Canadian Residential Plastics Packaging: Recycling Program Access Report

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Background

During the past two decades, the popularity of recycling has grown dramatically. Recycling programs are now in place in most major Canadian cities. The participation level of recycling, however, varies quite widely from province to province. While some of this variability can be explained by differences in levels of household income, education, general interest, and age of residents, one of the key factors influencing recycling rates in Canada is whether people have access to recycling programs.

Access rates for various types of plastic packaging are constantly changing, and the specific list of materials accepted in a residential recycling program varies from municipality to municipality. As extended producer responsibility (EPR) schemes proliferate across the country, it is becoming increasingly important for manufacturers and retailers of packaged food and consumer goods to know what percentage of Canadians have access to recycling programs for the packaging they place on the market.

In this report, having "access" to recycling means the opportunity available to consumers to recycle their plastics packaging through residential curbside recycling programs, municipal recycling depots, deposit-return programs for beverage containers, or return-to-retail (for empty beverage containers only).

It should be noted that there are return-to-retail programs for other categories of plastic packaging (i.e., shopping bags, film and foam); however, this report does not include that data in our access calculations. The report authors and the Canadian Plastics Industry Association (CPIA) will determine the feasibility of including that information in future years' reports.



Purpose

This report aims to provide the Canadian Plastics Industry Association and other stakeholders with information on what percentage of Canadians have access to recycling programs for the plastics packaging materials put into the market. The list of materials researched by CM Consulting is as follows:

Plastics

- PET beverage bottles
- PET bottles, jugs, and jars
- HDPE beverage bottles
- HDPE bottles, jugs and jars
- PVC bottles, jugs and jars
- LDPE bottles, jugs and jars
- PP bottles jugs and jars
- Other (#7) bottles, jugs and jars
- PET non-bottle rigid containers
- HDPE non-bottle rigid containers
- PVC non-bottle rigid containers
- LDPE non-bottle rigid containers
- PP non- bottle rigid containers
- PS non- bottle rigid containers
- Other non-bottle rigid containers
- HDPE, LDPE film and bags
- Retail shopping bags
- PS foam food packaging
- PS foam protective packaging
- HDPE, LDPE, PP, PS tubs and lids <4L
- HDPE, LDPE, PP, PS tubs and lids >4L
- Bulky plastics
- Caps
- Horticultural rigid plastic



Methodology

In order to estimate recycling access rates for each of the plastic packaging materials identified, CM Consulting began by determining the population residing within each municipality, regional district, or subdivision having a defined area. These three groupings are respectively referred to as a Recycling Program Area (RPA). Populations for each RPA were determined using 2011 Statistics Canada census data.

The second step in the research was to determine which materials were accepted in each recycling program. This research was done between August and November of 2015. This required visiting the municipal/regional websites of each of the roughly 400 RPAs. Some degree of interpretation was necessary to complete this task.

To determine which materials were accepted in various municipal recycling programs, CM Consulting looked for specific key words or phases. For instance, if a website listed "Bakery Trays" as accepted and also stated that PET (or #1) and Polystyrene (or #6) as acceptable materials, then PET and polystyrene non-bottle rigids were considered accepted. Furthermore, if a material was not listed as accepted – either explicitly or implicitly – it was assumed that it was not accepted for recycling in that municipality.



Key Findings

National Access Rates

Figure 1 and Figure 2 present national recycling access rates for the two categories of plastic packaging materials. As shown in Figure 1, there is near countrywide access to recycling of PET beverage containers. In most provinces, these containers are recovered under a deposit-return program. The exceptions are Manitoba, Ontario, and Quebec, where they are collected at curbside and municipal depots.

In general, plastic containers made from PET, HDPE, LDPE and PP show access rates of 90% or higher. The access rate for PVC and other (#7) types of plastic containers have risen this year to 88% and 91% respectively. While polystyrene (PS) continues to be the resin with the lowest access rate to recycling, rates for containers made from this material have increased from 63% in 2014 to 70% in 2015. Much of this increase comes from BC, Alberta, and Quebec.





The access research revealed many programs limit the types of plastic they accept in a recycling program to plastic containers, leaving non-container plastics to be tossed into the waste stream. This limitation on acceptance causes some non-container plastics to have lower access rates to recycling than plastic containers. Despite this, the 2015 study shows significant access rate increases in the film and bags categories (from 55% in 2014 to 65% in 2015), as well as the polystyrene foam categories (both PS foam categories have increased from 34% to 44%). The increase for film and bags comes mostly from Toronto, where the program expanded to accept these. Similarly, much of the increase in access rates for PS foam comes from Montreal, where the Lasalle Ecocentre expanded their list of accepted materials to include all foam.





Canadian Programs by Categories of Materials

In the 2011 U.S. *Plastic Recycling Collection: National Reach Study* conducted by Moore Recycling Associates (MRA), recycling programs were defined as accepting one of several broad categories of materials; for example "All Bottles and Non-Bottle Rigid Containers" or "All Bottles Only." For comparison purposes, the CPIA has requested that CM Consulting use the same categories as MRA for the 2015 study.

The categories used by Moore Recycling Associates are:

- All plastic
- All rigid plastics
- All bottles and non-bottle rigid containers and specific plastics
- All bottles and non-bottle rigid containers
- All bottles and specific plastics
- All bottles only
- PET and HDPE bottles and specific plastics
- PET and HDPE bottles only
- Other specific plastics
- No plastic program

It is important to note that the categories used in the MRA study included caps. Unlike many U.S. recycling programs, many Canadian programs do not accept caps for recycling; therefore CM Consulting has tracked caps as a distinct category.

In consultation with CPIA, CM Consulting decided to add a category that covered several programs that could not be properly categorized using the categories developed by MRA. That program category is "All PET, HDPE, and PP bottles and containers."

The results of the categorization are summarized in the following table.

Table 1: Summary of Plastics

Summary of Plastics	Percentage of Canadians with this level of plastics recycling	67% All	96% All PET and
All plastic	0%	Plastic	HDPE
All rigid plastics	1%	Containers	Bottles,
All bottles and non- bottle rigid containers and specific plastics	45%		Jugs and
All bottles and non- bottle rigid containers	21%		JUI 3
All bottles and specific plastics	1%		
All bottles only	0%		
All PET, HDPE, and PP bottles and PET, HDPE, and PP containers	25%		
PET and HDPE bottles and specific plastics	1%		
PET and HDPE bottles only	1%		
Other specific plastics	0%		
NO plastic program	4%		

There has been a trend towards accepting all household plastic containers in recycling programs. Many programs, especially in British Columbia, Alberta, and Ontario, now incorporate PVC, PS, and #7 (other) plastic into their programs. This was first noted in 2014 when the access rate to all plastic container recycling increased to 61% from 53%. The data in this 2015 update shows that this trend continues. Currently 67% of Canadians have curbside or depot access to recycling all plastic containers.

The access rate for recycling programs across the country that do not accept all plastic containers but that accept PET and HDPE bottles has also increased from 2014 to 2015. Today, 96% of the population can recycle these containers at depots or curbside. This is an incremental increase of 2% from 94% in the 2004 study.

In 2014, CM Consulting added regional maps to this study for the first time. For this report we offer regional maps dividing the country into six regions to show geographically the specific areas where recycling programs offer all plastic container recycling, the 67% referred to in the graphic above.



British Columbia

Recycling Program Areas (RPAs) in British Columbia are determined by municipal district. Many of the programs use the MMBC list of materials accepted, which includes all plastic containers. These programs are shown here in green, and represent 89% of the population. While most of these districts are signed on with MMBC, there are a few regions that have not signed on, but are taking the same list of materials.

There are a few regional districts that accept some materials for recycling but not all plastic containers. These are shown in pink. The most populated of these is Abbotsford.





Alberta

RPAs in Alberta are a combination of municipalities, counties, and groupings of populations served by waste management associations. Many parts of the province are rural and therefore not studied (yellow).

The map shows that the more heavily populated urban areas and a few of the smaller ones collect all plastic containers in their programs. The only program in Alberta serving a population greater than 25,000 that does not collect all plastic containers is that of Red Deer's, which serves a population of over 90,000 people.





Saskatchewan and Manitoba

As this map shows, due to low population density and the lack of a stewardship program plan (such as the programs in Ontario and BC), Saskatchewan does not have many programs with extensive plastic recycling. The urban areas that do, however, represent much of the province's population. There are several cities and towns that do not show well on this map, due to small geographic size. Those recycling programs serve 57% of the population. These places include Saskatoon, Regina, Prince Albert, Moose Jaw, and several others. Most rates in Saskatchewan have remained constant since CM Consulting started studying access. One notable change this year is that the program in Moose Jaw has moved to curbside, rather than depot collection.

In Manitoba, the stewardship program provides all residents with access to recycling some, but not all plastic containers. There are two populations in the province that can recycle all household plastics, those in Winnipeg and East region (largest city is Stienbach), which make up 64% of Manitoba's population.





Ontario

From a land area perspective, much of Ontario is unstudied. Only 3% of the province's population lives in that vast unstudied area.

The programs that serve the larger populations are often the programs that accept the full range of plastic containers. Eighty-nine percent of the population lives in one of these regions, in green. Almost all of the pink regions have plastic recycling programs that accept most plastic containers but do not accept one or two resins such as PVC or #7 (other).





Quebec

In Quebec, the regions, districts, cities, or other groupings that that accept all plastic containers and appear in green on this map, serve 18% of the population. Most of the programs in Quebec accept all plastic containers except those made from polystyrene (#6) plastic. These are not considered to take all plastic containers and are shown in pink on the map.





Atlantic Provinces

In Canada's Atlantic provinces we see that each program has evolved differently, mostly due to geographic and population density differences.

Only two of the regions of Newfoundland and Labrador have programs that offer access to recycling of all plastic containers. One of them, the program offered by the Central Newfoundland Waste Management Committee, is new in 2015. These two regions are home to 67% of the population.

The province of Nova Scotia has universal access to recycling of all plastic containers.

All of Prince Edward Island (PEI) participates in the Waste Watch program, which is managed by Island Waste Management Corporation (IWMC). Waste Watch accepts all PET and HDPE bottles as well as many other plastics, but not polystyrene (#6). Because of this, PEI is pink on the map.

All of the RPAs that make up New Brunswick accept at least all PET and HDPE bottles, jugs, and jars. Only four go further to accept all plastic containers. Those that accept all plastic containers represent just under 50% of the population.



Provincial Access Rates

Access to recycling of the more common plastic types is fairly consistent across Canada. Of the 10 provinces surveyed, 8 were found to have universal access to recycling PET beverage containers. The exceptions were Ontario and Quebec. It is important to note, however, that access to recycling in these provinces may be higher than reported since some of the programs that went unstudied (due to their small population served (under 5,000 people)) may accept these materials.

Table 2: Provincial Access Rates for Bottles, Jugs, and Jars

Province	PET Beverage	PET Bottles,	HDPE Beverage	HDPE Bottles,	PVC Bottles,	LDPE Bottles,	PP Bottles, Jugs, and	Other Bottles,
		Jugs, and Jars		Jugs, and Jars	Jugs, and Jars	Jugs, and Jars	Jars	Jugs, and Jars
British Columbia	100%	99%	100%	99%	94%	99%	99%	93%
Alberta	100%	86%	100%	90%	86%	85%	86%	84%
Saskatchewan	100%	57%	100%	57%	57%	57%	57%	57%
Manitoba	100%	100%	100%	100%	71%	84%	100%	100%
Ontario	97%	97%	97%	97%	92%	95%	96%	92%
Quebec	99%	99%	99%	99%	90%	99%	99%	99%
New Brunswick	100%	100%	100%	100%	61%	77%	92%	72%
Nova Scotia	100%	100%	100%	100%	100%	100%	100%	100%
Prince Edward Island	100%	100%	100%	100%	100%	100%	100%	0%
Newfoundland and Labrador	100%	67%	100%	67%	67%	67%	67%	67%

Non-beverage bottles, jugs and jars made from most other resins (i.e. PET, HDPE, LDPE, and PP) also show consistently high rates across the country. Access to recycling for these containers is over 80% in every province except for Saskatchewan, New Brunswick, and Newfoundland.

Access to recycling PVC bottles, jugs, and jars, is high in most provinces. Only Saskatchewan, Manitoba, New Brunswick and Newfoundland show rates below 80%.

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Access rates for other plastic bottles, jugs, and jars (#7) also increased in 2015. Only Saskatchewan (57%) and PEI, where #7 is not recycled at all, show rates below 60%.

As more RPAs begin to accept non-bottle rigid containers in their recycling programs, the rates for these continue to go up (Table 3). PET, HDPE, LDPE, PP, PVC and other (#7) non-bottle rigids are accepted for recycling at nearly the same rates as bottles made from those resins. The number of programs accepting polystyrene (PS) non-bottle rigids for recycling has expanded quickly as well, with Ontario now showing a 93% access rate, BC 94%, and Nova Scotia 100%. In some provinces, most notably Quebec and PEI, PS recycling access is well below that for other plastic packaging.

	PET non-	HDPE non-	PVC non-	LDPE non-	PP non-	PS non-	Other non-
Province	Bottle	Bottle	Bottle	Bottle	Bottle Rigid	Bottle	Bottle
	Rigid	Rigid	Rigid	Rigid		Rigid	Rigid
British Columbia	99%	99%	94%	99%	99%	94%	90%
Alberta	86%	88%	85%	85%	86%	84%	84%
Saskatchewan	57%	57%	57%	57%	57%	57%	57%
Manitoba	100%	100%	71%	84%	100%	64%	100%
Ontario	95%	94%	90%	92%	96%	93%	89%
Quebec	99%	99%	88%	99%	99%	18%	99%
New Brunswick	100%	100%	61%	77%	92%	49%	72%
Nova Scotia	100%	100%	100%	100%	100%	100%	100%
Prince Edward Island	100%	100%	100%	100%	100%	0%	0%
Newfoundland and Labrador	67%	67%	67%	67%	67%	67%	67%

Table 3: Provincial Access Rates for Non-Bottle Rigid Containers

In 2015, many program expansions included some of the non-container plastics (Table 4). Access to recycling HDPE and LDPE film and bags has increased to 93% in BC and 90% in Quebec. Roughly half of Ontario (53%, an increase from 33% in 2014), Nova Scotia (52%) and New Brunswick (47%) can recycle all film and bags. Saskatchewan, Manitoba and the other Maritime provinces continue to show low rates for this material. While many regions accept retail shopping bags, they do not accept

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the entire film family. Nova Scotia and PEI have universal collection of retail shopping bags and all other provinces are over 50%, except for Saskatchewan, Manitoba, and Newfoundland.

The vast majority of PS foam recycling in Canada is in BC, Ontario, Quebec and New Brunswick. All other provinces show rates below 10% for both foam categories. The tubs and lids categories would show higher rates if those categories did not include PS tubs and lids, but there are high rates for these materials in BC, Alberta, Ontario, and Nova Scotia.

Table 4: Provincial Access Rates for Non-Container Plastics

Province	HDPE, LDPE Film and Bags	Retail Shopping bags	PS Foam Food Packaging	PS Foam Protective Packaging	HDPE, LDPE, PP, PS Tubs and Lids <4L	HDPE, LDPE, PP, PS Tubs and Lids >4L	Bulky Plastic	Caps	Horticultural Rigid Plastic
British Columbia	93%	99%	92%	92%	94%	94%	8%	84%	97%
Alberta	69%	71%	8%	8%	82%	82%	2%	39%	46%
Saskatchewan	31%	31%	0%	0%	57%	57%	0%	0%	57%
Manitoba	0%	0%	0%	0%	64%	64%	0%	0%	64%
Ontario	53%	55%	55%	63%	93%	74%	4%	57%	68%
Quebec	90%	92%	36%	27%	19%	19%	0%	90%	99%
New Brunswick	47%	69%	31%	31%	49%	49%	31%	31%	49%
Nova Scotia	52%	100%	9%	9%	100%	100%	0%	0%	100%
Prince Edward Island	0%	100%	0%	0%	0%	0%	0%	100%	100%
Newfoundland and Labrador	0%	0%	0%	0%	67%	67%	0%	0%	67%



Access to recycling of bulky plastics is extremely low in most provinces. Very few programs accept toys and lawn furniture, but plastic bottle cap recycling is becoming more common. The recycling access rate for caps has increased to 84% in BC, 39% in Alberta, 90% in Quebec, and has remained steady at 100% in PEI. Ontario (57%) and New Brunswick (31%) also have programs that accept caps. Rigid horticultural plastic shows rates over 60% in BC, Manitoba, Ontario, Quebec, Nova Scotia, PEI and Newfoundland. Rates for rigid horticultural plastics in Alberta, Saskatchewan, and New Brunswick are between 40% and 60%.



Provincial Summaries

British Columbia

With the introduction of the Multi-Material British Columbia (MMBC) program in May 2014, British Columbia (BC) became the national leader in access to recycling for many materials. The province shows near-universal rates for containers made from PET, HDPE, PP, and LDPE. The rates for PVC, PS, and "other" (#7) containers are also quite high at 94% and 89%.



Figure 3

In all non-container plastic categories, BC shows rates very close to or above the highest rates in the country.

Access to recycling all film and plastic bags, tubs and lids, caps (from bottles), and horticultural (garden rigid) plastic are also well above the national average.







Alberta

Due to inclusion in the beverage container deposit-return program, access to recycling PET and HDPE beverage containers in Alberta is universal. As for bottles, jugs, jars, and non-bottle rigid containers made from other resins, access is between 84% and 90%. Several programs in Alberta have expanded to accept all plastic containers so the rates for #3 and #7 plastics went up in 2015.



Figure 5

With access rates of 69% and 71%, Alberta ranks above the national average in access to recycling film plastic. The province is also amongst the national leaders in access to recycling of tubs, both small and large format.

With only 8% of the population having access to recycling of PS foam, Alberta is well below the national access rate. Access to recycling of horticultural (garden rigid) plastic, at 46%, is also below the national average.









Saskatchewan

As a result of its low population density and the fact that most of its population resides in non-urban centres, Saskatchewan faces significant challenges when it comes to recycling access. Aside from beverage containers, access rates for most packaging materials in Saskatchewan are the lowest in the country.

Access rates for non-beverage plastic containers (bottles, jugs, jars, and non-bottle rigid) of all plastic materials are identical to 2014, at 57%.



Figure 7

Aside from large format tubs and lids, where the province shows a 57% access rate (the same municipalities that accept all the container plastics), Saskatchewan is well below the national rates for all non-container plastic categories.

Of particular note is that there are no municipalities that accept PS foam protective packaging or PS food containers. The low population density of the province makes PS foam recycling very problematic and expensive.









Manitoba

One hundred percent of Manitoba's population has access to either curbside or depot recycling of most plastic beverage containers, bottles, jugs, and jars, and non-bottle containers. The exceptions are those made from LDPE (access rate of 84%), PVC (71%) and PS (64%).

Figure 9



Many of the non-container plastics, including film and PS foam, are not accepted in any programs in Manitoba. Only two programs in the province accept tubs and lids (both small and large formats) and horticultural (garden rigid) plastic. These regions represent 64% of the population.









Ontario

There has been very little change in access rates for the container categories in Ontario. In 2015, access rates for all plastic containers are between 89% and 97%, roughly equal to or higher than the national averages, as they were in 2014. It should be noted that the rates may actually be higher because this study only includes jurisdictions with populations of 5,000 or more, and it is quite likely that there are some small communities with recycling programs that accept some of these items, that are not counted in the research.

Ontario's municipal recycling programs are relatively mature. Since 1994, municipalities with over 5,000 residents have been required to operate Blue Box programs under Ontario Regulation 101/94.

Ontario also has a high population density compared to most other provinces. Because the economics of recycling are influenced by economies of scale and factors such as transportation distances, the per-unit costs of collecting recyclable materials in many regions of Ontario are likely to be lower than in provinces whose population is spread out over large areas.

Much of the population lives in municipalities where it is forbidden by law to dispose of recyclables in the trash due to disposal bans in place.





For most of the non-container plastic categories, access rates in Ontario have remained constant in 2015. HDPE and LDPE film and shopping bags have seen a large increase as a result of Toronto (the province's largest single program) expanding from accepting only shopping bags to all plastic film and bags. The rate in this category is now at 53%, an increase from 33% in 2014.

Ontario is above the national average when it comes to access to recycling of PS foam (55% for food and 63% for protective), and small format tubs and lids (93%). The rate for bottle caps is 57%, and for horticultural rigid plastic is 68%.





Quebec

In 2014, Recyc-Quebec published the common recycling chart informing citizens on what materials they can put in their recycling bin to encourage that the same recyclables are accepted for curbside collection throughout Quebec. The chart is available at <u>www.recycquebec.gouv.qc.ca</u>.

The Curbside Recycling Chart establishes a standard minimum list of items allowed in recycling bins across the province, and includes items accepted by most of the 36 sorting centres in Quebec.

Although adoption of the chart is not mandatory, many – but not all – municipalities have adopted it and promote it to their citizens and material recycling facilities (MRFs) that receive their recyclables. This explains why most materials are either accepted nearly universally, or only accepted in a few programs representing less than 20% of the province.

Both Montreal and Quebec City – the two programs serving the greatest populations in the province – accept rigid and foam PS. Quebec City collects rigid PS and foam food PS in their curbside program, while Montreal accepts all PS materials (rigid and foam food and protective packaging) through their ecocentres.

Almost all of the plastic container materials show near universal access to recycling. The exceptions are PVC bottles, jugs, and jars (which have an access rate of 90%), PVC non-bottle rigids (88%), and PS non-bottle rigid plastic (18%, up 10% from 2014).





In the non-container plastic categories, the province saw an increase of 8 percentage points in both the film and retail shopping bag categories, to 90% and 92%, respectively. The rates for bottle caps (90%) and horticultural rigid plastic (99%) remain high.

The access to recycling of PS foam for food and protective packaging saw significant gains in the province with expansions in Quebec City and Montreal. However, the rates of 36% and 27% in these categories are still below the national average of 44%.

The reason the rates for the tubs and lids categories are so low is that most MRFs in the province do not accept any PS rigid.





New Brunswick

As a result of New Brunswick's Solid Waste Management Plan adopted in 1987, the responsibility for solid waste management in the province is divided among twelve regional solid waste commissions.

As in most other provinces, access to recycling of PET and HDPE beverage containers in New Brunswick is 100%. These materials are collected via the province's deposit-return program for beverage containers. PET and HDPE bottles, jugs and jars and non-bottle rigid containers are also recyclable by 100% of the province's population. Bottles, jugs and jars made from other resins show lower rates but most are increasing. PP and LDPE plastics are now showing 92% and 77% access rates respectively in the bottles, jugs and jars and non-bottle rigid categories. Other (#7) containers show a 72% access rate.

The rates for #3 (PVC) or #6 (PS) plastic containers are unchanged from last year's report at 61% and 49%.



Figure 15

For most non-container plastics, access rates are the same as 2014. The 31% of the province served by the Westmoreland MRF continue to be the only ones in the province with access to recycling for PS foam, caps, and bulky plastic. Tubs and lids categories are



at 49% access because Westmorland and the waste commission serving Fredericton accept these materials.

HDPE and LDPE film and bags and retail shopping bags show access rates of 47% and 69% respectively.







Nova Scotia

Most municipalities in Nova Scotia accept the same list of materials for recycling. The province shows 100% access rates for all plastic bottles, jugs and jars and all non-bottle rigid containers regardless of resin. The across-the-board increase of 3% does not reflect new populations getting access, but is the result of improvements to the research methodology that allowed CM Consulting to capture the entire population rather than deliberately exclude a small jurisdiction because they were below our population threshold. Specifics about this update can be found in Appendix B



Figure 17

Retail shopping bags, tubs and lids (both sizes), and horticultural rigid plastic also show universal access rates in Nova Scotia.

The access rate for HDPE and LDPE film and bags is 52%. No program in Nova Scotia accepts bulky plastic or caps.

PS foam recycling access in the province is at 9% due to a new program starting in late 2014 in Annapolis Valley, served by Valley Resource Waste Management.








Prince Edward Island

All municipalities in Prince Edward Island (PEI) are part of the Waste Watch program, which is managed by Island Waste Management Corporation (IWMC). Waste Watch, which was implemented in 2002, is a province-wide mandatory source separation program that requires residents to separate materials into three streams: recyclables, compost, and waste. For this reason, PEI is considered one RPA (Recycling Program Area) for the purposes of this study.

The program in PEI offers 100% access to recycling of all plastic containers except those made from PS and Other plastic (#7). There have been no changes to accepted material lists in the program from the last report in 2014.





PEI also has 100% access to recycling of retail shopping bags, bottle caps, and horticultural rigid plastic. In contrast, the program does not accept other film materials, PS foam, tubs and lids made from PS, or bulky plastic.





Newfoundland and Labrador

Compared to the rest of Canada, recycling access rates in Newfoundland and Labrador are quite low. Part of the reason is that Newfoundland and Labrador has the lowest population density of any Canadian province; this makes it extremely challenging for municipalities to operate successful, efficient, and economically viable diversion programs.

Currently, over 30% of the population is without access to recycling programs for any packaging materials, other than the beverage containers covered by the deposit program. Deposit beverages can be redeemed at bottle depots by 100% of the province's population.

Other plastic containers are recyclable by residents served by the Eastern Waste Management Committee and the Central Newfoundland Waste Management Committee. These two regions make up 67% of the province's population, including residents of St. John's and Gander.



Figure 21

Tubs and lids and horticultural rigid plastics are also only recyclable in the Eastern and Central regions. Nowhere in Newfoundland and Labrador can the other non-container plastics be recycled.









Material Summaries

PET Beverage Bottles

PET beverage bottles show a nearly universal access rate in Canada. The national rate is 99%. Only in Manitoba, Ontario, and Quebec are these containers not collected via deposit-return programs. In these provinces, PET bottles are collected via curbside at a very high rate.





PET Bottles, Jugs, and Jars

Bottles, jugs, and jars made from PET show a 95% access rate nationally. Only in Saskatchewan and Newfoundland and Labrador are the access rates below 85%. It is primarily in the rural, low population density areas of these provinces where this material is not permitted in curbside/depot recycling programs.







HDPE Beverage Bottles

HDPE beverage containers show a national access rate of 98% because they are nearly universally managed under deposit and curbside programs.





HDPE Bottles, Jugs, and Jars

HDPE bottles, jugs, and jars show similar access rates to PET bottles, jugs, and jars. This material is highly recyclable throughout most of Canada with a national access rate of 95% but remains difficult to collect in the rural regions of Saskatchewan and Newfoundland.



Figure 26

The map below shows regions of the country (in green) where bottles, jugs, and jars made from PET and HDPE are collected in municipal recycling programs. In all urban areas of the country, and in all of regions of Manitoba, New Brunswick, and Nova Scotia, programs provide access to recycling for bottles, jugs, and jars made from both of these resins. Close inspection shows that the parts of Saskatchewan where both of these materials are accepted are geographically small, and thus difficult to see, but they do include the population centres of Regina and Saskatoon and cover 57% of the province's population.

Jurisdictions that accept bottles, jugs, and jars made from both resins cover roughly 95% of the country's population.





PVC Bottles, Jugs, and Jars

Bottles, jugs, and jars made from PVC are more difficult to recycle as the end markets are difficult to find and maintain. For this reason, access rates for this material are lower than other resins. Despite this, many provinces – especially BC, Ontario, Quebec, Nova Scotia, and PEI – are accepting them in programs that accept "all plastic containers." The national rate for PVC bottles, jugs, and jars is 88%.





LDPE Bottles, Jugs, and Jars

LDPE plastic bottles, jugs, and jars show lower access rates than the more commonly recycled PET or HDPE containers but higher rates than those made from PVC. Nationally, LDPE bottles, jugs, and jars show a 93% access rate. Similar to containers made from PVC, LDPE containers have higher rates in the most populated provinces of BC, Ontario, and Quebec, and in the maritime provinces of Nova Scotia and PEI, where they are accepted universally.





PP Bottles, Jugs, and Jars

Bottles, jugs, and jars made from PP show the same trends as containers made from most other resins. High access rates can be seen in BC, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick, and PEI, whereas lower rates are seen in Saskatchewan, and Newfoundland and Labrador. The national access rate for PP bottles, jugs, and jars is 94%.





Other (#7) Bottles, Jugs, and Jars

Of all container plastics, #7 is one of the more difficult resins to recycle. Still, it has a national access rate of 91%. Manitoba (100%), Quebec (99%), and Nova Scotia (100%) show the highest access rates for this material. Other populated provinces such as BC, Alberta, and Ontario all show rates over 80%.





PET Non-Bottle Rigid Containers

Because PET is a very desirable plastic for recyclers, the national access rate is high at 94%. The rates for PET non-bottle rigid containers are similar those for the bottles, jugs, and jars. Access is very high in provinces with high populations or population densities, and lower in those with low populations or where the population is spread out over a large area, such as Saskatchewan, and Newfoundland and Labrador.



Figure 31

The map below shows regions in Ontario where PET non-bottle rigids are accepted in the recycling program (in green). The pink regions represent areas where these are not accepted.

The areas that are pink and surrounded by a red border (Thunder Bay, City of Sault Ste. Marie, and county of Northumberland) are those that have a population of 50,000 or greater and do not accept these containers. Combined, these three areas have a population of just over 265,000, representing about 2% of the province's population. If each of these programs were to accept this material, the rate in the province would increase by 2 percentage points to 98%.







HDPE Non-Bottle Rigid Containers

Similar to PET, HDPE is a desirable plastic for recyclers and therefore shows high rates of access in most provinces for HDPE non-bottle rigid containers. The national access rate is 94%.





PVC Non-Bottle Rigid Containers

PVC non-bottle rigid containers have a national access rate of 87%. This represents an increase of 5 percentage points from the 2014 study. The largest increases are in BC and Alberta, where several programs expanded to include all plastic containers.





LDPE Non-Bottle Rigid Containers

LDPE non-bottle rigid containers show nearly the same access rates as LDPE bottles, jugs, and jars. Nationally, the rate is 92%, with the more populated and densely populated provinces showing high rates (over 75%), and Saskatchewan and Newfoundland and Labrador showing rates of 57% and 67% respectively.





PP Non-Bottle Rigid Containers

Like other non-bottle rigid containers, those made from PP are highly recyclable in most provinces, but have lower access rates in Saskatchewan, and Newfoundland and Labrador. The national access rate for this material is 94%.





PS Non-Bottle Rigid Containers

Polystyrene (PS) is one of the more difficult to recycle plastic resins, with a particularly low access rate in Quebec. Given that Quebec is one of the more populated provinces, this brings the national rate down significantly. The single program serving PEI does not accept PS, and the rate is lower than it is for other resins in nearly every province.

Despite this, the national access rate for PS non-bottle rigids is 70%, up from 63% in 2014. This represents one of the largest increases of any material from 2014 to 2015. Most of that increase comes from BC, Alberta, and Quebec.





Other Non-Bottle Rigid Containers

Non-bottle rigids made from other (#7) plastic can be recycled near-universally in Manitoba, Quebec, and Nova Scotia, but show lower rates than most other resins in other provinces. Nationally, 89% of the country can recycle #7 non-bottle rigids in their municipal system. The program in PEI does not accept them. The majority of those with access to recycling for #7 plastics live in BC, Alberta, and Ontario.







HDPE, LDPE Film and Bags

This category includes all soft plastic film and bags. That is not just shopping bags, but materials such as bread bags and plastic overwrap from paper towels as well.

Of all of the individual categories, film and bags saw the greatest national increase from 2014 to 2015 (along with the two foam categories) of 10 percentage point increase from 55% to 65%. This increase is almost entirely attributable to the addition of this material to Toronto's program (which provided access to over 2.6 million Canadians) and British Columbia's (where some regional districts moved to the MMBC materials list or adopted on their own without joining the MMBC program).

The provinces with the highest access rates are BC and Quebec, at 93% and 90%, respectively, followed by Alberta and Ontario at 69% and 53%, respectively. Three provinces – Manitoba, PEI, and Newfoundland – do not have any access to recycling for film and bags.





Retail Shopping Bags

The national access rate for retail shopping bags is 69%. BC, Nova Scotia and PEI recycle these nearly universally. Nearly every program in Quebec accepts them, as well as programs serving the majority of the populations of Alberta and New Brunswick, and just over half of the population of Ontario.

While there is a significant amount of retailer take-back programs for plastic bags, these programs are outside the scope of this study. However, the authors wish to note that the research saw many municipal recycling information web pages that showed the address of a store that would take these back for recycling. This was available in towns of all sizes, but particularly common in smaller, more rural towns. There is also a network of large retail stores in many large cities where customers can return these.



Figure 39

Included in this report are regional maps showing which regions have access to recycling retail shopping bags and all film and bags. The maps show where they are collected curbside, at depot, or not at all.



This 2015 report does not include access information for return-to-retail programs for retail shopping bags or film and bags; however, this will be explored for future years in order to provide a more complete picture of access rates across Canada.

British Columbia

British Columbia has the highest access rate in the country for retail shopping bags (99%) and all film and bags (93%). Roughly 90% of those with access do not have curbside access, but have depot drop-off via the MMBC program. This makes BC unique; no other province shows more depot collection of film than curbside.





Alberta

In Alberta, 69% of the population has access to recycling of all film products while 71% have access to municipal recycling for at least retail shopping bags. Most of those covered live in Edmonton and Calgary and can recycle film in their curbside recycling. The RPAs in purple that take film at depots represent 11% of the population.





Saskatchewan and Manitoba

In Saskatchewan, 31% of the population has access to municipal recycling programs for all film and bags. Those who have access reside in the urban areas of Saskatoon, Prince Albert, Swift Current, and several small towns. Because these areas are small geographically, they are difficult to view on the map.

There is no film recycling in Manitoba under the Multi-Material Stewardship Manitoba (MMSM) program.





Ontario

In Ontario, just over half the population (at 53%) has access to recycling of all film plastics, while 55% can recycle at least retail shopping bags. Most of these people reside in the southern part of the province but a few urban areas in the north are collecting all film at curbside as well. There are about 250,000 people in a few RPAs in the eastern part of the province who can recycle retail shopping bags but not the entire film category.



Quebec

At 90%, the access rate for all film and bags in Quebec is the second highest in the country. Nearly all of those who have access live in regions that offer curbside collection. There are only a few jurisdictions with small populations that accept retail shopping bags but not other films which means that 92% of the population can recycle at least shopping bags through their municipal program.





Atlantic Provinces

In New Brunswick, 47% of the province's population has access to programs that collect all bags and films at curbside. Another two RPAs making up 22% of the population only take retail shopping bags which means that 69% of the population can recycle at least shopping bags through their municipal program.

In Nova Scotia, retail shopping bags are universally accepted in municipal programs, but only two RPAs – including the largest, Halifax Regional Municipality – accept all film plastics, which accounts for 52% of the population.

The PEI Waste Watch program accepts shopping bags but no other film. And there is no film recycling at all in Newfoundland and Labrador.





PS Foam Food Packaging

The national access rate for PS foam food packaging increased 10 percentage points from 34% in 2014 to 44% in 2015. Most of that increase came from Montreal, the second most populated RPA in the country. Montreal residents can now take PS food packaging for recycling at the LaSalle Ecocentre. BC, at 92%, has by far the highest rate in the country. The next highest rate is Ontario, at 55%, followed by Quebec (36%) and New Brunswick (31%).

No other province shows a rate over 9%. The 8% of Albertans that have access do not live in Edmonton or Calgary, but rather in a few smaller RPAs.



Figure 40

The national and provincial maps on the following pages show, in green, the RPAs that have curbside or depot access to recycling for PS foam food packaging. RPAs in pink and bordered in red are highly populated RPAs that do not take foam food packaging for recycling. These areas have populations over 500,000 and would have an impact on the national and provincial access rates if they were to accept these materials.

In the map below, Calgary, Edmonton, Winnipeg, Region of Durham, Region of Waterloo, Region of Halton and Ottawa are identified as large districts that do not accept PS foam food packaging for recycling. It is important to note that while Region of Durham and Region of Waterloo do not accept foam food packaging, they do accept foam protective packaging.





If these six RPAs were to add PS foam food packaging to their recyclable materials, the access rate would rise from 44% to over 57%.

RPA #	Prov	RPA name	Population (2015)
RPA146	Alta.	Calgary, City of	1,096,833
RPA258	Ont.	Ottawa, City Of	883,391
RPA147	Alta.	Edmonton, City of	812,201
RPA254	Man.	Winnipeg Region	666,832
RPA259	Ont.	Durham, Regional Municipality of *	608,124
RPA260	Ont.	Waterloo, Regional Municipality of *	507,096
RPA263	Ont.	Halton, Regional Municipality of	501,669

Table 5: Populated RPAs that do n	ot accept PS Foam Food Packaging
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*Regions of Durham and Waterloo accept PS foam protective packaging.

The next section includes maps showing regional access to recycling PS foam food packaging.

British Columbia

The MMBC program offers depot collection of PS foam packaging. There are only two districts in the province with populations over 100,000 that do not offer any collection of PS foam food packaging: Thompson-Nicola (~128,000) and Abbotsford (~133,000). In Abbotsford, the program does accept PS foam protective packaging.

If both Abbotsford and Thompson-Nicola were to accept this material, the access rate would increase from the current 92% up to roughly 98%.







Alberta

There is very little PS foam recycling in Alberta. Only 8% have access to facilities that accept PS foam food packaging. The majority of those are in Strathcona County, Municipality of Wood Buffalo, Grand Prairie (depot only), or those served by the Foothills Regional Services Commission in High River, Okotoks (also only by depot drop-off).

If Calgary and Edmonton were to accept these materials, the provincial rates would increase to roughly 60%. The addition of nearly 2 million people with access would also increase the national access rate.



PS foam recycling does not exist in Saskatchewan or Manitoba.



Ontario

Ontario currently has a 55% access rate for PS foam food packaging. It should be noted here that the rate for PS foam protective packaging is significantly higher at 63%. There are several populated districts that do not accept PS foam food packaging, the four most populated of which are Region of Waterloo, Region of Durham, Region of Halton, and the City of Ottawa. Of these, Waterloo and Durham accept PS foam protective packaging at depots.




Quebec

PS foam recycling in Quebec was essentially non-existent at the time of writing the 2014 report. This year, the City of Quebec takes it via curbside (PS foam food packaging only, not protective PS foam), and a depot in Montreal is taking both types of PS foam packaging. As a result of these program expansions, the access rates have increased to 36% for PS foam food packaging and 27% for PS foam protective packaging.

If programs in the populated areas of Laval, Longueil, Gatineau, and the Régie de gestion des matières résiduelles GMR de la Mauricie were to expand programs to accept PS foam food packaging, the provincial rate for this material would increase from the current 36% to over 50%.





PS Foam Protective Packaging

Like PS foam food packaging, the national access rate for recycling PS foam protective packaging increased by 10 percentage points from 34% in 2014 to 44% in 2015. Access rates for foam protective packaging are identical to rates for foam food packaging in all but two provinces. In Ontario, the rate for PS foam protective packaging is 63%, which is higher than the rate for foam food packaging (55%), and in Quebec, the rate for PS foam protective packaging (36%).

In Ontario, the regions of Waterloo and Halton accept only PS foam protective packaging in their recycling programs. In Quebec, the program serving Quebec City accepts only PS foam food packaging.





HDPE, LDPE, PP, and PS Tubs and Lids < 4 Litres

Access rate for this category are fairly consistent with the access rates for PS non-bottle rigid. Above the national average of 71% are Nova Scotia (100%), BC (94%), Ontario (93%), and Alberta (82%). Most of the other provinces show rates between 49% and 67%.

The largest number of people who do not have access in this category are in Quebec, where 19% have access. PEI does not recycle PS at all so there is no access in the category.





HDPE, LDPE, PP, and PS Tubs and Lids < 4 Litres

Rates for larger tubs are identical to the rates for smaller tubs in every province except Ontario. The national access rate is 63%. In most places the programs do not mention size limits at all, but often list items such as "Ice Cream Tubs" as amongst the "types" of plastic accepted. The research takes this to mean that the program accepts large format tubs.

In Ontario, programs often list a size limit, which creates a problem. The City of Hamilton and Kawartha Lakes have limits of 5 litres. This means they do take some tubs over 4 litres, but not all. The researcher entered "N" for no for these programs in this category. Whereas, Loyalist Township shows a 10 litre limit, so a 'Y' for Yes was entered here.



For future reports, CM Consulting and CPIA will revisit the definition for this category. The two categories of tubs and lids could be wound into one category, called "household tubs and lids" that would better capture the spirit of what programs are accepting.



Caps

This category encompasses screw-on plastic caps for beverage bottles. There are three provinces where caps are widely accepted for recycling, BC (up from 75% in 2014 to 84% in 2015), Quebec (90%), and PEI (100%), where caps are collected universally by the Waste Watch program.

Ontario is showing a 57% access rate (up one point from 56% in 2014) and Alberta saw an increase from a 12% to 39% access rate for plastic bottle caps. New Brunswick stayed steady at 31%.

The other provinces do not have programs that accept plastic bottle caps. The national access rate for caps is 60%





Horticultural Rigid Plastic

The national access rate for horticultural rigid plastic increased to 77% for 2015. Recycling of these is universal or nearly universal in BC, Quebec, Nova Scotia and PEI. All other provinces are showing rates between 46% and 68%.





National Access Rates 2004-2015

In the years since CM Consulting began producing this report for the CPIA, access rates for most materials have increased, some significantly. There have been large increases for the plastic containers of the less common resins, such as PVC, PS and #7 (other) that can be seen between the 2013 and 2014 reports. Much of those increases in access can be attributed to the launch of the new MMBC program in British Columbia. We can see that for 2015 that trend continues with each of those container types showing increases as more programs shift to collect all plastic container types.

The following tables track national access rates for all materials for each year the study was completed. New materials were added to the study each year, including several in 2015. Blank cells indicate that a material was not studied in that particular year.

When interpreting the data to see how access for a given material has changed over time, it is important to note that some material definitions have changed from one study year to the next, creating artificial increases or decreases. An example of this is horticultural rigid plastic.



Historic Rates by Material

Plastic Containers

As shown in the table below, access to recycling for PET beverage containers in Canada has remained constant at 98-100% between 2004 and 2015, while access to recycling for HDPE beverage containers has increased from 91% in 2004, to 98% today.

PET and HDPE bottles, jugs, and jars both showed increases in access rates to 94-95% by 2011. Since then, they have remained relatively constant. Bottles, jugs, and jars made from other plastic resins have all seen increases since 2013, when this report first reported on each resin individually.

Non-bottle rigids made from all resins have shown year-over-year increases.

The categories with the largest increases in access rates from 2013 to 2015 are PVC bottles, jugs and jars (going from 70% to 88%), #7 (other) bottles, jugs, and jars (80% to 91%), PVC non-bottle rigid (66% to 87%), and PS non-bottle rigid (54% to 70%).

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	98%	98%	100%	100%	99%	99%
PET Bottles, Jugs, and Jars	77%	98%	95%	95%	94%	95%
HDPE Beverage	91%	98%	99%	100%	98%	98%
HDPE Bottles, Jugs and Jars	79%	92%	94%	96%	95%	95%
PVC Bottles, Jugs, and jars				70%	84%	88%
LDPE Bottles, Jugs, and Jars				88%	91%	93%
PP Bottles, Jugs, and Jars				93%	93%	94%
Other Bottles, Jugs, and Jars				80%	86%	91%
PET non-Bottle Rigid		73%	83%	89%	93%	94%
HDPE non-Bottle Rigid		80%		93%	93%	94%
PVC non-Bottle Rigid				66%	82%	87%
LDPE non-Bottle Rigid				87%	90%	92%
PP non- Bottle Rigid		88%	91%	93%	93%	94%
PS non- Bottle Rigid		42%	44%	54%	63%	70%
Other non-Bottle Rigid				75%	85%	89%

Table 6: Historic Access Rates for Plastic Containers



Plastic Non-Containers

Two materials in this category have been part of the study from year one – PE film/bags and PS foam food packaging. Access to recycling for PE film/bags has increased from 44% in 2004 to 65% today. The rate for 2013 is an overestimation because it included Toronto, which only accepted retail shopping bags at that time. Without that, this category would have seen a decline in access for 2013, and a resurgence in 2014 due to the MMBC program. In order to avoid this problem in 2014 and in the future, a separate category for retail shopping bags was introduced.

Now in 2015, Toronto has expanded the program to include all plastic film so we see a significant increase in the access rate for the larger category from 55% in 2014 to 65% in 2015. The study still counts those districts that only accept retail shopping bags, and they still represent a greater population that those that can recycle all film and bags. The national access rate for municipal recycling programs that accept shopping bags has increased from 67% in 2014 (the first time it was calculated separately) to 69% in 2015.

In terms of PS foam food packaging, his material has seen a mostly steady increase from 23% in 2004 to 44% in 2015. PS foam protective packaging was added as a category in 2009 but showed low rates then. Now most programs that accept foam PS will accept both forms (except for a few such as Region of Waterloo and Region of Durham, who only accept food PS, and Ville de Quebec, where only protective PS foam packaging is accepted). Today's access rate for both PS foam food and protective packaging is 44%.

The 91% access rate for tubs and lids in 2011 was due to the definition at that time. Prior to 2013, the material was listed as "tubs and lids" (with no resin specification) and was considered "accepted" if margarine or yogurt tubs were accepted in the program. In 2013, CM Consulting changed the definition was changed to specify the four resins, and the material was not considered accepted if the program did not accept PS non-bottle rigid. If we only look at the last two years (when the definition was consistent), we see that both large and small format tubs and lids have shown increases.

The research shows that the definition of the larger tub "over 4 litres" is problematic. Different jurisdictions place different limits on size. There are regions that specify that no tubs over 5 litres are accepted, and others that specify no tubs over 10 or 20 litres. This is a category that CM Consulting recommends be amended for the next version of this study. The large format tub category shows an increase from 51% to 63% due to this material being listed as accepted for the first time in Toronto. (See Historic Access Rates by province: Ontario on page 82 for more on this)

Access to recycling plastic bottle caps has remained relatively constant from 2013-2015, with a slight increase from 57% to 60%.



Horticultural rigid plastic saw a decrease from 2009 to 2011 (again, the result of a change in definition), but shows a significant increase to 77% for 2015, as more programs moved to accept all household plastic type programs.

MATERIAL	2004	2009	2011	2013	2014	2015
HDPE, LDPE Film and Bags	44%	55%	56%	61%	55%	65%
Retail Shopping Bags					67%	69%
PS Foam Food Packaging	23%	25%	32%	30%	34%	44%
PS Foam Protective Packaging		12%	31%	32%	34%	44%
HDPE, LDPE, PP, PS tubs and lids						
<4L			91%	58%	66%	71%
HDPE, LDPE, PP, PS tubs and lids						
>4L				39%	51%	63%
Bulky Plastic				3%	2%	4%
Caps				57%	55%	60%
Horticultural Rigid Plastic		67%	55%	51%	74%	77%

Table 7: Historic access rates for plastic non-containers



Historic Rates by Province

The following charts track yearly access of each material by province. Over the years that this study has been done, there have been changes to material definitions, definitions of what construes access, and RPA boundaries that affect the results.

British Columbia

In British Columbia, we can see that when several regional districts adopted the MMBC program in May 2014, the access rates rose for all plastic containers and non-bottle rigids made of PVC, PS, or other (#7) plastic, plastic film/bags, and PS foam packaging. In late 2014 or early 2015, additional districts either joined or adopted the MMBC program or expanded material lists to match those of the MMBC program because a viable market had opened up in the province.

Table 8: Access Rates 2004 - 2015: British Columbia

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	98%	100%	100%
PET Bottles, Jugs, and Jars	83%	94%	94%	97%	95%	99%
HDPE Beverage	100%	100%	100%	98%	100%	100%
HDPE Bottles, Jugs, and Jars	90%	95%	94%	97%	96%	99%
PVC Bottles, Jugs, and Jars				44%	84%	94%
LDPE Bottles, Jugs, and Jars				94%	95%	99%
PP Bottles, Jugs, and Jars				96%	95%	99%
Other Bottles, Jugs, and Jars				47%	82%	93%
PET non-Bottle Rigid	71%	93%	94%	96%	95%	99%
HDPE non-Bottle Rigid				96%	95%	99%
PVC non-Bottle Rigid				44%	84%	94%
LDPE non-Bottle Rigid				94%	95%	99%
PP non- Bottle Rigid				96%	95%	99%
PS non- Bottle Rigid		43%	41%	45%	83%	94%
Other non-Bottle Rigid				43%	82%	89%
HDPE, LDPE Film and Bags	29%	37%	42%	47%	87%	93%
Retail Shopping bags					94%	99%
PS Foam Food Packaging	3%	14%	20%	8%	78%	92%
PS Foam Protective Packaging		14%	17%	8%	79%	92%
HDPE, LDPE, PP, PS tubs and lids <4L		94%	91%	38%	83%	94%
HDPE, LDPE, PP, PS tubs and lids >4L				36%	83%	94%
Bulky Plastic				2%	0%	8%
Caps				21%	75%	84%
Horticultural Rigid Plastic		83%	66%	51%	91%	97%



Alberta

In Alberta, access rates for PET and HDPE bottles and non-bottle rigids have increased from roughly 80-85% in 2013 to 90% today. The less commonly collected resins are now showing rates in excess of 85% for both bottles and non-bottle rigids. There is a movement for recycling program calendars in Alberta that is informing people to recycle "all plastic containers" or "all household plastics." In Edmonton (which is 22% of the province's population), there was a new, unique description on the accepted material list. The program now accepts "any clean, dry container smaller than a basketball" which explains the large increases in the #3, #6, and #7 categories.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	99%	100%	100%
PET bottles jugs, and jars	28%	72%	79%	81%	86%	86%
HDPE BEVERAGE	100%	100%	100%	100%	100%	100%
HDPE Bottles Jugs and Jars	39%	79%	83%	85%	89%	90%
PVC Bottles Jugs and jars				55%	62%	86%
LDPE Bottles Jugs and Jars				78%	85%	85%
PP Bottles jugs and Jars				80%	85%	86%
Other Bottles Jugs and Jars				55%	61%	84%
PET non-Bottle Rigid	4%	49%	55%	79%	86%	86%
HDPE non-Bottle Rigid				84%	89%	88%
PVC non-Bottle Rigid				52%	61%	85%
LDPE non-Bottle Rigid				77%	84%	85%
PP non- Bottle Rigid				80%	86%	86%
PS non- Bottle Rigid		46%	48%	54%	61%	84%
Other non-Bottle Rigid				54%	60%	84%
HDPE, LDPE Film and Bags	55%	69%	73%	72%	70%	69%
Retail Shopping bags					72%	71%
PS Foam Food Packaging	0%	8%	3%	7%	7%	8%
PS Foam Protective Packaging		8%	4%	7%	7%	8%
HDPE, LDPE, PP, PS tubs and						
lids <4L		73%	79%	76%	61%	82%
HDPE, LDPE, PP, PS tubs and						
lids >4L				76%	61%	82%
Bulky Plastic				2%	2%	2%
Caps				9%	12%	39%
Horticultural Rigid Plastic		50%	53%	24%	48%	46%

Table 9: Access Rates 2004 - 2015: Alberta

Saskatchewan

Access rates in Saskatchewan have remained essentially unchanged from 2013-2015. Programs in the largest urban areas, representing just over half the population, recycle most of the resins in container form. Plastic bags are only accepted in Saskatoon, Prince Albert and a couple of smaller towns. There is no recycling of PS foam, bulky plastics or caps in Saskatchewan.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	100%	100%	100%
PET Bottles, Jugs, and Jars	22%	49%	56%	55%	57%	57%
HDPE Beverage	100%	100%	100%	100%	100%	100%
HDPE Bottles, Jugs, and Jars	22%	50%	56%	55%	57%	57%
PVC Bottles, Jugs, and Jars				55%	57%	57%
LDPE Bottles, Jugs, and Jars				55%	57%	57%
PP Bottles, Jugs and Jars				55%	57%	57%
Other Bottles, Jugs, and Jars				55%	57%	57%
PET non-Bottle Rigid	22%	48%	56%	55%	57%	57%
HDPE non-Bottle Rigid				55%	57%	57%
PVC non-Bottle Rigid				55%	54%	57%
LDPE non-Bottle Rigid				55%	56%	57%
PP non-Bottle Rigid				55%	57%	57%
PS non-Bottle Rigid		19%	52%	55%	56%	57%
Other non-Bottle Rigid				55%	56%	57%
HDPE, LDPE Film and Bags	29%	51%	53%	35%	32%	31%
Retail Shopping Bags					33%	31%
PS Foam Food Packaging	0%	0%	0%	0%	0%	0%
PS Foam Protective Packaging		0%	0%	0%	0%	0%
HDPE, LDPE, PP, PS tubs and						
lids <4L		48%	55%	55%	57%	57%
HDPE, LDPE, PP, PS tubs and						
lids >4L				55%	57%	57%
Bulky Plastic				0%	2%	0%
Caps				3%	12%	0%
Horticultural Rigid Plastic		47%	55%	30%	48%	57%

Table 10: Access Rates 2004 - 2015: Saskatchewan

Manitoba

Manitoba has also maintained very consistent access rates since 2013. Most items that are recycled are recycled universally in the province.

Table 1	1: Access	Rates 2004 -	2015:	Manitoba
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MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	91%	95%	100%	100%	100%	100%
PET Bottles, Jugs, and Jars	91%	95%	100%	100%	100%	100%
HDPE Beverage	91%	95%	100%	100%	100%	100%
HDPE Bottles, Jugs, and						
Jars	91%	95%	100%	100%	100%	100%
PVC Bottles, Jugs, and jars				55%	64%	71%
LDPE Bottles, Jugs, and Jars				100%	85%	84%
PP Bottles, Jugs, and Jars				100%	100%	100%
Other Bottles, Jugs ,and						
Jars				100%	100%	100%
PET non-Bottle Rigid	91%	95%	100%	100%	100%	100%
HDPE non-Bottle Rigid				100%	100%	100%
PVC non-Bottle Rigid				55%	64%	71%
LDPE non-Bottle Rigid				100%	85%	84%
PP non- Bottle Rigid				100%	100%	100%
PS non- Bottle Rigid		60%	55%	55%	64%	64%
Other non-Bottle Rigid				55%	100%	100%
HDPE, LDPE Film and Bags	0%	0%	0%	0%	0%	0%
Retail Shopping Bags					0%	0%
PS Foam Food Packaging	0%	0%	0%	0%	0%	0%
PS Foam Protective						
Packaging		0%	0%	0%	0%	0%
HDPE, LDPE, PP, PS tubs						
and lids <4L		48%	100%	55%	64%	64%
HDPE, LDPE, PP, PS tubs						
and lids >4L				55%	64%	64%
Bulky Plastic				0%	0%	0%
Caps				0%	0%	0%
Horticultural Rigid Plastic		7%	5%	55%	55%	64%

Ontario

Ontario currently has access rates of 89% or better for containers made from each resin. For the commonly recycled plastics PET and HDPE, the rate is in the high 90% and has been since 2009. All bottle, jug, and jar categories have been consistent since 2013, and most jurisdictions that limited the non-bottle rigid categories in 2013 have now added all resins and all container types to their accepted lists.

Notable changes in Ontario from 2014-2015 are the increased rate for all film plastics and large format tubs and lids. These changes are attributable to program expansion in the City of Toronto. Access to recycling PS foam protective packaging also increased this year.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	95%	100%	100%	97%	97%	97%
PET Bottles, Jugs, and Jars	95%	100%	100%	97%	97%	97%
HDPE Beverage	95%	100%	98%	97%	97%	97%
HDPE Bottles, Jugs, and Jars	95%	100%	97%	97%	97%	97%
PVC Bottles, Jugs, and Jars				91%	92%	92%
LDPE Bottles, Jugs, and Jars				94%	94%	95%
PP Bottles, Jugs, and Jars				95%	95%	96%
Other Bottles, Jugs, and Jars				91%	91%	92%
PET non-Bottle Rigid	95%	95%	58%	76%	94%	95%
HDPE non-Bottle Rigid				91%	93%	94%
PVC non-Bottle Rigid				73%	90%	90%
LDPE non-Bottle Rigid				88%	92%	92%
PP non-Bottle Rigid				95%	95%	96%
PS non-Bottle Rigid		54%	48%	74%	92%	93%
Other non-Bottle Rigid				72%	88%	89%
HDPE, LDPE Film and Bags	50%	55%	55%	53%	33%	53%
Retail Shopping Bags					54%	55%
PS Foam Food Packaging	37%	50%	57%	55%	56%	55%
PS Foam Protective Packaging		17%	56%	52%	57%	63%
HDPE, LDPE, PP, PS tubs and						
lids <4L		96%	95%	88%	93%	93%
HDPE, LDPE, PP, PS tubs and						
lids >4L				41%	55%	74%
Bulky Plastic				4%	0%	4%
Caps				72%	56%	57%
Horticultural Rigid Plastic		58%	27%	30%	66%	68%

Table 12: Access Rates 2004 - 2015: Ontario

Quebec

Very little has changed with Quebec's access rates since 2014, as most communities had adopted the *Charte des Matieres recyclables de la collecte selective du Quebec* (www.recyc-quebec.gouv.qc.ca) for their promotional and educational recycling guide.

The most significant change we see in Quebec is the rise in access to PS foam recycling. These increases are due to the new depot-based foam recycling capacity in Montreal and the acceptance of foam food packaging (but not protective) in Quebec City. There has also been an increase in PS non-bottle rigid access, from 8% to 18%.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	92%	100%	99%	99%	99%
PET Bottles, Jugs, and Jars	75%	92%	100%	99%	99%	99%
HDPE Beverage	75%	92%	100%	99%	99%	99%
HDPE Bottles, Jugs, and Jars	75%	92%	100%	99%	99%	99%
PVC Bottles, Jugs, and Jars				59%	90%	90%
LDPE Bottles, Jugs, and Jars				85%	99%	99%
PP Bottles, Jugs, and Jars				99%	99%	99%
Other Bottles, Jugs, and Jars				95%	99%	99%
PET non-Bottle Rigid	75%	92%	100%	99%	99%	99%
HDPE non-Bottle Rigid				99%	99%	99%
PVC non-Bottle Rigid				59%	87%	88%
LDPE non-Bottle Rigid				85%	98%	99%
PP non-Bottle Rigid				99%	99%	99%
PS non-Bottle Rigid		19%	27%	9%	8%	18%
Other non-Bottle Rigid				95%	99%	99%
HDPE, LDPE Film and Bags	41%	60%	60%	84%	82%	90%
Retail Shopping Bags					84%	92%
PS Foam Food Packaging	36%	11%	27%	8%	4%	36%
PS Foam Protective Packaging		11%	27%	8%	3%	27%
HDPE, LDPE, PP, PS tubs and						
lids <4L		92%	96%	9%	17%	19%
HDPE, LDPE, PP, PS tubs and						
lids >4L				9%	17%	19%
Bulky Plastic				0%	0%	0%
Caps				95%	92%	90%
Horticultural Rigid Plastic		92%	96%	99%	99%	99%

Table 13: Access Rates 2004 - 2015: Quebec

New Brunswick

In New Brunswick we see that most container bottle, jug, and jar categories have remained consistent or increased by 10% since the last report. This is because a few programs have expanded to include all #1, 2, 4, 5, and 7 plastics. We can see that the increases for LDPE, PP, and "other" plastics in the non-bottle rigid category are even larger at 16-17 percentage points. Several of the jurisdictions that now take all #1, 2, 4, 5, and 7 containers had previously limited their programs to screw-top containers.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	94%	100%	100%
PET Bottles, Jugs, and Jars	64%	94%	94%	94%	100%	100%
HDPE Beverage	100%	100%	100%	94%	100%	100%
HDPE Bottles, Jugs, and Jars	64%	94%	94%	94%	100%	100%
PVC Bottles, Jugs, and Jars				49%	61%	61%
LDPE Bottles, Jugs, and Jars				60%	66%	77%
PP Bottles, Jugs, and Jars				75%	82%	92%
Other Bottles, Jugs, and Jars				49%	62%	72%
PET non-Bottle Rigid	64%	94%	94%	94%	89%	100%
HDPE non-Bottle Rigid				94%	89%	100%
PVC non-Bottle Rigid				49%	55%	61%
LDPE non-Bottle Rigid				60%	60%	77%
PP non-Bottle Rigid				75%	76%	92%
PS non-Bottle Rigid		30%	49%	49%	49%	49%
Other non-Bottle Rigid				49%	55%	72%
HDPE, LDPE Film and Bags	38%	95%	88%	82%	53%	47%
Retail Shopping Bags					75%	69%
PS Foam Food Packaging	0%	30%	31%	31%	31%	31%
PS Foam Protective Packaging		30%	31%	31%	31%	31%
HDPE, LDPE, PP, PS tubs and						
lids <4L		75%	75%	49%	49%	49%
HDPE, LDPE, PP, PS tubs and						
lids >4L				49%	49%	49%
Bulky Plastic				31%	31%	31%
Caps				27%	31%	31%
Horticultural Rigid Plastic		75%	75%	49%	49%	49%

Table 14: Access Rates 2004 - 2015: New Brunswick



Nova Scotia

Looking at the Nova Scotia chart below, the first item of note is that the province has universal access to recycling of all containers of all resins. We can also see that rates for all materials seem to have decreased in 2014, and then increased in 2015. This is the result of a change in the methodology, which left a small gap in part of the province unstudied in 2014. This is discussed more fully in Appendix B.

The only other category that saw a significant change from 2013-2015 is the film and bags category. This is a result of definition changes more than material acceptance changes. Since 2013, programs serving 48% of the province accept "shopping bags, retail bags, and bread bags." In 2013, HDPE and LDPE film and bags were considered accepted if <u>any</u> film and bags were listed as accepted, so 100% that year was accurate. In 2014, this category was considered accepted if the program went beyond shopping and retail bags, so if the program listed "bread bags" as accepted, a "yes" was marked for this category. This year, the category only got a "yes" if <u>all</u> film and bags (excluding plastic wrap) were accepted, so programs that accepted "shopping bags, retail bags, and bread bags" got a "no" in this category.



Table 15: Access Rates 2004 - 2015: Nova Scotia

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	100%	100%	100%
PET Bottles Jugs, and Jars	100%	100%	100%	100%	97%	100%
HDPE Beverage	100%	100%	100%	100%	100%	100%
HDPE Bottles, Jugs, and Jars	100%	100%	100%	100%	98%	100%
PVC Bottles, Jugs, and Jars				100%	97%	100%
LDPE Bottles, Jugs, and Jars				100%	97%	100%
PP Bottles, Jugs, and Jars				100%	97%	100%
Other Bottles, Jugs, and Jars				100%	97%	100%
PET non-Bottle Rigid	60%	100%	100%	100%	97%	100%
HDPE non-Bottle Rigid				100%	97%	100%
PVC non-Bottle Rigid				100%	97%	100%
LDPE non-Bottle Rigid				100%	97%	100%
PP non-Bottle Rigid				100%	97%	100%
PS non-Bottle Rigid		85%	100%	100%	97%	100%
Other non-Bottle Rigid				100%	97%	100%
HDPE, LDPE Film and Bags	100%	100%	100%	100%	85%	52%
Retail Shopping Bags					97%	100%
PS Foam Food Packaging	0%	0%	0%	0%	0%	9%
PS Foam Protective Packaging		0%	0%	0%	0%	9%
HDPE, LDPE, PP, PS tubs and						
lids <4L		85%	100%	100%	97%	100%
HDPE, LDPE, PP, PS tubs and						
lids >4L				100%	97%	100%
Bulky Plastic				0%	0%	0%
Caps				32%	0%	0%
Horticultural Rigid Plastic		85%	100%	32%	95%	100%



Prince Edward Island

All residents of PEI use the "Waste Watch" program, and so for any material, access is either non-existent or universal. The materials accepted by the program include all plastic containers #1-5, and retail shopping bags. Access rates for #6, #7 or PS foam, have remained consistent since 2004.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	100%	100%	100%
PET Bottles, Jugs, and Jars	100%	100%	100%	100%	100%	100%
HDPE Beverage	100%	100%	100%	100%	100%	100%
HDPE Bottles, Jugs, and Jars	100%	100%	100%	100%	100%	100%
PVC Bottles, Jugs, and Jars				100%	100%	100%
LDPE Bottles, Jugs, and Jars				100%	100%	100%
PP Bottles, Jugs, and Jars				100%	100%	100%
Other Bottles, Jugs, and Jars				0%	0%	0%
PET non-Bottle Rigid	100%	100%	100%	100%	100%	100%
HDPE non-Bottle Rigid				100%	100%	100%
PVC non-Bottle Rigid				100%	100%	100%
LDPE non-Bottle Rigid				100%	100%	100%
PP non-Bottle Rigid				100%	100%	100%
PS non-Bottle Rigid		0%	0%	0%	0%	0%
Other non-Bottle Rigid				0%	0%	0%
HDPE, LDPE Film and Bags	100%	100%	100%	100%	100%	0%
Retail Shopping Bags					100%	100%
PS Foam Food Packaging	0%	0%	0%	0%	0%	0%
PS Foam Protective Packaging		0%	0%	0%	0%	0%
HDPE, LDPE, PP, PS tubs and						
lids <4L		100%	100%	0%	0%	0%
HDPE, LDPE, PP, PS tubs and						
lids >4L				0%	0%	0%
Bulky Plastic				0%	0%	0%
Caps				100%	100%	100%
Horticultural Rigid Plastic		100%	100%	100%	100%	100%

Table 16: Access Rates 2004 - 2015: Prince Edward Island

Newfoundland and Labrador

In 2014, residents served by the Eastern Waste Management Committee (EWMC), including the Avalon Peninsula, had access to recycling most materials. Since the last report, the Central Newfoundland Waste Committee, based in Gander, has adopted a program with the same accepted material list as the EWMC program.

MATERIAL	2004	2009	2011	2013	2014	2015
PET Beverage	100%	100%	100%	96%	100%	100%
PET Bottles, Jugs, and Jars	0%	0%	51%	51%	53%	100%
HDPE Beverage	100%	100%	100%	96%	100%	100%
HDPE Bottles, Jugs, and Jars	0%	0%	51%	51%	53%	67%
PVC Bottles, Jugs, and Jars				51%	53%	67%
LDPE Bottles, Jugs, and Jars				51%	53%	67%
PP Bottles, Jugs, and Jars				51%	53%	67%
Other Bottles, Jugs, and Jars				51%	53%	67%
PET non-Bottle Rigid	0%	0%	51%	51%	53%	67%
HDPE non-Bottle Rigid				51%	53%	67%
PVC non-Bottle Rigid				51%	53%	67%
LDPE non-Bottle Rigid				51%	53%	67%
PP non-Bottle Rigid				51%	53%	67%
PS non-Bottle Rigid		0%	51%	51%	53%	67%
Other non-Bottle Rigid				51%	53%	67%
HDPE, LDPE Film and Bags	0%	0%	0%	0%	0%	0%
Retail Shopping Bags					0%	0%
PS Foam Food Packaging	0%	0%	0%	0%	0%	0%
PS Foam Protective Packaging		0%	0%	0%	0%	0%
HDPE, LDPE, PP, PS tubs and						
lids <4L		0%	51%	51%	53%	67%
HDPE, LDPE, PP, PS tubs and						
lids >4L				51%	53%	67%
Bulky Plastic				0%	0%	0%
Caps				51%	0%	0%
Horticultural Rigid Plastic		0%	51%	51%	53%	67%

Table 17: Access Rates 2004 - 2015: Newfoundland and Labrador



Appendix A: Keywords/Terms Used to Determine Acceptability of a Material/Container Type in a Recycling Program

1.PET Beverage

Plastic Beverage Bottles, pop bottles, water bottles, soda bottles, Screw-top bottles, plastic narrow-necked bottles, beverage bottles, all plastic bottles, #1 Plastics, PET plastics, all rigid plastic, household food/beverage containers, all beverage bottles, all plastic containers.

2.PET Bottles, Jugs, and Jars

All plastic, #1 plastic, PET plastic, all rigid plastic, household food/beverage/cleaner containers, all plastic containers.

3.HDPE Beverage

Plastic Beverage Bottles, all beverage bottles, all Plastic bottles, #2 Plastics, HDPE plastics, Screw-top bottles, plastic narrow-necked bottles, All rigid plastic, household food/beverage containers, all plastic containers.

4.HDPE Bottles, Jugs, and Jars

All plastic, #2 plastic, HDPE plastic, all rigid plastic, household food/beverage/cleaner containers, all plastic containers.

5.PVC Bottles, Jugs, and Jars All plastic, #3 plastic, PVC plastic, all rigid plastic, all plastic containers.

6.LDPE Bottles, Jugs, and Jars All plastic, #4 plastic, LDPE plastic, all rigid plastic, all plastic containers.

7.PP Bottles, Jugs and Jars

All plastic, #5 plastic, PP plastic, all rigid plastic, all plastic containers, household food/beverage/cleaner containers.

8.Other Bottles, Jugs, and Jars All plastic, #7 plastic, All other plastic, all rigid plastic, all plastic containers.

9.PET Non-Bottle Rigid All plastic, #1 plastic, PET plastic, all rigid plastic, Bakery/clamshell containers, cookie tray.

10.HDPE Non-Bottle Rigid All plastic, #2 plastic, HDPE plastic, all rigid plastic, cake/salad containers.

11.PVC Non-Bottle Rigid All plastic, #3 plastic, PVC plastic, all rigid plastic.



12.LDPE Non-Bottle Rigid All plastic, #4 plastic, LDPE plastic, all rigid plastic.

13.PP Non- Bottle Rigid All plastic, #5 plastic, PP plastic, yogurt/margarine containers, all rigid plastic.

14.PS Non- Bottle Rigid All plastic, #6 plastic, PS plastic, all rigid plastic, Bakery/clamshell containers (UNLESS PS/#6 IS LISTED AS 'NOT ACCEPTED').

15.Other Non-Bottle Rigid All plastic, #1 plastic, PET plastic, all rigid plastic.

16.HDPE, LDPE Film and Bags Plastic film, All Plastic film, All plastic bags.

17.Plastic Retail Shopping Bags Plastic film, All plastic film, all plastic bags, shopping bags, retail shopping bags.

18.PS Foam Food Packaging

Polystyrene foam, all Polystyrene foam, Polystyrene foam take-out container, Polystyrene foam food containers.

19.PS Foam Protective Packaging Polystyrene foam, all Polystyrene foam, Polystyrene foam peanuts, Polystyrene foam blocks, Polystyrene foam protective packaging, Polystyrene foam packaging material.

20.HDPE, LDPE, PP, PS Tubs and Lids <4L Plastic buckets, Plastic pails, plastic tubs, Ice cream tubs.

21.HDPE, LDPE, PP, PS Tubs and Lids >4L Large plastic buckets, Large plastic pails, Large plastic tubs, bulky plastic.

26.Bulky Plastic Toys, lawn furniture, large buckets/pails.

27.Caps Bottle caps, beverage bottle tops.

28.Horticultural Rigid Plastic Garden plastic, plant pots, all #5 plastic.



Appendix B: Changes to Methodology in Nova Scotia

There were two large areas of the province where we could not determine RPAs that existed there or the population was well below the 5,000 threshold. The authorities in Nova Scotia assert that they have 100% recycling coverage; CM Consulting decided to update the RPA mapping to reflect that.

Approach:

- Decided to take southern gap and assign parts to adjacent RPAs (RPA501 Municipal District of Queens Region & RPA502 – Western Region)
- Decided to declare northern gap as RPA505 Municipal District of St. Mary's
- Also discovered there was one small gap in Nova Scotia for the Town of Mulgrave (population 794) which not covered in Municipal District of Guysborough RPA489. Since the goal of this update is to cover the entire province this town was taken out of RPA000 (the code for gaps) and allowed to be part of the RPA of the surrounding county.
- Determine populations for altered RPAs (reporting all so can see method returned unchanged values elsewhere)