New Brunswick 2017 Annual Report

June 30, 2018

Submitted by: Line Berube Director, East of Canada Call2Recycle Canada, Inc. 5140 Yonge Street, suite 1520 Toronto, ON, M2N 6L7

Submitted to: Ministry of Environment and Local Government



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 endof-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 programideal for participation by both consumers and partners.

Call2Recycle strives to support the Province in its environmental sustainability goals. New Brunswick's residents have diverted more than 400,000 kilograms of used batteries from landfills through the Call2Recycle program in the last five years alone, with tens of thousands of batteries deposited annually.

This document reports on Call2Recycle's performance regarding the waste management of batteries collected between January 1, 2017 and December 31, 2017.

2. Executive Summary

For the Call2Recycle program, 2017 was a year of transition, as 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.

In New Brunswick, collection results fell short of the record high achieved in 2016, however the program still marked the second-highest collection results in its 20-year history in the province. More than 94,000 kg of used batteries were deposited with the Call2Recycle program in New Brunswick, with the vast majority (more than 80,000 kg) being primary, or single-use, batteries.

Active collection sites—that is, sites that returned a full box of batteries in the past 365 days or began with the program in that same time, regardless of box returns—also fell by 12%, however this dip is likely because some operating collection sites that return boxes less





frequently did not do so within this 12-month window. As always, Call2Recycle continues to encourage collections and seek new partnerships and collection site opportunities.

Call2Recycle ran a number of creative promotions to raise awareness of battery recycling throughout the year. 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 a second successful print and online awareness campaign in February. And Call2Recycle entered its third year of partnership with Earth Rangers, a kid's conservation organization, to hold successful online and in-school battery collection drives.

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, tradeshows, 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 In-School Mission
to teach students about responsible management of used batteries
and encourage collections in Call2Recycle boxes at their school. Since
2015, the mission continues to engage more and more youth in battery
collection, with an increase of 21% in average batteries collected per school.
This year, 10 New Brunswick schools participated in 2017, collecting 2,146 kg of
used batteries—one-third of which came from Birchmount School, which won a
pizza party as a result.

February marked the launch of the online Battery Blitz Mission targeted to Earth Rangers members across the province. E-blasts encouraged the young rangers to download recycling materials, view a video, and collect and recycle batteries. The online mission garnered support from 184 Earth Rangers who collected 4,263 batteries.

National Battery Day – Call2Recycle built on the success of the first National Battery Day campaign in 2016 by once again encouraging consumers to <u>Lead the Charge</u> 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

Young Earth
Rangers
collected
4,263
batteries for
Call2Recycle
through 184
online
Battery Blitz
Missions.





a combination of print ads in the Fredericton Daily Gleaner, radio ads in Fredericton and Saint John and online promotions across the province.

"Spring Forward & Recycle" and Fall "Time to Replace & Recycle" Daylight Saving Time 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 smoke 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 30-second radio spots in Fredericton, English and French banner ads in local newspapers, and mobile display ads and Google Adwords buys in all regions.

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 <u>safety portal</u> on its website to encourage the safe collection and shipping of used batteries.

Call2Recycle recognized Southeast Regional Service Commission and Cogerno CSR#1 as Leaders in Sustainability in 2017.

Participant Profiles – Call2Recycle also recognized two New Brunswick organizations with its Leader in Sustainability Award. This recognition—given this year to Southeast Regional Service Commission and Cogerno CSR#1—celebrates organizations that have achieved exceptionally high battery returns and have made extra efforts to promote battery recycling.

Website – Thanks to many awareness initiatives, consumers made 5,752 searches on the Call2Recycle collection box locator to find a box near them in New Brunswick.

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 New Brunswick:

- 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 New Brunswick section





 Produces regular email blasts and newsletters conveying new programs and highlights

4. Collections

4.1 Collection Sites & Accessibility

Call2Recycle Canada has a network of public and private drop-off boxes across New Brunswick, 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 by Regional Service Commissions								
Region	Region Total	Service Commission	Sites	Service Commission	Sites			
1- Northwest	4	Edmundston	3	Rivière-Verte	1			
2- Restigouche	4	Atholville Balmoral	1 1	Dalhousie	2			
3- Chaleur	9	Bathurst Belledune	6 1	Belleville South Tetagouche	1 1			
4- Acadian Peninsula	15	Caraquet Grande-Anse Lemeque Paquetville	2 1 1 2	Pont-Landry Shippagan Tracadie-Sheila	1 2 6			
5- Greater Miramichi	11	Bay du Vin Doaktown	1 1	Miramichi	9			
6- Kent	2	Kouchibouguac National Park	1	Rogersville	1			
7- Southeast	35	Berry Mills Dieppe Memramcook	1 3 1	Riverview Shediac Moncton	3 3 23			
8-	5	Hampton Havelock	2 1	Sussex	2			
9- Fundy	25	Rothesay	2	Saint-John	23			
10- Southwest NB	9	Blacks Harbour Maces Bay McAdam	1 1 1	St. Andrews St. Stephen	2 4			
11-	50	Burtts Corner Chipman Fredericton Hanwell	1 1 41 1	Minto Nackawic Oromocto	1 1 4			
12-	6	Florenceville- Bristol Plaster Rock	1 1	Woodstock	5			
		GRAND TOT	AL 178					





Call2Recycle monitors collection site performance in terms of batteries returned to the program by weight. Call2Recycle defines an active collection site as one that has 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 New Brunswick fell by 12% to 176 from 201 the previous year. These numbers reflect the collection facilities that fall within the "active site" parameters, however Call2Recycle has other registered facilities that may ship on an infrequent basis and are not represented because a shipment was not received during 2017, but can account for the difference from the previous year.

Public and Private Collection Sites in New Brunswick								
	2017 2016 Change							
Public	69	65	↑6%					
Private	107	136	√21%					
Total	176	201	√12 %					

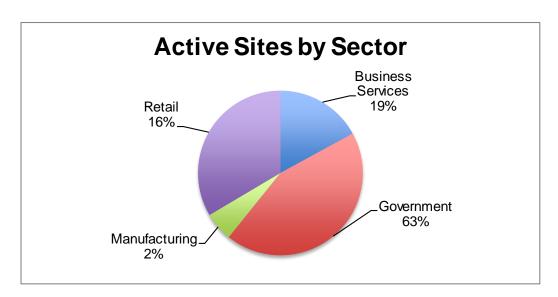
^{** 2} sites are Locator only and are not included in the charts

The following charts provide a more detailed breakdown of the types of Call2Recycle collection sites in New Brunswick.

Call2Recycle Collection Sites by Sector							
Sector	2017	2016	Change # %				
Business Services	30	36	√ 6	↓17%			
Government	77	86	√ 9	↓10%			
Manufacturing	10	8	↑ 2	↑25%			
Retail	59	71	↓12	↓17%			
TOTAL:	176	201	√25	↓12%			







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, 76%¹ of New Brunswick residents have access to a participating Call2Recycle collection location within this accessibility standard, the same as the previous year. Call2Recycle continues to work towards a target of 95% of New Brunswick residents falling within this accessibility standard.

Call2Recycle is committed to ensure that residents—regardless of their location—are served with a variety of battery recycling options.

4.2 Performance Results

Call2Recycle's 2017 collection results fell short of 2016's record-breaking numbers. With more than 94,000 kg of used batteries collected, it was still as strong showing—the second-best annual performance in the provincial program's history. Single-use batteries continue to make up the bulk of battery deposits, with more than 80,000 kg collected this year. Within the rechargeable battery space, as lighter-weight batteries continue to replace heavier units, there will continue to be a moderating effect on collection results even as higher quantities of batteries are deposited.

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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.





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

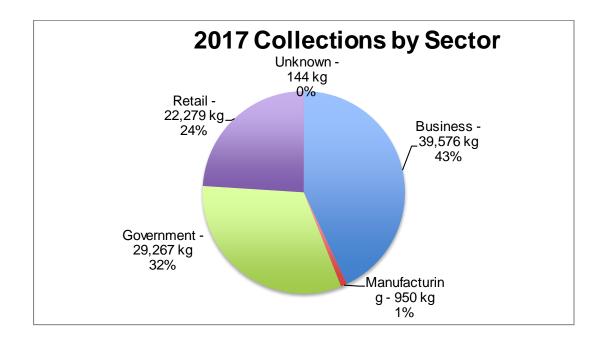
New Brunswick Battery Collections by Weight (kg)*								
Type 2017 Collections 2016 Collections % Change								
Single Use (Primary)	80,565	83,236	√3 %					
Rechargeable	13,721	15,638	↓12%					
Call2Recycle Total	94,287	100,874*	√7%					

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

New Brunswick Battery Collections per Capita							
Type 2017 Collections 2017 Collections Per Capita							
Single Use (Primary)	80,565	0.11 kg					
Rechargeable	geable 13,721 0.02 kg						
Call2Recycle Total	94,287	0.12 kg					

^{*}Based on 2017 population of New Brunswick at 759,655 according to Statistics Canada Demography Division, CANSIM Table 051-0005 (http://www.2.gnb.ca/content/dam/gnb/Departments/fin/pdf/esi/demographic-demographique/PopulationCanadaProvincesTerritories-PopulationCanadaProvincesTerritories.pdf)

As illustrated in the chart below, the government and business sectors account for the bulk of Call2Recycle's battery collections in 2017.







4.3 Collections by Chemistry

Call2Recycle tracks the various battery components that are extracted and recycled for other purposes. The decrease in battery collections in 2017 is reflected across all battery compositions—most significantly among lithium-ion rechargeable batteries and lithium primary batteries.

Rechargeable Battery Collections by Chemistry (in kg*)							
2017 2016 % Chang							
Ni-Cd	7,057	7,909	↓11%				
Ni-MH	1,980	1,992	√1%				
Li-lon	2,747	3,534	√23 %				
SSLA	1,937	2,202	√12%				
Total	13,721	15,638*	√12%				

Single-Use Battery Collection by Chemistry (in kg*)								
	2017 2016 % Change							
Alkaline	79,138	83,399	√ 5%					
Lithium	Lithium 1,428 1,837							
Total	80,565*	85,236	√5%					

^{*}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, Call2Recycle offers consumers convenience and a simple drop-off process. Its 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 New Brunswick 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, New Brunswick's Ministry of Environment and Local Government, 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.

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.

	Recycling Efficiency Rates										
	Rechargeable Battery Chemistry					Prir	mary Chen	nistry			
Battery Type	NI-CD		I-ION	NI-MH	SS	LA		ALK	ALINE		LITHIUM
Processor	Inmetco PA, USA	Retrie V BC	Glencore ON	Inmetco PA, USA	Terra- pure QC	Tonelli ON	Inmetco PA, USA	Teck Metals BC	RMC ON	BSR MI	Retriev BC
% Material reco	overed – Re	ecycled 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.





Product En	d Fate for Da	ta Year Endir	ng 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-lon	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 stew arded materials are forw arded to the appropriate stew ardship program for responsible disposal. Any materials that are not stew arded 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.





6. Organizational Reports

To view Call2Recycle's 2017 Annual Report visit: http://www.call2recycle.ca/annual-report/

Call2Recycle Canada's Audited Financial Statement can be found in the 2017 Annual Report: http://www.call2recycle.ca/annual-report/

If additional information is required please contact the Chief Financial Officer at gbroe@call2recycle.org.





Appendix A – Call2Recycle Rechargeable Battery Stewards

RECHARGEABLE BATTERY STEWARDS (LICENSEES) OF THE CALL2RECYCLE PROGRAM

As of March 31, 2017

Ace Canada

Acklands Grainger Canada

Amazon

Battery Canada Bed Bath & Beyond Best Buy Canada Ltd.

Canadian Energy & Power Corp Canadian Tire Corporation, Ltd

Canon Canada Inc. Cardinal Health

Château Manis Electronics Inc.

Connect Hearing

Core-Mark International Inc. Costco Wholesale Canada Dollar Tree Stores Canada

Dollarama L.P.

East Penn Canada (Power Battery Sales Ltd.)

Edma Marketing Ltd EECOL Electric ULC Fastenal Canada

Federated Co-operatives Ltd Fourniture de Bureau Denis FuturPlus - Div Cathelle Inc Gescan (Sonepar Canada)

Grand & Toy

Guillevin International Cie HearingLife Canada Ltd

Henry's

Home Hardware Stores Limited

Hudson's Bay Company

Ikea Canada

Indigo Books and Music Inc. Interstate Batteries Inc.

Ledvance Ltd Loblaws Inc.

London Drugs Limited

Magnacharge Battery Corporation

Mastermind LP McKesson Canada Michaels Stores Inc.

Mountain Equipment Co-op

Nedco West Division

NII Northern International Inc.

Novexco

Onlybatteries.com Overwaitea Food Group

Peavey Industries
Princess Auto Ltd

Proflash Techonologies Inc.

RONA Inc.

S.P. Richards Canada Sears Canada Inc. Shoppers Drug Mart Inc.

Sobeys West Inc.

Staples Advantage Inc. (Corporate Express)

Staples Canada Inc. Supreme Basics Tenaquip Limited

The Home Depot of Canada Inc.
The North West Company

The Source (Bell) Electronics Inc.
The Stevens Medical Company

Toys R Us Canada, Ltd

UAP Inc.

Uline Canada Corporation

Veritiv Canada Inc Wallace and Carey Inc.

Walmart Canada

Wesco Distribution Canada Wisdome Electronics Inc Wurth Canada Ltd



Appendix B - Samples of Promotional Materials

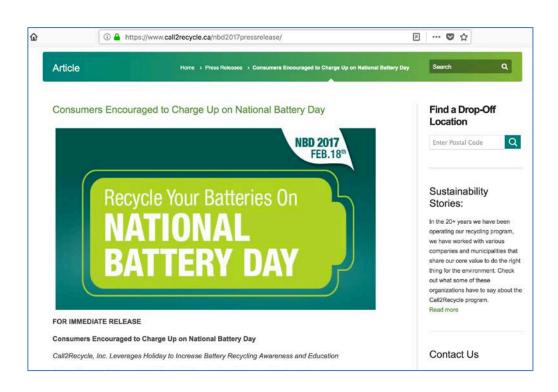


LEFT:

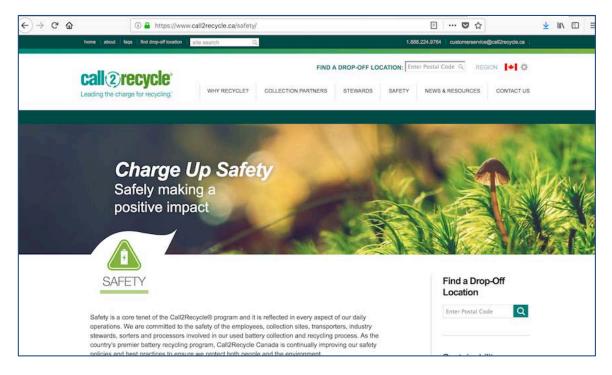
Call2Recycle partnered with Earth Rangers to encourage young rangers to recycle their batteries in the inschool and online Battery Blitz Missions.

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.

