



**Executive Summary** 

In September 2010, the County of Simcoe implemented the Learning & Living Green recycling program in over 100 local schools. Both elementary and secondary schools across the County have embraced this program and are 'Learning and Living' by the waste diversion initiatives that it promotes. Children play a significant role in influencing adult behaviour with respect to environmental initiatives, therefore by implementing a school-based collection program consistent with the County's curbside collection program, it is anticipated that participation and capture rates will increase in the residential recycling collection program.





# Glossary

Acronym Definition	
CIF	Continuous Improvement Fund
County	The County of Simcoe
CSDCCS	Conseil Scolaire de District Catholique Centre-Sud
CSDCSO	Conseil Scolaire de District du Centre-Sud-Ouest
FTE	Full-time Equivalent
MEU	Mobile Education Unit
MRF	Material Recycling Facility
P&E	Promotion and Education
PSSB	Protestant Separate School Board
SCDSB	Simcoe County District School Board
SMCDSB	Simcoe Muskoka Catholic District School Board





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#### **LEARNING AND LIVING GREEN FINAL REPORT**

#### 1.0 INTRODUCTION

The County of Simcoe (the County) is located in South-Central Ontario, and is comprised of 16 member municipalities: Adjala-Tosorontio, Bradford West Gwillimbury, Clearview, Collingwood, Essa, Innisfil, Midland, New Tecumseth, Oro-Medonte, Penetanguishene, Ramara, Severn, Springwater, Tay, Tiny and Wasaga Beach. As of 2010, approximately updated number households were receiving recycling collection services from the County with these households dispersed over an area of 4,840 square kilometres. The majority of the population is located in urban pockets, which are mixed into rural areas that make up the bulk of the land area within the County. The County is experiencing significant population growth, and as a result, increased demand for municipal services such as waste management.

The County assumed responsibility for waste from the member municipalities in 1990. Since that time, the County has established a number of programs that have significantly increased waste diversion, including standardization of recycling services in all municipalities and expansion of the blue box program.

#### 1.1 Purpose and Scope of the Learning and Living Green Program

In September of 2012, the County of Simcoe partnered with the following local school boards to provide the collection of recyclable and organic materials in more than 100 schools within the County:

- Simcoe County District School Board (SCDSB)
- Simcoe Muskoka Catholic District School Board (SMCDSB)
- Protestant Separate School Board (PSSB)
- Conseil Scolaire de District du Centre-Sud-Ouest/Conseil scolaire Viamonde (CSDCSO)
- Conseil Scolaire de District Catholique Centre-Sud (CSDCCS)
- Pretty River Academy

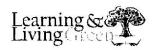
This program provides consistency between the materials collected in the County's curbside collection programs and materials collected in the schools. The County of Simcoe looked to our youth as it recognized that children play a significant role in influencing adult behavior with respect to environmental initiatives.

#### 1.2 Pilot Program

A pilot program was conducted at 2 local schools during the 2008/2009 and 2009/2010 school years to determine what, if any barriers there were to implementing this program in the school setting.

Throughout the school year County staff worked with the pilot schools and the Simcoe County District School Board in order to resolve any concerns that they may have had (mainly with





respect to the organics stream). The program ran very smoothly with no major issues. The pilot program was extremely successful as waste diversion increased from 37% to 79.5%. It was determined that there were few barriers to program implementation and that those encountered were easily mitigated through sound management practices. To ensure there was a smooth transition, it was imperative to have the full support from, students, staff and custodial staff. Figure 1-1 is the results of the pilot program, which took the average volume produced per student per week before and during the recycling and organics program.

100% 90% 80% 70% 60% ■ Waste to Landfill 50% ■ Diverted from Landfill 40% 30% 20% 10% 0% Pilot Project Before Pilot Before Pilot Pilot Project Project **Project** Mundy's Bay Public School Adjala Central Public School

Figure 1-1 School Pilot Program Results

County staff also gauged success of the pilot project based on answers to questionnaires provided to the collection contractors, school staff, and to parents.

Each contractor was asked questions about the manageability of containers, the impact to the route, access issues, and health & safety concerns. All answers were positive regarding collection with no specific issues identified. Comments made by the collection contractors were with respect to locks for the enclosure of waste, to ensure it is unlocked the day of collection or to provide a common lock for all schools.

School staff responded to a questionnaire which asked about the method of collection within the school, whether there were any issues and the schools responded positively.

A questionnaire sent to the parents of children at each of the pilot schools indicated that approximately 75% of respondents felt that their child had a better understanding of the County's recycling and organic programs because they were consistent at home and at school. 100% of respondents felt that the program should be implemented in all County schools. The following comment was received from one parent: "Because my child is exposed to this on a regular basis, we find that we follow the recycling program more closely than we might have without her influence." Similar comments were made by many other parents who responded to the questionnaire.

With the success of the pilot program, County Council approved the program to be implemented County wide to begin at the 2010-2011 school year.





## 2.0 LEARNING & LIVING GREEN

#### 2.1 Campaign

The Learning & Living Green program target audience is school aged children, however, in order to ensure the success of the program, steps were taken to educate not only the students, but also to parents and school staff. Campaign elements ranged from conducting presentations at individual schools to providing P&E materials to help facilitate the program. The program was branded "Learning & Living Green" as it embodied the concept that children would learn in the school setting which materials are acceptable in the County's blue box program and gain knowledge as to the environmental benefits of recycling and then live it by promoting it at home.

The Learning and Living Green program was officially launched on Friday, October 1, 2010 at Admiral Collingwood Elementary School. More than 500 students, school board officials and County Councillors were in attendance to help launch the program. The media release, the agenda and invitation to the media event that was sent out to the various boards and dignitaries shown in Appendix 1.

#### 2.2 Educational Component

As a condition of the partnership agreement for the program, the school boards were required to develop curriculum in support of eco initiatives including waste reduction, the first "R", as well as waste diversion including information specific to the County's curbside diversion programs. The curriculum developed jointly by the SCDSB and the SMDCSB is in the form of an electronic calendar provided monthly to teachers outlining various activities, character traits, and links to useful resources. The curriculum also supports the Ministry of Education's Shaping Our Schools Shaping Our Future policy document, which outlines that consideration for the environment should be a part of all aspects of the education system. Samples of the monthly curriculum can be found in Appendix.2.

To assist in promoting the program, several presentations have been conducted at Simcoe County schools outlined in Section 2.3. In addition, the County has developed a Mobile Education Unit (MEU) which is an interactive promotion and education tool to be utilized at schools as well as at a variety of other outreach opportunities such as local fairs and festivals. See Appendix 3 for MEU photos. The MEU project is further outlined in Continuous Improvement Fund Project #276.

## 2.3 Outreach Programs

Before the school year commenced, the County took part in several workshops to educate teachers and custodial staff from the SDDSB and the SMCDSB. The presentation entitled "School Recycling & Organics Collection Program," was supplemented with a frequently asked questions handout, which was developed by the County to be given out during the workshops. Below is the list of the workshop presentations conducted, and the number of attendees.





## Table 1-1 Overview of the County's Workshop Presentations

Name	Location of the Presentation(s)	Date of Presentation(s)	School Board	Total Target Audience #
Teacher's Workshop	SCDSB - Education Centre 1170 Highway 26 Midhurst, ON L0L 1X0	June. 11. 2010	SCDSB	22
Teacher's Workshop	SCDSB - Education Centre 1170 Highway 26 Midhurst, ON L0L 1X0	June. 24. 2010	SCDSB	47
Custodial Workshop	SCDSB - Education Centre 1170 Highway 26 Midhurst, ON L0L 1X0	Aug. 30. 2010	SCDSB	74
Custodial Workshop	St. Joseph's Catholic High School 243 Cundles Road East Barrie, ON L4M 6L1	Aug. 30. 2010	SMCDSB	160
			Total	303

Upon implementation of the program, County staff visited various schools, conducting the following initiatives:

- School Presentations which were titled 'Waste Reduction & Diversion: At School and in the Home,' targeted the students as well as faculty.
- Staff organized Interactive Trash Relay Games to demonstrate proper sorting of waste streams including acceptable and unacceptable blue box materials.
- Summer Camps enabled us to keep the momentum going through the summer break by offering a variety of waste diversion games and activities.
- Mobile Education Unit (MEU) –The MEU and the Learning & Living Green Program are
  a perfect marriage in the sense that they work together to accomplish the same goals and
  thereby have a greater impact.

See Table 1-2 for a full listing of events and number of attendees to date.





Table 1-2 Overview of the County's School Presentations & Summer Camps

School Name	Program Type	Date	Total Attendees
Canadian Martyr's Catholic School	Presentation	Aug. 11. 2010	314
Birchview Dunes Elementary School	Presentation	Sept. 20, 2010	656
Guthrie Public School	Presentation	Sept. 28. 2010	403
Admiral Collingwood Elementary School	Media Event with the Trash Relay Game	Oct. 01. 2010	550
Huronia Centennial	Presentation	Oct. 05. 2010	438
Mundy's Bay Public School	Trash Relay Game	Oct. 19. 2010	62
Pine River Elementary School	Presentation	Jan. 13. 2011	335
Nantyr Shores Secondary School	Presentation	Feb. 15. 2011	33
Victoria Harbour Elementary School	Trash Relay Game	Feb. 18. 2011	20
Our Lady of Grace School	Presentation & MEU	Apr. 21. 2011	50
St. Paul's	Presentation & MEU	Apr. 28. 2011	300
Our Lady of Grace	Presentation & MEU	Арг. 29. 2011	275
Holy Family School	Presentation & MEU	June 13 & 14, 2011	177
Explorations Green Day Camp	Presentation, Activity & MEU	July. 07. 2011	35
Thornton Summer Camp	Presentation, Activity & MEU	July. 13. 2011	22
Angus Summer Camp	Presentation, Activity & MEU	July. 13. 2011	30
Tiny Summer Camp	Presentation, Activity & MEU	July. 29. 2011	30





		Total	4110
Mundy's Bay Public School	Presentation & MEU	Dec. 08. 2011	75
Nottawa Elementary School	Presentation & MEU	Nov. 30. 2011	25
Hillsdale Elementary School	Presentation & MEU	Nov. 16. 2011	100
Sir William Osler Public School	Presentation & MEU	Nov. 07. 2011	75
Pretty River Academy	Presentation & MEU	Oct. 03. 2011	25
Sacred Heart School	Presentation & MEU	Sept. 22. 2011	80

Both the presentations and the frequently asked questions provided are contained in Appendix 4.

#### 2.4 Corporate Support

This partnership project benefits the local school boards through:

- Cost sharing to replace their capital equipment (outdoor bins) which were nearing the end of their expected lifespan.
- Not having to replace their existing capital equipment (collection vehicle) which was nearing the end of its expected lifespan.
- Significantly increased waste diversion rates and therefore reduced waste collection and disposal costs.
- A significant increase in service without an increase in annual collection costs due to operational cost sharing with the County of Simcoe.
- · Teaching children the benefits of increased environmental diligence.
- Cost savings at landfill "Our landfill costs have been reduced by nearly half of what
  they were the year prior to participating in the program," says Michele Rich, Pretty
  River Academy, Outdoor Education Facilitator.

The County provided corporate support of the program through the acquisition of a front-end collection vehicle for the collection of the recyclable materials. The collection vehicle has been decaled with the Learning & Living Green logo, and can be seen in Figure 2-1. In addition, the County provided all related P&E materials and significant outreach in support of the program as outlined in Section 2.5.





Figure 2-1 Learning & Living Green Collection Vehicle



#### 2.5 Promotional Items

In order to promote the new program and to help educate the students as well as the parents, several promotion and education components were utilized. Each promotional component is attached as Appendix 5.

- Learning & Living Green Bulletin volume 1, 8.5"x14" (Available in English and French): The County developed a bulletin which was distributed to the schools to be sent home during the first week of school. The bulletin introduced the program and provided information on the life-cycle of the various divertible materials. On the back of the bulletin, a sorting guide assists in educating parents and students as to what items go into what recycling bin.
- Learning & Living Green Bulletin volume 2, 8.5"x11 (Available in English and French): The second bulletin was distributed to the schools at the beginning of the second year of the program. It outlined the program's success and highlighted the benefits of the program. The back also contained a sorting guide.
- Rulers: The County provided each student with a ruler made from 100% recycled plastic and branded with the Learning & Living Green logo as well as the message 'Recycling Rules!'.
- Poster 17"x22" (Available in English and French): The County provided each school with a pre-determined number of posters, by analyzing the school's population as well as the number of classrooms the school has to be used near recycling areas in classrooms and throughout the school. The posters provide written and graphic depictions of materials and the proper sorting of materials into the various waste streams.
- T-Shirts: The County provided t-shirts which have the Learning & Living Green and
  the County of Simcoe logo printed on them. These t-shirts were predominantly used
  during the media event but are also available as a give-away for green team
  members and for school special events in order to promote the program.
- Colouring & Activity Book: The County adapted an existing colouring and activity book
  to feature the Learning & Living Green brand. The activity book was predominantly
  distributed at the media launch event but is also available as a give-away for school
  special events. The activity book includes puzzles and activities related to County's
  curbside diversion programs.





- Sports Bottle 20 oz: The County provided black plastic bottles made from 100% recycled material and imprinted with the County logo. These bottles were predominantly distributed at the media launch event but are also available as a giveaway for school special events.
- Managing Your Waste (October 2010): This newsletter is a promotion and education tool that is mailed to each County household semi-annually. The October 2010 issue of the newsletter featured an article with respect to the Learning & Living Green program.
- Joint Media Release: A joint media release entitled "Learning & Living Green initiative
  a success," which outlines the success of the school program and has quotes from
  the various boards participating in the program.
- Magazine Articles: Waste Age Magazine and Waste Advantage Magazine

The County continues to provide promotional material, at no cost, to all schools in order to encourage program participation.

#### 3.0 RECYCLING COMPONENT

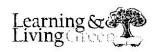
Through the Learning & Living Green program the County provides collection service for recyclable materials at all elementary and secondary schools located within the geographic boundaries of the County of Simcoe excluding the separated cities of Barrie and Orillia.

Prior to the Learning & Living Green program, the school board's recycling program consisted of three streams with limited acceptable materials. A blue box was utilized for juice boxes, aluminum containers, glass containers and plastics #1 and 2 only, a grey box was utilized for coarse paper and a green box was utilized for fine paper. A comparison was conducted between the recycling collected by the school boards previously and the recycling collected under the Learning Living Green program (in metric tonnes) the results of which are outlined in Table 3-1. Table 3-1 also provides the monthly percentage increase from the previous program compared with the County's Learning & Living Green collection program.

Table 3-1 School Recycling Program Comparison

	Previous	Learning &	
	School	Living Green	
	Program	Program	% Increase
	2009 / 2010	2010 / 2011	
	(MT)	(MT)	
September	25.26	36.99	46.44
October	29.27	32.61	11.42
November	25.46	41.57	63.30
December	16.90	21.04	24.47
January	27.05	42.87	58.49
February	27.08	45.93	69.59
March	26.30	38.92	47.99
April	26.05	37.20	42.82
May	25.78	36.66	42.21
June	42.68	57.51	34.76
July	19.63	42.74	117.70
Total	291.46	434.04	48.92





Based on tonnages in Table 3.1, the Learning & Living Green Program provided an average percent increase (over an 11 month period) of 48.92% compared to the previous recycling program.

## 3.1 Program Costs Matched to CIF Funding

The County received \$87,146.64 in funding from the CIF to procure the 8 yard overhead recycling bins for the Learning & Living Green program. In total 150 - 8 yard recycling bins were purchased for the program, which were distributed at over 100 schools in the County. The total cost for the overhead bins was \$257,357.50 as outlined in Appendix 6. The bins were provided to each school board at a 50/50 cost share with the County. The funding was divided between the school boards based on FTE numbers.

#### 3.2 Container Location & Quantities

The quantity of 8 yard bins at the schools was based on per student volume data obtained through the pilot program extrapolated by the FTE student count at each school. Information with respect to the locations and quantities of containers distributed can be seen in Appendix 7.

Many schools have requested additional containers since the launch of the program as their volumes have increased. Since the start of the program, 342 additional blue and grey recycling bins were distributed at no extra cost by the County and 4 additional 8 yard recycling bins were distributed which were charged back to the school board at half the cost.

#### 3.3 Operational Data

Collection services began approximately one week prior to the commencement of the school year and will cease two weeks after the conclusion of each school year. The collection frequency is based on the number of FTE students at each school and the estimated volume of recyclable material the school will generate with schools receiving collection services either weekly, biweekly or monthly. Information concerning the collection frequency for each school can be seen in Appendix 7

By purchasing the front-end collection vehicle and utilizing an existing County of Simcoe employee for the school collection, there were many advantages:

- Easier to manage as it is always the same collection vehicle and driver
- Flexibility in hours and collection times part of the school board agreement states that
  collection vehicles will make best efforts to avoid entering school property during recess,
  dismissal etc.
- · Consistency in collection

The only disadvantage of having a single collection vehicle is that when there is a significant breakdown, it would be difficult to stay on schedule. Currently, the recyclables are collected 3 days a week (Tuesday – Thursday) on a 4 week schedule. That way if there is a breakdown or missed collection due to inclimate weather, collection can be delayed one day without interrupting the schedule.





County staff work with the recycling collection contractor to determine if the frequency of collection needs to be increased. There have been issues with severe weather during the winter months; in these instances collections is generally postponed to the following day. In some cases collections could not occur due to cars parked in front of the bins or snow was blocking the bins from being collected. In most cases the school can contact the County's customer service centre in order to facilitate collection on an alternate date. The customer service centre processes all collection issues in the schools (i.e. - missed collections) and can enter the data into the CRM (Customer Relations Management) software for easy tracking.

### 3.4 Monitoring

A template was created for monitoring and reporting of material volume, quality and weight which is completed by County collections staff. The completed runsheet identifies how full the recycling bin is, how much the material weighs and indicates if there is any contamination seen. In addition the collected material is weighed upon arrival at the MRF. The information collected from the runsheets and the MRF scale tickets is input into a spreadsheet which tracks schools tonnages and participation. A template of the operations runsheet can be seen in Appendix 7.

#### 3.4 Inspection

As indicated in Section 3.3, during collection of the material, County Staff routinely inspects the recycling bin(s) for potential contamination during each collection event. If there is visible contamination present it is indicated on the runsheet. At the commencement of the school year there were sometimes large amounts of contamination from residents dumping their waste into the 8 yard recycling bin. In order to minimize contamination, locks were provided to the schools which has greatly reduced contamination.

#### 3.5 Assessment of Recycling Quantities

Reports as outlined in Section 3.3 have been used to track the weights collected during the first school year in operation with the Learning & Living Green program (September 2010 to July 2011). Attached in Appendix 8 are the total weights generated for each school. The weights are obtained by an internal scale on the front-end collection vehicle and recorded on the runsheet. It is noted that there are variances between the internal truck scale and the MRF scale due to calibration of the truck scale and use of tare weights at the MRF scale, however these variances are expected.

#### 3.6 Waste Composition Studies

**Waste Audit #1**: A waste audit was conducted in March 2011 on the daily waste stream of four separate schools. Each school had their organics, recycling and garbage collected separately and sorted into categories to determine the recycling capture rate and contamination rate.





Table 3-2 Waste Audit #1 Locations

School Name	School Address	# of FTE Students	School Type
Ernest Cumberland	160 Eighth Avenue Alliston, ON L9R 1A5	521	Elementary
Tottenham PS	21 Rogers Road Tottenham, ON L0G 1W0	355	Elementary
Sir William Osler	3823 County Rd. 88, Bradford, ON L3Z 2A4	142	Elementary
Nantyr Shores Secondary	1146 Anna Maria Ave Innisfil, ON L9S 1W2	1405	Secondary

The four schools produced 197.14 kg of total waste in a day, achieved an 89% recycling capture rate and had only a 2.52% contamination rate. This would indicate that the students and faculty have a good understanding of what materials are acceptable and not acceptable in the recycling program. The largest contributor to contamination was small yogurt and pudding cups. This information is used in further promotion and education efforts. The County will be adding these materials to the blue box program (as well as clamshell packaging) in April of 2012 in accordance with the County's Solid Waste Management Strategy and part of CIF Project #665.3 Results of the audit #1 can be found in Appendix 9.

**Waste Audit #2**: A second waste audit was conducted in May of 2011 which provided an indepth view of the recyclable material that was being collected in the County's front end collection vehicle on a per day basis. The materials collected represented 22 schools displayed in Table 3.3. In one day, these 22 schools produced 2683.50 kg of recyclable material which had a contamination rate of 5.21%.





Table 3.3 Waste Audit #2 Locations

			<u> </u>
School Name	FTE#	Collection Frequency	City
Academie la Pinede	91	Monthly	CFB Borden
Admiral Collingwood ES	318	Biweekly	Collingwood
Angus Morrison ES	333.5	Biweekly	Angus
Bayview PS	366	Biweekly	Midland
Birchview Dunes ES	655.5	Weekly	Wasaga Beach
Cameron Street PS	346.5	Biweekly	Collingwood
Collingwood Collegiate Institute HS	1369.26	Weekly	Collingwood
Connaught PS	279	Biweekly	Collingwood
Jean Vanier HS	649	Weekly	Collingwood
Midland Secondary School	987.25	Weekly	Midland
Mountain View PS	367.5	Biweekly	Collingwood
Mundy's Bay PS	392.5	Biweekly	Midland
New Lowell Central PS	291.5	Biweekly	New Lowell
Our Lady of the Assumption	86	Monthly	New Lowell
Pine River ES	335	Biweekly	Angus
Pretty River Academy	150	Biweekly	Collingwood
Prince of Peace	116	Monthly	CFB Borden
St.Mary's	384	Biweekly	Collingwood
St.Noel Chabanel	325	Weekly	Wasaga Beach
St.Theresa's HS	1034	Weekly	Midland
Stayner Collegiate Institute HS	536.5	Weekly	Stayner
Worsley ES	464	Weekly	Wasaga Beach

## 3.7 Maintenance and Durability Assessment

The Learning & Living Green front end collection bins are made from medium density polyethylene (MDPE). The manufacturer of the bins indicates that this makes for a strong and durable container in both hot and cold climates and indicates that they are rotational molded, which are molded stress free making for a longer life as compared to injection and blown molding methods.

Some of the advantages of using this type of container as opposed to a metal container include:

- The plastic container is up to 30% lighter then same size metal containers making it easier to move.
- The plastic container is up to 50 decibels quieter than comparable metal containers.



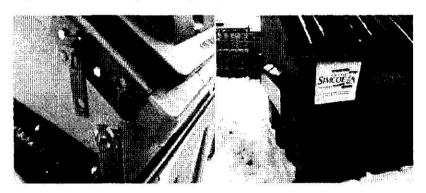


- The recycling container has a plastic body which is low maintenance; won't rust or corrode and does not require weld repairs, repainting or to have the bottom replaced as for metal bins.
- Stainless steel hardware is used to attach the metal to the container, and this will reduce the maintenance required for rusted metal.
- The caster pads are quick release, allowing them to be changed in the field and not required to be sent to a secondary location for repairs.

Currently there have been no issues of vandalism to the bins, the bins have not experienced any fading nor has there been a need to clean them. To date, exposure to extreme weather has not had any effect; the bins have stood up well and there have been no major operational issues with them.

There was a single report of a broken recycling bin which the bin supplier for repaired under the warranty and in a timely fashion. Pictures of the broken bin can be seen in Figure 3-1.

Figure 3-1 Damaged Recycling Bin



In retrospect the bins should have been stamped with a mobius loop to further identify it as for recycling purposes in order to reduce potential contamination through illegal dumping. Locks were provided for the 8 yard bins following the start of the school year as a means to prevent any potential illegal dumping which has greatly reduced contamination. Identical cut keys were provided to the custodial staff as well as the collections staff for access to the bins.

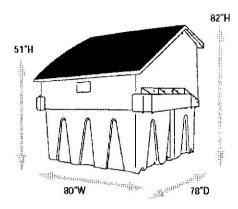
#### 3.8 Container Design

The recycling container used in the Learning & Living Green program is a WRPC's (Waste & Recycling Plastic Containers) Hybrid Commercial Container Line 8 yard front slant top as illustrated in Figure 3-2.





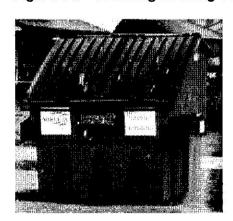
Figure 3-2 Schematics of the Learning & Living Green Front-Load Recycling Bin



There has been some concern with respect to the height of the bin opening as, in some cases, shorter staff members and students may have a difficult time opening the lid and throwing bagged materials inside. It is noted that the schematics of the bin were provided to the school boards for approval prior to procurement. Some of the bins have been retrofitted by the SCDSB to have a movable stick to hold the lid open while recycling is being thrown in which does not interfere with the function of dumping.

In addition, each recycling bin has been outfitted with sticker that has the County of Simcoe logo and information to contact customer service, as well as a separate sticker with the school's board logo and text that indicates no parking. A sample of the decaled 8 yard bin can be seen in Figure 3-3.

Figure 3-3 Learning & Living Green Decaled Recycling Bin.







#### 4.0 Performance, Impact & Learnings

The Learning and Living Green program has received nation-wide attention due to its innovation and success. It has changed the way that students, faculty and parents look at waste and recycling both in their homes and at school.

Michele Rich, Pretty River Academy says, "As you know, Pretty River Academy has totally embraced the Learning and Living Green Program. We have experienced significant improvements in terms of behaviour change which indicate raised awareness as well as the desire to participate."

Jim Verbrugge, Manager of Custodial Services, Simcoe Muskoka Catholic District School Board says, "I have heard the benefits of having the same recycling program within the schools as they do at home, for consistency purposes, makes total sense and would encourage other municipalities to do the same!"

The program works well in a classroom setting and has benefits to the County's residential recycling program. It is extremely difficult however to evaluate the results that the Learning and Living Green program has had on the residential tonnages specifically, as there are many other contributing factors such as:

- Economic factors
- Light weighting technology impacts on paper fibres tonnages

#### 5.0 Conclusions

The Learning & Living Green program serves to increase promotion and education with respect to the County of Simcoe's blue box program. Effective promotion and education programs contribute significantly to the success of blue box programs and increases cost-effectiveness.

- An extensive curriculum was developed to target waste reduction generally and to the County's curbside diversion programs specifically.
- The program incorporated a multi-pronged approach to promotion and education which included several mediums (newsletters, bulletins, posters, T-shirts, etc).
- The development of a MEU (Mobile Education Unit) provided additional outreach opportunities by incorporating interactive games/exhibits with respect to County curbside waste diversion programs.

The Learning & Living Green program has created consistency between the blue box program in local schools and the County's residential blue box program. Consistency between recycling programs at school and at home has resulted in:

- Increased awareness of blue box materials accepted in the County's program,
- Increased residential waste diversion and recyclables recovery rates, lower residue rates at processing facilities, and
- · Lower costs.