



MOORE RECYCLING

PO Box 1327
Sonoma, CA 95476

T 707 935-3390 X14
F 707 935-1998

Patty@MooreRecycling.com

www.MooreRecycling.com

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Cynthia Dunn
California Department of Resources Recycling and Recovery
1001 I Street, Mail Stop 13A, P.O. Box 4025
Sacramento, CA 95812-4025

Dear Ms. Dunn,

The following are Moore Recycling's comments on the CalRecycle Packaging Workshop background paper entitled "Increasing collection and recovery of packaging in California" and dated November 13, 2014.

These comments address Definition and Scope as requested and fall into two areas:

- Assumptions on recovery levels
- Assumptions on collection

Because the California solid waste and recycling system is very far advanced compared to those of most other states, US EPA's National Waste and Recycling data is simply not applicable. Californians have access to a much broader array of recycling and reuse options than do residents of most other states. Specifically, the assumption we've italicized in the following text from page 12 is not valid for California:

Plastic containers (e.g., PVC, LDPE, PP, PS, EPS, or mixed resins) comprise a subset of container types that is *currently not collected and recycled as readily as other container types*, due in part to conditions such as limited collection volumes and mixed resin containers that make it infeasible to recycle economically.

Moore Recycling published *Plastic Recycling Collection: California Reach Study, July 2011* (attached), which found that 85.3 percent of Californians have access to recycle these plastic containers, which we designate All Non-Bottle Rigid Containers. In the report we conclude the following:

There has been substantial growth in the collection of non-bottle rigid plastics in California in the last few years. Moore Recycling has been tracking the collection programs for CA Cities for a number of years. **In 2008, only 46 cities accepted non-bottle rigid plastic containers compared to 340 today!** [emphasis added]

Clearly, the results show that there is widespread access to plastic recycling in California, although the public and communities are not consistently taking advantage of this access, and plastic material is being lost in the collection and processing system. Thus, there is work to be done to provide the public with clear and concise information when it comes to learning about recycling programs.

Rather than just focusing on packaging, CalRecycle would be better served addressing issues that are hindering improvements in the quality and quantity of materials already collected for recycling. Two areas worthy of focus are:

- Promoting design for recyclability guidelines
- Vastly improving outreach and education

In addition, CalRecycle may want to address material loss in the collection system, specifically at the MRF level.

CalRecycle should also put added emphasis on tools that are already in place, specifically:

- Enforcing California's Laws on Compostable, Degradable and Biodegradable Plastics will help manage a component of the waste stream that adds cost to the reclamation system
- A vigorous effort to enforce California's Rigid Plastic Packaging Container (RPPC) law will have a significant positive impact on end market demand
- Modifying the Plastic Market Development Payment so that the funds go exclusively to California business that make products from CRV plastics reclaimed in California will ensure that the strong reclamation infrastructure for CRV bottles will remain healthy

Lastly, the California 2008 Statewide Waste Characterization Study shows that two thirds (66.7%) of the waste disposed in the state is from commercial sources. Incremental improvements in household recycling are, of course, possible, but addressing commercial and industrial scrap from small and medium-size enterprises will produce vastly greater improvements in both quantity and quality of materials recycled.

Sincerely yours,



Patty Moore
CEO, Moore Recycling Associates Inc.

Plastic Recycling Collection: California Reach Study

July 2011

Plastic Recycling Collection: California Reach Study

Purpose

The purpose of this project is to determine the types of rigid plastics that are collected—curbside or municipal drop-off—in California for recycling and to document the percentage of the population that has access to recycling various types of plastic. Rigid plastic includes plastic packaging such as bottles, tubs, cups, containers and trays; it also includes products such as storage boxes, toys, bins and boxes. This data will give us a better understanding of the progress toward the goal of curbside collection of all rigid plastics statewide. The data will also provide the information that will allow us to achieve our objectives of ensuring access for recycling in those areas clearly underrepresented and to address the issue of providing clear, consistent education to ensure successful plastic recycling programs.

Acknowledgement

Moore Recycling would like to thank the Plastics Division of the American Chemistry Council (ACC) for funding this project.

Methodology

We began our study by taking a look at how California's population is comprised. Using the 2008 U.S. City and County Populations from the U.S. Census Bureau, we determined that over 82% of the total California population resides within the State's incorporated cities, and the remaining population is in the unincorporated portions of our State.

In creating this methodology, we looked at two other recycling access studies done in the U.S. The 2008 American Beverage Association Community Survey and the 2007 American Forest & Paper Association Community Survey. Both studies used the same methodology: surveying a high percentage of the most populous communities and then surveying a representative sample of the smaller communities. We used a similar methodology, but acquired the data through a different process. Instead of contacting county recycling coordinators to gather data on each community in

their respective county as ABA and AF&PA did, we gathered data from each city and county directly. Both methods of collecting data will provide a similar result.

For this study we surveyed all 478 cities that make up 100% of the population in California living in incorporated areas. We also surveyed most of the counties: representing 96% of the population living in unincorporated areas of California.

Using the internet and phone calls we determined which plastic materials are collected curbside in each city and in the unincorporated portions of each county. The study was set up to first look for each community's access to curbside recycling. If a curbside program was not in place, we looked for access to other collection programs such as municipal drop-off, subscription¹ or dirty material recycling facilities (MRFs)². We did not gather data for CRV programs or retail drop off programs. In addition to collection information, we also gathered readily available general information for each city and county, such as the recycling coordinators' contact information and hauler(s).

Our data collection form allowed us to record the general *Plastic Collection Program* (defined below) as well as specific *Material Types* collected or excluded. Specific *Material Types* are generally included in addition to the *Plastic Collection Program* (e.g., "All Bottles and Containers & Specific Plastics," such as expanded polystyrene [EPS] blocks). Specific *Material Types* are also used for the rare program that only accepts specific materials (e.g., high density polyethylene [HDPE] bottles and containers only).

We recorded any exclusions to *Plastic Collection Program* such as EPS or polyvinyl chloride (PVC), and other product categories such as toys, motor oil bottles, etc.

We applied the results of the cities to their respective population segment. We applied the results from the counties surveyed to the unincorporated population.

Moore Recycling identified eleven *Plastic Collection Program* types for this study as illustrated in the table on the next page.

¹ Curbside programs offered for a monthly fee to which a resident must subscribe.

² Curbside programs where all waste is combined and brought to a facility where recyclables are pulled from the waste.

Plastic Collection Program Definitions

Plastic Collection Program	Definition
All Plastic	All bottles and caps, All non-bottle rigid containers (includes cups, trays, boxes, clamshells, tubs, pots, deli containers, carton, blister), All bulky rigid plastic (includes carts, crates, buckets, baskets, toys, lawn furniture) Includes film and EPS
All Rigid Plastic	All bottles and caps, All non-bottle rigid containers (includes cups, trays, boxes, clamshells, tubs, pots, deli containers, carton, blister), All bulky rigid plastic (includes carts, crates, buckets, baskets, toys, lawn furniture)
All Bottles and Non-Bottle Rigid Containers	All bottles and caps, All non-bottle rigid containers (includes cups, trays, boxes, clamshells, tubs, pots, deli containers, carton, blister)
All Bottles and Non-Bottle Rigid Containers & Specific Plastics	All bottles and caps, All non-bottle rigid containers (includes cups, trays, boxes, clamshells, tubs, pots, deli containers, carton, blister), plus specific plastics (may also include film and/or EPS)
All Bottles	All bottles with a narrow neck or screw top and their caps
All Bottles & Specific Plastics	All bottles with narrow neck or screw top and their caps, plus specific plastic types (may also include film and/or EPS)
CRV Only	California Redemption Value (CRV) plastic beverage containers
CRV & Specific Plastics	CRV plastic beverage containers, plus specific plastic types (including film, EPS, and/or other non-CRV plastic)
PET & HDPE Bottles Only	Polyethylene Terephthalate (PET) & HDPE bottles and caps
PET & HDPE Bottles & Specific Plastics	PET & HDPE bottles and caps, plus specific plastic types (may also include film, EPS, and/or other bottles)
Other Specific Plastics	Other specific plastics outside of other categories

Findings

Below are the combined results for the *Plastic Collection Program* categories for both the incorporated and unincorporated segments surveyed. These results do NOT include the exclusions to any particular program. In order to account for additional *Material Types* accepted or excluded, we applied that data to the specific *Material Types* (e.g., PET bottles/jars/jugs) found on the next page.

We found that 99.5% of California’s population has access to All CRV recycling, and 96% has access to PET and HDPE bottle and cap recycling. We were pleased to learn that more than 85% of Californians have access to recycling all non-bottle rigid containers.

<i>Plastic Collection Program</i>	Percentage of CA Population with Recycling Access
All Plastic	13.1%
All Rigid Plastic	29.7%
All Bottles & Non-Bottle Rigid Containers & Specific Plastics	9.0%
All Bottles & Non-Bottle Rigid Containers	33.6%
All Bottles & Specific Plastics	1.8%
All Bottles Only	6.3%
PET & HDPE Bottles & Specific Plastics	0.4%
PET & HDPE Bottles Only	2.6%
All CRV Bottles & Specific Plastics	0.0%
All CRV Only	3.0%
Other Specific Plastics	0.0%
No Plastic *	0.5%

96.4%
 Access to
 PET & HDPE
 Bottle and
 Cap
 Recycling

85.3%
 Access to
 All Non-
 Bottle Rigid
 Container
 Recycling

* Includes the population using those “dirty” MRFs that we could not determine which plastics they recover.

For more information on non-bottle rigid plastic recycling, please reference the (2009, 2008, and 2007) National Report on Post-Consumer Non-Bottle Rigid Plastic Recycling; see Resources.

The following chart indicates recycling access to specific *Material Types*. It includes the specific *Material Types* collected and any specific exclusions applied to the percentages. We were not able to account for some of the more general exclusions, such as “no automotive fluid/hazardous material,” from the *Material Types* below, but we know that 3% of the population with access to the recycling programs above are asked not to include automotive/hazardous materials containers in their programs and another 3% no toys. Other exclusions, such as “no clamshells/take-out containers” or “no cups” were so rare as to be immaterial.

Material Type	Percentage of CA Population with Recycling Access
PET bottles/jugs & jars with caps	96.4%
HDPE bottles/jugs & jars with caps	96.4%
LDPE bottles/jugs & jars with caps	93.4%
PP (polypropylene) bottles/jugs & jars with caps	93.4%
PVC bottles/jugs & jars with caps	93.4%
Other bottles/jugs & jars with caps	93.4%
PET non-bottle rigid (trays/clamshells/cups)	86.5%
HDPE non-bottle rigid (cups/bowls/trays)	86.5%
PVC non-bottle rigid (blisters/clamshells)	85.3%
LDPE non-bottle rigid (tubs/lids)	85.3%
PP non-bottle rigid (cups/bowls/trays)	85.3%
PS non-bottle rigid (cups/bowls/trays)	81.8%
Other non-bottle rigid (cups/bowls/trays)	85.2%
EPS food service	45.0%
EPS packaging (blocks/peanuts)	26.3%
Bulky Plastic (toys/buckets/crates/drums)	42.8%

While we tracked curbside collection of film & bags, we did not include it in this report as most consumer film and bags are recycled through State-mandated retail drop-off programs located across the California.

Education and Outreach

The majority of cities and counties continue to use resin codes to describe acceptable materials for recycling, which is very confusing to the public. It is unfortunately quite common to see education such as...

Empty Plastic Containers: any plastic container with the "1, 2, 3, 4, 5, 6, or 7" recycling number on the back or bottom. Look for the symbol on these types of containers: beverage, bleach, condiment, cleaners, cooking oil, detergent, liquor, lotion, mouthwash, shampoo, syrup, milk and water jugs, plastic lids and bottle caps, plastic food trays, yogurt and butter tubs, meat trays

In this commonly repeated case, the use of the numbers is perplexing and unnecessary, since all plastic containers are one of these resin types and it does not affect the recyclability of the product if the code is not on the container. This type of education discourages the public from participating in plastic recycling if they believe they have to check every plastic container to see if it has a number; it perpetuates the myth that only some of the containers can be recycled, whereas, in the program above, all containers can be included.

What's Recyclable?

County of Santa Barbara | (805) 882.3600 | www.lessismore.org



GLASS BOTTLES & JARS (Botellas y Tarros de Vidrio)
 NO window glass or drinking glasses.



PAPER & CARDBOARD (Papel y Cartón)
 NO paper plates, towels, napkins.
 NO waxed boxes.



ALL PLASTIC (Todo Plástico)
 NO styrofoam. NO bags.



ALL METAL (Todo Metal)
 NO full or partly-full containers. NO oil filters.

But there are some good examples of public education: those illustrating materials accepted through photos and a brief, clear description. Here is an example from Santa Barbara County:

Providing photos, as shown in this example, and avoiding the use of the resin code, gives very clear direction to the residents participating in the recycling program. Please see the Resources section, for links to additional good community education programs.

Regional Differences

We found that, in general, finding unincorporated county recycling collection information was much more difficult than obtaining information for cities. As expected, the more populous the city and/or county, the more easily information could be located online. In general, Californians have very good on-line access to community recycling information.

Conclusions / Next Steps

There has been substantial growth in the collection of non-bottle rigid plastics in California in the last few years. Moore Recycling has been tracking the collection programs for CA Cities for a number of years. In 2008, only 46 cities accepted non-bottle rigid plastic containers compared to 340 today!

Clearly, the results show that there is widespread access to plastic recycling in California, although the public and communities are not consistently taking advantage of this access, and plastic material is being lost in the collection and processing system. Thus, there is work to be done to provide the public with clear and concise information when it comes to learning about recycling programs. As mentioned above, many communities are providing clear recycling education but the majority continue to use the resin code or incorrect information.

There is a pressing need to develop a universal language to describe items acceptable for plastic recycling. Current city and county outreach materials leave too much room for personal interpretation, and most of it is confusing. Creating standardized outreach, such as the example from Santa Barbara County, would be invaluable and reduce the confusion surrounding plastic recycling collection. This would help increase the capture rate in those communities that do collect plastic beyond bottles. Moore Recycling is working with ACC and the Association of Postconsumer Plastics Recyclers (APR) to develop standardized "Education without Numbers".

Although it was not part of this report because of the differing collection infrastructure, it is also important to document the access to film and bag recycling.

Performing this study on an on-going basis will allow us to measure where California has improved in plastic collection and where we still need to focus our time and energy. The collection database

is set up and refined; it has the contact information for each city and county, including the website where we found the information. We have performed the most difficult tasks of creating and populating a database to make this study run easier the next time around.

Resources

2009 National Report on Post-Consumer Non-Bottle Rigid Plastic Recycling:

http://www.americanchemistry.com/s_plastics/sec_content.asp?CID=1593&DID=11690

Plastic Market Information:

www.plasticmarkets.org

Plastic Bag Recycling information:

www.PlasticBagRecycling.org

2008 U.S. City Populations from the U.S. Census Bureau:

<http://www.census.gov/popest/cities/SUB-EST2008-4.html>

2008 U.S. County Populations from the U.S. Census Bureau:

<http://censtats.census.gov/cgi-bin/usac/usacomp.pl>

The following are links to examples of good online recycling public education:

San Diego, California

<http://www.sandiego.gov/environmental-services/recycling/yes.shtml>

Santa Barbara, California

http://www.santabarbaraca.gov/Recycling-Trash/pdf/Mixed_Recycling_Cart_Can.pdf