

Prince Edward Island 2017 Annual Report

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Submitted to:

Department of Communities, Land and Environment

call 2 recycle[®]

Leading the charge for recycling.[™]



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1. About Call2Recycle Canada

Call2Recycle Canada, Inc. is Canada's first and largest consumer battery stewardship organization. The non-profit organization reports to a Canadian Board of Directors and fulfills the product stewardship obligations of close to 300 battery-powered product manufacturers, and certain distributors and retailers of related products (see [Appendix A](#)).

In 2017, Call2Recycle celebrated 20 years of pursuing its mission to responsibly manage end-of-life batteries.

In 2017, Call2Recycle celebrated 20 years of pursuing its mission to responsibly manage end-of-life batteries to keep them out of landfills and minimize their environmental impact. The program works through a network of public and private collection facilities in municipal offices, retail businesses, environmental organizations and other sites where consumers can drop off their batteries and cellphones for recycling. The convenience of Call2Recycle's drop-off boxes and its easy seal-and-ship process and tracking capabilities make the program ideal for participation by both consumers and partners.

Call2Recycle strives to support the Province in its environmental sustainability goals. Since 2012 alone, Prince Edward Island (PEI) residents have deposited more than 113,000 kg of used batteries in Call2Recycle boxes, diverting them from landfill. This document reports on Call2Recycle's performance regarding the waste management of batteries collected in PEI between January 1, 2017 and December 31, 2017.

2. Executive Summary

The Call2Recycle program enjoyed the strongest annual performance in PEI ever in its 20-year history, with collections topping 23,000 kg of batteries for 2017. Primary (single-use) batteries led this increase, with a 21% jump over last year's results; meanwhile rechargeable battery deposits also saw a notable 15% increase in collections.

These results come on the heels of concerted efforts to increase the number of collection points where consumers can access Call2Recycle boxes. The number of active collection sites—that is, sites that returned a full box of batteries in the past 365 days or joined the program in that same time, regardless of box returns—grew by 57% to 33 from 21. Of the sectors in which Call2Recycle places its boxes, government collection sites made up the majority of locations, followed by retail locations. As always, Call2Recycle continues to encourage collections and seek new partnerships and collection site opportunities.



Call2Recycle's creative online, print and radio campaigns also contributed to the strong collection results of 2017. The spring and fall "Daylight Saving Time" campaigns reminded consumers to recycle the batteries they removed from their smoke and carbon monoxide detectors. The National Battery Day 2017 campaign built on the success of its inaugural year with another print and online awareness campaign in February. And Call2Recycle entered its third year of partnership with Earth Rangers, the kids conservation organization, to hold online battery collection drives.

Operationally, this was also a year of transition for Call2Recycle. The organization celebrated 20 years in Canada, while its national operations—formerly tied to Call2Recycle's U.S. organization—moved to being wholly Canadian-run and governed by a Canadian board of directors.

Call2Recycle will continue its multi-pronged promotional efforts and partnerships to raise awareness and action on responsible battery management. The organization remains dedicated to providing the Province and its residents with a high-profile, easy-to-use, highly effective program for recycling used batteries.

3. Raising Awareness

Call2Recycle continually seeks to "move the needle" toward greater awareness of and action on battery recycling. In 2017, it significantly invested in public awareness activities, including online advertising, tradeshow, and promotional events. Here are some of these activities:

Earth Rangers Partnership – Call2Recycle partnered with Earth Rangers for a third year on its Battery Blitz Missions to teach students about responsible management of used batteries and encourage collections in Call2Recycle boxes. In February, the Online Battery Blitz Mission launched with targeted messages to Earth Rangers members across the province. E-blasts encouraged the young rangers to download recycling materials, view a video, and collect and recycle their used batteries with Call2Recycle. In PEI, 596 batteries were collected through 24 online missions.

National Battery Day – Call2Recycle built on the success of the first National Battery Day campaign in 2016 by once again encouraging consumers to [Lead the Charge](#) on February 18, 2017. Consumers were urged to collect and recycle their used batteries on National Battery Day. Call2Recycle teamed up with collection partners to raise awareness of the annual initiative and promoted the campaign in the week leading up to February 18 through

The Earth
Rangers/
Call2Recycle
Online
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Mission in
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batteries
from 24 earth
rangers.



a combination of print ads in the *Charlottetown Guardian*, ads on Charlottetown radio stations and online promotions across the province.

“Spring Forward & Recycle” and Fall “Time to Replace & Recycle” Daylight Saving Campaigns – As Canadians switched from or to Daylight Saving Time, Call2Recycle ran national campaigns to remind consumers to recycle the used batteries they remove from their smoke and carbon monoxide detectors. For the spring campaign, national ads on WeatherNetwork.com garnered 3 million impressions, while TV ads on the local forecast reached 8.8 million viewers. There were more than 6,150 clicks on Call2Recycle’s paid online ads, and more than 5,200 unique page views.

In the fall, a similar approach was taken, adding TV, print and mobile display ads across the region.

Charge Up Safety™ Campaign – In July, the *Charge Up Safety™* campaign launched to raise the awareness of and emphasize safe collection and shipping practices among consumers, municipalities, retailers, sorters, processors and Call2Recycle employees. As part of the initiative, Call2Recycle introduced a [safety portal](#) on its website to encourage the safe collection and shipping of used batteries.

Participant Profiles – PEI-based Island Waste Management was once again recognized in 2017 as a Leader in Sustainability by Call2Recycle. The Leader in Sustainability Award celebrates organizations that have achieved exceptionally high battery returns and have made extra efforts to promote battery recycling.

Examples of Call2Recycle’s promotional activities are provided in [Appendix B](#).

In addition to national and provincial awareness and evaluation activities, Call2Recycle also does the following to support and encourage battery recycling in PEI:

- Operates a customer service call centre that assists consumers to find drop-off locations, educates them about battery recycling, and provides a variety of other battery-related information
- Maintains a robust social media presence on Facebook and Twitter
- Manages and updates the Call2Recycle website, which has a dedicated PEI section
- Produces regular email blasts and newsletters conveying new programs and highlights

Multi-year
winner
Island Waste
Management
received
Call2Recycle’s
Leaders in
Sustainability
Award in 2017.



4. Collections

4.1 Collection Sites & Accessibility

Call2Recycle Canada has a network of public and private drop-off boxes across PEI, enabling consumers to deposit their used batteries at locations convenient to their home or workplace. These locations have been selected with a variety of factors in mind (e.g., population, proximity to consumers, and increased access for remote communities) to maximize battery returns.

Collection Sites per Cities, Towns, and Municipalities		
Cities	Charlottetown	19
	Summerside	12
	TOTAL	31
Towns	Montague	3
	Alberton	1
	Cornwall	1
	Kensington	3
	O'Leary	1
	New Annan	1
	Souris	3
	Startford	1
	TOTAL	14
Municipalities	Morell	1
	Bloomfield station	1
	Dingwell Mills	1
	Elmsdale	1
	St Louis	1
	Murray River	1
	Wellington	1
	Slemon Park	2
	Cardigan	1
	Tignish	1
	Donagh	1
	Hunter River	1
	Wellington Station	1
	TOTAL	14
GRAND TOTAL: 59		
33 Active / 26 Locator Only		



Call2Recycle monitors collection site performance in terms of batteries returned to the program by weight. “Active collection sites” by Call2Recycle standards are sites that have shipped at least one receipt (full box of batteries) within the past 12 months, or any site that has enrolled in the program during the past 365 days regardless of receipt.

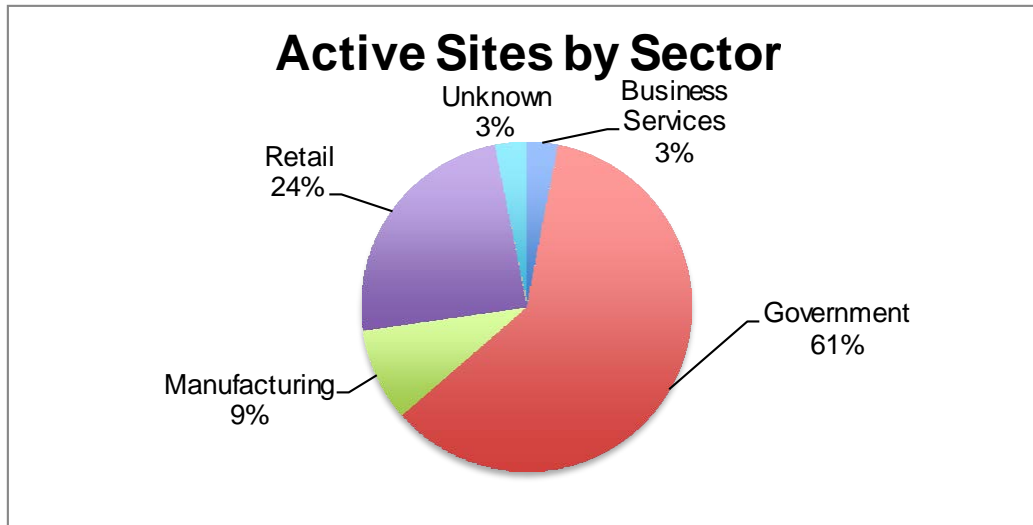
In 2017, the number of active Call2Recycle collection sites in PEI increased significantly—from 21 in 2016 to 33 in 2017. This is due to continued efforts to improve access to Call2Recycle drop-off boxes for PEI consumers and to optimize the efficiency of the program by eliminating underperforming sites. The following table shows the number of public and private collections sites over the last two years.

Public and Private Collection Sites in PEI			
	2017	2016	Change
Public	7	7	-
Private	26	14	↑ 86%
Total	33	21	↑ 57%

The following table and chart provide a more detailed breakdown of the types of Call2Recycle collection sites in PEI—by sector. In 2016, government collection sites overtook business services sites as the largest grouping, and the number of government sites continued to grow this year and constitutes the bulk of the year-over-year increase in collection site locations.

Call2Recycle Collection Sites by Sector				
Sector	2017	2016	Change	
			#	%
Business Services	1	2	↓1	↓ 50%
Government	20	9	↑11	↑122%
Manufacturing	3	3	-	-
Retail	8	7	↑1	↑14%
Unknown	1	0	-	-
TOTAL:	33	21	↑12	↑ 57%

*



Accessibility

Call2Recycle strives to make it as convenient as possible for consumers to recycle their batteries by having drop-off boxes within a 15-kilometre radius of their home. The 15-kilometre distance was established and validated by a third-party market research firm as a reasonable distance that consumers would travel to recycle.

According to the program's accessibility analysis, 91%¹ of PEI residents have access to a participating Call2Recycle collection location. Call2Recycle continues to work towards a target of 95% of PEI residents falling within this accessibility standard through its proactive strategy to increase the number of collection sites across the province and ensure that residents—regardless of their location—are served with a variety of battery recycling options.

4.2 Performance Results

PEI residents deposited more used batteries in Call2Recycle boxes in 2017 than in any other year in the program's 20-year history. A record-breaking 23,192 kg of batteries were received. Single-use batteries continue to make up the bulk of these deposits. With more than 19,000 kg of single-use batteries collected this year, they represent 85% of the province's collections.

The tables below provide a comparison of PEI's collections from 2017 and 2016 and the collections per capita for this year.

¹ Accessibility was determined by overlaying Call2Recycle's collection site network against population information such as postal code or census data. Call2Recycle then used mapping software to determine the population that resides within a given radius of a collection site. The population total derived from this radius is aggregated and then divided by the population totals of larger geographic sets (market, province, country) to determine coverage levels.



PEI Battery Collections by Weight (kg)*			
Type	2017 Collections	2016 Collections	% Change
Single Use (Primary)	19,714	16,266	↑21%
Rechargeable	3,478	3,030	↑15%
Call2Recycle Total	23,192	19,296	↑20%

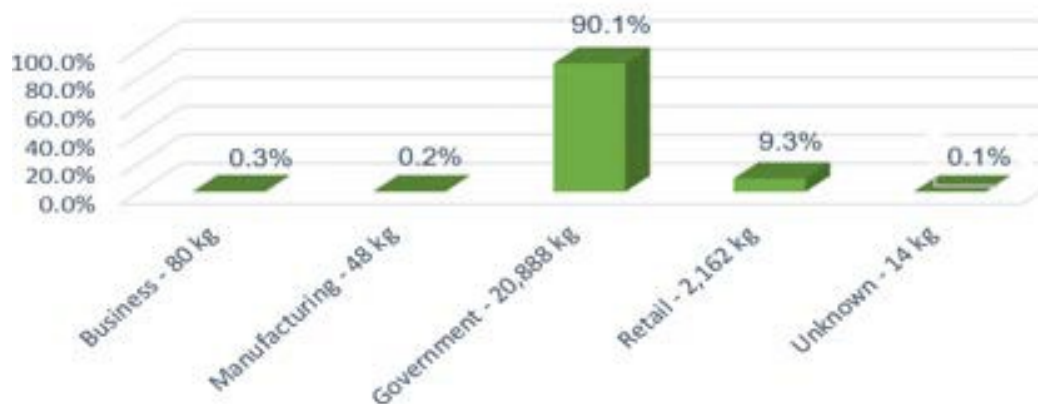
*Call2Recycle records collections in pounds. Any variances in column sums reflects conversion from lbs. to kg (conversion rate 0.453592).

PEI Battery Collections per Capita		
Type	2017 Collections	2017 Collections Per Capita
Single Use (Primary)	19,714	0.13 kg
Rechargeable	3,478	0.02 kg
Call2Recycle Total	23,192	0.15 kg

*Based on 2017 population of PEI at 152,021 according to Statistics Canada Demography Division, CANSIM Table 051-0005 (<http://www2.gnb.ca/content/dam/gnb/Departments/fin/pdf/esi/demographic-demographique/PopulationCanadaProvincesTerritories-PopulationCanadaProvincesTerritoires.pdf>)

As illustrated in the chart below, the government and retail sectors account for almost 100% of Call2Recycle's battery collections in 2017.

2017 Collections by Sector





4.3 Collections by Chemistry

Call2Recycle tracks the various battery components that are extracted and recycled for other purposes. As usual, among the rechargeable batteries, Nickel Cadmium batteries made up the largest share of deposits, although there was a sharp rise in Nickel Metal-hydride batteries (Ni-MH) collected this year. Among the single-use batteries collected, alkaline batteries continue to outpace lithium batteries, both in quantity and in rate of collection increases.

Rechargeable Battery Collections by Chemistry (in kg*)			
	2017	2016	% Change
Ni-Cd	1,507	1,384	↑9%
Ni-MH	488	310	↑57%
Li-Ion	584	556	↑5%
SSLA	900	781	↑15%
Total	3,478*	3,030*	↑15%

Single-Use Battery Collection by Chemistry (in kg*)			
	2017	2016	% Change
Alkaline	19,592	16,123	↑22%
Lithium	122	143	↓15%
Total	19,714	16,266	↑21%

*Call2Recycle records collections in pounds. Each chemistry and the total are converted from lbs. to kg (conversion rate 0.453592) and rounded up or down to the nearest kilogram. Thus addition variances may occur in the total indicated.

4.4. Collection Process

Collection

The Call2Recycle program process starts by providing consumers with easy access to collection sites to enable maximum participation in the program. Through collection partners across the province and in a range of sectors, the program offers consumers convenience and a simple drop-off process. Established collection partners use one of two collection methods: the box program or the bulk program. Box program sites receive Call2Recycle's bag-and-drop, seal-and-ship collection boxes free of charge. Each box holds up to 30 kilograms of batteries. The bulk program caters to facilities that generate large quantities of batteries for recycling (250 kg minimum per shipment). Call2Recycle covers the cost of shipping for both the bulk and box programs.

Shipping and Sorting

Batteries and cellphones collected through Call2Recycle in PEI are sorted and consolidated by Terrapure in Fort Erie, Ontario. At the facility, the contents are weighed and sorted according to battery chemistry, and readied for shipping to appropriate recycling processors based on their chemical composition.



Call2Recycle operates in accordance with intra- and inter-provincial shipping and transportation standards established by Transport Canada, Environment Canada, PEI's Department of Communities, Land and Environment, and all other provincial environment and transportation ministry approvals. All shipments transported internationally are manifested according to Environment Canada, Transport Canada, the US Environmental Protection Agency and the US Department of Transportation.

To bolster safety while handling and transporting batteries in Canada, all of Call2Recycle's battery collection containers include an innovative, flame-retardant liner. The liner provides an extra layer of protection from any residual charge that end-of-life batteries might still have during the collection, transportation and recycling process.

Processing

Call2Recycle Canada is committed to meeting the highest global standards for safe and effective battery processing. Call2Recycle seeks to maximize the amount of material that is reclaimed during the recycling process to direct it to secondary uses. f

Different battery chemistries require different reclamation methods, and Call2Recycle has partnerships with various processors to ensure optimal performance. Call2Recycle uses local processing partners wherever possible to reduce its transportation footprint. All of its contracted processing facilities use the latest and proven-effective thermal, mechanical and chemical processes to recover materials such as nickel, iron, lead, cadmium, and cobalt. These are either returned to rechargeable battery manufacturers or used to make other products.

5. Recovered Product Management and Material Processing

When it comes to management of used batteries, the pollution prevention hierarchy—reduce, reuse and recycle—cannot be as easily applied to batteries as it is to other products. Call2Recycle does not promote a reduction in the use of batteries, and reconditioning batteries for reuse can pose an unacceptable safety risk to consumers if not done properly. Call2Recycle therefore, at this time, advocates the efficient and cost-effective option of battery recycling. The reclaimed metals, including nickel, iron, cadmium, lead, and cobalt, are reused in various products, such as new batteries, cookware, appliances and hardware.

Call2Recycle is a R2:2013 certified program with the Responsible Recycling Practices Standard. This includes an ISO 14001 certification with zero non-conformities. The R2:2013 is the highest achievable standard for recycling organizations and indicates that Call2Recycle has met stringent requirements in areas of environmental, public and worker health and safety.



The cellphones Call2Recycle receives are refurbished or, if unsuitable for refurbishment, recycled. Approximately 90% of the cellphones collected are recycled and processed for reclamation. No material managed through recycling is sent overseas, as per the requirements of the Basel Convention.

The following charts show how the various materials that are extracted from the recycling process are managed, as well as the recycling efficiency rates. Call2Recycle strives to have no intact battery that is received through its program go to landfill.

Product End Fate for Data Year Ending December 31, 2017					
Component Chemistry	Reuse*	Recycle	Energy Recovery	Landfill	Other
Ni-Cd	N/A	Yes	No	No	No
Ni-MH	N/A	Yes	No	No	No
Li-Ion	N/A	Yes	No	No	No
SSLA/Pb	N/A	Yes	No	No	No
Alkaline	N/A	Yes	No	No	No
Lead Carbonate	N/A	Yes	No	No	No
Lithium	N/A	Yes	No	No	No
Mercury	N/A	Yes	No	No	No
Nickel Iron	N/A	Yes	No	No	No
Silver Oxide	N/A	Yes	No	No	No
Zinc Carbon(mercury)	N/A	Yes	No	No	No
Zinc Carbon(no mercury)	N/A	Yes	No	No	No
Cardboard Boxes	No	Yes	No	No	No
Bags	No	Yes	No	No	No
Drums**	Yes	Yes	No	No	No
Non-Conforming***	No	Yes	No	Yes	No

*Reuse: Please see page 10 for Call2Recycle's position on battery reuse.

** Drums are re-used by the sorter to send materials to the appropriate processor. If not suitable for reuse, then the metal is recycled

***Non-conforming materials: Products found in shipments at time of shipment that are stewarded materials are forwarded to the appropriate stewardship program for responsible disposal. Any materials that are not stewarded materials (i.e., no recycling option available) are managed according to waste requirements and some may be HW managed, or may be discarded – this represents a small quantity of materials.



Recycling Efficiency Rates											
	Rechargeable Battery Chemistry						Primary Chemistry				
Battery Type	NI-CD	LI-ION		NI-MH	SSLA		ALKALINE				LITHIUM
Processor	Inmetco PA, USA	Retrie v BC	Glencore ON	Inmetco PA, USA	Terra-pure QC	Tonolli ON	Inmetco PA, USA	Teck Metals BC	RMC ON	BSR MI	Retrie v BC
% Material recovered – Recycled to*											
Metal(s)	50%	18.30%	27%	57%	98%	65%	21%	18.34 %	18.72%	93.97 %	35.30%
Co-product aggregate	2%	0%	0%	14%	0%	22%	1%	72.23 %	68.24%	4.00%	0%
Cadmium	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Secondary Recovery**	4%	60.10%	0%	5%	0%	0%	57%	0%	0%	0%	21.10%
Plastic Recovery or Reductant	12%	0%	44%	10%	0%	5%	5%	4.04%	0%	0%	0%
Total Material Recovery %	80%	78.4%	71%	86%	98%	93%	84%	94.61 %	86.96%	97.97 %	56.4%
Not Recovered for use in Secondary Market During Recycling Process: Water, Oxygen, Plastics, Organics (carbon, electrolytes).	20%	21.60%	29%	14%	2%	7%	16%	5.39%	13.04%	3.03%	43.60%
Total:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

* Recovery rates provided by processor.

** This includes metals that are recovered at secondary processors.



6. Organizational Reports

To view Call2Recycle Canada's 2017 Annual Report visit:

<http://www.call2recycle.ca/annual-report/>



Appendix A – Call2Recycle Rechargeable Battery Stewards

RECHARGEABLE BATTERY STEWARDS (LICENSEES) OF THE CALL2RECYCLE PROGRAM As of March 31, 2017

Ace Canada	Magnacharge Battery Corporation
Acklands Grainger Canada	Mastermind LP
Amazon	McKesson Canada
Battery Canada	Michaels Stores Inc.
Bed Bath & Beyond	Mountain Equipment Co-op
Best Buy Canada Ltd.	Nedco West Division
Canadian Energy & Power Corp	NII Northern International Inc.
Canadian Tire Corporation, Ltd	Novexco
Canon Canada Inc.	Onlybatteries.com
Cardinal Health	Overwaitea Food Group
Château Manis Electronics Inc.	Peavey Industries
Connect Hearing	Princess Auto Ltd
Core-Mark International Inc.	Proflash Technologies Inc.
Costco Wholesale Canada	RONA Inc.
Dollar Tree Stores Canada	S.P. Richards Canada
Dollarama L.P.	Sears Canada Inc.
East Penn Canada (Power Battery Sales Ltd.)	Shoppers Drug Mart Inc.
Edma Marketing Ltd	Sobeys West Inc.
EECOL Electric ULC	Staples Advantage Inc. (Corporate Express)
Fastenal Canada	Staples Canada Inc.
Federated Co-operatives Ltd	Supreme Basics
Furniture de Bureau Denis	Tenaquip Limited
FuturPlus - Div Cathelle Inc	The Home Depot of Canada Inc.
Gescan (Sonepar Canada)	The North West Company
Grand & Toy	The Source (Bell) Electronics Inc.
Guillevin International Cie	The Stevens Medical Company
HearingLife Canada Ltd	Toys R Us Canada, Ltd
Henry's	UAP Inc.
Home Hardware Stores Limited	Uline Canada Corporation
Hudson's Bay Company	Veritiv Canada Inc
Ikea Canada	Wallace and Carey Inc.
Indigo Books and Music Inc.	Walmart Canada
Interstate Batteries Inc.	Wesco Distribution Canada
Ledvance Ltd	Wisdom Electronics Inc
Loblaws Inc.	Wurth Canada Ltd
London Drugs Limited	

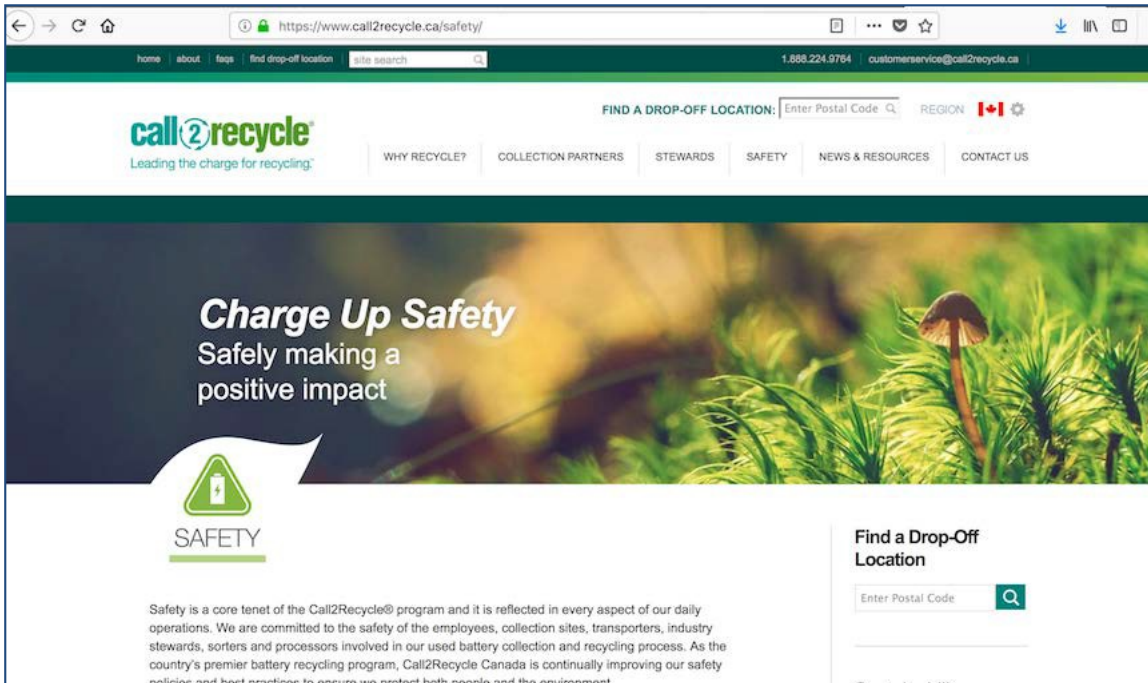
Appendix B – Samples of Promotional Materials



LEFT:
Call2Recycle partnered with Earth Rangers to encourage young rangers to recycle their batteries in the online Battery Blitz Mission in February.

BELOW:
National Battery Day – February 18 - was one of Call2Recycle's public awareness and action initiatives in 2017.





TOP: Call2Recycle launched a new online safety portal to promote safe collection and shipping practices among consumers, municipalities, retailers, sorters, processors and Call2Recycle employees.

BOTTOM: The Daylight-Saving Time campaigns were among Call2Recycle's seasonal efforts to encourage battery recycling. In addition to print, radio and external online promotions, visitors to the Call2Recycle website could find tips on battery safety.

