survey, nationwide totals were calculated from a combination of direct surveying and statistical sampling. Figure 2-1 summarizes the percentage of the U.S. population with curbside and drop-off access to recycling. Table 2-1 shows some of the same data in tabular form, providing more detail on the types of recycling programs, both by population served and by the number of communities with programs of various types.

Figure 2-1
Percentage of Population with Access to Overall Recycling



* Note that the total population with any access is NOT equal to the sum of curbside and drop-off access. This is due to the fact that many communities have access to both a curbside and drop-off recycling programs.

Focusing first on curbside, the survey indicates that 74 percent of the population has access to curbside recycling. This percentage was derived by combining information from various survey questions including all respondents that indicated a curbside program was available or that identified at least one material as being collected at the curb. Respondents were also asked to indicate the percentage of households within the surveyed communities for which curbside was available. If that information was

provided, the population served was adjusted downward based on that percentage. Where the percentage was not provided, all residents in the community were assumed to have access.

Table 2-1
2008 Recycling Program Details

	Population with Access		Communities with Access	
	Population (Millions)	Percent of U.S. Total	Number of Communities	Percent of U.S. Total
Curbside Recycling Programs	193.7	63%	9,590	28%
Subscription Curbside Recycling	35.1	11%	3,252	10%
Total Curbside Access	228.8	74%	12,842	38%
Drop-off Recycling Access	256.0	83%	20,165	59%
Any Recycling Programs	285.9	92%	23,374	69%
No Recycling Programs	23.4	8%	10,588	31%

* Note that the total population with access is NOT equal to the sum of curbside and drop-off population with access, due to the fact that many communities have access to both a curbside and a drop-off program.

Another objective of the survey was to distinguish between curbside programs provided to all households and those available on a subscription basis. Under a subscription program, individual residents, rather than their local government, arrange for curbside collection of recyclables directly with service providers. The survey information permits us to identify approximately 63 percent of the population with curbside access for all eligible households plus another 11 percent where curbside access is only available by enrolling in a subscription program.

Five out of six residents in the US live where they have access to some type of dropoff recycling program according to the survey. The dropoff program may be the only recycling available for many, while in other cases the dropoff program supplements curbside collection, either by providing an alternate location for recycling or by providing recycling opportunities for materials that are not collected at the curb.

Finally, the survey indicates that 92 percent of Americans have access to at least one kind of recycling program at home.

Table 2-1 also provides a summary of the number of communities with various types of recycling programs. Larger communities are much more likely to provide recycling access; in total the 92 percent of the population with some type of recycling live in 69 percent of the communities defined in the survey. More information about community definitions and the community-level results are provided in Appendix A and Appendix C.

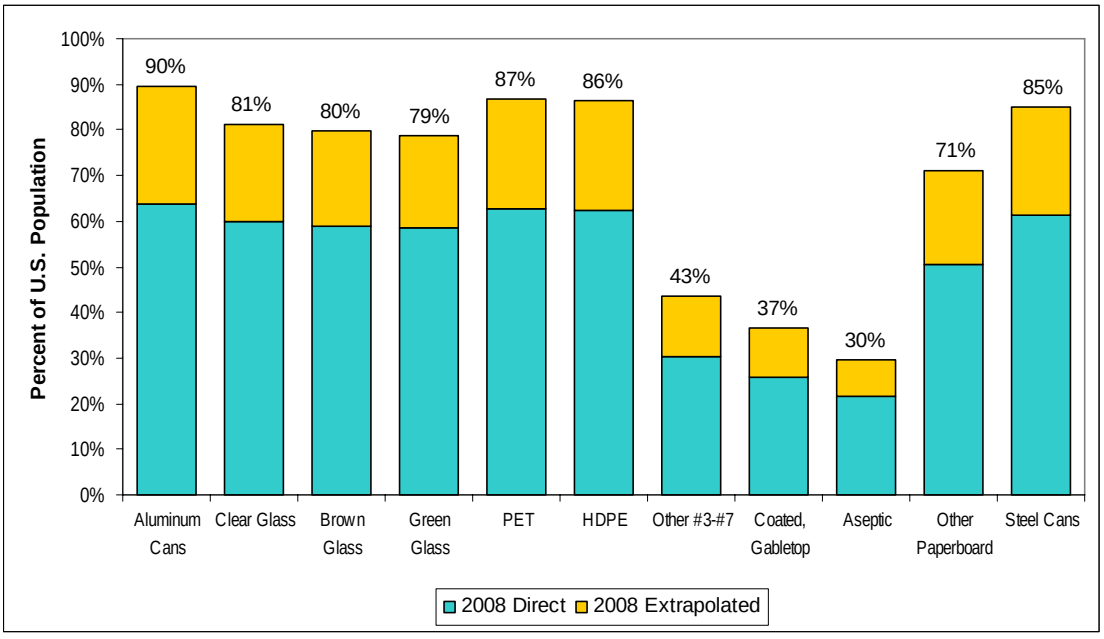
In order to evaluate access to recycling for various packaging materials used by ABA members, survey respondents were asked to indicate all container materials for which recycling programs existed. The most widely accepted materials are aluminum (90 percent of the population), PET (87 percent), HDPE (86 percent), steel cans (85 percent), and clear glass (81 percent). These five materials also represent

approximately 95 percent of the primary beverage containers sold by ABA members, according to data compiled by ABA[10].

Recycling of other paperboard containers, which includes “fridge pack” and six-pack cartons, is available to 71 percent of the population. Less than half of the U.S. population has access to programs that include #3-#7 plastic containers; coated paperboard, gable-top containers; and aseptic containers.

Figure 2-2 also shows the recycling access percentages disaggregated between “Direct” results (the responses from the large, county-level) and the “Extrapolated” results (responses extrapolated from the county-level participants and the small community sample).

Figure 2-2
Percentage of Population with Access to Container Materials Collection



The randomly selected communities in the sample range from fairly large communities (with more than twenty thousand people) down to small incorporated areas (with less than 50 people). Larger communities are more likely to have container materials recycling and, as past R. W. Beck experience has shown, are also much more likely to respond to this survey. Consequently, applying the results of the statistical sample based on population will result in an upward bias when extrapolating these results to the whole, since primarily the more populous communities have responded.

The statistical techniques used to overcome this bias involve stratifying the remaining (non-contacted) communities by population, and evaluating both the statistical sample

[10] ABA's determination is based on data compiled by Beverage Marketing Corporation in its annual series entitled "Beverage Packaging in the US."

results as well as the county-level direct survey results within the same population strata.

2.2 Container Materials Collection Techniques

Recent changes in the way container materials are collected curbside and subsequently processed have spawned new challenges for the recycling industry. Questions were included in the survey to evaluate the extent to which communities have adopted the practice of commingling fiber and rigid containers in one compartment on the collection vehicle. This is often referred to as "single-stream" collection. Answers to these questions were provided by a number of respondents (representing 158.7 million people) during the 2008 survey.

Respondents were asked to identify which of the following collection techniques they were using to collect curbside recyclables in their communities:

- **Separate Compartments** – Container materials are collected in their own, separate compartment on the collection vehicle. This technique includes the traditional "dual-stream" recyclables collection vehicles that split recyclables into a fiber materials stream and a commingled container stream, as well as curb-sorted collection that separates different materials into different compartments on a multi-compartment recycling vehicle. This system is historically the most common, and has proven to collect container materials with a minimum amount of contamination attributable to collection and transport of the container materials.
- **Commingled, Including Glass –** Fiber is collected in the same compartment on the truck as aluminum cans, steel cans, plastic bottles and glass bottles/jars (popularly called "single-stream"). This collection technique has gained popularity because it makes recycling easier for residents (who can place all recyclables in a single bin) and also because it reduces collection costs (it is easier to empty a single bin at each pick-up). A downside to this collection technique is the potential for higher contamination, which may be reflected both in higher residue levels at materials recovery facilities (MRFs) and in contamination of marketed material (e.g., aluminum or plastic found in paper bales).
- **Commingled, Excluding Glass –** This system is similar to the one above, except glass bottles/jars are collected in a separate compartment (or are not collected at all) so as to minimize glass contamination or to avoid collection of glass altogether if there are no available markets or uses for the material.

Table 2-2 shows the responses provided for the collection methods described above for the county-level direct responses and the community-level direct responses. A large portion of the respondents did not know the collection technique used in many of the communities they represented. However, reviewing the responses of those that did know the collection method, we see a difference in the collection techniques that are most common in the large counties of the U.S. and the smaller communities. Communities in the largest counties tend to have adopted commingled, single-stream collections, while the smaller communities are still using the dual-stream method. It appears that the smaller communities that have transitioned to single-stream

collections have opted to exclude glass collection. But, as these results are a "snapshot" of what is happening in collection methods currently, no clear trend is discernable.

Extrapolating the sample responses, we see that about 41 percent of people with curbside service have dual-stream collection, approximately 51 percent have single-stream collection including glass, and the remaining 9 percent have single-stream collection excluding glass. The single-stream percentage is likely overstated because of the reporting bias toward larger communities in the survey sample and the higher likelihood of larger communities to have adopted single stream. Of the population served by curbside programs overall, approximately one-sixth have programs where glass is either collected separately or is not collected at all. As noted above, separating glass from other recyclables even in single-stream programs may be an indication of concern over glass contamination in other recyclables, lack of markets, or lack of access to state-of-the-art MRFs.

Table 2-2
Recycling Collection Techniques - Population (in Millions in Response)

Collection Technique	County-level Responses	% of County-level Responses	% of County-level Responses w/ Known Answer*	Community-level Responses	% of Community-level Responses	% of Community-level Responses w/ Known Answer**
Separate	61.0	28%	40%	0.10	17%	54%
Commingled, Including Glass	81.2	38%	53%	0.03	6%	19%
Commingled, Excluding Glass	10.6	5%	7%	0.05	8%	26%
Unknown	5.9	3%		0.02	4%	
No Answer Given	56.0	26%		0.37	65%	
Total in Response to Survey	214.7	100%		0.57	100%	

* The population covered in county-level responses with known answers is 49.4% of the U.S. population.
** The population covered in community-level responses with known answers is 0.1% of the U.S. population.

In addition to assessing current container materials collection techniques, the 2008 Survey also asked respondents to indicate if any communities were considering a change to their current collection system to single-stream including glass, or single-stream excluding glass. Of the population covered by the responses giving a current collection method, approximately three percent indicated that they plan to switch to single-stream collection in the coming year. Detailed results for each survey question may be found in Appendix C.

2.3 State-by-State Breakdown of Survey Results

County-level direct survey responses were obtained representing 214.7 million people. To better understand the geographic distribution of container materials recycling, this section presents state-by-state results. Note that it is not possible to interpolate state-level totals from the results of the *national* statistical sampling, and therefore the results below are based solely on the county-level direct survey responses.

Table 2-3 shows the following information for each state: the total population of communities in the state; population covered in responses to the 2008 Survey; and the population of those responding with curbside and drop-off programs in the state.

Table 2-3 also shows the percent of population within each state that has curbside or drop-off recycling programs that accept container materials. This percentage is calculated by dividing the population of communities recycling container materials (numerator) by the population of communities in the state that responded (denominator). Because the most populous counties in each state were surveyed (and more populous counties are assumed to be more likely to have established recycling programs), this percentage likely represents the ***maximum percentage*** of population that have access to container recycling in each state.

Table 2-3
County-level Results, Container Collection by State, Population (Millions)

State	Total Pop.	Responding Pop.	% Responding	Curbside		Drop-off	
				Pop. w/ Access	% of Responding	Pop. w/ Access	% of Responding
Alabama	4.7	3.2	68%	1.2	37%	1.6	49%
Alaska	0.7	0.4	63%	0.1	30%	0.4	92%
Arizona	6.6	5.8	88%	3.7	64%	4.8	82%
Arkansas	2.9	1.7	58%	0.7	40%	1.1	67%
California	37.9	28.3	75%	25.6	91%	26.1	93%
Colorado	5.0	4.2	85%	2.6	62%	2.5	60%
Connecticut	3.6	3.5	99%	3.0	86%	2.6	74%
Delaware	0.9	0.9	100%	0.2	17%	0.0	0%
District of Columbia	0.6	0.6	100%	0.6	100%	0.6	100%
Florida	19.1	18.3	95%	16.4	90%	12.1	66%
Georgia	9.9	7.7	78%	3.6	47%	5.7	74%
Hawaii	1.3	1.1	85%	0.9	77%	1.0	92%
Idaho	1.5	1.0	62%	0.5	56%	0.8	80%
Illinois	13.2	7.6	58%	6.5	85%	6.6	86%
Indiana	6.5	4.1	63%	2.1	51%	3.7	91%
Iowa	3.0	1.2	38%	0.9	76%	0.8	72%
Kansas	2.8	1.5	52%	1.2	84%	1.3	86%

State	Total Pop.	Responding Pop.	% Responding	Curbside		Drop-off	
				Pop. w/ Access	% of Responding	Pop. w/ Access	% of Responding
Kentucky	4.3	2.2	52%	1.5	67%	2.2	96%
Louisiana	4.5	1.8	40%	0.8	42%	1.7	95%
Maine	1.3	0.0	2%	0.0	67%	0.0	33%
Maryland	5.7	3.8	67%	3.1	81%	3.8	100%
Massachusetts	6.5	1.0	15%	1.0	96%	1.0	97%
Michigan	10.3	7.0	68%	3.4	49%	6.2	88%
Minnesota	5.4	2.8	53%	2.6	94%	1.7	59%
Mississippi	3.0	1.4	46%	0.9	62%	0.8	57%
Missouri	6.0	3.3	55%	2.1	64%	2.9	88%
Montana	1.0	0.5	54%	0.2	36%	0.3	65%
Nebraska	1.8	1.0	53%	0.7	74%	0.7	73%
Nevada	2.7	2.6	96%	2.4	91%	2.6	98%
New Hampshire	1.3	0.9	68%	0.5	61%	0.8	91%
New Jersey	8.9	6.8	76%	5.4	80%	4.9	72%
New Mexico	2.0	1.2	59%	0.6	49%	0.9	73%
New York	19.6	17.2	88%	16.4	95%	15.9	92%
North Carolina	9.2	6.3	68%	4.5	71%	5.5	88%
North Dakota	0.7	0.1	19%	0.1	52%	0.1	87%
Ohio	11.6	9.8	84%	6.1	62%	8.5	86%
Oklahoma	3.7	2.6	70%	1.3	52%	2.1	82%
Oregon	3.8	2.9	77%	2.8	95%	2.9	99%
Pennsylvania	12.6	8.1	64%	5.9	73%	5.0	61%
Rhode Island	1.1	1.1	100%	1.1	100%	1.1	100%
South Carolina	4.5	3.1	69%	1.4	44%	2.8	89%
South Dakota	0.8	0.2	21%	0.2	100%	0.2	100%
Tennessee	6.2	4.5	71%	2.1	46%	4.2	94%
Texas	24.6	13.5	55%	7.3	54%	12.4	92%
Utah	2.7	1.8	68%	1.4	75%	1.6	86%
Vermont	0.6	0.4	63%	0.3	76%	0.4	100%
Virginia	7.9	5.6	71%	3.5	63%	5.3	94%
Washington	6.6	6.1	92%	4.4	72%	5.7	94%
West Virginia	1.8	0.6	35%	0.2	36%	0.5	76%
Wisconsin	5.7	3.3	58%	2.7	82%	2.5	76%
Wyoming	0.5	0.2	30%	0.1	37%	0.1	72%
Total	309.3	214.7	69%	156.6	73%	178.8	83%

Appendix A

SURVEY METHODOLOGY

Appendix A
SURVEY METHODOLOGY

This Appendix describes in detail the methodology used to develop a survey contact list, select the communities to be included in the survey, and collect and tabulate survey responses.

Developing a Database of Communities

Before performing a nationwide community survey, it is first necessary to obtain an accurate database of communities and their underlying population for all fifty states and the District of Columbia. Because recycling programs are typically administered by local governments (including county, city, town, and other political subdivisions), the community database must accurately segment these entities. The U. S. Census Bureau is an authoritative, comprehensive starting point to build such a database.

A community database has been customized for the survey from two separate U.S. Census Bureau databases. The communities are derived from U. S. Census Bureau "Place" definitions for 39 states (including Washington, DC), and from "Minor Civil Divisions" for 12 states. Table A-1 shows the number of each type of community.

Table A-1
2008 Census Database

Community Type	Number of Communities
Incorporated Municipalities	15,350
Minor Civil Divisions	11,913
Unincorporated Places	4,082
Remaining Areas	2,617
Total	33,962

There are several interesting facts highlighted in this Table:

- **Incorporated Municipalities** - These cities, towns, and the like (e.g., Los Angeles, Chicago, etc.) have their own governing body, which is typically responsible for recycling. There are 15,350 incorporated municipalities in the national community database.
- **Unincorporated Places** - These places are defined as being located in an urban area with a population greater than 2,500 or in a non-urban area with a population greater than 1,000. Known as "Census Designated Places" (CDPs), these

unincorporated areas typically have no local governing body, and therefore fall under the domain of the county in which they reside. There are 4,082 unincorporated areas in the U. S. Census Bureau national database.

- **Remaining Areas** - Because the first two community designations do not cover the entire population of the country, R. W. Beck created a designation for additional "communities" in some counties. These communities have been labeled as the "Remaining Area," of a county and include all remaining population not located in an incorporated municipality or CDP, regardless of whether this area is contiguous.

Minor Civil Divisions have been used to define communities in the following 12 Northeast and Midwest states: Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Michigan, Minnesota, and Wisconsin.

- **Minor Civil Divisions** - In these 12 states, governmental and administrative functions such as recycling are performed by "Minor Civil Divisions" (MCDs), rather than by "incorporated places." Minor Civil Division "communities" generally correspond with Incorporated Places and CDPs. However, the MCD database captures additional, smaller villages and boroughs which would otherwise only be captured in the "Remaining Areas" of a county, but which may have independent recycling programs. There are 11,913 MCD "communities" in these 12 states.

In summary, the community database used for the 2008 ABA Community Recycling Survey contains a total of 33,962 Incorporated Places, MCDs, CDPs, and Remaining Areas. These communities, distributed over the nation's 3,141 counties[1], contain the entire U.S. population of 309.3 million people (as of January 1, 2008).

Survey Methodology

Targeting Survey Respondents

Surveying each of the 33,962 individual communities would have been prohibitively expensive. Therefore regional- and county-level recycling coordinators (representing all communities in their respective county) were targeted for contact. The accuracy with which county-level contacts can respond to a community survey varies, but past R. W. Beck surveys demonstrate:

- County-level contacts can respond accurately about recycling programs run by the county itself (whether that program targets only the county unincorporated area or all municipalities in that county);

[1] The term "county" is used in a general sense, and would include other similar civil divisions such as Boroughs and Census Areas in Alaska, and Parishes in Louisiana.

- In counties where community recycling has matured (typically in more densely populated states), county-level contacts are typically aware of most details of the recycling programs that are administered by incorporated municipalities within the county;
- In sparsely populated counties, or in states where recycling has not fully matured, county-level contacts are usually less aware of the recycling programs in incorporated areas within the county; and
- Finally, especially in New England, there are some states where virtually all municipal government (and consequently all government-sponsored recycling) is performed at the city or town (rather than the county) level, and therefore no county contacts exist to provide community-level information.

Despite the shortcomings, contacting county-level recycling contacts was determined to be the most cost-effective means of tabulating nationwide community data. In situations where the county contact was unhelpful or did not exist, R. W. Beck used several alternative strategies to round out the data collection process, including:

- Contacting the solid waste and recycling department of the most populous city in the county;
- Following up with haulers, recyclers, and other private businesses or recycling advocacy groups to supplement the information obtained from the county contact;
- Consulting state recycling directories, county or community websites, or solid waste master plans to compile community container recycling data.

Selecting Counties for Inclusion in Survey

Recycling programs are historically more common in densely populated areas. Therefore, an objective in selecting the communities to be included in the survey was to maximize the percentage of U. S. population that would be covered by survey results.

Roughly 90 percent of the nation's population resides in only 38 percent of the nation's counties. To this end, the 1,206 most populous counties and independent cities[2] in the U.S. were selected for contact as part of the survey. The targeted counties included every county and independent city in the U.S. with a population greater than or equal to 38,464.

A total of 1,206 counties and independent cities were contacted as part of the 2008 ABA Community Survey. Within these counties and independent cities are 20,157 individual communities (including the Remaining Areas discussed above) with a total population of 278.6 million, or 90 percent of the total U.S. population.

[2] In some states (especially Virginia), the governmental organization of certain cities is identical to a county. These "Independent Cities" were therefore included separately in the county contact selection process.

County Contact List Development

Before mailing out over 1,600 surveys needed to cover the counties selected for contact (in many states there are regional solid waste authorities that govern recycling for multiple counties), R. W. Beck systematically contacted every state to obtain updated recycling contact information. Many state Solid Waste and Recycling departments publish an updated list of recycling contacts on an annual basis. Other states do not maintain formal or comprehensive lists, but can provide a list of knowledgeable recycling contacts in certain population centers in the state. R. W. Beck drew from these sources to identify contacts for each of the counties targeted in the 2008 Community Survey.

Survey Packet Development

ABA and R. W. Beck worked jointly in the development of a written data collection instrument of questions to be posed to county recycling contacts during the survey.

A survey packet was then generated and mailed to each of the survey contacts identified in the literature search. This packet consisted of:

- A ***cover page*** to collect information regarding the individual(s) contacted and/or surveyed;
- A ***data collection instrument*** on which survey respondents could update information about their recycling programs,

Each data collection instrument collected responses for all of the communities located in each county, including a separate line for the Remaining Areas. A sample survey packet for Dearborn County Indiana is included as Appendix B.

Survey Mail-out

Survey packets were generated for each county included in the survey. Along with the surveys themselves, the packet contained:

- A cover letter introducing the objectives of the survey; and
- A postage-paid envelope for returning completed surveys, a toll free 800 number, and a fax number, should the contact wish to phone in or fax survey responses.

Every effort was made to simplify surveys and facilitate a convenient means of responding.

Telephone Follow-up

Less than half of the survey contacts (in fact, typically only two to ten percent) are expected to respond to any survey mail-out. Therefore, a *follow-up phone call* was incorporated into the survey methodology. Phone calls from knowledgeable staff serve to:

- Answer any questions survey respondents may have;

- Encourage and remind survey contacts to participate;
- Identify more knowledgeable or appropriate contacts and forward surveys to these new individuals; and
- Guarantee that all survey contacts are offered every opportunity to be counted in the results of the survey.

Before making phone calls, survey staff was *trained* on a variety of topics. During several days of survey training and coaching, R. W. Beck senior staff provided background information on:

- ABA;
- Container material types;
- County and municipal government organization vis-à-vis recycling program administration; and
- Data collection form logic and the intent of survey questions.

This information was provided in a coaching environment. An interactive, coaching style of training is very effective for multiple reasons:

- One-on-one training allows senior staff to closely evaluate the knowledge and retention of surveyors;
- Potential misunderstandings by surveyors of a question's intent are ironed out prior to real-time survey calls; and
- Surveyors are encouraged to make suggestions for improving and simplifying the survey flow.

During the phone call phase of the survey, at least three attempts were made to contact the appropriate recycling contact. After three attempted contacts, no further effort was made to reach a county-level contact, and the county was recorded as a "No Response" in the database.

Each completed survey packet was reviewed by R. W. Beck staff to identify any obviously incorrect or incomplete information. Surveys identified as having incorrect/incomplete information were returned to the telephone surveyors for re-contact.

Data Entry and Quality Control

In order to compile and subsequently analyze the collected information, data entry screens were developed by R. W. Beck staff to enter the data into the database. For ease of data entry, these data entry screens essentially mimicked the format used on the data collection form.

To minimize inconsistency in survey responses and data entry, several quality checks were conducted during the data entry of survey responses:

- Phone surveyors were retained to perform data entry of the surveys, because these individuals had gained detailed knowledge of the meaning and intent of survey questions and could therefore best translate survey responses into the database;
- On the first several days of data entry, the accuracy of data entry staff was closely observed and reviewed. Improper data entry procedures or incorrect interpretations of survey responses were largely eliminated; and
- Five percent of the surveys (approximately 60) were selected at random and reviewed at the conclusion of data entry to assess accuracy. Based on this sample, data entry was estimated to be 95 percent accurate.

Once all data was entered, global logic checks were performed on the database. For example:

- If a county representative responded "Yes" to the question "Do any of the communities in your county accept containers in their recycling program?"
- Then at least one community in that county should have indicated that at least one material type is collected.

Any inconsistencies in the logic were verified with the survey form and if needed, corrected. In some cases, the contact was called back to reconcile the survey data previously provided.

Finally, we performed a very important quality control action. One hundred and fifty of the most populous cities make up 73.4 million or 24% of the total population. Incorrect information from cities of this size could drastically impact our results if they are incorrect. In an effort to avoid such impact, 150 of the most populous cities were contacted directly to obtain the survey information. Three attempts were made to contact each.

Surveying a Random Sample of Remaining Communities

The methodology above guarantees that the 2008 Community Survey will capture a majority of the nation's communities and population. However, there are still 30.7 million people, representing 13,805 communities, which are excluded from the county-level survey contact list. Because an objective of the survey is to estimate the extent of community container recycling nationwide, the survey was extended to include a random sample of the remaining communities.

To estimate the extent of container recycling in the remaining communities to a 90 percent level of confidence, R. W. Beck randomly selected and attempted to survey 500 of the remaining communities as a random sample contact list. A total of 436 communities actually responded to the random sample phase of the survey.

Once the random sample of communities was generated for the remaining areas of the country, the survey was conducted in largely the same manner as county-level surveys. However, the survey methodology was adapted to more accurately and

efficiently complete the random sample surveys. The bullets below describe some of the adaptations and observations made during the completion of random sample surveys.

- **Mail-out Not Applicable** – Because of the random selection process, there is by definition no existing contact or recycling information on file for these 500 communities. It was therefore deemed impractical to attempt a mail-out to these communities.
- **Identifying and Screening New Contacts** – Little or no contact information was available for these communities, and therefore appropriate contacts needed to be identified for the random sample surveys. Accordingly, surveyors were required to identify and track down survey contacts via Internet or long-distance directory assistance, and to screen these contacts to verify their awareness on the subject of recycling. The screening process ultimately helped to identify the best available municipal official to respond to the survey.
- **Lower Response Rate** – Many of the 500 randomly selected communities, although incorporated municipalities, had an extremely low population (i.e., less than 1,000 people). As anticipated, it was generally more difficult both to identify and to contact recycling or solid waste officials for many of these communities.

Once the random sample survey calls were completed, data entry and quality control was performed concurrently with the county-level surveys.

Conclusion

As a result of these procedures, R. W. Beck believes that the 2008 Survey database achieves a high level of accuracy and that the results derived from the survey realistically reflect the state of container recycling among responding jurisdictions.

Appendix B

SAMPLE SURVEY PACKET

2008 Community Recycling Survey

Survey Contact Information

Survey Number: 1480

Name of Contact	B.J.		
Title	Director		
Office	Dearbon County SWMD		
Address	10700 Prospect Lane		
City, State, Zip	Aurora	I	7001
	City	*State*	*Zip*
Phone	926-996 *Ext*		
Fax	926-966		
Email	dcswmd@dearbonco.gov		

Affiliated Counties

18029 Dearborn

Instructions

*** This survey may be mailed or faxed back ... OR, fill it out ONLINE at **http://aba.beck-is.com***

Update the contact information (shown above) and correct any errors or misspelled words or names.

The following pages contain questions about the community recycling programs in your county or region. Please respond to the questions for each community in your county or region, and also for the unincorporated areas in the county or region (if any).

Please call Debbie McDonough (800/873-6532) with any questions or comments regarding this survey. Mail or fax (407/648-8382) your completed survey.

We welcome your comments:

Thank you for participating in this survey!

SOLID WASTE/RECYCLING COLLECTION OVERVIEW

Survey Number: *1480*

State: *I*

Community (U.S. Census Bureau definition)	Does each community listed below have an existing CURBSIDE GARBAGE program?				Does each community have an existing residential CURBSIDE RECYCLING program?				Do multi-family units have RECYCLING available ON-SITE?				Does each community listed have access to a DROP-OFF RECYCLING program?			If access to recycling exists, are there any incentives for residents to recycle?	
	Yes	No	*Subsrip-tion	Don't Know	Yes	No	*Subscrip-tion	Don't Know	Yes	No	*Subscrip-tion	Don't Know	Yes	No	Don't Know	Yes	If so, describe:
Dearbon (18029)																	
Incorporated Communities																	
Aurora city																	
Dillsboro town																	
Greendale city																	
Lawrenceburg city																	
Moores Hill town																	
St. Leon town																	
West Harrison town																	
7 Communities																	
Unincorporated Areas																	
Bright CDP																	
Hidden Valley CDP																	
Remaining areas																	
3 Communities																	
Total: ***10 Communities represented by this organization.***																	

* The term "Subscription" refers to direct agreements between residents and a hauler/haulers for waste and/or recycling collection services, with no involvement from the community.

Note: Please call Debbie McDonough (800/873-6532) with any questions or comments regarding this survey. Complete online at aba.beck-is.com, mail it, or fax it (407/648-8382).

COMMUNITY SPONSORED RECYCLING

Survey Number: *1480*

State: *I*

Community (U.S. Census Bureau definition)	Check the Container Materials Accepted in a SINGLE FAMILY CURBSIDE Collection Program											What type and size RECYCLING container is provided to residents?		What percent of population has access to CURBSIDE RECYCLING?	Indicate how materials. are collected (on the truck) in the CURRENT curbside system.*				Indicate any communities PLANNING to change to any of the following in the next 12 mos.*			
	AC	Cl-Gl	Br-Gl	Gr-Gl	PET	HDPE	#3-#7 Plastic	Pbd-c Carton	Asep.	Pbd	Steel Cans	Type	Size		Dual Stream	Comm. inc. Gl	Comm exc. Gl	Don't Know	Dual Stream	Comm. inc. Gl.	Comm exc. Gl	Don't Know
Dearbon (18029)																						
Incorporated Communities																						
Aurora city														0								
Dillsboro town														0								
Greendale city														0								
Lawrenceburg city														0								
Moores Hill town														0								
St. Leon town														0								
West Harrison town														0								
7 Communities																						
Unincorporated Areas																						
Bright CDP														0								
Hidden Valley CDP														0								
Remaining areas														0								
3 Communities																						
Total: ***10 Communities represented by this organization.***																						

Key:

AC = Aluminum Cans
Cl-GL = Clear Glass
Br-Gl = Brown Glass
Gr-Gl = Green Glass

PET = #1 Plastic Bottles
HDPE = #2 Plastic Bottles
#3-#7 Plastic = Any Other Recyclable Plastic Bottles

Pbd-c Carton - Coated Paperboard Gabletop Cartons (e.g., milk, orange juice)
Asep. = Aseptic Containers (e.g. juice boxes)
Pbd = Other Paperboard (e.g., fridge pack cardboard boxes, six pack containers)

Note: Please call Debbie McDonough (800/873-6532) with any questions or comments regarding this survey. Complete online at aba.beck-is.com, mail it, or fax it (407/648-8382).

** For this survey, "dual stream" means containers are collected/stored seperately from papers, etc. "Commingled" (or single-stream) means all materials are collected in the same truck compartment simultaneously, including glass (Comm. inc. Gl) or excluding glass (Comm. exc. Gl).*

DROP-OFF AND GENERAL RECYCLING

Survey Number: *1480*

State: *I*

Community (U.S. Census Bureau definition)	Check the Container Materials Accepted in a DROP OFF Collection Program											List any materials expected TO BE ADDED to the recycling program(s) in the next year.	List any materials expected TO BE DROPPED from the recycling program(s) in the next year.	List any materials that WERE DROPPED from the recycling program(s) in the last year.
	AC	Cl-Gl	Br-Gl	Gr-Gl	PET	HDPE	3-7	Pbd-c	Asept	Pbd	Stl Cans			
Dearbon (18029)														
Incorporated Communities														
Aurora city														
Dillsboro town														
Greendale city														
Lawrenceburg city														
Moores Hill town														
St. Leon town														
West Harrison town														
7 Communities														
Unincorporated Areas														
Bright CDP														
Hidden Valley CDP														
Remaining areas														
3 Communities														
Total: ***10 Communities represented by this organization.***														

Key: *AC = Aluminum Cans*
Cl-GL = Clear Glass
Br-Gl = Brown Glass
Gr-Gl = Green Glass

PET = #1 Plastic Bottles
HDPE = #2 Plastic Bottles
#3-#7 Plastic = Any Other Recyclable Plastic Bottles

Pbd-c Carton - Coated Paperboard Gabletop Cartons (e.g., milk, orange juice)
Asep. = Aseptic Containers (e.g. juice boxes)
Pbd = Other Paperboard (e.g., fridge pack cardboard boxes, six pack containers)

Note: Please call Debbie McDonough (800/873-6532) with any questions or comments regarding this survey. Complete online at aba.beck-is.com, mail it, or fax it (407/648-8382).

Appendix C
DETAILED RESULTS

Appendix C
DETAILED RESULTS

Table C-1
2008 Survey Overview

	Population (in millions)	Percent of US Population
Surveyed at County-level	278.36	90.00%
Responded at County-level	214.67	69.41%
Surveyed at Community-level	0.62	0.20%
Responded at Community-level	0.57	0.18%
United States	309.30	

Table C-2
Availability of Curbside Garbage Collection Programs

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answer	Population (in millions)	Percent Responses	Percent of known answer
Yes	171.9	80%	83%	0.39	69%	69%
No	10.7	5%	5%	0.12	21%	21%
Subscription	25.6	12%	12%	0.06	10%	10%
Don't Know	6.1	3%		0.00	1%	
Total	214.3	100%	100%	0.57	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-3
Availability of Curbside Recycling Collection Programs

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answer	Population (in millions)	Percent Responses	Percent of known answer
Yes	140.2	69%	71%	0.15	27%	27%
No	35.5	17%	18%	0.37	65%	65%
Subscription	21.8	11%	11%	0.05	8%	8%
Don't Know	6.5	3%		0.00	0%	
Total	204.1	100%	100%	0.57	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-4
Availability of On-site Recycling for Multi-family Units

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answer	Population (in millions)	Percent Responses	Percent of known answer
Yes	95.9	48%	57%	0.05	9%	9%
No	48.2	24%	29%	0.46	81%	89%
Subscription	24.1	12%	14%	0.01	2%	2%
Don't Know	31.7	16%		0.05	8%	
Total	200.0	100%	100%	0.56	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-5
Availability of Drop-off Recycling Collection Program

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answer	Population (in millions)	Percent Responses	Percent of known answer
Yes	182.3	87%	89%	0.33	58%	58%
No	21.8	10%	11%	0.24	42%	42%
Don't Know	6.5	3%		0.00	0%	
Total	210.6	100%	100%	0.57	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-6
Incentives for Residents to Recycle - Direct Responses

Description	Population (in thousands)
1) Neighborhoods with low participation will have curb-side dropped to make room for neighborhoods on the waiting list. 2) "Go Green Houston" has a yearly contest with 4 categories; the neighborhood that wins will get $5,000 towards a community project	2,176.6
Volume based garbage rates' recycling included with basic garbage fee	1,883.5
Mandatory Recycling in CT	1,767.3
Save money on garbage bill by reducing trash by recycling and composting more.	788.2
CRV Deposit return	727.8
Reduced Costs	724.6
Towns receive a grant; the more they recycle the more the grant. This off-sets the cost of their programs.	648.6
Non-monetary; Knowing their participation is the right thing to do; to aid in our goal to reduce the amount of waste going into the landfill.	622.8
Reduced Garbage Cost	619.0
Recycling is included in garbage service	530.6
Variable Can Rate	522.8
It is the law.	501.7
CRV	490.8
Recycling and yard debris are included with the garbage fee	483.8
Larger size garbage service costs more.	382.3
Residents receive a "commodity credits" (a share each month for the revenues from the recyclables)	357.0
Mandatory	294.0
Goes back into the communities.	266.3
Collection service charges are based on garbage volume; recycling is no extra charge. Drop-off is FREE or reduced fee compared to garbage disposal.	262.3
money at Recycling Centers	260.4
Variable Can Rates	221.5
$2.00 Discount on Bill	203.4
Reduced Garbage Cost; Residents get a "rebate" back on their trash bill for the revenue the company made on the county wide program	200.2
P-A-Y-T	198.7
No Response	184.0
Can receive a PAYT rate for refuse service	175.1

Description	Population (in thousands)
Local sports groups and clubs get money for recycling. The city doubles the amount they raise from CRV materials.	175.0
Paid for CRV (beverage containers) materials & FREE drop-off for all Recyclables at County Landfill and Transfer Station	154.7
Drop-off=PAYT	154.1
PAYT	149.9
Drop-off at Public School- ONP, OMG, UBC, OCC	140.9
What is recycling goes back into the communities.	139.3
Recycling is cheaper that trash disposal.	128.3
Reduced trash cost	125.0
Mandatory Pay	118.6
Non-profit organizations pay for recyclable materials.	118.0
No additional cost to Recycle	116.2
Cash for Aluminum	111.2
It's mandatory; there are inspections, warnings of possible fines. Municipality receives a rebate.	105.1
Due to ordinance, all haulers are required to provide recycling.	101.5
Smaller garbage cans = Smaller rates	97.4
Lower Garbage Bill	96.9
Cash for Glass	93.4
Neighborhood Competitions	92.2
Financial and Environmental	91.8
Non-profit organizations will pay for Recyclable materials.	87.8
Garbage Collection services are discounted for recycling customer by $5/month.	85.7
PAYT- Individual charges per bag	83.2
It's Free	81.1
Recycle Bank Coupons	75.4
Lower Trash collection rates	70.8
Reduce Garbage and Fees	65.2
Bottle Deposit Law- Redemption Centers pay 5¢/ Hi-5	63.1
Donate to school to earn $ and Save Landfill space.	61.4
PAYT system (Bags)	58.8
Public education and pressure from school kids and private groups.	58.0
Variable Rates	57.8
All Recycling money goes back into the County General Funds.	55.6
Events, Raffles, etc.	53.8

Description	Population (in thousands)
Recycling is FREE	52.0
Lower collection costs	51.2
Included in Quarterly Charge- incentive is to use it or pay for service not being utilized.	49.4
Recycle CFL's @ EAC, free CFL	48.5
Money is returned to the community.	47.2
Reduced disposal fees for less waste taken to transfer station	46.4
$2 Discount on Landfill Disposal. Fee given if customer recycles 2 or more recyclables.	43.1
3 Barrel Trash Limit	41.4
reduction in cost/score grants (break for recycling by a reduction in their garbage bill)	40.1
Residents save on their trash.	39.4
Coupons to local stores to Redeems (Recycle Bank).	38.3
Free service for Community drop-offs	37.5
Garbage bill is loosely based on volume.	36.2
Offer $25 prize random monthly drawing each garbage day.	32.1
PAYT program	31.8
County residents have a PAYT system, which can be incentive to recycle.	29.3
Mason City has PAYT, so reduction in garbage.	28.1
PAYT garbage program	27.6
Prepaid sticker and bag program	27.4
Pay By Bag for Trash	21.8
Lower cost to dispose of trash.	20.6
Must drive considerable distance to full service drop-off center	20.4
Mandatory Legislation	17.2
P-A-Y-T trash	15.1
Website Education	13.8
Community Cost Savings	13.5
Bin Provided and Free Pick-up	12.9
You don't have to buy extra trash bags.	12.1
Refuse Reduction	11.1
Bag Limit on Trash (01/09)	10.0
Free Service	9.6
Recycling included in Lewistown municipal services	8.6
Free 24/7 access	8.0
Reduced cost of curbside garbage pick-up	7.1
Recycling is mandatory	6.6

Description	Population (in thousands)
At the drop-off centers, customer who recycle pay 25 cents/bag for trash disposal and customers who do NOT recycle pay $1/bag.	6.1
Garbage is per bag, Recycling is free!	5.7
They can recycle appliances and electronics.	5.0
Bin Provided once per home	4.3
Newspaper drop-off only, must drive considerable distance to full service drop-off center	4.1
Drop off location in town	3.9
Money received paid for playground and batting cages.	3.3
Bin Provided and Drop-off	3.1
Two bag limitation for garbage; extra garbage $2/bag. Recycling is free	2.6
Free	2.3
Education Programs	0.7
Bin Provided	0.7
Don't have to pay so much to buy bags.	0.4

Table C-7
Incentives for Residents to Recycle - Random Responses

Description	Population
CCB collection trailers at schools, and the schools get $	2,379
Free of charge	657
Cash for aluminum	576
Money received for Aluminum	357

Table C-8
Container Materials Accepted in Single Family Curbside Collection Program

	Direct Responses		Random Responses	
Material	Population (in millions)	Percent of Responses	Population (in millions)	Percent of Responses
Aluminum Cans	155.1	72%	0.20	35%
Clear Glass	142.6	66%	0.17	29%
Brown Glass	141.0	66%	0.16	29%
Green Glass	140.7	66%	0.16	28%
PET	153.9	72%	0.20	35%

Material	Direct Responses		Random Responses	
	Population (in millions)	Percent of Responses	Population (in millions)	Percent of Responses
HDPE	154.4	72%	0.20	35%
#3-#7 Plastic	67.2	31%	0.14	24%
Coated, Gable-top Paperboard	63.4	30%	0.03	6%
Aseptic Containers	51.6	24%	0.08	14%
Other Paperboard	120.6	56%	0.16	28%
Steel Cans	150.5	70%	0.17	30%
Total Respondents	214.7		0.57	

Table C-9
Recycling Container Type and Size Provided - Direct Responses

Container Type	Container Size	Population (in millions)
No Container Type	No Container Size	73.97
No Container Type	18 gal	0.77
No Container Type	30 gal	0.00
No Container Type	32 gal	0.03
No Container Type	96 gallon	0.00
Bin	18 gal	0.00
Bins	18 gal	0.19
Cart	96 gal	0.01
2 Bins	14 gal	1.13
2 Bins	14 gals each	0.11
2 Bins	18 gal	0.15
2 Bins	20 gal/16 gal	0.13
2- Bins	18 gal each	1.08
3 Bin	No Container Size	0.05
3 Bin or Toter	No Container Size	0.01
3 Bins	14 gal each	0.03
3- Bins	18 gals each	0.00
3-Bins	15 gal	0.03
3-Bins	96 gal	0.06
4-bin	96 gal	0.01
art	33 gal	0.01
Auto	64	0.01

Container Type	Container Size	Population (in millions)
Auto	90	0.01
Automated	100 gal	0.11
Automated	65 gal	0.03
Bag	No Container Size	0.18
Bag	18 gal	0.00
Bag	30 gal	0.05
Bag	32 gal	0.00
Bag	35 gal	0.00
Bag	45 gal	0.00
Bags	No Container Size	0.05
Bags	15 gal	0.02
Bags	20 gal	0.06
Bags	30 gal	0.11
Bags	30/40 gal	0.01
Barrel	20 gal	0.65
Basket	18x14	0.01
Basket	20 gal	0.24
Bin	No Container Size	5.26
Bin	10 gal	0.10
Bin	10-12 gal	0.08
Bin	12 gal	0.03
Bin	12.5 gal	0.14
Bin	12-14 gal	0.01
Bin	13 gal	0.07
Bin	14 gal	3.65
Bin	14"x24"x12"	0.07
Bin	14-65 gal	0.51
Bin	15 gal	0.81
Bin	15/20 gal	0.80
Bin	15-18 gal	0.01
Bin	16 gal	4.69
Bin	17 gal	0.26
Bin	18 gal	0.00
Bin	18 and 24 gal	0.01
Bin	18 ga;	0.07
Bin	18 gal	32.81

Container Type	Container Size	Population (in millions)
Bin	18 gal or 64 gal	0.18
Bin	18/20 gal	0.24
Bin	18/25 gal	0.62
Bin	18-20 gal	0.32
Bin	18-22 gal	0.15
Bin	18-30 gal	0.17
Bin	18gal	0.03
Bin	19 gal	0.78
Bin	19 quarts	0.09
Bin	20 gal	3.28
Bin	22 gal	1.76
Bin	24 gal	0.43
Bin	25 gal	0.15
Bin	26"x24"	0.00
Bin	28 gal	0.06
Bin	30 gal	0.43
Bin	32 gal	0.12
Bin	33 gal	0.03
Bin	4 gal	0.00
Bin	48 gal	0.00
Bin	5 gal	0.04
Bin	55 gal	0.07
Bin	64 gal	0.27
Bin	7 gal	0.01
Bin	95 gal	0.16
Bin	96 gal	0.61
Bin and Bags	No Container Size	0.03
Bin or Cart	18 gal Bin or 90 gal Cart	0.58
Bin or Cart	18 gal Bin, 35 gal Cart	0.10
Bin or cart	18 gal/64 gal	0.14
Bin or Cart	19 gal or 64 gal	0.20
Bins	No Container Size	0.14
Bins	12 1/2 gal	0.05
Bins	14 and 18 gal	0.13
Bins	14 gal	0.60
Bins	15 Gal	0.01

Container Type	Container Size	Population (in millions)
Bins	16 gal	1.08
Bins	18 gal	0.13
Bins	24"x17"x14"	0.01
Bins	30 gal	0.01
Bins	6 gal	0.10
Bins	90 gal	0.06
Bins & Toter	18 gal Bins, 64 gal Toter	0.66
Bins for Glass only	5 gal	0.10
Bins for Paper & Blue Bag for Containers	No Container Size	0.75
Blue Bag	No Container Size	0.82
blue bag	5 gal	0.01
Blue Bags	No Container Size	0.58
Blue Bags	13/30 gal	0.01
Blue Bags/Cart	96 gal(Cart)	2.90
Blue Bin	No Container Size	0.02
Blue Bin	16/20 gal	0.00
Blue Bin	18 gal	0.06
Blue Bin	20 gal	0.01
Blue Bins	18 gal	0.26
Blue Box	No Container Size	0.07
Blue Box	14 gal	0.02
Blue Recycling	96 gal	0.16
Box	14 gal	0.34
Box	16 gal	0.00
Box	18 gal	0.25
Box	24 gal	0.25
Box with Lid	18 gal	0.07
Brown, Blue of Clear Bags & Cart	13/30 gal Bags, 64 gal cart	0.21
Bucket	No Container Size	0.14
Bucket	20 gal	0.03
Bucket	20-30 gal	0.00
bucket	4 gal	0.00
Bucket	7 gal	0.00
Bucket	8 gal	0.07
Buckets	14 gal	0.06
Buckets	20 or 32 gal	0.39

Container Type	Container Size	Population (in millions)
Can	20 gal	0.09
Can	32 gal	0.03
Can	35 gal	0.00
Can	50 gal	0.05
Can (2)	30 gal	0.01
Cans	30 gal	0.02
Cart	No Container Size	2.46
Cart	100 gal	0.75
Cart	110 gal	0.52
Cart	17 gal	0.06
Cart	18 gal	0.66
Cart	20 gal	0.07
Cart	30 gal	0.01
Cart	32 gal	0.02
Cart	32 or 64 gal	0.04
Cart	32, 64 or 95 gal	0.25
Cart	32, 64, or 96 gal	0.55
Cart	35 gal	0.03
Cart	35,65, or 95 gal	0.03
Cart	45, 65, or 95 gal	0.01
Cart	55 gal- 95 gal	0.03
Cart	60 gal	0.29
Cart	60 or 96 gal	0.42
Cart	64 gal	6.49
Cart	64 gal or 100 gal	0.20
Cart	64 gal/96 gal	0.06
Cart	64 or 96 gal	3.26
Cart	64/96 gal	0.03
Cart	65 gal	3.14
Cart	68 gal	0.13
Cart	90 gal	0.05
Cart	90 gal	3.60
Cart	95 gal	2.58
Cart	96 gal	4.17
Cart and Bin	64 gal	0.60
Cart or Bin	No Container Size	0.28

Container Type	Container Size	Population (in millions)
Cart or Bin	96 gal cart or 18 gal bin	1.28
Cart, Bin, or Can	No Container Size	0.21
cart/2 bins	65g/15g	0.04
Cart/Tubs	No Container Size	0.13
Carts	20, 35, 65, or 95 gallons	1.79
Carts	32-96 gal	0.27
Carts	35/64/96 gal	0.48
Carts	40 gal	0.01
Carts	95 gal	0.00
Carts	96 gal	0.01
Clear Bags	No Container Size	0.04
Clear Bags	13-55 gal	8.33
Clear Plastic Bag	No Container Size	0.08
Container	No Container Size	0.04
Container	20 gal	0.02
Container	30-50 gal	0.01
Container	32 gal	0.01
container	82 gal	0.01
Dual Cart	96 gal	0.17
Dumpster	3 yd	0.02
green	24x26	0.01
Green Bag	40 gal	0.01
Green Bin	32 gal	0.01
Grey Bin	No Container Size	0.00
Herbie Curbie	96 gal	0.00
Housewhole	18 gal	0.06
Maroon Bin	16/20 gal	0.00
None	No Container Size	0.29
None Provided	No Container Size	0.23
Open Top Bin	18 gal	0.03
Orange Bin	14 gal	0.09
Pail	5 gal	0.02
plastic	20 gal	0.01
Plastic Bag	No Container Size	0.26
Plastic Bags	No Container Size	0.05
Plastic Bin	No Container Size	0.10

Container Type	Container Size	Population (in millions)
Plastic Bin	18 gal	0.08
Plastic Bin	2'x2'x1'	0.02
Plastic Bins	18 x 24	0.03
Plastic Bins	22 gal	0.09
Plastice Bags	No Container Size	0.02
Provide your own	No Container Size	0.01
rectangular open top	25 gal	0.00
Red Bin	16/20 gal	0.00
Roll Bin	14 gal	0.16
Roll cart	20 gal	0.07
Roll Cart	35 gal	0.01
Roll Cart	60 gal	0.56
Roll Cart	64-96 gal	0.25
Roll Cart	65 gal	0.10
Roll Cart	65 gal/95 gal	0.16
Roll Cart	90 gal	0.07
Roll Cart	95 gal	0.60
Roll Cart	96 gal	0.12
Roll Cart	varies	0.00
Roll Cart	Various Sizes	0.20
Roll Carts	No Container Size	0.17
Roll off	12 cubic yards	0.00
Roll Out	90 gal	0.00
Roll Out	90 gal	0.04
rollcart	64 gal	0.08
Roll-Cart	No Container Size	0.20
Roll-Cart	35 gal	0.01
Roll-Cart	48 gal	0.03
Roll-cart	PAYT- 32, 64, 96 or multiple	0.12
Roller Cart	33 or 64 gal	0.04
Rolling Bin	60 gal	0.13
Roll-off Bins	30-40 gal	0.06
Round	20- 24 gal	0.11
rubber trash can	68 gal	0.00
Sacks	No Container Size	0.04
Self-provide	15-30 gal	0.01

Container Type	Container Size	Population (in millions)
Small Bin	No Container Size	0.01
Small Bin for glass & larger bin "Rosie"	18 gal and 35 gal	0.28
Split Can	90 gal	0.02
square open top	20 gal	0.00
Square Open top	30 gal	0.00
Stacking Bins	18 gal	0.43
swinging lid	45-50 gal	0.01
Tall Bin	64 gal	0.03
Tote	No Container Size	0.02
Tote	18 gal	0.80
Tote	2- 14 gal	0.02
Tote	50 gal	0.00
Tote	64 gal	0.04
Tote	90 gal	0.00
Toter	12 or 16 gal	0.08
Toter	14 gal	0.12
Toter	32, 64, or 96 gal	1.42
Toter	64 gal	0.07
Toter	65 gal	0.16
Toter	75 gal	0.24
Toter	96 gal	0.07
toter carts	32, 64, 96 gallon	0.79
Totes	48/64/96 gals	0.02
Totes or Cans	10- 65 gal	0.15
Traditional Plastic Bin	18 gal	0.01
Trailer	10 Cubic Yards	0.02
Trash Bin	90 gal	0.05
Trash Can	90 gal	0.06
Tub	No Container Size	0.38
Tub	10 gal	0.17
Tub	16 gal	0.00
Tub	18 gal	0.42
Tub	24x18x12	0.01
Tub	25 gal	0.02
Tub	40 gal	0.03
Tub	Tub	0.01

Container Type	Container Size	Population (in millions)
Tub or Blue Bag	15 gal	0.16
Two Bins	18 gal	0.12
Two Bins	18 gal each	0.23

Table C-10
Recycling Container Type and Size Provided - Random Responses

Container Type	Container Size	Population
No Container Type	No Container Size	387,885
Bags	No Container Size	2,067
Bags	10 Gal	2,339
Bags	5 gal	793
Bin	No Container Size	33,379
Bin	10 gal	10,690
Bin	14/16 gal	509
Bin	18 gal	32,857
Bin	20 gal	293
Bin	2'x1'x1'	496
Bin	3/4 gal	12,610
Bin	5 gal	2,189
Bin and Bags	No Container Size	400
Bins	No Container Size	28,742
Bins	13 gal	81
Bins	18 gal	2,136
Bins	33 or 55 gal	613
Bins	35 gal	2,856
Bins	36 gal	410
Bins	90 gal	234
Blue Bags	No Container Size	2,281
Cans	95 gal	2,567
Clear Bags	No Container Size	410
Clear Trash Bags	No Container Size	1,320
Dumpster	15 gal	4,957
Garbage Cans	33 gal	378

Container Type	Container Size	Population
Bin	22 gal	24,628
None	No Container Size	10,563
rates	4 gal	1,301

Table C-11
Material Collection Techniques for Current Curbside Collection

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answers	Population (in millions)	Percent Responses	Percent of known answers
Dual Stream	61.0	38%	40%	0.10	48%	54%
Commingled, inc. Glass	81.2	51%	53%	0.03	17%	19%
Commingled, exc. Glass	10.6	7%	7%	0.05	23%	26%
Don't Know	5.9	4%		0.02	11%	
Total	158.7	100%	100%	0.20	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-12
Respondents Planning to Change to a Different Material Collection Technique

	Direct Responses			Random Responses		
	Population (in millions)	Percent Responses	Percent of known answers	Population (in millions)	Percent Responses	Percent of known answers
Dual Stream	0.5	3%	10%	0.000	0%	0%
Commingled, inc. Glass	4.3	24%	83%	0.000	0%	0%
Commingled, exc. Glass	0.3	2%	6%	0.001	2%	100%
Don't Know	13.0	72%		0.044	98%	
Total	18.2	100%	100%	0.045	100%	100%

Note: Some respondents did not answer all questions. As such, the total populations in this table may not match the total population of all survey respondents.

Table C-13
Container Materials Accepted in Drop-off Collection Programs

Material	Direct Responses		Random Responses	
	Population (in millions)	Percent Responses	Population (in millions)	Percent Responses
Aluminum Cans	176.0	82%	0.31	54%
Clear Glass	162.9	76%	0.20	36%
Brown Glass	160.1	75%	0.20	36%
Green Glass	158.4	74%	0.19	33%
PET	171.3	80%	0.27	47%
HDPE	170.1	79%	0.27	47%
#3-#7 Plastic	81.8	38%	0.14	24%
Coated, Gable-top Paperboard	65.4	30%	0.07	12%
Aseptic Containers	54.3	25%	0.10	17%
Other Paperboard	137.1	64%	0.24	43%
Steel Cans	164.8	77%	0.25	43%
Total Respondents	214.7		0.57	

Table C-14
Planned or Recent Changes to Recycling Program Materials - Direct Responses

Materials to be Added	Materials to be Dropped	Materials Recently Dropped	Population (in millions)
No Materials to be Added	No Materials to be Dropped	No Materials Dropped	200.4
No Materials to be Added	No Materials to be Dropped	AC; Cl-Gl; Br-Gl; Gr-Gla; Pet; HDPE; News; Mag	0.0
No Materials to be Added	No Materials to be Dropped	BR-Glass; GR-Glass	0.0
No Materials to be Added	No Materials to be Dropped	Cl-Gl; Br-Gl; Gr-Gl	0.1
No Materials to be Added	No Materials to be Dropped	Clothing	0.1
No Materials to be Added	No Materials to be Dropped	County-Wide (one day) Recycling for X-Mas Trees, Tires, and Electronics	0.1
No Materials to be Added	No Materials to be Dropped	Glass	1.1
No Materials to be Added	No Materials to be Dropped	Glass; Steel Cans; Newspaper	0.0
No Materials to be Added	No Materials to be Dropped	Gr-Glass	0.1
No Materials to be Added	No Materials to be Dropped	HHW	0.3

Materials to be Added	Materials to be Dropped	Materials Recently Dropped	Population (in millions)
No Materials to be Added	No Materials to be Dropped	Latex Paint	0.1
No Materials to be Added	No Materials to be Dropped	Paper; CC	0.0
No Materials to be Added	No Materials to be Dropped	PET	0.0
No Materials to be Added	No Materials to be Dropped	Plastic Bags	0.1
No Materials to be Added	No Materials to be Dropped	Plastics #3-7	0.2
No Materials to be Added	No Materials to be Dropped	Styrofoam	0.7
No Materials to be Added	Glass	No Materials Dropped	1.4
All	No Materials to be Dropped	No Materials Dropped	0.0
Aluminum; Agricultural plastic tubing; Aerosol cans	No Materials to be Dropped	Styrofoam	0.1
Anti-freeze	No Materials to be Dropped	No Materials Dropped	0.1
Batteries; Electronics; Glass	No Materials to be Dropped	No Materials Dropped	0.2
Cardboard; Newspaper; Magazines	No Materials to be Dropped	No Materials Dropped	0.0
CFLs; kitchen grease	No Materials to be Dropped	No Materials Dropped	0.1
Electronics	No Materials to be Dropped	No Materials Dropped	0.1
Electronics	No Materials to be Dropped	Electronics	0.0
Electronics; Film Plastic	No Materials to be Dropped	No Materials Dropped	0.2
EPS- pilot program	No Materials to be Dropped	No Materials Dropped	0.1
E-Waste	No Materials to be Dropped	No Materials Dropped	0.8
Fluorescent Bulbs; household batteries; electronics	No Materials to be Dropped	No Materials Dropped	0.0
Fluorescent Bulbs; household batteries; electronics	No Materials to be Dropped	No Materials Dropped	0.0
Glass	No Materials to be Dropped	No Materials Dropped	1.2
Junk mail	No Materials to be Dropped	No Materials Dropped	0.1
Junk mail; PBD; Steel Cans	No Materials to be Dropped	No Materials Dropped	1.3
Leaves	No Materials to be Dropped	No Materials Dropped	0.0
Metal	No Materials to be Dropped	No Materials Dropped	0.0
Motor Oil	No Materials to be Dropped	No Materials Dropped	0.0
Oil	No Materials to be Dropped	No Materials Dropped	0.1
Oil Filters, Textiles, ONP/MRP	No Materials to be Dropped	No Materials Dropped	0.1
Oil; Antifreeze; Computers; Mercury	No Materials to be Dropped	No Materials Dropped	0.1
Oil; junk mail; monitors	No Materials to be Dropped	Carpet	0.4
Old Paint	No Materials to be Dropped	No Materials Dropped	0.3

Materials to be Added	Materials to be Dropped	Materials Recently Dropped	Population (in millions)
Paint	No Materials to be Dropped	No Materials Dropped	0.3
Paperboard; Plastic 3-7	No Materials to be Dropped	No Materials Dropped	0.0
Pbd	No Materials to be Dropped	No Materials Dropped	0.0
Pbd-c; Aseptic	No Materials to be Dropped	No Materials Dropped	0.0
PET,HDPE, STL CANS(?)	No Materials to be Dropped	No Materials Dropped	0.1
PET; HDPE	No Materials to be Dropped	No Materials Dropped	0.0
PET; Plastics #3-7	Glass	No Materials Dropped	0.0
Phone Books	No Materials to be Dropped	No Materials Dropped	0.1
Plastic	No Materials to be Dropped	No Materials Dropped	0.1
Plastic #3-7	No Materials to be Dropped	No Materials Dropped	0.3
Plastic #3-7 tubs	No Materials to be Dropped	No Materials Dropped	0.1
Plastic #5	No Materials to be Dropped	No Materials Dropped	0.0
Plastic 3-7	No Materials to be Dropped	No Materials Dropped	0.4
plastic 3-7, rigged plastic and toys	No Materials to be Dropped	No Materials Dropped	0.0
Plastic Bags	No Materials to be Dropped	No Materials Dropped	0.3
Plastic bags; Plastic #5	No Materials to be Dropped	No Materials Dropped	0.1
Plastic bags; Plastics 3-7	No Materials to be Dropped	No Materials Dropped	0.1
Plastic Bags; Shrink Wrap	No Materials to be Dropped	No Materials Dropped	0.0
Plastic film	No Materials to be Dropped	No Materials Dropped	0.2
Plastic Tubs	No Materials to be Dropped	No Materials Dropped	0.0
Plastics	No Materials to be Dropped	No Materials Dropped	0.1
Plastics #3-5	No Materials to be Dropped	No Materials Dropped	0.3
Plastics #3-7	No Materials to be Dropped	No Materials Dropped	1.0
Plastics #3-7; Pbd; CCB	No Materials to be Dropped	No Materials Dropped	0.0
Plastics 3-7	No Materials to be Dropped	No Materials Dropped	0.6
Plastics; Glass	No Materials to be Dropped	No Materials Dropped	0.0
Plastics; Glass	No Materials to be Dropped	Glass	0.0
Plate Glass	No Materials to be Dropped	No Materials Dropped	0.1
Plastic film	No Materials to be Dropped	No Materials Dropped	0.0
Sheet rock; Mercury Bulbs	No Materials to be Dropped	No Materials Dropped	0.0
Shrink Wrap #4	No Materials to be Dropped	No Materials Dropped	0.1
Steel Cans	No Materials to be Dropped	No Materials Dropped	0.1
Styrofoam	No Materials to be Dropped	No Materials Dropped	0.0
Telephone books	No Materials to be Dropped	No Materials Dropped	0.1
Tires	No Materials to be Dropped	No Materials Dropped	0.0

Materials to be Added	Materials to be Dropped	Materials Recently Dropped	Population (in millions)
White goods	No Materials to be Dropped	No Materials Dropped	0.0
Wooden Pallets; oil filters	No Materials to be Dropped	No Materials Dropped	0.1

Table C-15
Planned or Recent Changes to Recycling Program Materials - Random Responses

Materials to be Added	Materials to be Dropped	Materials Recently Dropped	Population
No Materials to be Added	No Materials to be Dropped	No Materials Dropped	539,119
No Materials to be Added	No Materials to be Dropped	Glass	1,073
No Materials to be Added	No Materials to be Dropped	Green glass	7,692
No Materials to be Added	No Materials to be Dropped	Plastic	2,091
No Materials to be Added	No Materials to be Dropped	Steel Cans	1,376
No Materials to be Added	Green glass	No Materials Dropped	1,360
#3- #7 plastics	No Materials to be Dropped	No Materials Dropped	6,830
#5 plastic; #2 plastic bags; styrofoam	No Materials to be Dropped	No Materials Dropped	2,379
clothes	No Materials to be Dropped	No Materials Dropped	988
clothing; books	No Materials to be Dropped	No Materials Dropped	4,957
Electronics	No Materials to be Dropped	No Materials Dropped	1,306
Glass	No Materials to be Dropped	No Materials Dropped	805
Yes, but not sure what.	No Materials to be Dropped	No Materials Dropped	109

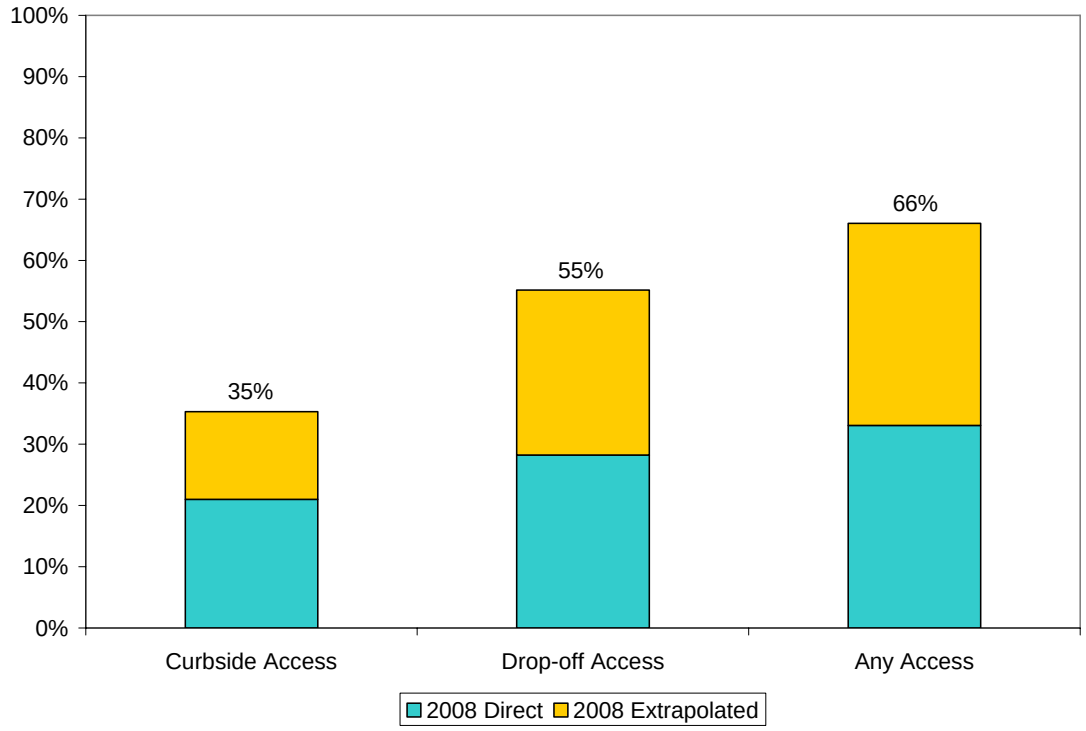
Appendix D
RESULTS BASED ON THE NUMBER OF COMMUNITIES

Appendix D
RESULTS BASED ON THE NUMBER OF COMMUNITIES

This section of the report presents similar survey results as in Section 2, but using number of communities as the basis for measurement rather than population.

In the 2008 Survey, nationwide totals were calculated from a combination of direct surveying and statistical sampling. Figure D-1 summarizes the percentage of communities with curbside and drop-off container materials recycling access.

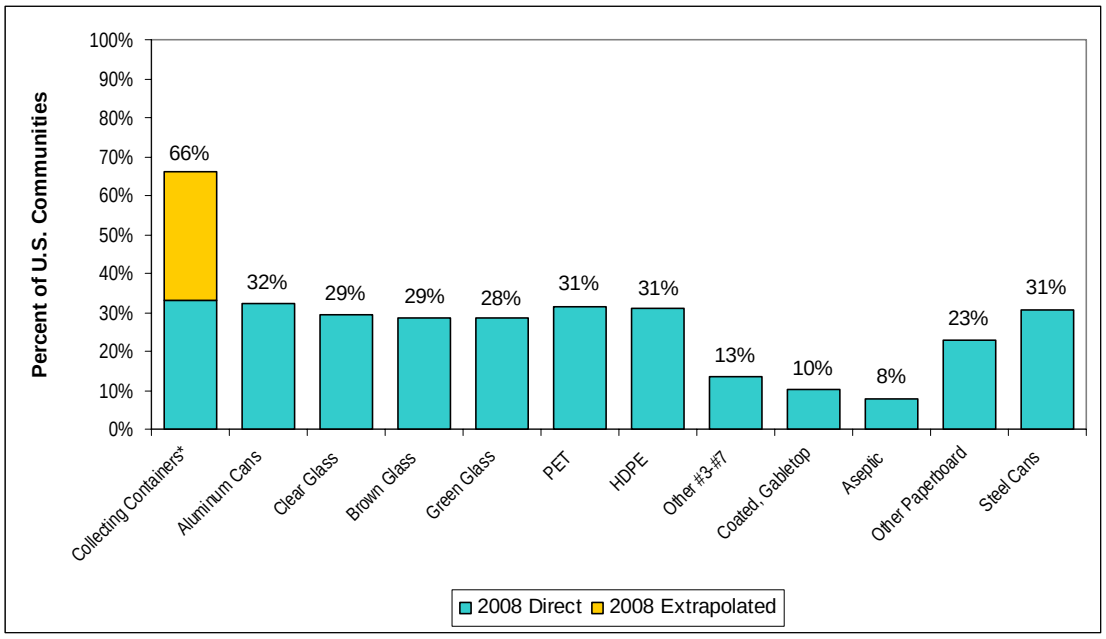
Figure D-1
Percentage of Communities with Access to Container Materials Collection



* Note that the total of communities with any access is NOT equal to the sum of curbside and drop-off communities with access. This is due to the fact that many communities have access to both curbside and drop-off programs.

Figure D-2 summarizes the communities with access to container materials recycling for each targeted container material. Note that the Figure shows nationwide estimates only for the total recycling programs collecting container materials, and not for individual container material.

Figure D-2
Percentage of Communities with Access to Container Materials Recycling



* "Collecting Containers" refers to communities with access to at least one container category. This total represents a nationwide estimate. All other data reflects county-level direct survey responses only.

** Note that the total for communities with access is NOT equal to the sum of curbside and drop-off population with access, due to the fact that many communities operate both a curbside and a drop-off program.

The randomly selected communities range from fairly large communities (with more than twenty thousand people) down to small incorporated areas (with less than 50 people). Larger communities are more likely to have container materials recycling and, as past experience has shown, are also much more likely to respond to this survey. Consequently, applying the results of the statistical sample based on communities will result in an upward bias when extrapolating these results to the whole, since primarily the more populous communities have responded.

The statistical techniques used to overcome this bias involve stratifying the remaining (non-contacted) communities by population, and evaluating both the statistical sample results as well as the county-level direct survey results within the same population strata. The stratification has only been used to estimate the nationwide percentage of communities with access any kind of container recycling.

Container Materials Collection Techniques

Table D-1 presents the percentage of communities served by programs collecting containers using each of the three curbside collection strategies described in Section 2. Twenty-two percent of the communities (covered by respondents) reported collecting container materials in a separate compartment, 24 percent reported commingling materials with containers including glass, and four percent reported commingling paper and containers together, but exclude glass from the compartment. Finally, the

individuals responding for 50 percent of the communities covered did not know the collection method used.

Table D-1
Container Materials Collection Techniques (Communities in Response)

Collection Technique	County-level Responses	% of County-level Responses	% of County-level Responses w/ Known Answer*	Community-level Responses	% of Community-level Responses	% of Community-level Responses w/ Known Answer**
Separate	3008	22%	44%	35	8%	49%
Commingled, Including Glass	3273	24%	48%	26	6%	37%
Commingled, Excluding Glass	495	4%	7%	10	2%	14%
Unknown	442	3%		9	2%	
No Answer Given	6261	46%		356	82%	
Total in Response to Survey	13,479	100%		436	100%	

* The communities covered in county-level responses with known answers is 20.0% of the communities in the U.S.
** The population covered in community-level responses with known answers is 0.2% of the communities in the U.S.

In addition to assessing current container materials collection techniques, the 2008 Survey also asked respondents to indicate if any communities were considering a change to their current collection system to single-stream including glass, or single-stream excluding glass. Of the communities covered by the responses giving a current collection method, approximately two and a half percent indicated that they plan to switch to single-stream collection.

State-by-State Breakdown of Survey Results

County-level direct survey responses were obtained representing 13,479 communities. To better understand the geographic distribution of container materials recycling, this section presents state-by-state results. Note that it is not possible to interpolate state-level totals from the results of the *national* statistical sampling, and therefore the results below are based solely on the county-level direct survey responses.

Table D-2 shows the following information for each state: the total communities in the state; communities covered in responses to the 2008 Survey; and communities of those responding with curbside and drop-off programs in the state.

Table D-2 also shows the percent of communities within each state that has curbside or drop-off recycling programs that accept container materials. This percentage is calculated by dividing the communities recycling container materials (numerator) by the number of communities in the state that responded (denominator). Because the most populous counties in each state were surveyed (and more populous counties are assumed to be more likely to have established recycling programs), this percentage

likely represents the ***maximum percentage*** of communities that recycle containers in each state.

Table D-2
County-level Results, Container Collection by State, Communities

State	Total Comms.	Responding Comms.	% Responding	Curbside		Drop-off	
				Comms. w/ Access	% of Responding	Comms. w/ Access	% of Responding
Alabama	560	277	49%	33	12%	82	30%
Alaska	371	51	14%	4	8%	19	37%
Arizona	264	191	72%	29	15%	84	44%
Arkansas	594	174	29%	29	17%	71	41%
California	1,135	780	69%	610	78%	657	84%
Colorado	416	176	42%	68	39%	59	34%
Connecticut	169	168	99%	132	79%	119	71%
Delaware	78	78	100%	24	31%	0	0%
District of Columbia	1	1	100%	1	100%	1	100%
Florida	952	853	90%	715	84%	595	70%
Georgia	753	311	41%	95	31%	231	74%
Hawaii	136	118	87%	46	39%	96	81%
Idaho	249	64	26%	15	23%	41	64%
Illinois	1,415	458	32%	234	51%	307	67%
Indiana	693	305	44%	103	34%	226	74%
Iowa	1,053	149	14%	120	81%	94	63%
Kansas	736	72	10%	25	35%	62	86%
Kentucky	586	148	25%	77	52%	141	95%
Louisiana	459	107	23%	28	26%	82	77%
Maine	524	4	1%	1	25%	3	75%
Maryland	391	204	52%	161	79%	201	99%
Massachusetts	351	31	9%	10	32%	26	84%
Michigan	1,528	712	47%	327	46%	622	87%
Minnesota	2,758	632	23%	381	60%	407	64%
Mississippi	411	87	21%	47	54%	49	56%
Missouri	1,084	252	23%	143	57%	190	75%
Montana	329	61	19%	3	5%	36	59%
Nebraska	630	33	5%	5	15%	18	55%
Nevada	87	61	70%	35	57%	54	89%
New Hampshire	245	147	60%	59	40%	129	88%

State	Total Comms.	Responding Comms.	% Responding	Curbside		Drop-off	
				Comms. w/ Access	% of Responding	Comms. w/ Access	% of Responding
New Jersey	566	432	76%	370	86%	284	66%
New Mexico	267	67	25%	3	4%	15	22%
New York	1,011	759	75%	628	83%	625	82%
North Carolina	755	375	50%	228	61%	331	88%
North Dakota	426	10	2%	7	70%	2	20%
Ohio	1,142	798	70%	362	45%	660	83%
Oklahoma	764	263	34%	42	16%	184	70%
Oregon	344	161	47%	147	91%	160	99%
Pennsylvania	2,577	1,426	55%	536	38%	762	53%
Rhode Island	39	39	100%	39	100%	39	100%
South Carolina	414	237	57%	125	53%	218	92%
South Dakota	416	12	3%	12	100%	12	100%
Tennessee	475	194	41%	49	25%	177	91%
Texas	1,761	336	19%	77	23%	225	67%
Utah	318	107	34%	67	63%	73	68%
Vermont	252	115	46%	82	71%	111	97%
Virginia	465	205	44%	91	44%	193	94%
Washington	561	423	75%	282	67%	370	87%
West Virginia	337	93	28%	31	33%	70	75%
Wisconsin	1,893	694	37%	387	56%	373	54%
Wyoming	221	28	13%	2	7%	4	14%
Total	33,962	13,479	40%	7,127	53%	9,590	71%