



Thinking
beyond
the box

Stewardship Ontario

Curbside Material Composition Study: Full 2014-2015 Report

Background

Since the beginning of the blue box Program, Stewardship Ontario has undertaken studies of blue box materials generated from Ontario households. The studies measure the amount of blue box waste Ontario residents across the province, in all types of households including single-family households and multi-family residences such as apartments, put out for recycling and in the garbage.

The purpose of these studies is to determine how much of each blue box material is in the municipal waste stream, including how much is placed in the blue box and how much is placed in the garbage, as well as the amount of each material generated for recycling – this provides us with the recovery rate for each material type.

Why carry out curbside material composition studies?

The curbside material composition study is an input to Stewardship Ontario's determination of waste generation rates by material type and is ultimately used to inform blue box waste generation in the province. The results of these studies are typically supplemented with steward reported supplied data trends. Once the data is compiled and analyzed, the generation rates can be compared to prior years to better understand waste generation trends. The generation rates form the denominator used to calculate material recovery rates of blue box materials and therefore are a key component to setting blue box fee rates.



Summary:

Studies undertaken in 2014 and 2015

This report reflects multiple seasons of field data compiled by Stewardship Ontario of curbside waste and recycling collected from residential homes in Ontario. The study of waste and recyclables generated from single family homes took place over a full year including the summer and fall of 2014 through the winter and spring of 2015 in Ottawa, Northumberland and Kawartha Lakes. The study of waste and recyclables generated in multi-family residences took place in the fall of 2014 and winter of 2015 in Ottawa.

Stewardship Ontario engaged a waste study crew from an external consulting firm, to collect, sort and weigh the waste from a sample of multi-family and single family residences. Specifically the curbside material composition study looked at:

- How much recyclable waste ends up in garbage rather than the blue box
- How much garbage, and non-recyclable materials are contaminating the Blue Box

For a list of the material categories sorted please see Appendix 1. *Please note that the graphs below show only top 10 materials + non PPP + other PPP (all the other materials not in top 10).*



Key findings

Garbage contents

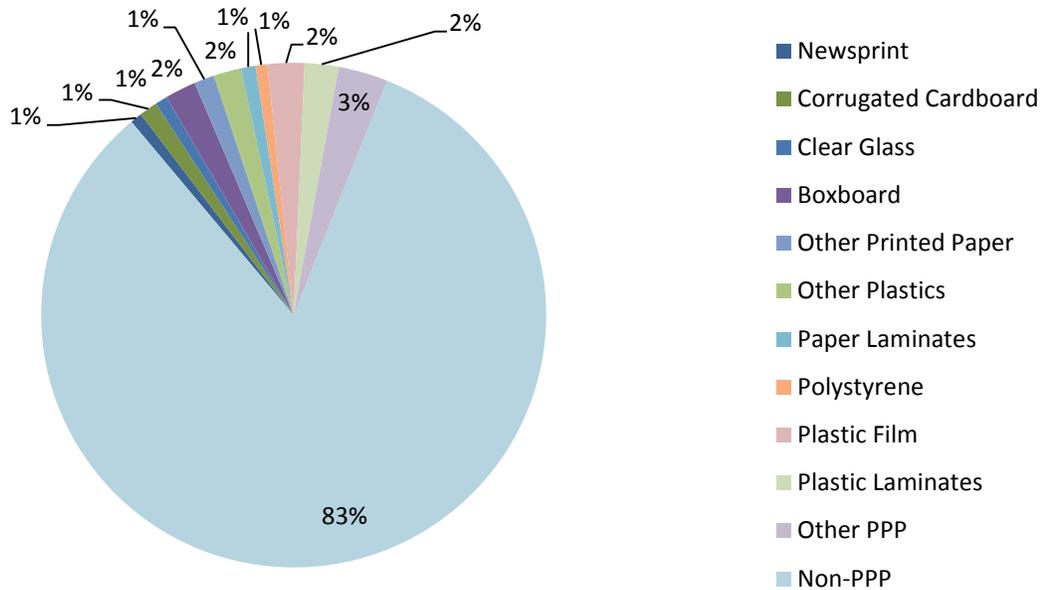
It is important to understand what recyclables are not being captured in the blue box but are being disposed of with the garbage. For this reason, SO examined the composition of garbage from homes in the above-named municipalities. Taking the four seasons into account for the single family residences, the study showed that over 80% of the material found in the garbage from these homes was indeed non-recyclable materials that do not belong in the blue box but should be disposed of in the garbage. Just under 20% of materials found in the garbage were recyclables that should have been placed in the blue box. The recyclables that were found in the garbage were primarily, boxboard and other plastics.

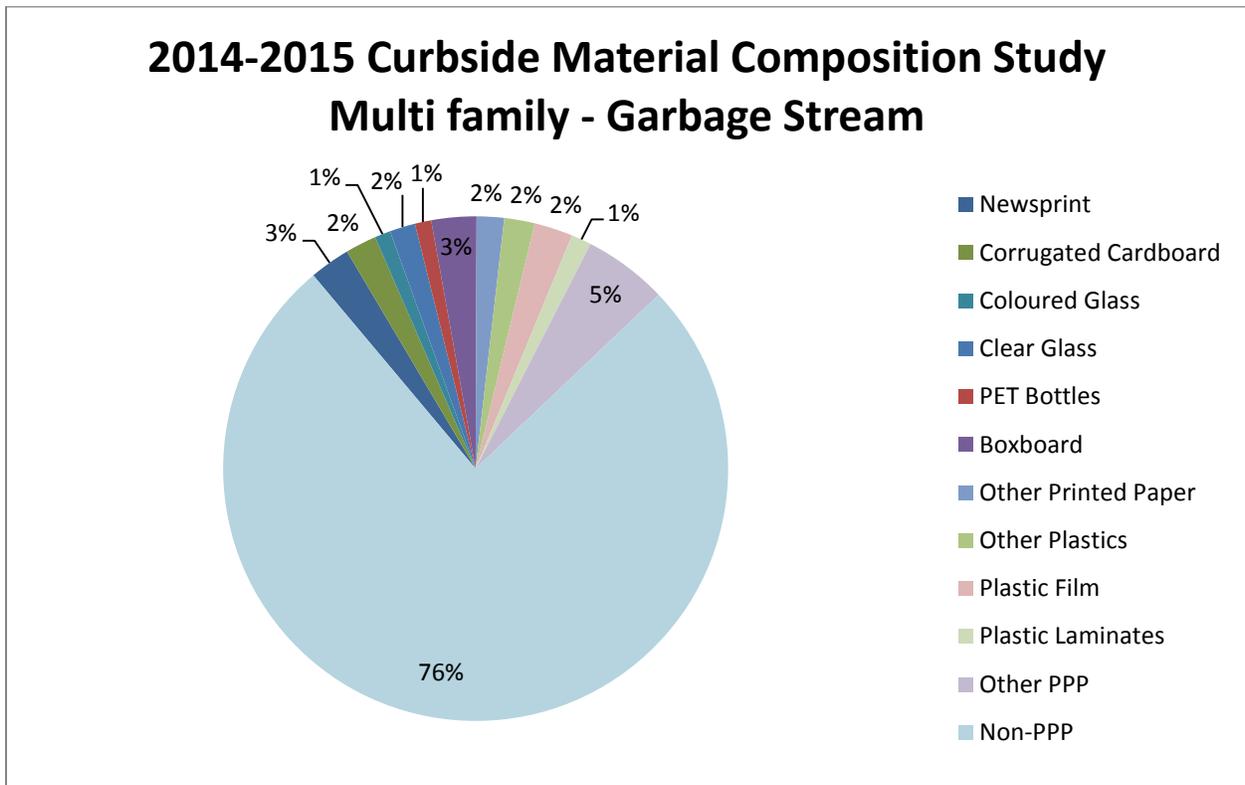
The results of the study of multi-family homes' garbage showed slightly different results. 76% of the contents of the garbage was made up of waste materials that belong in the garbage, but the remaining 24% were recyclables that should have been placed in the blue box. Of the recyclables disposed of in the garbage the largest amount was boxboard and newsprint followed by corrugated cardboard and other plastics.

While an improvement in performance over the 2012/2013 findings, where the combined results from both single family and multi-family residences indicated 26% of recyclables were being placed in the garbage, what these figures tell us is that Ontarians are still disposing of recyclables in the garbage. The main items in both single family and multi-family homes being boxboard and other plastics. The *Plastics Is In* and the *Bathroom Recycling* campaigns were launched with municipalities over the past few years with the aim of educating Ontario residents about all the different types of plastics that can be recycled and increasing the recycling rate of some of the typical recyclables found in the bathroom including boxboard cartons and rolls. The goal of these campaigns is to reduce the volume of recyclables Ontario residents place in the garbage stream.



2014-2015 Curbside Material Composition Study Single Family - Garbage Stream





Blue Box Contents

The good news is that the curbside material composition studies indicate that residents are fairly careful about what they put in the Blue Box for recycling.

Single Family Homes:

In single family homes in the three municipalities studied, 92% of materials in the Blue Box were recyclable materials, leaving 8% non-recyclable materials that should have been placed in the garbage. This suggests slightly poorer performance from the 2012-13 study, which showed that 96 per cent of materials (across both single family and multi-family residences) placed in the Blue Box were recyclables, and only four per cent of contents being non-Blue Box materials.

There are similarities however with the 2012-13 study in terms of the most popular materials put in the Blue Box for recycling. Similar to 2012-13, these materials include:

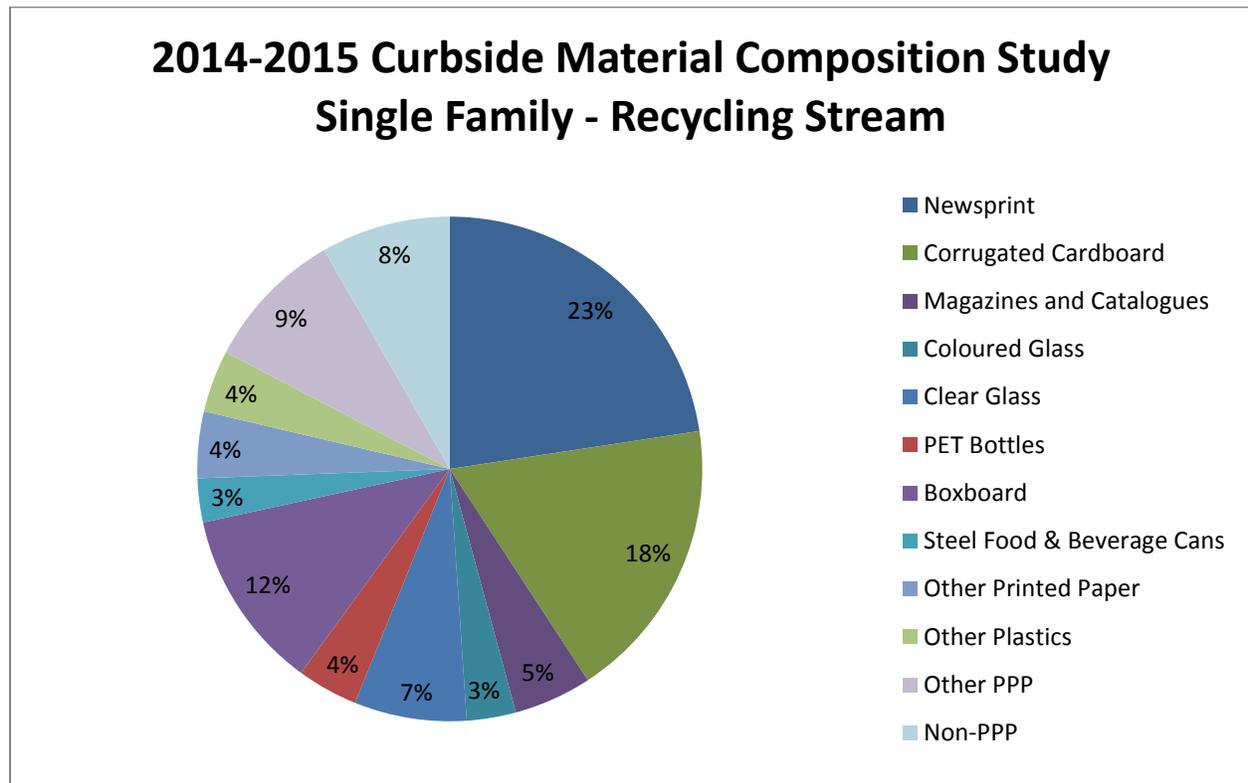
- Newsprint – making up 23 per cent
- Corrugated cardboard – 18 per cent
- Boxboard – 12 per cent
- Clear glass- 7%,
- Magazines & Catalogues- 5% and
- Other Printed Paper, Other Plastics and PET Bottles all at 4 per cent.



Multi-Family Homes:

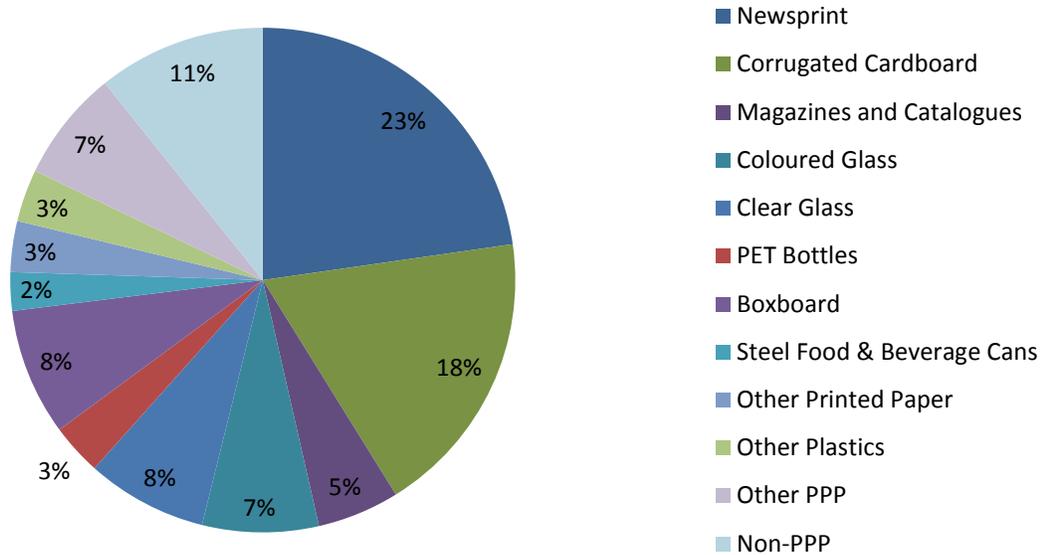
In multi-family homes, 89% of materials put in the Blue Box were recyclables and the remaining 11% was waste that should have been placed in the garbage. Similar to single-family homes, it is a similar list of materials that are most prevalent in the Blue Box including:

- Newsprint making up 23 per cent
- Corrugated Cardboard – 18 per cent
- Boxboard – 8 per cent and
- Clear glass 8 per cent and Coloured Glass 7 per cent
- Magazines & Catalogues – 5 per cent.





2014-2015 Curbside Material Composition Study Multi family - Recycling Stream



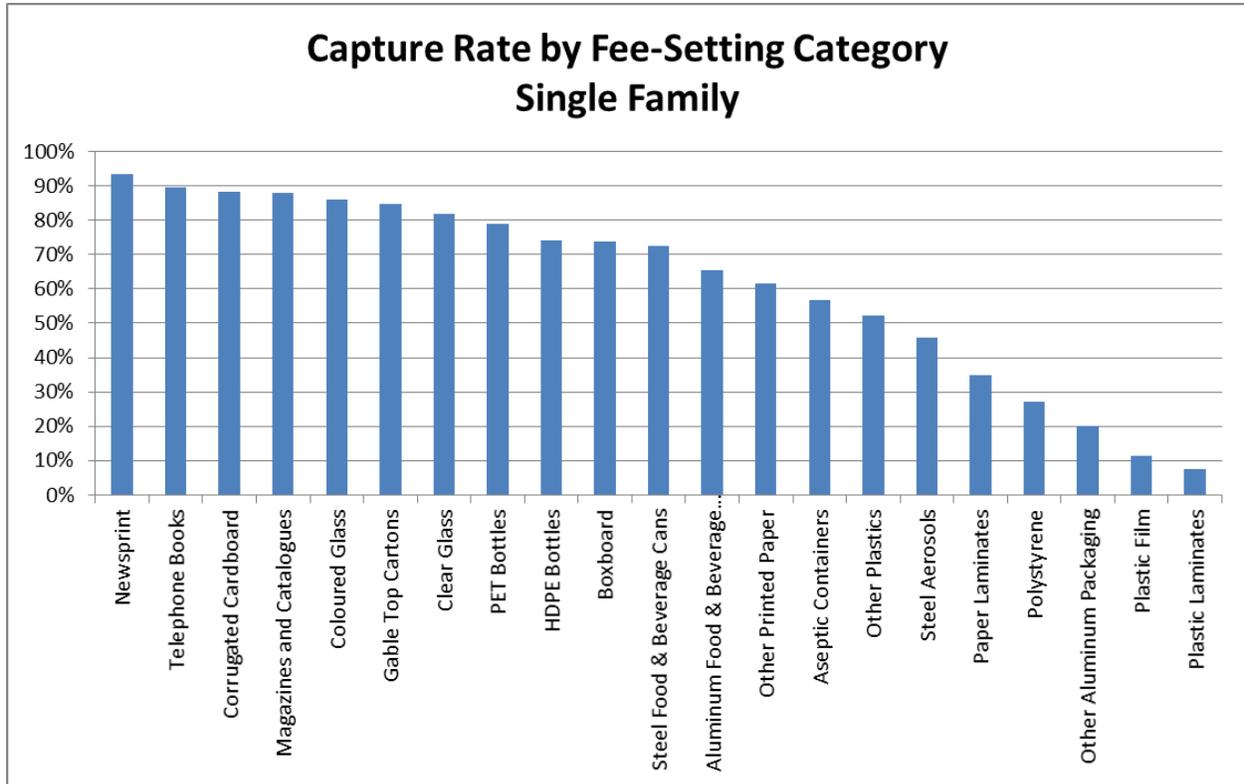
Capture Rate:

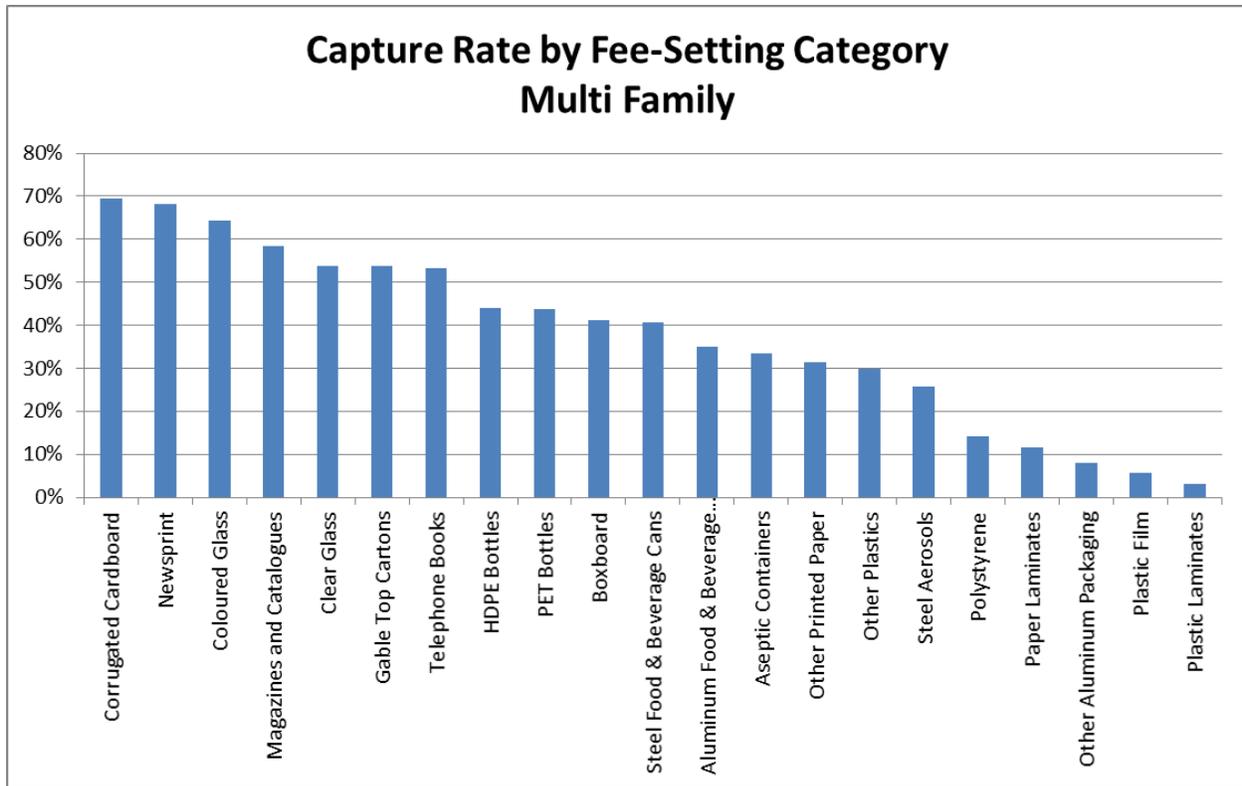
Similar to the 2012-2013 report, the Capture Rate for recyclables in both single family and multi-family homes reflects the proportion of materials that residents place in their recycling bins with the higher capture rates correlating with the highest volume materials in the recycling stream.



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Conclusion

The curbside material composition studies demonstrate that residents in Ontario are quite diligent about putting the right materials in their Blue Boxes for recycling. However, there has been a slight decline in the correct separation of recyclables from garbage between the 2012/2013 study and the 2014/15 study. The study results indicate an opportunity for more guidance and education directed at Ontario households in order to reduce the amount of waste being placed in the recycling bins. Overall, the study findings are positive and demonstrate widespread interest in doing the right thing when it comes to recycling, and a healthy appetite for recycling in general.

Appendix 1: Material Categories

Material Category	Description / Examples
PRINTED PAPER	
Newsprint - Daily and weekly	Daily and weekly newspapers published by the Canadian Newspaper Association (CNA) and the Ontario Community Newspapers Association (OCNA); Globe and Mail, Toronto Star, Hamilton Spectator, community newspapers. Consult Stewardship Ontario's list of OCNA/CNA publications. No inserts, flyers and magazines from newspapers.
Other Newsprint - Other	Non OCNA/CNA publications (e.g. TV guides, Auto Trader, Real Estate News) plus inserts and flyers from OCNA/CNA newspapers. Consult Stewardship Ontario's list of OCNA/CNA publications. Includes glossy flyers and advertising distributed with newspapers.
Magazines and Catalogues	Glossy magazines, catalogues, calendars, annual reports and product manuals (must be bound, i.e. stapled or glued).
Directories / Telephone books	Telephone books and other directories such as the Yellow Pages
Other Printed Paper (Obligated)	Mixed fine paper, bills and statements, ad mail, etc. Includes non-newsprint flyers and advertising, promotional calendars
Other Printed Paper (Non-Obligated)	Writing paper, office paper, soft or hard covered books, paper envelopes (blank), gift cards, purchased calendars, gift wrap, construction paper, photographs
PAPER PACKAGING	
Gable Top Containers	Polycoat containers with a gable shaped top, milk and milk substitutes like soy, almond and rice milk, juices, some foods, sugar, molasses etc.
Aseptic Containers (excluding alcoholic beverages)	Polycoat fibre and foil containers (e.g. Tetra Pak) for soy, almond and rice milk, juice boxes, water, soup, sauces etc.
Aseptic Containers - alcoholic beverages	Polycoat fibre and foil containers (e.g. Tetra Pak) for wine and other spirits
Polycoat Beverage Cups	Hot beverage/food containers, with polycoat on inside only, including coffee cups, soup cups/bowls, chili cups etc. Cold beverage/food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.

Spiral Wound Containers	Polycoat or paper containers with steel bottoms include chip containers, frozen concentrate juices, pre-packaged cookie dough, etc. May also have foil and/or plastic on ends.
Ice Cream Containers and Other Bleached Long Polycoat Fibre	Polycoated paper ice cream containers, typically with a lid, excluding boxboard folded ice cream boxes. Food containers with white fibre and a rolled or folded rim, includes Michelina's frozen food, KFC tubs.
Paper Laminate Packaging	Paper with aluminum foil, paper with plastic, multi-layered paper - Includes microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, etc.
Corrugated Cardboard	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, electronic product boxes such as television and computer boxes, boxes used to direct mail for residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, includes brown, white, and coloured kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings.
Boxboard/Cores/Molded Pulp	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper/ toweling/gift wrap, etc. Includes wet-strength boxboard, fast food, ice cream boxes, cartons such as fry/onion ring boxes and paper plates. Molded pulp packaging such as egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
PLASTICS	
#1 PET Bottles and Jars (excluding alcoholic beverages)	#1 plastic bottles and jars including pop, juice, cooking oil, honey, dish soap, etc.
#1 PET Bottles and Jars ≥ 5 L (excluding alcoholic beverages)	#1 plastic bottles and jars including pop, juice, cooking oil, honey, dish soap, etc.
#1 PET Bottles (alcoholic beverages)	#1 plastic bottles used to contain alcoholic beverages
#1 PET Thermoform - Clear	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, etc.
#1 PET Thermoform - Coloured	#1 coloured PET microwaveable trays, etc.
#2 HDPE Bottles and Jugs (excluding alcoholic beverages)	#2 plastic bottles and jugs, juice, milk, laundry soap, shampoo, windshield washer fluid, etc.
#2 HDPE Bottles and Jugs ≥ 5 L (excluding alcoholic beverage)	#2 plastic bottles and jugs equal to or greater than 5 L

#2 HDPE Bottles (alcoholic beverage containers)	#2 plastic bottles used to contain alcoholic beverages
#2 Other HDPE Containers	Other #2 containers such as margarine and yogurt containers made from HDPE
Flexible Film Plastic – LDPE & HDPE	HDPE & LDPE film, dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and paper towel over-wrap, lawn seed bags, grocery and retail carry-out bags Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, etc.) goes in LDPE/HDPE Film - Products (non-packaging)
LDPE/HDPE Film - Products (non-packaging)	garbage bags, kitchen catchers, zip lock bags, leaf bags
#5 PP Bottles	# 5 plastic bottles includes nutritional supplement drinks, shampoos, etc.
#5 Other PP Containers	# 5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP
#6 PS - Expanded Polystyrene	# 6 Foam take-out containers such as drink cups, large, white packaging foam, meat trays, etc.
#6 PS - Non-expanded Polystyrene	#6 Polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, yogurt containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
Plastic Laminates and Other Film Packaging	Laminated plastic film and bags that are at least 85% plastic (by weight). Includes chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches, etc.
Other Rigid Plastic Packaging	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
Large HDPE & PP Pails & Lids	Equal to or greater than 5 litres and less than 25 litres
Other Plastics - (non-packaging/durable)	Rubbermaid tubs, toys etc.
METALS	
Aluminum- food and beverage Containers (excluding alcoholic beverage containers)	Single-serve juice/soft drink cans, pet food cans, food cans (e.g., sardine cans)
Aluminum (alcoholic beverage containers)	Aluminum cans and bottles used to contain alcoholic beverages
Aluminum Foil & Foil Trays	Aluminum foil wrap, pie plates, baking trays, etc.
Aluminum Aerosols	Aluminum aerosol containers, hair products, etc.

Other Aluminum (non-packaging)	Aluminum siding, baking trays etc.
Steel Food and Beverage Cans	Apple juice, soup beans, peaches cans, etc.
Steel Aerosol Container	Empty spray paint cans, cooking oil, whipped cream, etc.
Other steel (non-packaging)	Non-packaging steel products including baking trays, frying pans etc.
GLASS	
Clear Glass - food and beverage (excluding alcoholic beverage containers)	Food containers such as pickle jars, salsa jars and diary tubs, cosmetic containers for creams, beverage bottles
Clear Glass - alcoholic beverage containers	Wine bottles, spirit bottles, single-serve cooler bottles, beer bottles
Coloured Glass - food and beverage (excluding alcoholic beverage containers)	Olive oil bottles, balsamic vinegar
Coloured Glass - alcoholic beverage containers	Wine bottles, spirit bottles, single-serve cooler bottles, beer bottles
Other Glass - non-Blue Box	Dishes, ceramics, window glass
MUNICIPAL HAZARDOUS OR SPECIAL WASTE	
Pressurized Containers	All pressurized cylinders used for compresses gases including propane, helium, welding/brazing gases, etc.
Batteries (Consumer-Type Portable)	All batteries (primary and secondary)
OTHER MATERIALS	
Other Waste	All other materials not classified elsewhere, wooden fruit basket, vacuum bags, wax candles, furnace filters, tissue and paper towels, organics, etc.

* Link to the OCNA and CNA membership lists:

http://www.ocna.org/member_search

<http://www.newspaperscanada.ca/about-newspapers/find-canadian-newspaper>