

Multi-Material BC

Annual Report to the Director

2015 Calendar Year

Submitted to: Director, Extended Producer Responsibility Programs
PO Box 9341, STN PROV GOVT
Victoria, BC V8W 9M1

Prepared by: Allen Langdon, Managing Director
Multi-Material BC
230-171 Esplanade West
North Vancouver, BC, V7M 3J9
778-588-9504

July 1, 2016

Table of Contents

1. Executive Summary	3
2. Program Outline	6
3. Public Education Materials and Strategies	7
4. Collection System and Facilities	9
5. Product Environmental Impact Reduction, Reusability and Recyclability	23
6. Pollution Prevention Hierarchy and Product / Component Management	25
7. Summary of Deposits, Refunds, Revenues and Expenditures	25
8. Product Sold and Collected and Recovery Rate	26
9. Plan Performance	26
Appendices	32



1. Executive Summary

The table below should concisely summarize program performance for the section 8 annual reporting requirements such that ministry staff and the public can easily understand whether reporting requirements and stewardship plan targets have been met.

Products within plan	Household packaging and printed paper
Program website	www.multimaterialbc.ca and www.recyclinginbc.ca

Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(a)	<u>Public Education Materials and Strategies</u>	<ul style="list-style-type: none"> - Second Life advertising campaign ran in 2015 to raise awareness with BC residents of what happens to their recyclables after they are collected. - Launched a travelling events team to conduct public outreach and engagement in communities across BC. - Recycling guides updated and delivered to residents in communities directly served by MMBC. - Resident website, depot list and address search updated and available at www.recyclinginbc.ca. - Recycling guide templates and sign artwork updated and made available to all collectors.
Part 2, section 8(2)(b)	<u>Collection System and Facilities</u>	<ul style="list-style-type: none"> - 1,255,000 single-family and multi-family households received curbside or multi-family collection services from 74 local governments, First Nations, or private collectors - Residents in 151 incorporated municipalities, electoral areas, and First Nations communities have access to curbside and/or multi-family collection services under the MMBC program - 204 depots throughout BC accept MMBC materials, operating in 27 regional districts.



Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(c)	<u>Product Environmental Impact Reduction, Reusability and Recyclability</u>	<ul style="list-style-type: none"> - MMBC members explored opportunities to design packaging for the environment while aiming to achieve an optimal balance between maintaining the product’s integrity, improving its recyclability and meeting the needs and expectations of changing consumer lifestyles. - MMBC members were able to easily and efficiently test the adoption and recyclability of new packaging designs by working with MMBC and its integrated supply chain. - MMBC participated in an international effort on behalf of its members, along with the World Economic Forum and the Ellen McArthur Foundation, to examine how governments and businesses can collaborate across supply chains to encourage the circular flow of materials maximizing value extraction and reducing waste. - MMBC members continue to innovate and explore new technologies to reduce the environmental impact of the materials they distribute to BC consumers.
Part 2, section 8(2)(d)	<u>Pollution Prevention Hierarchy and Product / Component Management</u>	<ul style="list-style-type: none"> - Tonnes of packaging and printed paper managed by recycling: 178,583 - Tonnes of packaging and printed paper managed by recovery (material or energy from the product as per Pollution Prevention Hierarchy): 0 - Tonnes of packaging and printed paper managed by disposal: 13,454
Part 2, section 8(2)(e)	<u>Product Sold and Collected and Recovery Rate</u>	<ul style="list-style-type: none"> - Amount of Product Sold (te): 243,191 - Amount of Product Collected (te): 186,509 - Recovery Rate: 77%
Part 2, section 8(2)(e.1)		See Section 7 for breakdown per regional district
Part 2, section 8(2)(f)	<u>Summary of Deposits, Refunds, Revenues and Expenses</u>	N/A



Comparison of Key Performance Targets		
Part 2 section 8(2)(g); See full list of targets in Plan Performance, section 9.		
Priority Stewardship Plan Targets (as agreed with ministry file lead)	Performance	Strategies for Improvement
2a. Maintain at a minimum single family and multifamily household service levels where these households currently receive PPP collection.	871,000 single-family households and 384,000 multi-family households received curbside and multi-family collection services from MMBC. The adjusted targets (less local governments that did not participate) are 793,000 single-family households and 364,000 multi-family households.	MMBC will add more communities as more stewards join the program.
2b. Provide curbside collection of PPP to the approximately 102,000 households currently receiving garbage collection service.	MMBC provided curbside collection of PPP to 38,000 households previously only receiving curbside garbage collection service through both RFPs and service via local governments/First Nations.	Local governments representing the remaining households either: <ol style="list-style-type: none"> 1. Failed to respond by the deadline; 2. Indicated they prefer depot collection; or 3. The bid price received by MMBC was higher than MMBC's offer.
2c. Maintain depot collection of PPP for the approximately 165,000 single-family households and the approximately 91,000 multi-family households without collection services.	MMBC added 24 new depot sites in 2015. Collectively, the 204 depots serve in total close to 460,000 households to which MMBC does not provide single-family or multi-family curbside collection services.	MMBC will add more depots as more stewards join the program.



2. Program Outline

Provide a brief (1 page) overview of the stewardship agency/company and their members [website link], program inclusions, collection approach and any other high level information relative to the annual report e.g. studies completed, new targets set, consultations or surveys conducted.

Multi-Material BC (MMBC) is a non-profit organization that is fully financed by industry to manage residential packaging and printed paper recycling programs in communities across British Columbia. MMBC provides recycling services either directly to communities or by working in partnership with local governments, First Nations, private companies, and other non-profit organizations to ensure households across BC are receiving best-in-class recycling services.

MMBC is located in BC with BC-based staff members that manage all program operations, including the supply chain and promotion and education activities to engage residents. MMBC's work is supported by Canadian Stewardship Services Alliance (CSSA), a national, non-profit organization which provides MMBC with administrative expertise with particular focus on administrative services that assist stewards in fulfilling their printed paper and packaging stewardship obligations. To date, MMBC has been governed by the CSSA board of directors but is looking forward to evolving to an independent organization in 2016 with its own board of directors made up of MMBC stewards.

MMBC Advisory Committee

The MMBC Advisory Committee includes representatives from stakeholders interested in the success of the MMBC program, including local governments (appointed by the Union of BC Municipalities), the waste management industry (represented by the Coast Waste Management Association), steward industry associations (represented by dairy and landscaping associations), and the Recycling Council of BC. The Committee is consulted on core elements of MMBC's program to identify issues and suggest how they might be addressed, foster collaborative problem-solving and increased communication, and to provide feedback to MMBC on its packaging and printed paper program.

- Brock Macdonald, CEO, Recycling Council of BC, Advisory Committee Chair
- Will Burrows, Executive Director, Coast Waste Management Association
- Mike Dick, Vice President Western Canada for Agropur, Division Natrel – appointed by the British Columbia Dairy Council
- Andrew Doi, Environmental Planner, Metro Vancouver – observer appointed by Union of British Columbia Municipalities
- Rob Gay, Regional District of East Kootenay Board Chair – appointed by Union of British Columbia Municipalities
- Gay Hahn CEO, Avalon Dairy Ltd. – appointed by the BC Food Processors Association
- Bill Hardy, Co-Owner, Grow and Gather Garden Centre – appointed by the BC Landscape and Nursery Association
- Paul Ives, Mayor, Town of Comox – appointed by Union of British Columbia Municipalities
- Dan Rogers, Vernon Chamber of Commerce – appointed by BC Chamber of Commerce

MMBC Members

MMBC members, or stewards, are businesses or organizations that supply packaging and printed paper into the BC residential marketplace, as defined in the BC Recycling Regulation. In becoming members of



MMBC, these organizations exemplify their commitment to environmental sustainability by taking responsibility for the management of their packaging and printed paper at the end of its useful life.

MMBC members span a breadth of sectors, including:

- Food manufacturers
- Consumer packaged goods (e.g., cosmetics, electronics, toys, etc.)
- Retail businesses (e.g., grocery, general merchandise, convenience, drug store)
- Banks and credit unions
- Municipal government
- Quick service restaurants
- Magazine publishers
- Paper manufacturers
- And more...

For more information about being an MMBC member, visit: <http://www.multimaterialbc.ca/stewards/>,

3. Public Education Materials and Strategy

Provide a brief overview of the key materials and strategies used to promote awareness of the program.

Identify the various types of outreach (i.e. face to face, social media, traditional media, etc.) utilized.

Reference: Recycling Regulation – Part 2, section 8(2)

(a) a description of educational materials and educational strategies the producer uses for the purposes of this Part

An important part of MMBC's commitment to recycling includes investing in a wide variety of promotion and education campaigns to raise consumer awareness and encourage recycling of packaging and printed paper. In 2015, these efforts included advertising, community outreach, communications collateral, and publishing an extensive library of online and social content. Some outreach strategies are designed to communicate directly with BC residents, at home and in their communities, while other efforts are in support of local governments, non-profits and private companies, providing education materials to be used when communicating with their residents about the MMBC program.

Advertising

In 2015, MMBC launched new advertising campaign highlighting what materials become after they are recycled. The "Second Life" campaign featured a steel can creating the possibility of new appliances, a plastic bottle producing fleece jackets, and park benches being sprayed out of a plastic spray bottle. "Second Life" advertising ran during the spring and fall, and included TV, radio, online, social media, and out-of-home advertising. The campaign was supported by an infographic and video that answers the question 'What happens to my recycling?'



As part of their MMBC collection agreements, local government collectors retain responsibility for promotion and education, and receive some funding from MMBC for this purpose. Accordingly, MMBC shares advertising creative with collectors who wish to use it in their own communities.

Connecting with Communities

From June to September, MMBC's events team visited nine community events throughout seven regional districts. Even though 2015 was the first year MMBC conducted community outreach through a travelling events team, the effort was a huge success. Hands-on displays, interactive games and branded giveaways allowed MMBC an opportunity to speak with residents about their recycling program, and to answer questions or address confusion associated with changes that had come into effect in 2014. Residents acquired a greater understanding of how MMBC fits into BC's recycling system. It is estimated that close to 250,000 BC residents visited MMBC's display and the team had more than more than 46,000 unique interactions with event attendees. At the end of the 2015 summer tour, MMBC donated a made-in-BC recycled plastic bench to the City of Armstrong.

Canada Winter Games Sponsorship

Multi-Material BC (MMBC) was pleased to be an official sponsor of the 2015 Canada Winter Games held in Prince George, BC. MMBC provided 550 receptacles that were used to collect recycling for the duration of the event. After the games, the receptacles were donated to be used for recycling collection as a tangible legacy from hosting the Winter Games

Consumer Research:

MMBC continues to measure public awareness of the program through consumer research and by measuring the number of people visiting the resident-facing website. In 2015, 128,630 people visited RecyclingInBC.ca which generated 293,993 page views.

In June 2015, MMBC leveraged a second wave of research to gauge consumer behaviour, perceptions and attitudes towards recycling, and to determine the impact that MMBC has had on perceptions of recycling services delivered in participating communities.

Results showed that:

- 99% of people are aware of the availability of packaging and printed paper recycling and claim to recycle;
- 74% make an effort to recycle, and 25% recycle only if it is convenient; and
- 86% of respondents find the recycling services unchanged or better than in 2014.

When MMBC launched the program in 2014, the objective was to ensure that from a resident's perspective there were no service disruptions. MMBC is therefore very pleased that such a high majority of respondents are seeing no change or better service compared to the previous year. MMBC will conduct consumer research in 2016 to continue to compare and measure program awareness and the recycling behaviour of BC residents.

2015 Research Methodology

2,522 residents from BC were sent a 20-minute online quantitative survey. Regional representations included:



Northern BC – 103
 Vancouver Island – 563
 Lower Mainland (excluding Greater Vancouver Area) – 519
 Greater Vancouver Area – 1,016
 Thompson-Okanagan – 265
 Kootenay – 56

The data was weighted to the 2011 Census by age, gender and region (excluding census data for municipalities in which MMBC does not operate) to ensure that the results are representative of the options of BC’s general public 18 years of age and older.

4. Collection Systems and Facilities

Provide a brief overview of the way in which the stewardship agency collects the products from the consumer (i.e. depots, return to retailer, collection events, etc.). If available, list the number of collection facilities in each regional district and identify changes in the number, location, and method of collection from the previous year to the present year. If the list is extensive, consider including a summary and attaching a separate document or URL.

Reference: Recycling Regulation – Part 2, section 8(2)

(b) the location of its collection facilities, and any changes in the number and location of collection facilities from the previous report;

The MMBC program uses three collection methods: **curbside collection** from residences that set out material individually for pick up, **multi-family collection** from a central location in buildings with five or more residential units, and **depot collection** where residents drop off packaging and printed paper. Together, MMBC has over 160 collection partners throughout BC.

Location of Collection Facilities

MMBC collectors operate throughout the province. In total, 1,255,000 households in 151 incorporated municipalities, electoral areas, and First Nations communities have access to curbside and/or multi-family collection services under the MMBC program from 74 local governments, First Nations, or private collectors. In addition to curbside and multi-family collection, 204 depots throughout BC accept MMBC materials, operating in 27 regional districts.

Regional District	Communities	# of Service Areas/Facilities	Change
Alberni Clayoquot		8	0
	Curbside	2	
	Alberni Clayoquot Regional District	1	
	Toquaht Nation	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Depot	5	
	Alberni Valley Landfill	1	
	Bamfield Transfer Station	1	
	Port Alberni Recycling Depot	1	
	Sonbird Refuse & Recycling	1	
	Westcoast Recycling Depot	1	
	Multifam	1	
	City of Port Alberni	1	
Bulkley-Nechako		7	1
	Curbside	3	
	Nakazdli Band	1	
	Town of Smithers	1	
	Village of Telkwa	1	
	Depot	3	
	Bulkley Valley Bottle Depot	1	
	Burns Lake Return-It Depot	1	
	Nak'azdli Recycling Depot	1	
	Multifam	1	
	Nakazdli Band	1	
Capital		13	0
	Curbside	1	
	Capital Regional District	1	
	Depot	11	
	Bottle Depot (Saanich)	1	
	Bottle Depot (Victoria)	1	
	Galiano Island Recycling Depot	1	
	Hartland Recycling Depot	1	
	Mayne Island Recycling Depot	1	
	Oak Bay Public Works	1	
	Pacific Mobile Depots	1	
	Pender Island Recycling Depot	1	
	Port Renfrew Transfer Station	1	
	Salt Spring Island Recycling Depot	1	
	Saturna Island Recycling Depot	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Multifam	1	
	City of Victoria	1	
Cariboo		18	1
	Curbside	4	
	Cariboo Regional District	1	
	City of Quesnel	1	
	City of Williams Lake	1	
	District of 100 Mile House	1	
	Depot	13	
	150 Mile House Transfer Station	1	
	Baker Creek	1	
	Central Cariboo Transfer Station	1	
	Forest Grove Transfer Station	1	
	Frost Creek Transfer Station	1	
	Gold Trail Recycling Ltd	1	
	Interlakes Landfill	1	
	Lac La Hache	1	
	Lone Butte Transfer Station	1	
	Quesnel Landfill	1	
	Watch Lake Landfill	1	
	Wells	1	
	Wildwood Transfer Station	1	
	Multifam	1	
	City of Williams Lake	1	
Central Coast		1	0
	Depot	1	
	Thorsen Creek Landfill and Recycling Centre	1	
Central Kootenay		6	0
	Curbside	5	
	City of Castlegar	1	
	City of Nelson	1	
	Regional District of Central Kootenay	1	
	Village of Kaslo	1	
	Village of Nakusp	1	
	Multifam	1	
	City of Nelson	1	



Regional District	Communities	# of Service Areas/Facilities	Change
Central Okanagan		14	-1
	Curbside	5	
	City of Kelowna	1	
	District of Lake Country	1	
	District of Peachland	1	
	District of West Kelowna	1	
	Regional District of Central Okanagan	1	
	Depot	9	
	Boucherie Self Storage & Bottle Depot	1	
	Columbia Bottle Depot - Central	1	
	Columbia Bottle Depot - Rutland	1	
	Columbia Bottle Depot - St. Paul	1	
	Glenmore Landfill Recycling Depot	1	
	Northwestside Recycling Depot	1	
	Planet Earth Recycling Ltd.	1	
	Traders Cove Recycling Depot	1	
	Westside Residential Waste Disposal and Recycling Centre	1	
Columbia Shuswap		22	19
	Curbside	3	
	City of Revelstoke	1	
	City of Salmon Arm	1	
	Town of Golden	1	
	Depot	18	
	Bill's Bottle Depot	1	
	Falkland Transfer Station	1	
	Glenemma Transfer Station	1	
	Golden Bottle Depot	1	
	Golden Landfill	1	
	Malakwa Depot	1	
	Parson	1	
	Revelstoke Bottle Depot	1	
	Revelstoke Landfill	1	
	Salmon Arm Landfill	1	
	Scotch Creek Transfer Station	1	
	Seymour Arm Transfer Station	1	
	Sicamous Downtown Depot	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Sicamous Landfill	1	
	Skimikin Transfer Station	1	
	Sorrento Fire Hall Depot	1	
	Tappen Co-Op Depot	1	
	Trout Lake Transfer Station	1	
	Multifam	1	
	City of Revelstoke	1	
Comox Valley		8	0
	Curbside	3	
	City of Courtenay	1	
	Comox Valley Regional District	1	
	Village of Cumberland	1	
	Depot	4	
	Comox Valley Waste Management Centre	1	
	Courtenay Return-It Depot	1	
	Denman Island	1	
	Hornby Island	1	
	Multifam	1	
	City of Courtenay	1	
Cowichan Valley		13	0
	Curbside	6	
	City of Duncan	1	
	Cowichan Tribes	1	
	Cowichan Valley Regional District	1	
	District Municipality of North Cowichan	1	
	Town of Ladysmith	1	
	Town of Lake Cowichan	1	
	Depot	5	
	Bings Creek Recycling Centre	1	
	Island Return-It Duncan	1	
	Junction Bottle Depot	1	
	Meade Creek Recycling Centre	1	
	Peerless Road Recycling Centre	1	
	Multifam	2	
	Town of Ladysmith	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Town of Lake Cowichan	1	
East Kootenay		1	0
	Depot	1	
	Cranbrook Bottle Depot	1	
Fraser Fort George		4	1
	Curbside	1	
	City of Prince George	1	
	Depot	2	
	Hart Return-It Centre	1	
	P.G. Recycling and Return-It Centre	1	
	Multifam	1	
	City of Prince George	1	
Fraser Valley		11	0
	Curbside	1	
	Seabird Island Band	1	
	Depot	7	
	Abbotsford Bottle Depot	1	
	Aldergrove Return-It Depot	1	
	Mission Recycle Centre	1	
	R&T Recyclables & Bottle Depot	1	
	Regional Recycling Abbotsford	1	
	Sardis Bottle Depot	1	
	Seabird Island Eco Station	1	
	Multifam	3	
	City of Abbotsford	1	
	City of Chilliwack	1	
	Seabird Island Band	1	
Kitimat Stikine		5	1
	Curbside	1	
	City of Terrace	1	
	Depot	4	
	Border Town Recycling	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Do Your Part Recycling	1	
	Hazelton Bottle Depot	1	
	Kitimat Bottle Depot	1	
Kootenay Boundary		11	0
	Curbside	2	
	Regional District of Kootenay Boundary - East Sub Region	1	
	Regional District of Kootenay Boundary - West Sub Region	1	
	Depot	6	
	Christina Lake Transfer Station	1	
	Grand Forks Landfill	1	
	McKelvey Creek Landfill	1	
	Rock Creek Transfer Station	1	
	Trail Bottle Depot	1	
	West Boundary Landfill	1	
	Multifam	3	
	City of Rossland	1	
	City of Trail	1	
	Village of Fruitvale	1	
Metro Vancouver		76	1
	Curbside	17	
	City of Burnaby	1	
	City of Coquitlam	1	
	City of Langley	1	
	City of New Westminister	1	
	City of North Vancouver	1	
	City of Pitt Meadows	1	
	City of Port Coquitlam	1	
	City of Port Moody	1	
	City of Richmond	1	
	City of Surrey	1	
	City of Vancouver	1	
	City of White Rock	1	
	District of Maple Ridge	1	
	District of North Vancouver	1	
	District of West Vancouver	1	
	University Endowment Lands	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Village of Anmore	1	
	Depot	43	
	Biggar Bottle Depot	1	
	Bridgeview Bottle & Return-It Depot	1	
	Burnaby Eco-Centre	1	
	City of Richmond Recycling Depot	1	
	Coquitlam Return-It Depot	1	
	East Hastings Bottle Depot	1	
	Edmonds Return-It Depot	1	
	Fraser Valley Bottle & Return-It Depot	1	
	Go Green Bottle Depot	1	
	Guildford Bottle Depot	1	
	Haney Bottle Depot	1	
	Ironwood Bottle & Return-It Depot	1	
	Jenill Recycling	1	
	Kensington Square Return-It Centre	1	
	Kitchener Bottle Depot	1	
	Ladner Bottle Depot	1	
	Lee's Bottle Depot	1	
	Lonsdale Bottle & Return-It Depot	1	
	Lougheed Return-It Depot	1	
	Maple Ridge Bottle Depot	1	
	Maple Ridge Recycling Depot	1	
	Metrotown Return-It Centre	1	
	New Westminster Recycling Depot	1	
	Newton Bottle Depot	1	
	North Shore Bottle Depot	1	
	North Vancouver Bottle & Return-It Depot	1	
	NSRP North Shore Depot	1	
	Pitt Meadows Bottle & Return-It Depot	1	
	Powell Street Return-It Bottle Depot	1	
	Regional Recycling Burnaby	1	
	Regional Recycling Cloverdale	1	
	Regional Recycling Richmond	1	
	Regional Recycling Vancouver	1	
	Sapperton Return-It Depot	1	
	Scott Road Bottle Depot	1	
	Semiahmoo Bottle Depot	1	
	South Van Bottle Depot	1	
	Tsawwassen Return-It Centre	1	
	Vancouver Central Return-It Depot	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Vancouver Landfill	1	
	Vancouver South Transfer Station	1	
	Walnut Grove Bottle & Return Centre	1	
	Willowbrook Recycling	1	
	Multifam	16	
	City of Burnaby	1	
	City of Coquitlam	1	
	City of Langley	1	
	City of New Westminster	1	
	City of North Vancouver	1	
	City of Pitt Meadows	1	
	City of Port Coquitlam	1	
	City of Port Moody	1	
	City of Richmond	1	
	City of Surrey	1	
	City of Vancouver	1	
	City of White Rock	1	
	District of Maple Ridge	1	
	District of North Vancouver	1	
	District of West Vancouver	1	
	University Endowment Lands	1	
Mount Waddington		15	-3
	Curbside	4	
	District of Port Hardy	1	
	Regional District of Mount Waddington	1	
	Town of Port McNeill	1	
	Village of Alert Bay	1	
	Depot	10	
	7 Mile Landfill And Recycling	1	
	Cormorant Island Recycling Depot	1	
	Island Foods Bottle Depot	1	
	Malcolm Island Recycling Depot	1	
	Port Alice Recycling Depot	1	
	Port Hardy Return It Centre	1	
	Quatsino Recycling Depot	1	
	Tsulquate Recycling Depot	1	
	Winter Harbour Recycling Depot	1	
	Woss Recycling Depot	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Multifam	1	
	Regional District of Mount Waddington - Coal Harbour	1	
Nanaimo		12	1
	Curbside	2	
	City of Nanaimo	1	
	Regional District of Nanaimo	1	
	Depot	7	
	Alpine Disposal	1	
	Nanaimo Recycling Exchange	1	
	Parksville Bottle & Recycling Depot Ltd	1	
	Qualicum Bottle Depot	1	
	Regional Recycling Nanaimo (Hayes Road)	1	
	Sun Coast Recycle Drop Off	1	
	Regional Recycling Nanaimo (Old Victoria)	1	
	Multifam	3	
	City of Nanaimo	1	
	City of Parksville	1	
	Nanoose Bay	1	
North Okanagan		9	3
	Curbside	1	
	Regional District of North Okanagan	1	
	Depot	4	
	Armstrong Bottle Depot	1	
	Interior Freight and Bottle Depot	1	
	Venture Bottle Depot	1	
	Venture Training Centre	1	
	Multifam	4	
	City of Armstrong	1	
	City of Enderby	1	
	Village of Lumby	1	
	City of Vernon	1	
Northern Rockies		1	0
	Depot	1	



Regional District	Communities	# of Service Areas/Facilities	Change
	Widesky Disposals	1	
Okanagan Similkameen		19	0
	Curbside	7	
	City of Penticton	1	
	District of Summerland	1	
	Penticton Indian Band	1	
	Regional District of Okanagan-Similkameen	1	
	Town of Oliver	1	
	Town of Osoyoos	1	
	Town of Princeton	1	
	Depot	9	
	Campbell Mountain Landfill	1	
	J & C Bottle Depot	1	
	Keremeos Transfer Station	1	
	Oliver Landfill	1	
	Osoyoos Bottle Depot	1	
	Osoyoos Landfill	1	
	Princeton Landfill	1	
	Summerland Landfill	1	
	T2 Market Recycle Depot	1	
	Multifam	3	
	City of Penticton	1	
	District of Summerland	1	
	Town of Oliver	1	
Peace River		11	1
	Depot	11	
	Buick	1	
	Cecil Lake	1	
	DC Campbell Recycling Ltd.	1	
	Goodlow	1	
	Kelly Lake	1	
	Pink Mountain	1	
	Prespatou	1	
	Rose Prairie	1	
	Tomslake	1	
	Tumbler Ridge Transtor	1	
	Wonowon	1	



Regional District	Communities	# of Service Areas/Facilities	Change
Powell River		7	0
	Depot	7	
	Augusta	1	
	Gillies Bay Community Depot	1	
	Lasqueti Island Community Depot	1	
	Lund Community Depot	1	
	Powell River South (Black Point) Community Depot	1	
	Sliammon Community Depot	1	
	Van Anda Community Depot	1	
Skeena Queen Charlotte		5	0
	Curbside	1	
	Gitxaala Nation	1	
	Depot	4	
	Island Solid Waste (Port Clements)	1	
	Island Solid Waste (Queen Charlotte)	1	
	Kitkatla	1	
	Mainland (Regional) Recycling Depot	1	
Squamish-Lillooet		11	0
	Curbside	2	
	Seton Lake Band	1	
	Squamish Nation	1	
	Depot	6	
	Carney's Waste Systems	1	
	Function Junction Depot	1	
	Lillooet	1	
	Nesters Depot	1	
	Pemberton	1	
	Pemberton Recycling Centre	1	
	Multifam	3	
	District of Squamish	1	
	Resort Municipality of Whistler	1	
	Village of Pemberton	1	
Strathcona		11	1



Regional District	Communities	# of Service Areas/Facilities	Change
	Curbside	3	
	City of Campbell River	1	
	Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nation	1	
	Strathcona Regional District	1	
	Depot	7	
	Campbell River Waste Management Centre	1	
	Cortes Island	1	
	Gold River	1	
	Island Return-It Campbell River	1	
	Sayward	1	
	Tahsis	1	
	Zeballos	1	
	Multifam	1	
	City of Campbell River	1	
Sunshine Coast		3	0
	Depot	3	
	Gibsons Recycling Depot	1	
	Pender Harbour Recycling Depot	1	
	Sechelt Recycling Depot	1	
Thompson-Nicola		4	0
	Curbside	1	
	Nicomen Indian Band	1	
	Depot	3	
	General Grant's - Northshore	1	
	General Grant's - Sahali	1	
	Lorne Street Bottle	1	
Grand Total			
	Curbside	75	
	Multi-Family	47	
	Depot	204	
	Total	326	

Receiving Network

Merlin Plastic's new Container Recovery Facility (CRF) started operations on January 12, 2015. The plant is located in New Westminster, BC and receives more than 50% of its material from communities within a 50km radius of the plant.



The first of its kind in North America, the new CRF represents the cornerstone of the Green by Nature proposal which eliminated the traditional, expensive Material Recovery Facility (MRF) infrastructure and replaced it with a series of Receiving, Consolidation and Transfer facilities (RCTs) and Pre-Conditioning Facilities (PCFs).

The RCTs segregate the two streams of residential printed paper and packaging collected from curbside, multi-family or depots, baling the fibres separately from the containers. The containers are shipped to the CRF for sorting into each of the materials found within the stream.

In the PCFs, fibres are segregated from containers. The containers stream is “pre-conditioned” to remove the residue, steel and glass. The remaining containers are baled and shipped to the CRF for sorting. This approach eliminates the unnecessary redundancy and added cost associated with putting optical sorting technology into each PCF (formerly MRF) across the province. The new approach is both technologically more efficient and financially more prudent.

By year end all plastic/container streams in baled form from across British Columbia were incrementally added to the delivered loose materials. With all container materials added to the production process, the final quarter of the year was spent identifying opportunities to improve recovery rates and product quality, thereby minimizing the amount of material that is being sent for disposal. Additional operational changes were made over the course of the first year of operation, with Merlin’s investment in the plant now in excess of \$20 million.

The new state-of-the-art CRF uses the following technologies:

- Bale breaker to get the baled materials shipped in from across the province back into single containers allowing for sorting;
- Ballistic separation technology to separate the plastic film and fibres from the 3-D containers;
- Size separation to direct oversized plastic containers to a shredder which reduces their size so they can be optically sorted into various plastic resins;
- Near infrared and visible spectrum optical sorters that can identify each of the plastic resins and efficiently sort each, generating a higher quality product for use by the end market;
- Air separation technology to clean glass fine (plastics and shredded paper) from the mixed glass stream;
- Eddy current separators to separate aluminum;
- Ferrous magnets to separate steel cans; and
- Recirculation conveyor system to send all product missed in the first pass through the optical sorting process a second time to maximize the recovery potential.

The Green by Nature Partnership

Green by Nature EPR (GBN) is contracted by MMBC to manage residential packaging and printed paper recycling post-collection. GBN is a partnership of three key organizations:

- **Cascades Recovery**, one of Canada’s largest collectors, processors and marketers of recyclable materials.
- **Emterra Environmental**, one of Canada’s largest waste resource management companies that specializes in recyclables collection, processing and marketing services, as well as organics and solid waste collection.
- **Merlin Plastics**, a North American pioneer in plastics recycling and marketing.



In addition to the capital equipment in place, strategically placed quality control staff are used to:

- Remove any materials that could cause processing problems for equipment within the overall system (e.g., bulky residue);
- Separating some materials to maximize product value;
- Redirect missorted materials inadvertently ejected to the wrong line or optically sorted according to the label resin rather than the bottle resin; and
- Remove any unwanted non-PPP from the final sorts that could contaminate the final product going to market.

The result of the entire process is a system that generates more value-added products than are typically found in a traditional MRF process. The quality of the outbound materials is higher than in typical programs providing a better feedstock for downstream processors. This ensures higher market prices are received for finished products.

The plastics generated from the facility are all shipped to an end market located within 10 kilometres of the CRF, supporting local business and reducing the carbon footprint associated with the management of plastics which, in many jurisdictions outside of BC, are shipped to overseas markets for processing. The metal products are all shipped to markets within North America. The aseptic/polycoat containers are shipped to markets in North America or South Korea (an OECD country in keeping with MMBC and BC Ministry of Environment expectations for end market due diligence).

5. Product Environmental Impact Reduction, Reusability and Recyclability

Identify ways in which producers or the agency contributes to the reduction of environmental impact.

For example, utilization of certified processors, R&D performed to improve recyclability / reuse of the product or components, examples of design for environment mechanisms used by producer members of the agency, reduction of greenhouse gas emissions. The producer may also wish to report on the status of any studies being undertaken to assist with the measurement of environmental impacts. Identifying successes is encouraged.

Reference: Recycling Regulation – Part 2, section 8(2)

(c) efforts taken by or on behalf of the producer to reduce environmental impacts throughout the product life cycle and to increase reusability or recyclability at the end of the life cycle;

Producers work in a wide variety of ways to build sustainability into their organizations. One particular area of focus is producers' desire to meet consumer expectations for packaging and printed paper (PPP) that has a minimal impact on the environment while also reflecting changing consumer lifestyles and behaviour such as:

- An aging population – people are living longer and packaging designs must provide necessary safety features while also being accessible to older consumers;



- Increasing number of smaller households – more households with fewer children and an increasing number of one-person households means smaller packaging formats;
- Changing eating/ mealtime behaviours – a shift to fewer sit-down family meals and more snacking and on-the-go, prepared meal options;
- Demand for packaging formats that provide additional attributes such as portion control, space saving and re-sealable features;
- Increasing awareness and concern about food waste – a desire for packaging with improved dispensing and other features designed to minimize waste; and
- A shift to digital platforms for accessing information – a reduction in distribution of printed materials as consumers increasingly rely on online sources for information.

All of these factors play a role in the way in which MMBC members innovate and build eco-efficiency in the packaging and printed paper products distributed to British Columbians.

MMBC Partners with Stewards to Facilitate New Recycling Technologies:

Mother Parker's Tea & Coffee Single Serve Case Study

In 2015, Mother Parkers approached MMBC for assistance testing the flow of their single-use beverage capsules within the BC recycling system. The results of this project have fed into a new recyclable packaging design for their many brands in the Keurig® K-Cup® format, including Tim Horton's coffee capsules.*

Early results indicate that through promotion and education, many consumers are willing to separate the capsule lid and attached filter prior to recycling and that the separated cups move well through the MRF. The report points to further improvements to communication and design that will increase the value in the recycling stream. The study was funded by Mother Parkers.

*Mother Parkers has no affiliation with Keurig® or K-Cup®. Keurig® and K-Cup® are registered trademarks of Keurig Green Mountain, Inc.

MMBC Participates in International Project on Plastics Recycling

In 2015, MMBC was invited to participate in *Project MainStream: Global Plastic Packaging Roadmap*, a project led by the World Economic Forum and the Ellen McArthur Foundation. The vision for this project is “an economy where plastic packaging never becomes waste but re-enters the economy as defined, valuable, biological or technical nutrients.”

Because the flow of materials from manufacturer through to collection and processing involves a large and varied number of players there is often minimal collaboration across this supply chain meaning that the value of these materials is not being captured at an adequate rate. *Project MainStream* brings together a group of influential municipalities and manufacturing companies to work towards a roadmap that integrates packaging design thinking with municipal recycling systems aimed at moving from a linear to a circular flow of materials.

Involvement in this project allows MMBC to not only learn from the experience of other participants from around the world but also to share MMBC's experience in managing an integrated supply chain for the recovery of packaging and printed paper and how the model is successfully capturing a significant proportion of its members' materials.



Based on the work carried out in 2015, The Ellen McArthur Foundation and the World Economic Forum issued a report, The New Plastics Economy: Rethinking the Future of Plastics, calling for industry and governments to apply circular economy principles to global plastic packaging flows. MMBC was highlighted in the report and noted for its success in harmonizing and redesigning collection and post-collection activities in British Columbia. Providing recycling services across the province as a single waste-shed allows the province to achieve productivity previously unavailable to residential recycling programs.

Pollution Prevention Hierarchy and Product / Component Management

Provide a brief overview of the way in which the collected product is managed and how those outcomes relate to the pollution prevention hierarchy. Provide breakdowns by weight or percentage of product managed at each level. Please also refer to third party assurance FAQs (original version dated November 22, 2012), distributed to stewardship programs by the Ministry.

Reference: Recycling Regulation – Part 2, section 8(2)

(d) a description of how the recovered product was managed in accordance with the pollution prevention hierarchy;

The chart below represents how material collected through the MMBC packaging and printed paper program is managed.

Collected material in MMBC’s Packaging and Printed Paper Program in relation to the pollution prevention hierarchy:

Tonnes of material managed by recycling	178,583
Tonnes of material managed by recovery (material or energy from the product as per PPH)	0
Tonnes of material managed by disposal	13,454

Data above represents audited data from processor on quantities of materials shipped. Prior year-end inventory shipped in the current year and unprocessed and unshipped inventories at year end are both considered.

6. Summary of Deposits, Refunds, Revenues and Expenditures

Not Applicable.

For those programs that charge deposits only:

Include a summary of deposits received and refunds paid in British Columbia by the producers (by plan if agency manages more than one plan). Attach a copy of the current year’s independently audited financial statements as an appendix.

For those programs that charge a visible eco fee only:



Include a summary of fees / rates charged by the agency and provide a summary of total revenues and expenses in British Columbia (by plan if agency manages more than one plan). Attach a copy of the current year's independently audited financial statements as an appendix.

Reference: Recycling Regulation – Part 2, Section 8(2)

(f) independently audited financial statements detailing

(i) all deposits received and refunds paid by the producers covered by the approved plan, and

(ii) revenues and expenditures for any fees associated with the approved plan that are charged separately and identified on the consumer receipt of sale;

7. Product Sold and Collected and Recovery Rate

Provide a summary of the total amount of product sold, collection volumes and, if applicable, recovery rates achieved by the program based on the approach included in the approved program plan. Also provide a summary of total product recovered by regional district.

Reference: Recycling Regulation – Part 2, section 8(2)

(e) the total amount of the producer's product sold and collected and, if applicable, the producer's recovery rate;

(e.1) effective for a report required on or before July 1, 2013 and for every report required under subsection (1) after that date, the total amount of the producer's product recovered in each regional district;

2015 Operating Year	
Amount of Product Sold (supplied by MMBC members) (te)	243,191
Amount of Product Collected (te)	186,509
Recovery Rate	77%*

*MMBC's recovery rate is determined by dividing collected tonnes by steward-reported tonnes. The year-over-year change in recovery rate from 80% in 2014 to 77% in 2015 reflects an increase in steward-reported tonnes in 2015 due to new stewards having joined MMBC -- not a decline in recovery performance. The amount of collected tonnes in 2015 did not substantially change from 2014.

The table below outlines the amount of packaging and printed paper collected in BC in each regional district.

Regional District	Tonnes	KG per Capita (serviced)
Alberni-Clayoquot	1,172	37.7
Bulkley-Nechako	422	11.5
Capital	21,438	61.5



Cariboo	1,540	25.7
Central Coast	29	15.3
Central Kootenay	597	16.3
Central Okanagan	11,649	64.8
Columbia-Shuswap	2,123	42.1
Comox Valley	2,831	44.6
Cowichan Valley	5,175	64.4
East Kootenay	77	1.8
Fraser Valley	717	2.6
Fraser-Fort George	1,944	26.8
Kitimat-Stikine	475	14.0
Kootenay Boundary	598	19.3
Metro Vancouver	113,560	49.5
Mount Waddington	379	33.3
Nanaimo	8,319	56.8
North Okanagan	3,848	47.4
Northern Rockies	30	5.7
Okanagan-Similkameen	4,319	53.5
Peace River	202	3.8
Powell River	742	37.3
Skeena-Queen Charlotte	512	27.5
Squamish-Lillooet	1,184	31.1
Strathcona	1,349	31.3
Sunshine Coast	1,103	38.5
Thompson-Nicola	176	1.5
	186,509	43.6

8. Plan Performance

Using the table below, provide a brief overview of the performance of the plan for the current year compared to the stated performance requirements and targets specified in the approved plan. If no specific targets have been set (e.g. new plans in first year of operation), specify baseline results, significant achievements and identify when targets will be set.

Reference: Recycling Regulation – Part 2, section 8(2)

(a) a comparison of the approved plan's performance for the year with the performance requirements and targets in this regulation and the approved plan



Plan Target	2015 Results	Strategies for Improvement
1. Maintain at a minimum the overall provincial collection rate of 208,700 tonnes.	MMBC collected 186,509 tonnes of material in 2015, which represents 77% of the tonnes supplied into the residential marketplace by our member-stewards.	MMBC will add more communities as more stewards join the program.
2a. Maintain at a minimum single-family and multi-family household service levels where these households currently receive PPP collection.	871,000 single-family households and 384,000 multi-family households received curbside and multi-family collection services from MMBC. The adjusted targets (less local governments that did not participate) are 793,000 single-family households and 364,000 multi-family households.	MMBC will add more communities as more stewards join the program.
2b. Provide curbside collection of PPP to the approximately 102,000 households currently receiving garbage-only collection service.	MMBC provided curbside collection of PPP to 38,000 households previously only receiving curbside garbage collection service through both RFPs and service via local governments/First Nations.	Local governments representing the remaining households either: <ol style="list-style-type: none"> 1. Did not respond by the deadline; 2. Indicated they prefer depot collection; or 3. The bid price received by MMBC was higher than MMBC's offer.
2c. Maintain depot collection of PPP for the approximately 165,000 single-family households and the approximately 91,000 multi-family households without collection services.	MMBC added 24 new depot sites in 2015. Collectively, the 204 depots serve in total close to 460,000 households to which MMBC does not provide single-family or multi-family curbside collection services.	MMBC will add more depots as more stewards join the program.



Plan Target	2015 Results	Strategies for Improvement
2d. Provide depot collection of PPP for the approximately 17,000 multi-family households currently without depot collection service.	MMBC added 24 new depot sites in 2015. Collectively, the 204 depots serving in total close to 460,000 households to which MMBC does not provide single-family or multi-family curbside collection services.	MMBC plans to add 5 additional depots in 2016.
2e. Implement streetscape pilot project.	MMBC completed a streetscape pilot in three communities in 2015 to better understand residents' streetscape recycling behaviour.	In 2016, MMBC will undertake a nine-month streetscape pilot in the West End of the City of Vancouver to inform future strategies.
2f. Single-family and multi-family households receiving household collection services, and number and location of depots accepting PPP.	871,000 single-family households and 384,000 multi-family households received curbside or multi-family collection services from MMBC. 204 depots accepted PPP.	
3. Conduct resident awareness research.	MMBC carried out post-launch consumer research in 2015.	MMBC intends to embark on new consumer research in 2016 to continue to inform promotion and education strategies.



Plan Target	2015 Results	Strategies for Improvement
<p>3a. Consumer awareness reporting.</p> <ul style="list-style-type: none"> • Percentage of residents aware of PPP stewardship program • Percentage of residents reporting use of available collection services • Visits to the 'resident' section of the MMBC website 	<p>Percentage of residents aware of PPP stewardship program:</p> <ul style="list-style-type: none"> - 99% of people are aware of the availability of packaging and printed paper recycling and claim to recycle. <p>Percentage of residents reporting use of available collection services:</p> <ul style="list-style-type: none"> - 74% make an effort to recycle, and 25% recycle only if it is convenient. <p>Visits to the 'resident' section of the MMBC website</p> <ul style="list-style-type: none"> - In 2015, 128,630 people visited RecyclingInBC.ca. 	
<p>4a. Target PPP for which recycling end-markets exist for collection.</p>	<p>MMBC uses promotion and education materials today to highlight for residents those PPP materials for which sustainable and/or commercially viable recycling end-markets exist.</p>	<p>MMBC will continue to provide promotion and education materials to educate residents on the materials accepted in its program.</p>
<p>4b. Direct 85% to 90% of collected PPP to recycling commodity markets.</p>	<p>In 2015, 178,583 tonnes of MMBC's material were shipped to recycling end markets while 186,509 tonnes were collected (96%).</p>	



Plan Target	2015 Results	Strategies for Improvement
4c. Pollution Prevention Hierarchy Reporting.	<ul style="list-style-type: none"> • Tonnes of material managed by recycling: 178,583 • Tonnes of material managed by recovery (material or energy from the product as per the Pollution Prevention Hierarchy): 0 • Tonnes of material managed by disposal: 13,454 • Examples of environmental impact measures to characterize actions intended to reduce the environmental impacts of PPP by producers, members of MMBC, and by MMBC <ul style="list-style-type: none"> - Project to improve K-Cup packaging recyclability with Mother Parkers; and - MMBC was invited to participate in <i>Project MainStream: Global Plastic Packaging Roadmap</i>, a project led by the World Economic Forum and the Ellen McArthur Foundation. 	
5. Conduct research and develop a data tracking and modelling system for greenhouse gas emissions (GHG).	MMBC is responsible for completing its research and development of a data tracking and modelling system for greenhouse gas emissions by the end of 2016. No work was completed on this initiative during 2015.	MMBC will complete research and development of a data tracking and modelling system for greenhouse gas emissions by December 31, 2016.
6. Other reporting metric: program cost.	<ul style="list-style-type: none"> • Total program cost (net) per tonne recovered: \$395.7 • Total program cost per household (SF and MF only): \$43.0 	



Appendices / Additional Information and Third-Party Assurance

Attach any additional documentation that is required.

Include:

- Financial Statements (if applicable), - N/A
- Third- Party Assurance Statement for Non-Financial Information, and
- Other items related to plan commitments such as greenhouse gas or other studies, consumer awareness surveys, detailed information on depot locations, etc.

Reference: Recycling Regulation – Part 2, section 8(2)

Including section 8(2)(h), any other information specified by the director

Operational effectiveness indicators

Kilograms per capita of material recycled for the province

Material recycled per capita	41.7kg
------------------------------	--------

Operational efficiency indicators

Total program cost (net) per tonne recovered	\$395.7
--	---------

Total program cost per household	\$43.0
----------------------------------	--------