

Examining Campus Waste Through the

STRATEGIC WASTE EDUCATION
AND ELIMINATION PROJECT
(SWEEP)



IRIS

Institute for Research and
Innovation in Sustainability



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EXECUTIVE SUMMARY



The Institute for Research and Innovation in Sustainability (IRIS) became interested in waste management during their 2008-09 investigation into the sustainability of campus food services. Waste, as the report identified, was a key issue relating to food sustainability. And so it was through this research that IRIS was driven to delve deeper into the world of campus waste management, investigating food waste and every other type of publicly generated waste on campus.

The majority of the York community members surveyed indicated that they were very interested in the environment, with 84% being either interested or very interested in environmental issues, and 90% considering themselves either dedicated recyclers/composters or aware of what could be recycled/composted and doing their best to comply. However, respondents showed that, despite good intentions, many found it difficult to divert waste at York. Only slightly more than half (55%) of respondents were aware of the organic digesters (composters) located around York's two campuses, and, of those who knew of their existence, 63% rarely or never used them. Additionally, the majority of respondents (65%) did not know that York manages its own waste, and 70% agreed or strongly agreed that they were confused about what was recyclable at York. In fact, 76% of respondents thought that paper coffee cups were recyclable on campus when this is currently not the case. When asked how York could improve their participation in waste diversion and reduction the top three answers were: have more bins available, provide clearer labels for waste bins, and provide feedback on how well the York community is managing its waste. As for what respondents thought York should make its top waste priorities, collecting organic waste indoors ranked first, followed by increased paperless practices and encouraging food vendors to offer reusable dishes and cutlery.

As a result of these findings, we recommended that York undertake a communication and education strategy aimed at improving overall campus knowledge about waste that will result in significantly improved waste diversion rates. Education could be conducted in many different ways, such as through orientation waste lessons, staff outreach, and a program similar to the energy reduction program *Res Race to Zero*, with a possible title of *Res Race to ZeroWaste*. Communication could be improved through a more user-friendly waste website, the production of campus waste maps, and more detailed waste bin labeling. Additional programs are also recommended to further fulfill the community's needs and wants, including: more paperless practices, reusable dishes in campus eateries, end of year waste drop off depots for residence dwellers, and more conveniently located waste bins. These initiatives, along with the engagement of the York community, will lead York to its target of recycling/composting a minimum of 65% of its waste by 2013.

INTRODUCTION



The mandate of the Institute for Research and Innovation in Sustainability (IRIS) is to pursue interdisciplinary sustainability-focused research. We follow this mandate in our own backyard of York University by engaging in campus sustainability projects. While completing the 2008/2009 Sustainability Report on Campus Food Services (see <http://www.iris.yorku.ca/projects/food/>) the student-led IRIS research team uncovered many issues relating to food waste. This initial exposure and interest expanded into a 2009/2010 study that explored campus waste management, and the York community's knowledge, behaviours, and attitudes toward waste. This report is the culmination of this research and the associated campus-wide survey.

The following report reviews the waste management program offered by at York University by the Campus Services and Business Operation's (CSBO) Grounds, Fleet and Waste Management unit, while also identifying trends and best practices in campus waste management at other post-secondary institutions in North America and Europe.

These reviews provided a context for conducting a survey of the York University community about the current waste management practices at York. The survey, in which respondents were asked to reflect on their waste behaviours, perceptions and priorities on- and off-campus, was one element of the larger waste-awareness program entitled Strategic Waste Elimination Education Program (SWEEP). The following document reports on the findings from this survey and provides recommendations for York University to further improve its successful management of waste.

METHODOLOGY



The SWEEP survey was developed by IRIS staff, graduate students and volunteers, in close collaboration with various units of York's Campus Services and Business Operations (CSBO). The survey was submitted to and approved by York University's Office of Research Ethics.

For ease of data collection and interpretation, the survey was administered online using Survey Monkey software. Again, for interpretive simplicity, the survey was comprised largely of closed-ended questions, which required respondents to select one of the provided answers. To accommodate for cases where the preset responses would not fully reflect a respondent's opinion, the option "other" was presented so that respondents could indicate any views or positions not otherwise present. Additionally, the option of selecting "n/a" (not applicable) was provided where it was possible that the question may not pertain to all respondents.

The survey was promoted and made available to the York University community through several means:

- Tabling at Keele Campus- Friday, November 27, and Monday, November 30 through Wednesday, December 2. Laptops were set-up in Vari Hall and IRIS staff and student volunteers promoted and administered the survey. Tabling was also done at Glendon Campus.
- Listservs: The online survey link was sent to the York University Staff Association, as well as several faculty and department listservs for transfer to their members.
- Y-File Newsletter: The online survey link was included in the Y-File e-newsletter, which is sent to all York staff.
- IRIS Website: The survey was promoted on a homepage banner. The banner could be selected to take users directly to the online survey.
- CHRY York Campus Radio: On two occasions the survey was promoted to CHRY listeners, while also providing the survey link.

The various survey distribution methods and promotions made the survey available to a wide York audience. Respondents could complete the survey in person (during tabling at Keele and Glendon campuses) if they were available and willing at the times that the survey was set up. Other methods of distribution allowed those not available during tabling hours to also be involved. Prizes were used to entice otherwise uninterested individuals to visit the survey tables, and the online link.

The survey attracted the participation of 610 respondents, 569 of whom completed the survey, and whose responses are detailed in the following report.

CAVEATS, ACKNOWLEDGED BIASES AND SURVEY LIMITATIONS



All surveys have limitations and biases embedded within the questions that influence the survey results. Our assessment of these limitations and biases are briefly discussed below.

IRIS has a mandate to carry out sustainability related research, and thus the survey includes an admitted environmental bias. To ensure that all respondents could be confident that their opinion mattered, the survey preamble included the following note: “This survey is designed for York students, staff and faculty. The intention is to establish current thoughts, attitudes and knowledge around waste. The information gathered will be used to develop education initiatives and a final report for York University. We recognize that some people are very interested in environmental issues and sustainability, and some are not. It is important for us to hear from everyone.”

To counter this bias, we sought to make the survey easily acceptable to as many members of the York University community as possible. Through offering prizes of books (3), Pistachio gift card (1), and cosmetic gift packages (2) all under \$25 in value we also sought to appeal to members of the community who would normally be less inclined to participate in such a study, though, understandably, individuals who are interested in waste issues are likely to be over-represented in the data as they would be more likely to complete the voluntary survey.

Finally, despite our aiming to design the survey for ease of completion, some respondents were not able to complete the survey. Only completed surveys were included in the final analysis. Consequently, this report does not reflect the partial input of the respondents who did not complete the survey.

DEFINITIONS



The following section defines some of the key terms found throughout the SWEEP survey and report.

WASTE

Waste is considered to be the aggregate of all objects discarded, whether into a garbage can, recycling bin, composter, or as litter.

DIVERSION

Sending waste for reuse or recycling, rather than a final end-of-life site, such as a landfill. Any waste that is actively not created, through waste reduction, can also be considered diversion.

RECYCLING

Recycling is the treatment and/or processing of waste materials into new products (Ministry of the Environment, 2008). The extent to which different kinds of materials are collected for recycling varies among and within institutions and municipalities, and is dependent largely on economic factors.

COMPOSTING

The Composting Council of Canada, which represents the Canadian Composting Industry, defines composting as “a natural biological process, carried out under controlled conditions, which converts organic material into a stable humus-like product called compost” (University of British Columbia Food Services, 2009). Compost, as defined by the Canadian Council of Ministers of the Environment (CCME), is a “solid mature product” (CCME, 2005), which is categorized for unrestricted or restricted use based on its level of contamination. The CCME developed national guidelines for compost quality, though compost and composting regulations still vary between provinces, as some – such as Ontario – have not yet adopted the national standard (University of British Columbia Waste Management, 2009).

BIODEGRADABLE CONTAINERS

The Canadian Council of Ministers of the Environment (CCME) set out requirements that “biodegradable packaging waste shall be of such a nature that it is capable of undergoing physical, chemical, thermal or biological decomposition such that most of the finished compost ultimately decomposes into carbon dioxide, biomass and water” (Five Winds International, 2008). Biodegradable packaging must meet two objectives:

1. Be comprised of renewable resources (crops) rather than non-renewable resources (fossil fuels).
2. Be biodegradable rather than existing perpetually.

Currently, at York University biodegradable packaging is offered by several food vendors, such as “Ecotainers” at Aramark operated dining locations. Unfortunately, at York this packaging must be discarded into the garbage, because it can neither be broken down within reasonable period of time in the outdoor organic digesters (composters) located around the University, nor is it acceptable in either the organic or recyclable waste streams sent off-site for processing (York University, 2009).

WASTE MANAGEMENT AT YORK



York University manages its own waste, meaning that waste management at York University is different from the residential programs in many of the municipalities with which we are familiar. The following section outlines the current waste management system at York (what is garbage?, what can be recycled?, etc.), while outlining future waste targets, campus waste trends, and student groups addressing waste on campus.

YORK IN THE GREEN REPORT CARD

Greenreportcard.org released the College Sustainability Report Card, which grades North American schools on their sustainability programs. Schools are judged based on four different surveys that explore such categories as administration, climate change and energy, food, recycling, green building, student involvement, and transportation. Based on the results of these surveys, a cumulative grade is awarded to the university's sustainability program.

In the 2010 edition of the survey, when compared to their U.S. peers, Canadian universities have some room to improve. While Harvard and the University of Pennsylvania garnered an A-, the best performance of Canadian universities was B+.

York made measurable progress from a C+ in 2009 to a B+ in 2010, outperforming other major Ontario universities. York's continued good work has been acknowledged, with the University's steady B+ ranking in the most recent 2011 survey edition. In the 2010 and 2011 surveys, York received top marks in the area of "Food & Recycling", earning an A both years. Further details on this can be obtained at: <http://www.greenreportcard.org/>.

WASTE MANAGEMENT AT YORK

York University follows the hierarchy of the 3Rs, prioritizing waste reduction and reuse. However, when waste cannot be avoided, York offers a comprehensive, multi-streamed waste management program to collect waste for recycling and safe disposal. This program consists of the following elements (summarized in Appendices 1 A and B):

Tri-bins (Paper and Co-mingled Recycling)

York University's Keele and Glendon campuses are outfitted with a tri-bin waste collection system. Tri-bins consist of a grouping of three waste receptacles, for the collection of source-separated recyclables (1) paper products and (2) co-mingled bottles and cans, as well as a third bin for (3) non-recyclable garbage.

Indoors, tri-bins are located throughout buildings and can be recognized by their blue-grey-blue colouring, with blue bins collecting recyclables and grey bins collecting garbage. Outdoors, concrete waste bins are arranged in groups of three, and equipped with colour-coded lids and labels indicating the appropriate type of waste.

Organic Waste

Organic waste is gathered in many ways across the York University campus. Food vendors are required to collect kitchen scraps for composting at an off-site industrial facility. Consumers have the option of depositing some of their food scraps into a growing number of on campus outdoor organic waste digesters (composters).

There are currently approximately sixty digesters located across campus, which accept fruits, vegetables, paper napkins, tea bags, coffee grinds and all other food scraps except meat, bones, dairy or oily foods (See Appendix 2 for map of locations). These bottomless composters are only emptied once per year, and as such, they are not suitable for paper or biodegradable packaging that requires greater capacity and longer digestion periods than the system allows (Haagsma, 2009). Additionally, as of June 2010, through the *ZeroWaste* program, most kitchenettes in academic and administrative buildings have been outfitted with organic waste collection containers. Yard waste is also collected on campus for use in landscaping as compost or mulch, and grass clippings are grass-cycled (left on the ground to breakdown).

Bulk and Special Waste

At York many bulk items are collected for recycling, such as paper towels in washrooms, corrugated cardboard, foam packing material, furniture, books, metal and wood.

York University also collects electronic waste (e-waste) for recycling and safe disposal. E-waste collected includes: cell phones, computers & monitors, televisions, and printer cartridges.

Additionally, York recently became registered with Stewardship Ontario for the collection of special and hazardous wastes for later recycling and safe disposal. Some of the items collected within this program include batteries, paints, and automotive additives. York is currently entering Phase II of this provincial program, which will require the collection of additional waste materials, such as tires.

NEW WASTE INITIATIVES AT YORK

York has been undertaking a number of new initiatives since the completion of the waste survey, and an outline of them follows.

York's ZeroWaste Program

In June 2010 the *ZeroWaste* program was launched by CSBO. It is important to note that this initiative was launched after the surveying period, and so respondents were not aware of these changes while responding to the survey. The goal of the *ZeroWaste* program was to build on to their current waste diversion and green cleaning initiatives. The key elements of the program are outlined below:

- All kitchenettes have been equipped with organic waste collection bins, which students, staff and faculty can use to dispose of their organic waste.
- Waste Management and Custodial Services, through the green cleaning initiative, have removed individual waste bins from offices and have instead equipped them with communal tri-bins. This encourages individuals to take greater responsibility for the waste they produce, and it allows Custodial Services to reallocate labour to different functions.
- Stand-alone garbage bins are being removed and replaced with tri-bins in both interior and exterior locations.
- In-ground tri-bins will increasingly be used around the exterior of campus, because they have a larger capacity and require less frequent emptying.
- More outdoor organic digesters will be located around campus to allow for greater convenience in disposing of organic waste.
- New types of materials are being captured for recycling, in participation with Stewardship Ontario and

- through other diversion programs.
- With assistance from Printing Services, clearer labels have been developed for tri-bins and organic digesters to increase waste diversion and reduce contamination of waste streams.
 - Waste management tools are being developed to service the diverse needs of the York community, in food services, residence life, offices, special events, and other areas.
 - York continues to promote waste reduction and reuse through programs such as the *Lug-a-Mug* discount program.

Prior to launching the *ZeroWaste* program in early-June 2010, the York Community was informed about the associated service changes. The information campaign included: several Y-File articles (a daily e-newsletter sent to all staff and faculty); an information card was left on the desk of every staff and faculty member; *ZeroWaste* posters (outlining program elements and waste diversion goals) in the high traffic areas of all buildings including in all kitchenettes and/ or by communal tri-bins; and a sheet outlining the responses to Frequently Asked Questions was distributed electronically and posted near *ZeroWaste* posters.

Eco-Takeout

York Food Services, Aramark, and the *ZeroWaste* campaign launched *Eco-Takeout* in the fall of 2010 at Stong College, Winters College, and Glendon cafeterias. The program is intended for students on meal plans, and essentially allows students two reusable containers that they can use and then return for new cleaned and sterilized containers each time they purchase a meal. The programs handout can be viewed in Appendix 3.

WASTE MANAGEMENT BY THE NUMBERS

In 1990, York University adopted a policy to achieve 50% waste diversion by the year 2000. To meet this goal, Campus Services and Business Operations formalized a comprehensive, multi-faceted waste management and diversion program in the mid 1990s. The program experienced early success and, in response, increasingly ambitious waste diversion goals were set. Most recently, with the June 2010 introduction of the *ZeroWaste* program, the recycling objective has been raised to 65% by 2013.

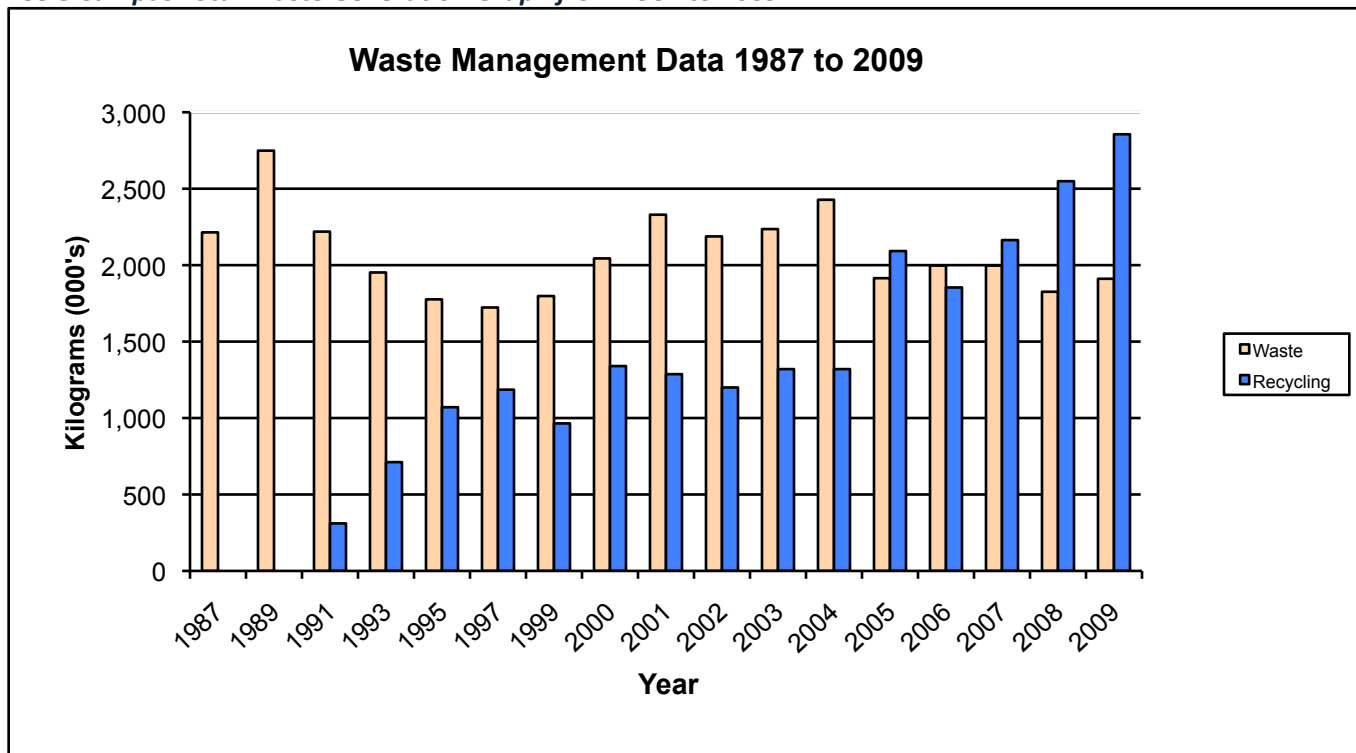
The following chart and graph illustrate how York University’s waste production and recycling have changed over time.

Keele Campus Total Waste Generation Chart from 1987 to 2009

Year	Community Size	Waste Generated (kg)	Waste Generated per capita (kg)	Recycling Generated (kg)	Recycling Generated per capita (kg)
1987	50,081	2,214,410	44.22	0	0
1989	53,483	2,748,840	51.42	0	0
1991	60,508	2,219,300	38.68	310,830	6.14

1983	50,680	1,952,190	38.54	711,570	14.05
1985	52,934	1,778,250	33.58	1,070,840	20.23
1987	53,613	1,723,130	32.14	1,185,830	22.11
1989	57,039	1,788,000	31.50	985,000	18.92
2000	58,455	2,044,000	34.97	1,340,000	22.92
2001	64,730	2,330,000	58.87	1,287,000	18.88
2002	67,785	2,188,000	50.14	1,200,000	17.7
2003	72,857	2,238,000	47.78	1,320,000	18.12
2004	78,922	2,427,790	48.05	1,320,000	18.73
2005	82,149	1,914,740	23.31	2,082,250	25.47
2006	85,000	1,897,110	23.50	1,854,000	21.81
2007	85,000	1,897,110	23.50	2,183,000	25.48
2008	65,000	1,828,000	28.08	2,549,000	39.2
2009	75,000	1,811,000	25.48	2,858,000	38

Keele Campus Total Waste Generation Graph from 1987 to 2009



YORK STUDENT GROUPS ADDRESSING WASTE

There are a number of student groups on campus addressing issues of sustainability. The student groups outlined below have taken on initiatives related specifically to waste.

Regenesis

Regenesis has a number of projects (current and proposed) that work to reduce waste on campus. In mid-March they have a student-levy funding referendum scheduled that, if successful, they hope will help fulfill their proposed initiatives that are as follows:

1. The creation of a student-run and oriented website dealing with waste reduction on campus. The website would outline the location of composting bins, specialty recycling drop-offs for batteries, computers, furniture, etc., and food venues that provide discounts for bringing your own mugs and containers.
2. Advocating with York University, the York Federation of Students, and the Student Centre for more composting bins, including indoor bins on campus.
3. Working towards a campus-wide bottled water ban. To do so they plan to encourage the repair of existing water fountains and promote the installation of new water fountains/water bottle refilling stations. Additionally, a map of water fountains and sinks would be made available online.
4. The Wrap It, Yo! Campaign that would encourage food outlets to reduce packaging and provide discounts for customers that bring their own containers and mugs.
5. SWAP events held at York that would allow the York community to swap their clothing, books, and household items rather than buying new.
6. The creation of a free store/reuse centre/borrowing centre on campus where the York community could secure items rather than buying new.

For more information email Regenesis Canada at: regenesiscanada@gmail.com

Bachelor of Environmental Studies Student Association (BESSA)

BESSA currently runs a battery-recycling program on behalf of the Bachelor of Environmental Studies in the Health, Nursing and Environmental Studies building, which houses the Faculty of Environmental Studies. The BESSA Team notes that the program was quite successful in 2009.

For more information email BESSA at: bessa@yorku.ca

York Federation of Students

The York Federation of Students is undertaking a program that aims to ban disposable water bottles from campus. Their program involves the following elements:

- September 22, 2010 event to that will involve a free reusable water bottle giveaway, a petition that can be signed in favour of a water bottle free campus, and a tower of water bottles representing York's yearly campus consumption of water bottles.
- Zero Water Bottle Day to be held at York on March 10, 2011.
- The placement of hydration stations around campus to allow York members to re-fill reusable bottles. As of September 1, 2010 one unit has been installed in Central Square with 5 others approved and in the works.

Waste management at York continues to evolve and change. CSBO has many initiatives in place to improve waste diversion, and student groups are working to build awareness and improve waste practices on campus. Through these, and the other initiatives to come, York can be hopeful about achieving its goal of recycling a minimum of 65% of its waste 2013.

WASTE INITIATIVES AT OTHER UNIVERSITIES



Many North American and international universities have undertaken innovative and successful waste management initiatives. Below is a review (not meant to be exhaustive) of various waste-related sustainability initiatives that York may consider for further improvement on their system. The Green Report Card has consistently graded the following English-speaking universities as “green” institutions.

UNIVERSITY OF MICHIGAN

Ann Arbor, Michigan, USA

<http://www.recycle.umich.edu/grounds/recycle/awards.html>

- A special program to deal with re-distribution of used campus envelopes. A University sustainability program collects used envelopes and encourages students and faculty to reuse them by distributing the envelopes for free of cost.
- The University of Michigan Procurement Services is dedicated to supporting sustainable initiatives through leveraging its buying power and supplier partnerships in order to “Make Blue Green.” Green purchasing refers to the acquisition of recycled content products, environmentally preferable products and services, bio-based products, energy and water efficient products, alternate fuel vehicles, products using renewable energy, and alternatives to hazardous or toxic chemicals. <http://www.procurement.umich.edu/greenpurchasing.html>
- The U of M Recycling Program hosts an Annual Recycling Champions Building Competition, an intra-campus waste reduction and recycling competition! The Recycling Champions competition has participating buildings on the U of M Ann Arbor Campus compete against one another. They track the participating buildings’ recycling and trash each week. There are a number of categories including the recycling rate competition, most improved recycling rate, and waste reduction competitions.
- An information guide called “Recycling Matters”, focusing on waste reduction and recycling that is published twice yearly.
- REdu, or Recycling Education at the University, is an educational forum in which Waste Management Services (WMS) provides waste reduction, reuse, and recycling topics to members. REdu has a bi-monthly e-newsletter that includes news and updates from the WMS office, information on various waste reduction and recycling topics, and related events on campus.

UNIVERSITY OF VERMONT

Burlington, Vermont, USA

<http://www.uvm.edu/~recycle/>

- Office Supply Collection and Re-use (OSCAR) is a program organized by the UVM recycling office to collect and redistribute re-usable office supplies among campus offices, departments and student groups. OSCAR provides a self-service place where one can bring unwanted, but useful, office supplies so that other departments and people on campus can use them. OSCAR is a free service.
- Move-In Cardboard Recycling Program is active on move in day at the residence halls, and students are asked to recycle their cardboard boxes. Areas are designated outside each residence hall where cardboard boxes should be stacked. Most areas are marked with signs and screened off with orange snow fencing. Throughout the move-in weekend, the UVM recycling crew is on hand to service the cardboard areas.

STANFORD UNIVERSITY

Stanford, California, USA

- Stanford has established a Sustainability Working Team (SWT) to enhance access to sustainable food suppliers across the campus, and provide comprehensive sustainability education to the campus community.
- Using its own facilities Stanford converts 10,000 gallons of waste oil from dining halls and cafés into bio-diesel fuel each year.

MCGILL UNIVERSITY

Montreal, Quebec, Canada

<http://www.mcgill.ca/files/sustainability/A2EnviroDevIniatMcGill.pdf>

- Student group Teva has formed a joint venture with the McLennan Library administration called The Teva Recycling Initiative (TRI). The goal of the program is to improve recycling rates. The group replaces the current trash and recycling bins with large, clearly labeled receptacles with multiple compartments for both garbage and recycling. The goal is to improve recycling rates due to the convenience of the bins, and also encourage proper sorting.
- McGill's Sustainable Operations has initiated programs to reduce the amount of packaging used for food and condiments. For example, individual creamers and sugar packets are now being replaced with bulk dispensers.

UNIVERSITY OF TORONTO

Toronto, Ontario, Canada

- Has a University Environmental Protection Policy that outlines the objectives and initiatives undertaken to minimize the negative impacts on the environment. An Environmental Protection Advisory Committee (EPAC), consisting of staff and student groups, create programs to meet the environmental protection objectives.
- University of Toronto's Waste Management Department has initiated a program to collect and recycle different types of plastics.

UNIVERSITY OF WESTERN ONTARIO

London, Ontario, Canada

- The Western Green Award was established in 2008 with an aim to help raise awareness of sustainability through the acknowledgement of community members. The Western Green Award recognizes an individual or team that initiates or supports an activity with positive environmental outcomes.
- Reusable shopping bags are given away to new students and parents during student academic orientation, homecoming, and special events. As an incentive to encourage sustainable practices, the university's bookstore makes a donation to ReForest London every time a customer uses a reusable bag or does not take a bag.

MIDDLEBURY COLLEGE

Middlebury, Vermont

- Creates a “Pathways to a Green Campus” report that focuses on the university’s commitment to waste minimization (started in 1989). The report outlines relevant local and national laws and a series of recommendations on how to integrate them with the campus’ waste reduction needs.

UNIVERSITY OF THE SUNSHINE COAST

Australia

<http://www.usc.edu.au/University/AbouttheUniversity/Governance/Policies/MasterPlan/SectionC/WasteMgt.htm>

- Created an interactive and user-friendly website for both awareness purposes, and also as a venue to provide incentives for waste reduction on campus.
- Formed a waste management working group to ensure consistency in the development, implementation, and maintenance of the university’s waste management policy.
- Utilize teaching techniques that reduce resources while teaching, particularly in Science education with micro-scale techniques for teaching chemistry, virtual dissection laboratories, and online tutorials.
- Provide students with a waste management briefing at orientation.

TRINITY COLLEGE

Ireland

<http://www.tcd.ie/GreenPages/wastepolicy.php>

- Waste management focused website provides information on the college’s policy, the location and responsibility of recycling facilities, a college recycling map, tips on “how to be green”, a “green week” schedule, details for the recycling committee, competition details, and a tracking of tonnes of waste sent for recycling.

As the above summary shows waste is an important issue at many universities. Though York is undertaking many waste initiatives, there may be room to build on or draw inspiration from other universities.

SWEEP SURVEY RESULTS



The SWEEP survey was conducted with the objective of revealing the York community’s current waste behaviours, attitudes and knowledge, while determining what can be done to increase their engagement in waste initiatives on campus. The following section details the survey findings including:

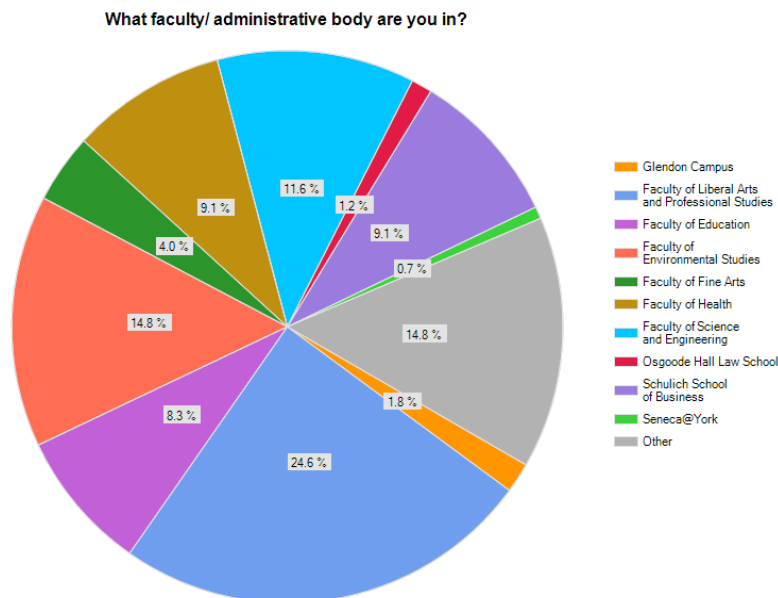
1. Description of survey respondents’ demographic characteristics.
2. An exploration of how individual’s waste behaviours differ based on location.
3. Respondents’ knowledge and opinion of waste management at York University.
4. Level of environmental awareness, interest and engagement among respondents.

RESPONDENT PROFILE

In 2009 there were 48,054 full-time and 12,445 part-time students, staff, faculty and librarians on the York University campus. The 569 people who completed the survey represent approximately 1% of the York community. Their responses to survey questions 1 through 5, as described below, provided demographic information about their roles at York.

Faculty

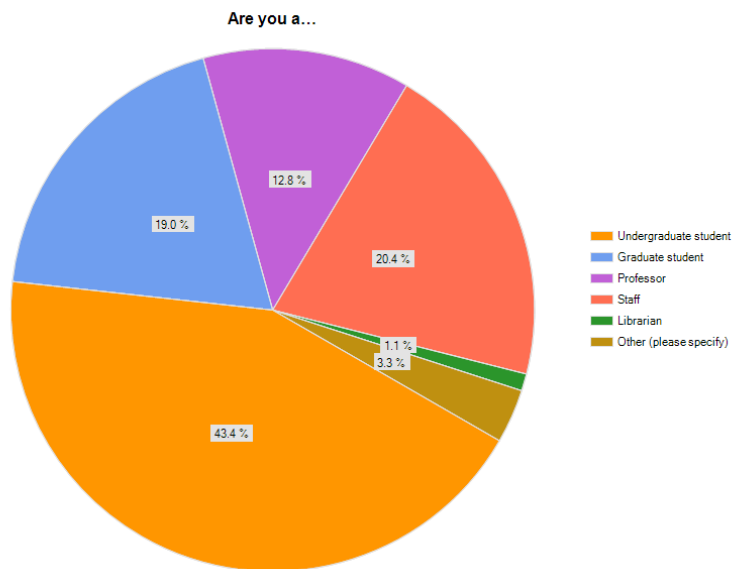
Respondents were asked to identify the faculty with which they were associated. The Faculty of Liberal Arts and Professional Studies was the most represented faculty, followed by a tie between the Faculty of Environmental Studies and “other”. “Other” encompassed all those not associated with a faculty including librarians, staff, research institute staff, etc.



Position

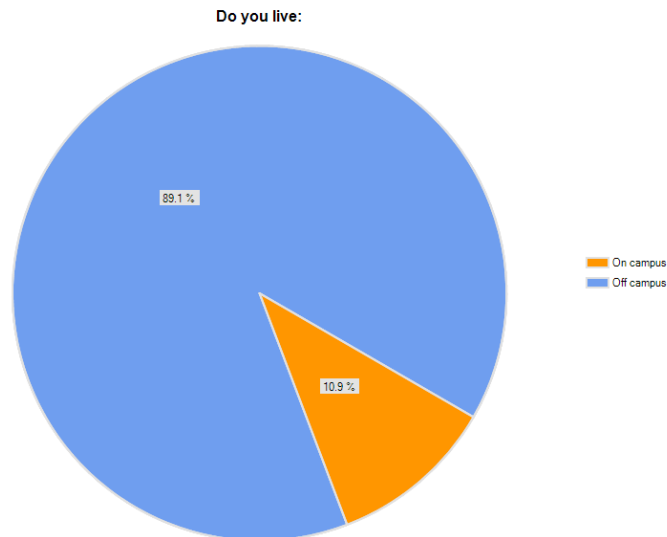
Respondents were asked to classify themselves within one of the six categories: undergraduate student, graduate student, professor, staff, librarian, or “other”. Those classifying themselves as “other” were those whose functions fell outside of these listed categories (i.e. graduate student who is also a TA, staff of a non-

profit organization housed on campus, etc.) The majority of respondents were undergraduate students at 43.4%, followed by staff at 20.4%, graduate students at 19%, professors at 12.8%, “other” at 3.3%, and librarians at 1.1%.



Housing

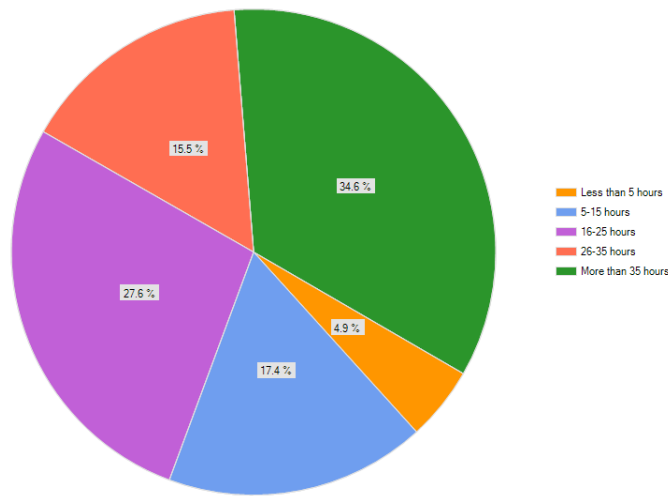
Respondents were asked to indicate whether they lived on or off-campus. Different housing locations mean different waste management programs. For instance, those living in York residence buildings would have different waste management requirements and experiences than those living in Toronto or York region. The majority or 89.1% of respondents lived off-campus, while 10.9% lived on campus. To put these numbers in context, in 2009 5.9% of the total York population lived on campus, thus those who lived on campus are over represented by 5% in this survey.



Time Spent On Campus

Respondents were asked to indicate how many hours per week they spent on campus. Logically, the more someone is on campus the more they are interacting with the waste management system. The majority, or 34.6%, of respondents were on campus more than 35 hours per week. Following this was 27.6% who were on campus 16-25 hours per week, 17.4% on campus 5-15 hours, and 15.5% on campus 26-36 hours. Only 4.9% were on campus less than 5 hours/ week.

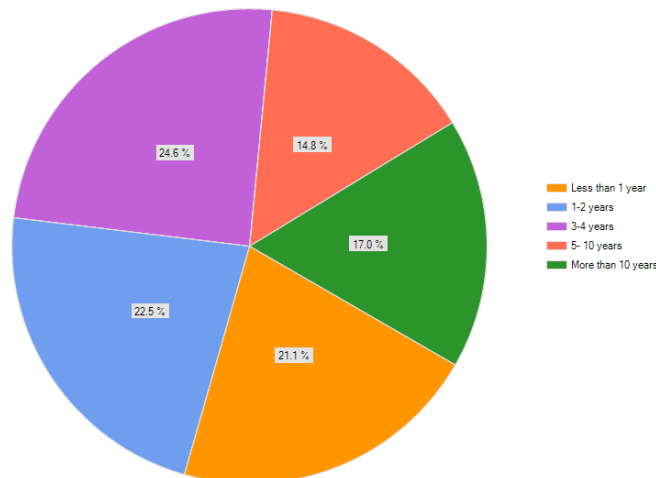
How many hours per week on average are you on campus?



Length of Time at York

Respondents were asked to indicate how many years they had been at York. The importance of this may be that the longer someone is at York the greater sense of stewardship they have to the place, and the more experience they will have had with the waste system. The majority, or 24.6% of respondents, had been at York between 3 and 4 years, followed by 43.6% who had been there 2 years or less. 31.8% of respondents had been at York 5 or more years.

How many years have you been at York?



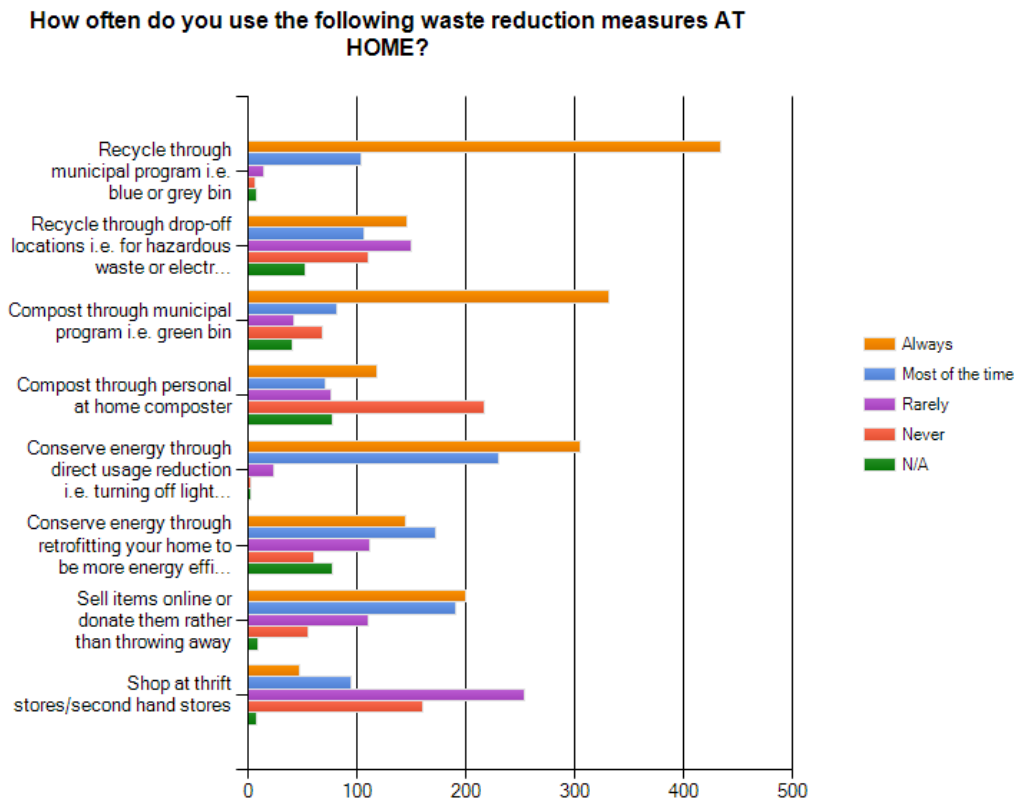
WASTE MANAGEMENT BEHAVIOURS AND LOCATION

Questions 6 through 8 sought to determine whether individual waste behaviours varied according to location; specifically, did people behave differently at home than at York? Question 6 asked respondents about their waste behaviours at home, and question 7, about their behaviours at York. Question 8 explored the behavioural differences between the two locations. It was found that:

- 57% of respondents waste habits were the same at York as at home.
- Of the 37% who were more environmentally friendly at home, the majority agreed that it was inconvenient to be eco-friendly at York.
- The on-campus waste reduction behaviours consistently undertaken by the majority of respondents were turning the lights off when leaving a room and using a reusable water bottle.
- The at home waste reduction behaviours performed always by the majority of respondents were recycling and composting through municipal programs, and conserving energy by turning off the lights.

Question 6

How often do you use the following waste reduction measures at home?



Recycle through municipal program i.e. blue or grey bin

Of the participants that responded to this question, 76.5% always used the municipal blue bin program while 18.3% used the blue bin most of the time, and only 3.7% rarely or never did. 1.4% of respondents felt this

question was not applicable, most likely because they lived in apartments where recycling is not offered.

Results showed that undergraduate students, at 28.9%, were the least likely to recycle most of the time. Undergraduates also had the highest percentage of people that never recycled through a blue box program at 1.6%, which is in comparison to the other groups that were at 1% or less.

Faculty affiliation appears to have had no bearing on recycling habits. All told, 90% or more participated in a municipal blue box program most of the time or always.

Recycle through drop-off locations i.e. for hazardous waste, electronic equipment

About one-quarter of respondents or 25.9% always recycled through drop-off locations. 18.8% used the locations most of the time, and 46.1% rarely or never use such programs. 9.2% deemed this question not applicable.

Professors and staff were the most likely to use drop-off locations, both hovering near the 38% mark, while undergraduate and graduate students along with librarians were the least likely to use them.

Compost through municipal program i.e. green bin

The York University campus residences, along with some municipalities, do not offer composting pick-up, and so for 7.3% of respondents this question was not applicable. For those that it was applicable to the rate of respondents composting always was high at 58.8%. Additionally, 14.4% used the program most of the time, 7.5% rarely, and 12.1% never used the program.

Of all faculty affiliations, the Schulich School of Business had the highest percentage (23.5%) of respondents that never used this type of program.

Compost through personal at home composter

With this question, 13.9% felt that it did not apply to them. Aside from this, there was a high rate of non-use with 38.8% of respondents never using an at home composter. The high rate may be because this option isn't available to apartment dwellers, or because most individuals use the green bin program rather than a personal composter. Of those that did use an at home composter, 21.1% used it always, 12.7% most of the time, and 13.6% rarely.

Interestingly, professors and undergraduate students were the more likely to always use an at home composter. Among the other groups (graduate student, librarians, staff, and "other") the majority never used at home composters ranging from between 30%-66%.

Conserve energy, through direct usage reduction i.e. turning off lights when you leave a room

Among respondents there was a high desire to conserve energy through standard direct usage reduction. The majority of respondents, 54.0%, always conserved energy, while 40.7% conserved most of the time. Of course, there is no way to quantify their idea of reduction, but the high engagement in this among respondents indicates that their intentions are good and that they have likely been well educated on how to use less energy. Only 4.2% of respondents rarely conserved, and 0.5% never conserved. 0.5% felt this question was not applicable.

Conserve energy-through retrofit your home to be more energy efficient i.e. sealing windows in the winter, adding insulation, etc.

Though, this question was limited to those that who have homes, 25.4% reported that they always and 30.4% sometimes conserved energy through home retrofits. 19.8% rarely undertook this initiative, and 19.6% never did. 13.8% felt this question was not applicable.

Sell items online or donate them rather than throwing them away

The practice of selling or donating items was a popular activity among respondents with 35.4% always doing it, and 33.6% doing it most of the time. 29.3% rarely or never partook in this endeavor, and 1.6% of respondents thought this question was not applicable to them.

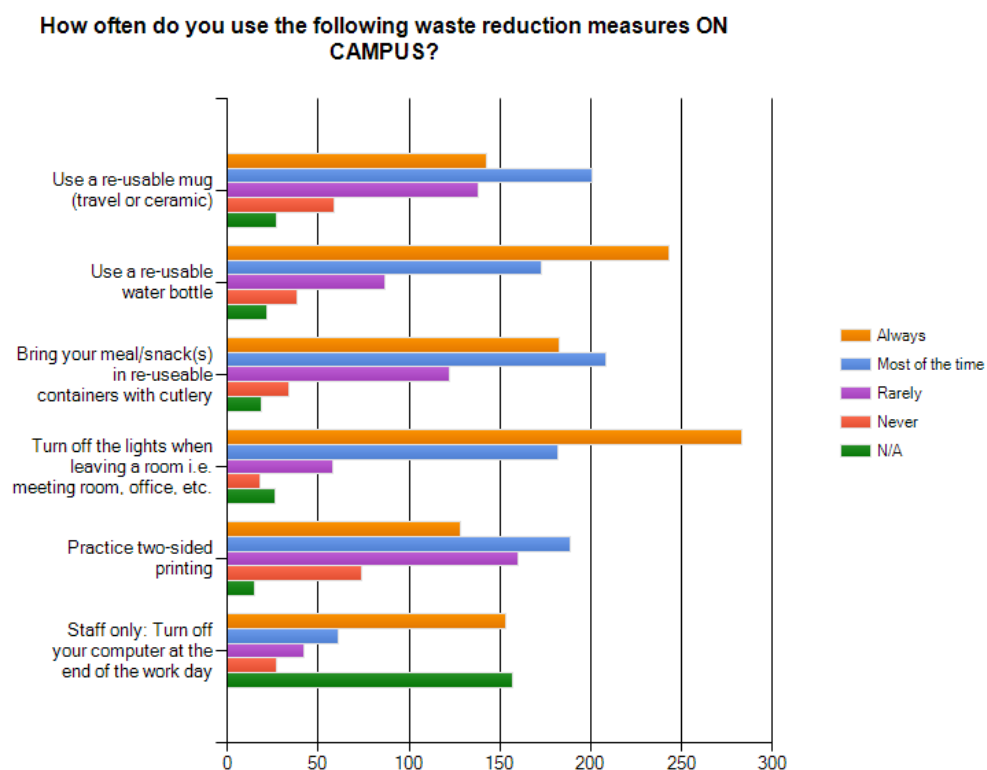
When compared to other groups on campus, the undergraduate respondents were the least likely to sell online or donate. The top two faculties to never do this were the Faculty of Liberal Arts and Professional Studies and Schulich School of Business at 14.3% and 15.7% respectively. Aside from these two faculties, the majority of faculty respondents practiced this activity always or most of the time (the combined value of always and most of the time ranged from 55% to 83.1%).

Shop at thrift stores/second hand stores

This question revealed that the majority of respondents rarely take part in this activity, with only 8.3% shopping there always and 16.8% shopping there most of the time. Respondents from the Faculty of Environmental Studies were the most likely (32.5%) to participate in this activity most of the time. Liberal Arts and Professional Studies was the next largest group engaged in this activity, with 18.6% of respondents shopping in thrift stores most of the time. Overall, the majority of respondents or 45.0% rarely shopped at these stores, and 28.4% never shopped there. 1.4% reported this as not applicable.

Question 7

How often do you use the following waste reduction measures on campus?



Use a re-usable mug (travel or ceramic)

Overall, responses were generally split across all categories of always, most of the time, rarely and never. A quarter of respondents or 25.2% reported always using a mug, while the majority of 35.4% used a mug most of the time. In contrast, 24.3% used a reusable mug rarely and 10.4% never. 4.8% reported this not applicable.

The survey showed that within the position categories (undergraduate student, graduate student, professor, staff, librarian, “other”) the majority of respondents, excluding undergraduate students, brought a mug always or most of the time. The reason for this may be that professors, librarians, and staff are more likely to have access to offices where they can leave and wash items such as a mug, whereas most students do not have access to on-campus storage and kitchen facilities.

Use a re-usable water bottle

In contrast to re-usable mug use, water bottle use was much higher, in that the majority of respondents (43.2%) reported always using one. Following close behind was the 31% of respondents, who used them most of the time. Only 15.5% rarely, and 6.7% never used them. 3.9% reported this not applicable.

Interestingly, the majority of respondents brought a re-usable water bottle most of the time or always, regardless of whether they were an undergraduate student, graduate student, professor, staff, or librarian.

The Environmental Studies faculty respondents had the highest percent (67.5%) of re-usable water bottle usage, most likely because the faculty has put a water bottle ban in place. Other faculties hovered around 40% always using them, excluding Schulich where always only represent 25% of respondents.

Bring your meal/snack(s) in re-useable containers with cutlery

32.3% of respondents always brought their meals in re-useable containers, while 36.7%, reported doing this most of the time. The survey found that most of the respondents, regardless of category (undergraduate student, professor, etc.), use containers most of the time or always with a range spanning 59% and 85%. 21.6% of respondent rarely bring re-useable containers to campus, and 6.0% said that they never do. 3.4% found this question to not be applicable to them.

The majority of the Faculty of Liberal Arts and Professional Studies and Schulich School of Business respondents rarely brought food in re-usable containers at 30.9% and 25.5% respectively.

Turn off the lights when leaving a room i.e. meeting room, office, etc.

The majority or half of respondents (49.9%) reported always turning off the lights when they left a room. 32.1% reported that they do this most of the time. Only 13.4% rarely or never turned off the lights. 4.6% stated this question was not applicable to them.

Practice two-sided printing

Although two-sided printing is not an option available on all printers, 22.6% stated they do this always and the majority, or 33.4%, stated that they do this most of the time. 28.3% of respondents rarely printed double-sided, and 13.1% never did. 2.7% believe this was not applicable.

The majority of the Faculty of Liberal Arts and Professional Studies, Environmental Studies and non-affiliated staff printed double-sided most of the time. In comparison, the majority of respondents from the Schulich School of Business and the Science and Engineering faculty rarely practiced double-sided printing. These differences may be due to either faculty preferences (culture), or printer capabilities.

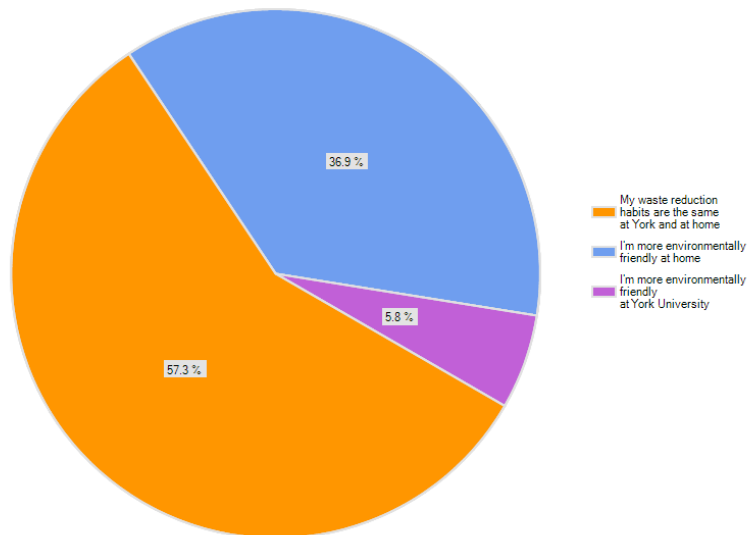
Staff only: Turn off your computer at the end of the workday

The question was intended for staff only, and the responses indicated that more than a third (34.8%) always turned off their computer at the day's end. While 13.9% did this most of the time, 9.5% rarely did, and 6.1% never did. It is important to note that not all staff has computer access (such as custodial or grounds staff), and because of this 35.7% responded that this question was not applicable.

Question 8A

How do your waste reduction habits at home differ from at York?

How do your waste reduction habits at home differ from at York?



The majority of respondents (57.3%) stated that their waste reduction habits were the same at home as at York. This result did not vary much by the respondent's position, as there was little difference between students, professors, staff and librarians who ranged from 55%-65%.

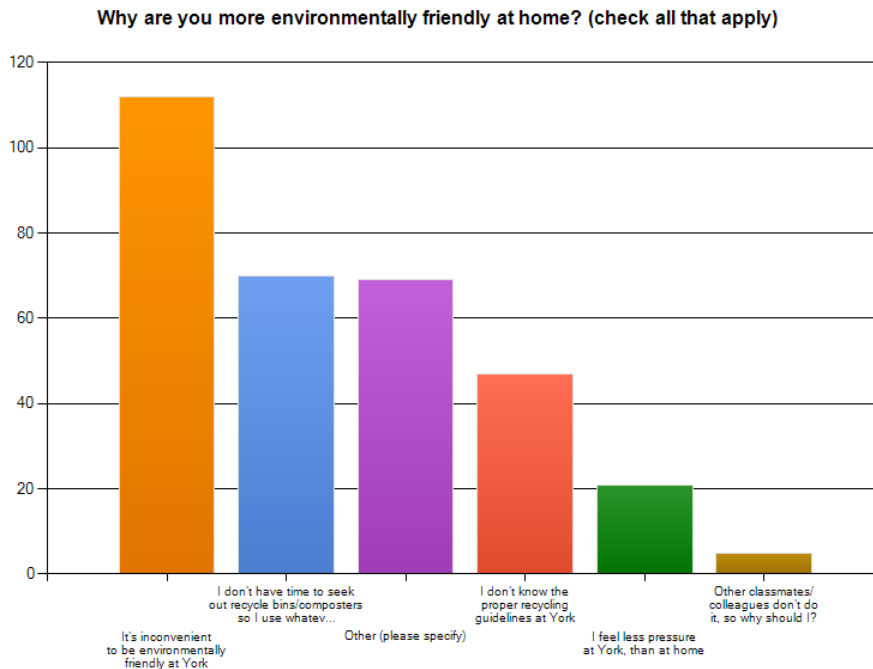
More than a third (36.9%) said that they were more environmentally friendly at home, and only 5.8% considered themselves more environmentally friendly at York. Interestingly, undergraduate students were the most likely to feel more environmentally friendly at York, at 9% of respondents.

Of those who lived on campus, 74.2% stated their habits at home and at York were the same, which makes sense since the two locations are, in fact, the same. Of the respondents that lived off campus, 55.2% stated that their habits were the same at home as at York, whereas 39.6% felt they were more environmentally friendly at home.

Question 8B

36.9% of respondents indicated that they were more environmentally friendly at home. We asked why, and allowed respondents to check all reasons that applied to them.

Why are you more environmentally friendly at home?



The most common response to this inquiry was “It’s inconvenient to be environmentally friendly at York”, which 112 respondents selected. The second most common reason was that: “I don’t have time to seek out recycle bins/composters so I use whatever I find first” (70 votes), followed by “other” with 69 votes, “I don’t know the proper recycling guidelines at York” with 47 votes, and “I feel less pressure at York, than at home” at 21 votes. Interestingly, only 5 respondents selected “other classmates/colleagues don’t do it, so why should I?” as being applicable to them.

Highlights from “other” responses included:

- No green bins at York like there are at home (21 comments)
- Disposable on-campus food containers (13 comments)
- Not as many items are accepted in York’s recycle bins as at home (12 comments)
- Difficult to find recycle/compost bins (6 comments)
- I’m unsure whether my computer prints double-sided (5 comments)
- I have more control over things in my home (4 comments)
- Confusing recycling labels (4 comments)
- Turning lights off unfeasible because office staff/students can’t control central lighting (4 comments)
- Have to leave computer on for updates (3 comments)
- Use of individual creamers instead of litres of milk and cream is standard in Faculty of Education (1 comment)

This section provided many interesting insights into how the York community’s waste management behaviours vary between home and York. In the end, the survey showed that individual waste behaviours do vary by location, with 36.9% being more environmentally friendly at home, and 5.8% being more environmentally friendly at York. Habits also vary with location, since the nature of home and the practices undertaken there are much different than those undertaken away from home. Ultimately, place does come into play when evaluating waste management practices and behaviours.

KNOWLEDGE & PRECEPTION OF YORK’S WASTE MANAGEMENT PROGRAM

Questions 9 through 13 sought to determine how knowledgeable respondents were about York’s waste management program, how they felt about the program, and what changes they would like to see made to the program. It was found that:

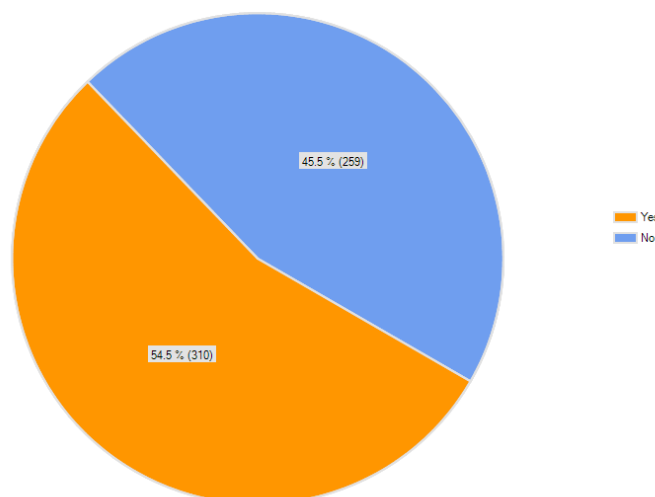
- 55% of respondents were aware of the on-campus composters. Of those who knew the composters existed the majority (35%) never used them. The main reason reported for non-use was inconvenient bin locations.
- 65% of respondents were not aware that York manages its own waste.
- 52% of respondents agreed that they were confused about what was recyclable at York- in fact 77% thought paper coffee cups were recyclable at York when they are not.
- Respondents felt York’s top 3 waste diversion priorities should be: collecting compost in dining areas, implementing more paperless practices, and encouraging food vendors to offer re-useable dishes/ cutlery.

Question 9 and its sections explored respondents’ familiarity with on-campus composters, the reasons for use and non-use, and to identify those waste items that respondents thought could be composted.

Question 9A

Were you aware that there are outdoor composters (black conical bins) for food waste on campus?

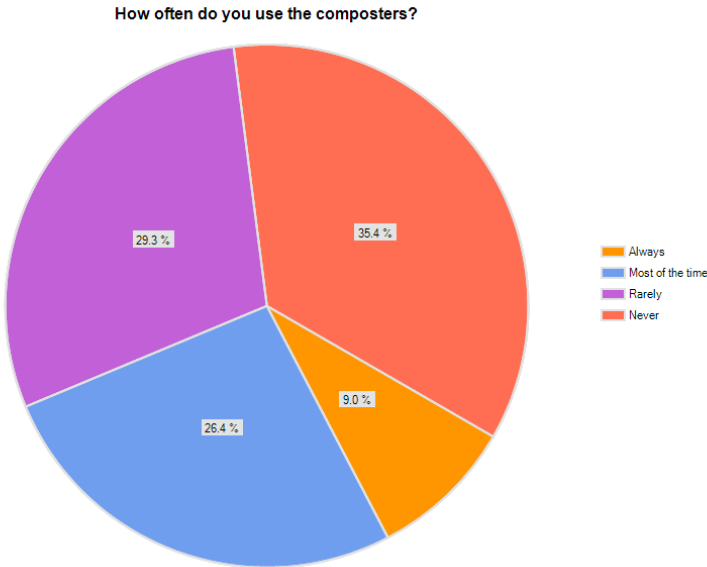
Were you aware that there are outdoor composters (black conical bins) for food waste on campus?



54.5%, or the majority of respondents were aware that composters were available on campus. 45.5% did not know that they existed. The majority of those who were aware of the composters had been on campus for between 3 and 4 years. Those respondents who had been on campus for less than 1 year were least likely to be aware of their existence.

Question 9B

If you were aware that outdoor composters existed then how often do you use them?



The results showed that though 54.5% of survey respondents knew that the composters existed, a lot less people actually used them. 35% of respondents never used them and 29% rarely used did. A quarter (26.4%) of respondents used them most of the time, and 9% always used them.

The group with the highest awareness of the composters was those who had been at York for more than 10 years. Despite this awareness, this group was most likely to “rarely” or “never” use the composters. The majority of those who were unaware of the composters had been at York for less than one year, and this group represents the highest “always” and “most of the time” count at 53.5%. It therefore became apparent that awareness does not necessarily translate into composter use!

	Less than 1 year	1-2 years	3-4 years	5- 10 years	More than 10 years	Response Percent	Response Count
Always	11	9	1	3	4	9.0%	28
Most of the time	19	24	21	11	7	26.4%	82
Rarely	20	10	26	16	19	29.3%	91
Never	6	30	29	12	33	35.4%	110
							311

Question 9C

If you use the composters always, most of the time, or rarely, which of the following do you think are compostable in the composters at York? (Check all the apply)

	Response Percent	Response Count
Salad with dressing	64.7%	130
Pizza	58.7%	118
Biodegradable container i.e. Ecotainer coffee cups or soup containers	43.8%	88
Apple core	92.0%	185
Tea bag	75.6%	152
		201

Of the above options only the apple core and tea bag were allowable in York's outdoor composting system. With this, 92% correctly identified the apple and 75.6% correctly identified the tea bag. Unfortunately, 65% thought that salad with dressing could be composted, 59% thought that pizza was compostable in this system, and 44% thought that biodegradable containers could be placed in the composters.

Much of the confusion about what is compostable and what is not likely comes from highly variable municipal composting guidelines. For instance, the salad with dressing would be allowable in the City of Toronto's green box, but it isn't allowed in York's composters. Some confusion may also come from York's composter labels that do not indicate anything about tea bags or salad dressing/oil. The labels do indicate that fruits are fine, and that meats and dairy are not.

Question 9D

If you know that the composters exist, but you answered that you never use, why? (Check all that apply)

	Response Percent	Response Count
I don't see them as an important part of waste reduction	0.0%	0
I don't think they are conveniently located for where I dispose of my garbage	54.1%	59
I don't know what I can put in them	16.5%	18
Other (please specify)	45.9%	50
		109

The main reason associated with lack of composter use was that respondents felt that they were not conveniently located (54.1%). There may be a several issues being revealed through this question: 1. There are not enough composters on campus, 2. The composters that are available are not well situated near building access points, 3. Composters are not located near tri-bins where people typically dispose of their waste, and 4. There were few to no composters inside buildings (at the time of the survey). The composters' reliance on ground/ soil accessibility (for microbial action) can be an issue. The units cannot be placed on concrete where the tri-bins (garbage & recycling) are typically located or near entrances to buildings where

concrete walkways are often present. Recently, however, the University increased the number of composting units on campus, started pairing composters with tri-bins where possible, and has also begun offering organic waste collection bins in campus kitchenettes.

In addition to respondents' concerns about composter convenience, 45.9% identified their own reasons for non-use under "other" (see below), and 16.5% said they didn't know what they could put in them. On a positive note, no one responded that they didn't view the composters as an important part of waste reduction.

Highlights from "other" responses:

- I don't generally have waste that can be composted/ I eat everything
- Haven't needed to, because I take my compost home.
- I have several vermi-composters at my office!
- I don't know what they were and what they were good for
- I've never seen anyone use them, and we've never been told to use it/ I did not realize that these were for general use.
- Unsanitary

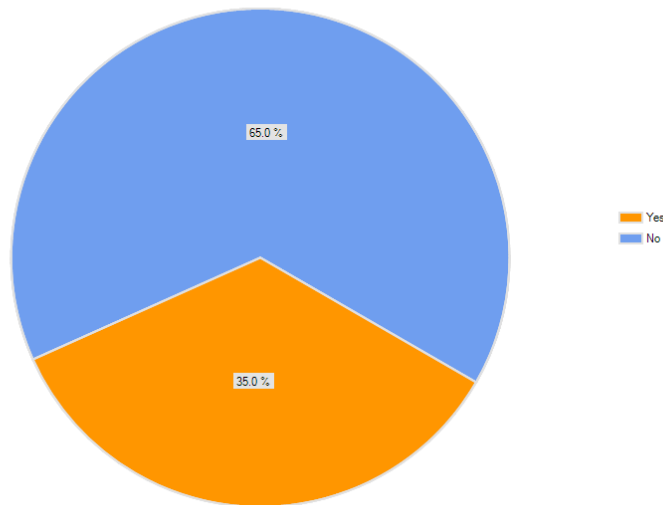
Interestingly, many of the "other" respondents identified ways that they deal with their own organic waste, from taking it home to having vermi/worm-composters in their office. For a few it was an issue of not knowing they could use them or what to put in them, which is simply an issue of communication and education. Only a few "other" respondents had negative feelings for non-use, which included the sanitary issue of lifting the compost lid to deposit waste.

Question 10

The organizational infrastructure for waste management has a major bearing on how waste is dealt with in that system. The City of Toronto manages its municipality's waste differently from York Region's waste management. Differences abound over what can be recycled, whether green bins are offered, etc.

Were you aware that York University is responsible for managing its own waste (it is not managed by the City of Toronto)?

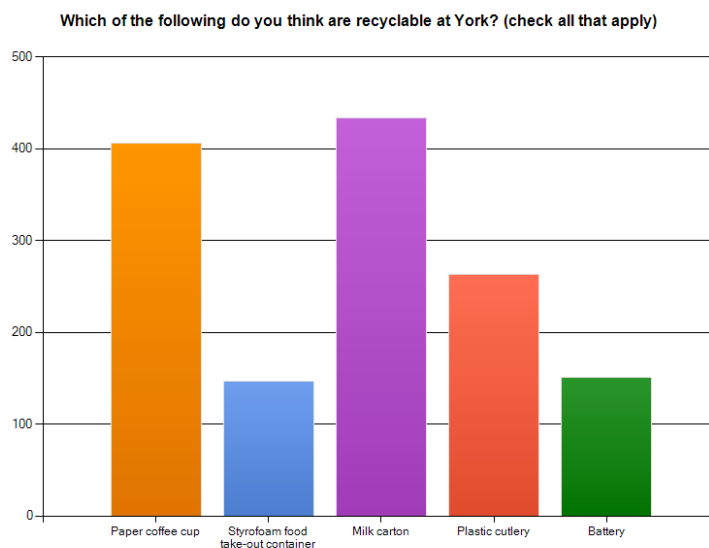
Were you aware that York University is responsible for managing its own waste (it is not managed by the City of Toronto)?



When survey respondents were asked if they were aware that York manages its own waste, the majority of respondents (65%) were not aware that this is the case. A little over one-third, or 35%, of respondents were aware of this being the case. The highest awareness was among librarians at 66.7%, and staff at 59.5%.

Question 11

Which of the following do you think are recyclable at York? (Check all that apply)



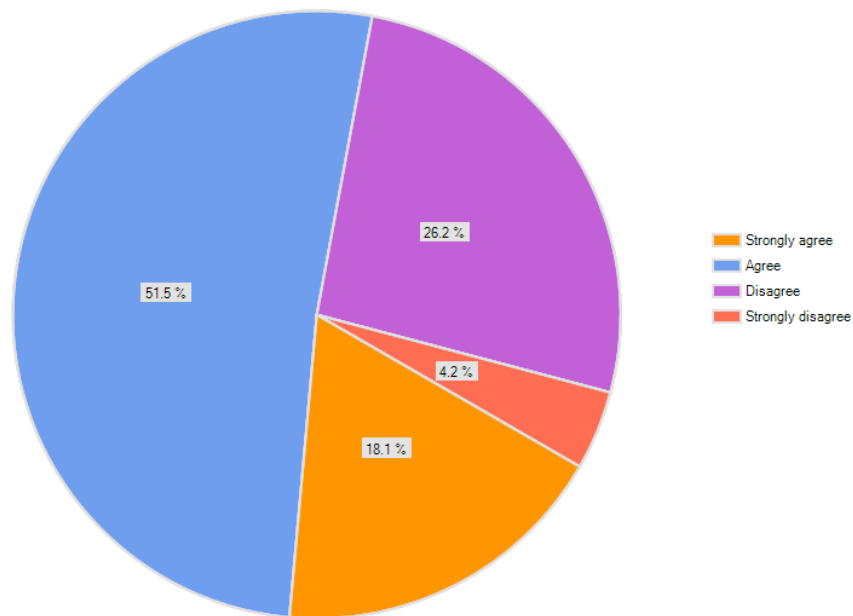
Respondents were asked to identify whether paper coffee cups, Styrofoam containers, milk cartons, plastic cutlery, and batteries were recyclable at York. 76.5% thought that paper coffee cups were recyclable when

they were not. Additionally, 27.7% thought that Styrofoam takeout containers were recyclable, and 49.5% thought plastic cutlery were recyclable when both are not. 81.5% correctly identified milk cartons as being recyclable, and finally, 28.4% correctly identified batteries as being recyclable. We were not surprised to find that few respondents knew about the battery recycling, as drop-off areas are located on assorted campus building loading docks.

Question 12

Please tell us if you agree or disagree with the following statement: I feel confused about what is recyclable at York.

Please tell us if you agree or disagree with the following statement: I feel confused about what is recyclable at York.



The majority, or 51.5% of respondents, agreed that they were confused about what is recyclable at York. 18.1% strongly agreed with this statement, while 26.2% disagreed and 4.2% strongly disagreed. This result, along with that of question 11 that explores what is recyclable, appears to indicate that there is quite widespread confusion about what is recyclable at York, and this translates into incorrect on-campus recycling behaviours.

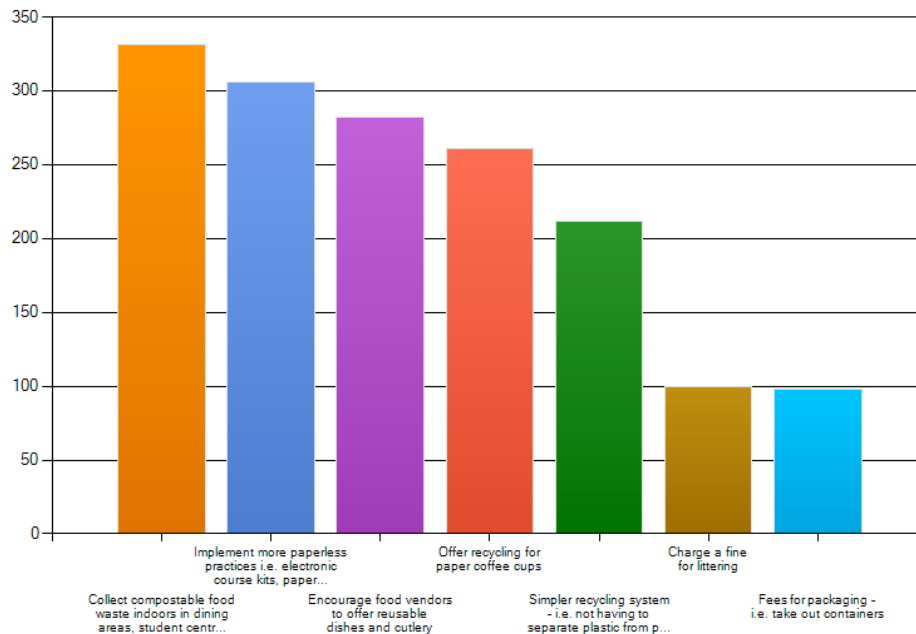
Question 13

After establishing respondents' waste behaviours and attitudes, the survey set out to explore those waste diversion measures that respondents would like to see York undertake. As always, responses and solutions to these responses, will be budget and regulation permitting.

Which of the following waste diversion measure should York make its top priorities- budgets, and regulations

permitting? (Pick your top 3 choices)

Which of the following waste diversion measure should York make its top priorities- budgets and regulations permitting? (pick your top 3 choices)



The respondents' number one choice for improving York University's waste diversion was to collect compostable food waste in indoor dining areas and kitchens (331 votes). The second most popular option was to implement more paperless practices (306 votes), and the third was to encourage food vendors to use re-usable dishes and cutlery (282 votes). Recycling paper coffee cups came in fourth with 261 votes, and 212 respondents voted for a simpler recycling system to improve waste diversion. The last two options of charging a fine for littering and fees for packaging were tied with about 100 votes each.

This section of the survey sought to determine the York community's knowledge and perceptions of campus waste management. The results indicated that in general, knowledge was lacking: 45% of those surveyed did not know that on-campus composters existed, 65% were unaware that York's managed its own waste, and 52% agreed that they were confused about what was recyclable at York. When asked what changes they would make respondents indicated that they would prioritize collecting compost in dining areas, more paperless practices, and the offer of re-usable plates/cutlery among food vendors. Ultimately, with education, knowledge of on-campus practices could be improved, and through implementation of respondents' waste management priorities York's waste diversion could be improved.

ENVIRONMENTAL AWARENESS, INTEREST & ENGAGEMENT

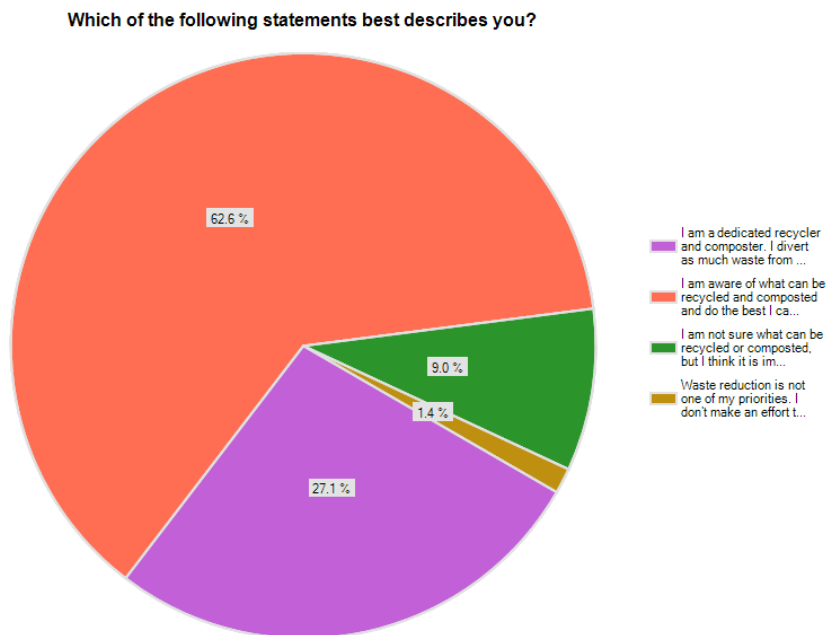
The following set of questions (14 through 19) sought to determine how environmentally concerned respondents considered themselves, how interested they were in environmental issues, and from where

they received information on these issues. It was found that:

- The majority of respondents (63%) stated that “they are aware of what can be recycled and composted, and do the best they can”.
- 50% of respondents classified themselves as very interested in environmental issues.
- Respondents indicated that the top 3 ways to increase their participation in waste reduction initiatives were: have more bins available, create clearer labels for waste bins, and provide feedback on how well York is reducing and diverting waste.

Question 14

Which of the following statements best describes you?



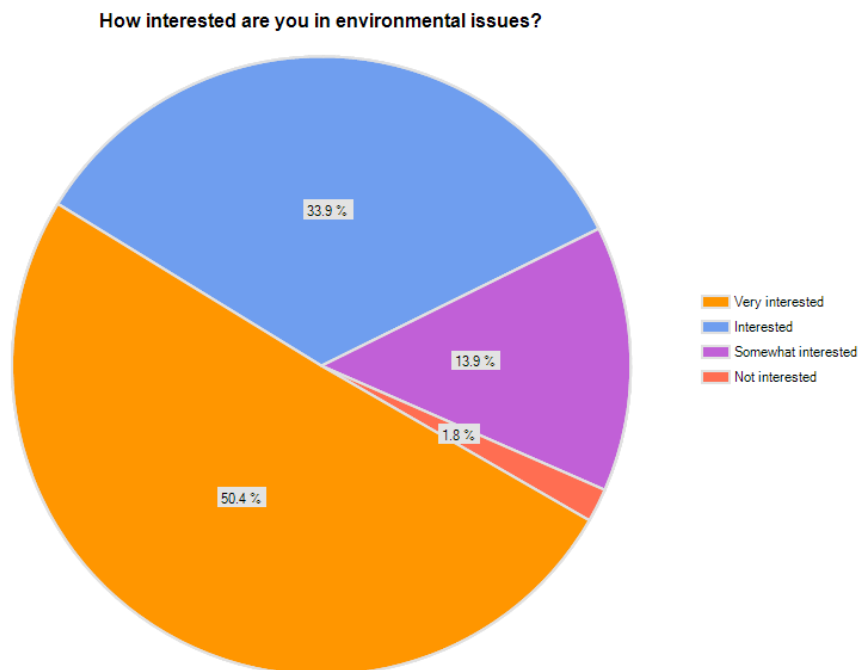
27.1% of respondents identified themselves as “a dedicated recycler and composter. [They] divert as much waste from the garbage stream as [they] possibly can”, and yet the majority of respondents (62.6%) identified themselves as “aware of what can be recycled and composted, and do the best [they] can when recycle bins and composters are available”. While 9.0% of the respondents identified that they were “not sure what can be recycled or composted, but think it is important so [they] sometimes recycle and compost”, 1.4% stated that “waste reduction is not one of [their] priorities” so they do not make an effort to recycle or compost.

The majority of respondents in each faculty affiliation stated they were “aware of what can be recycled and composted and do the best [they] can when recycle bins and composters are available”, while the Environmental Studies affiliates had the highest percentage of respondents that felt they were “dedicated recycler[s] and composter[s].”

The majority of respondents who lived on campus and off felt that they were “aware of what can be recycled and composted and do the best [they] can”. Interestingly though, those that lived off campus were twice as likely to feel that they were “a dedicated recycler and composter” in comparison to those who lived on campus.

Question 15

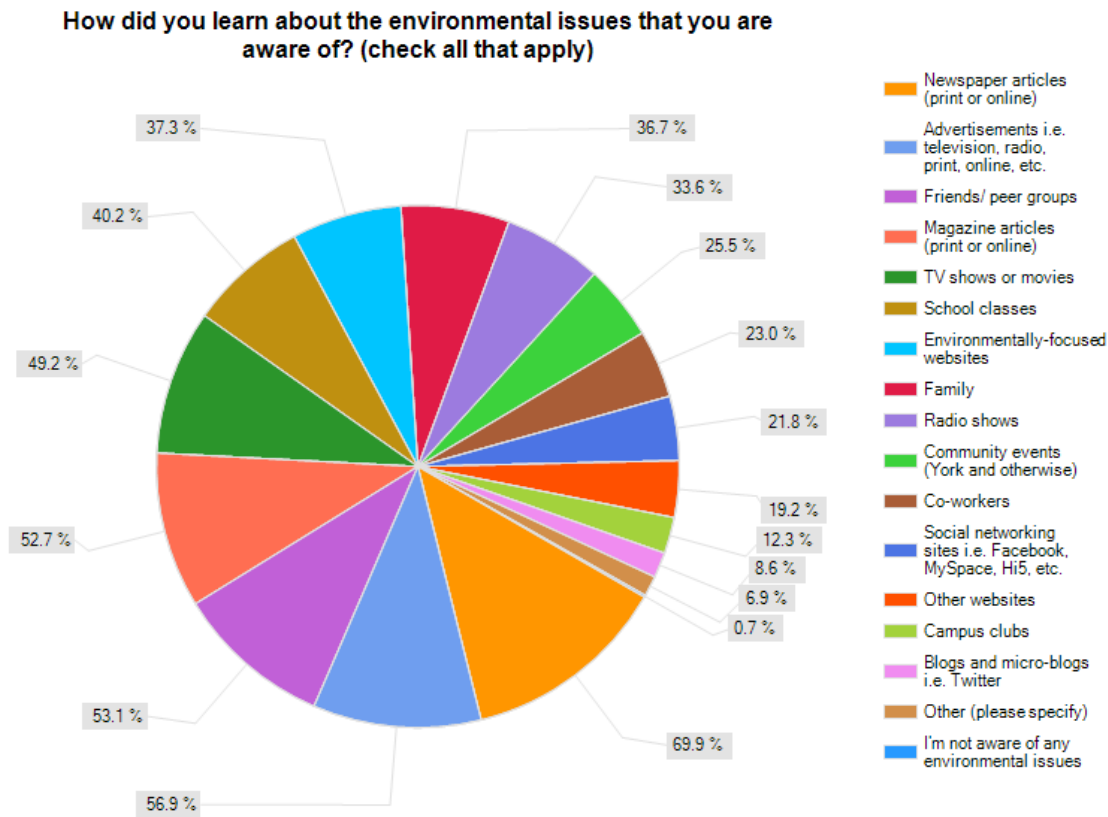
How interested are you in environmental issues?



The results to this question indicated that there was a great deal of interest in environmental issues among survey respondents. The majority of the responses were “very interested” and “interested” with a combined percentage of 84.3%. 13.9% of respondents were only “somewhat interested”, and only 1.8% were “not interested” at all.

Question 16

How did you learn about the environmental issues that you are aware of?

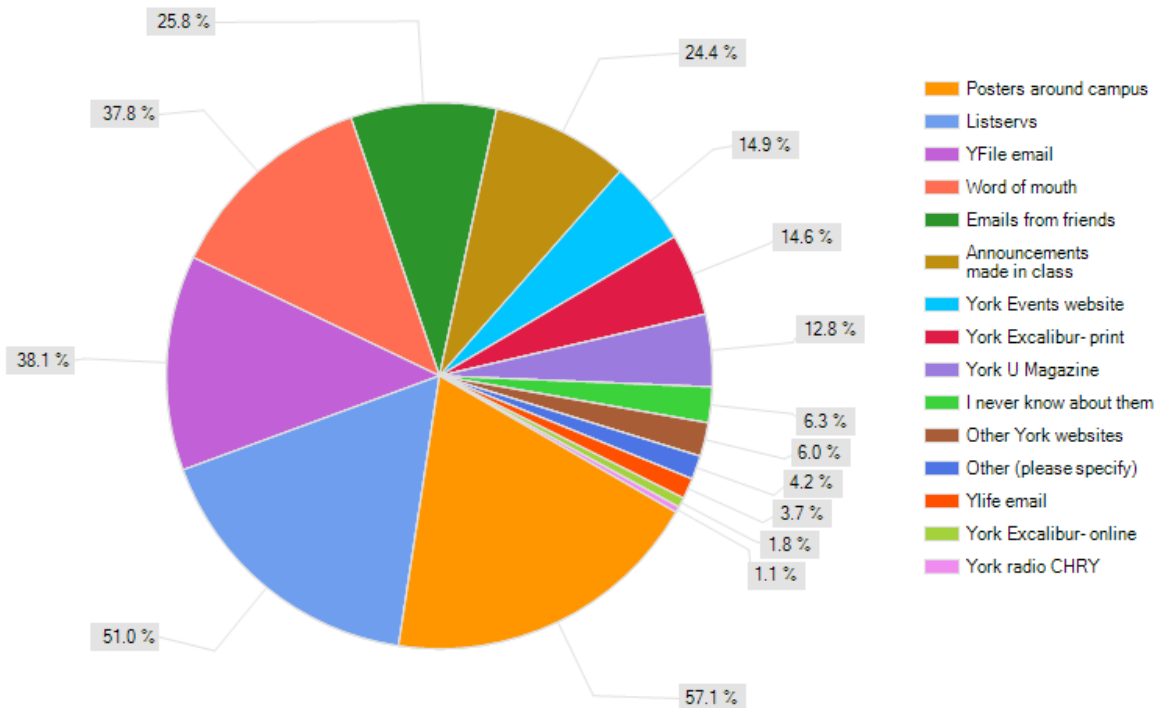


Unfortunately, the research team inadvertently omitted books from the list of options. Keeping this error in mind, the top five learning sources were: newspaper articles with 69.9% of respondents using them, advertisements with 56.9%, friends/peer group with 53.1%, magazine articles with 52.7%, and TV shows or movies with 49.2%. Aside from these top five sources, respondents indicated that they were turning to many other media for information, and these sources are outlined in the pie chart above.

Question 17

How do you hear about York community events, news etc.? (Check all that apply)

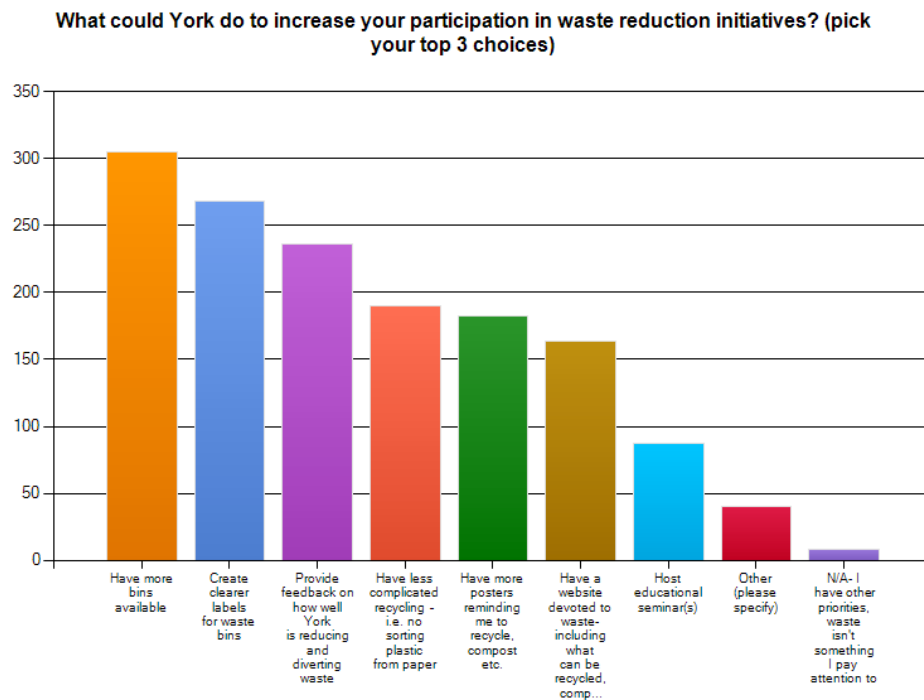
How do you hear about York community events, news etc.? (check all that apply)



The majority of respondents (57%), indicated that they find out about York events and news through posters around campus. Following this 51% heard about happenings via listservs, 38.1% via the Y-File email, and 37.8% through word of mouth. Emails from friends, and announcements made in class were also a common source of information at 25.8% and 24.4% respectively. There were also many other sources that respondents relied on to inform them of York community events and these are listed in the pie chart.

Question 18

What could York do to increase your participation in waste reduction initiatives? (Pick your top 3 choices)



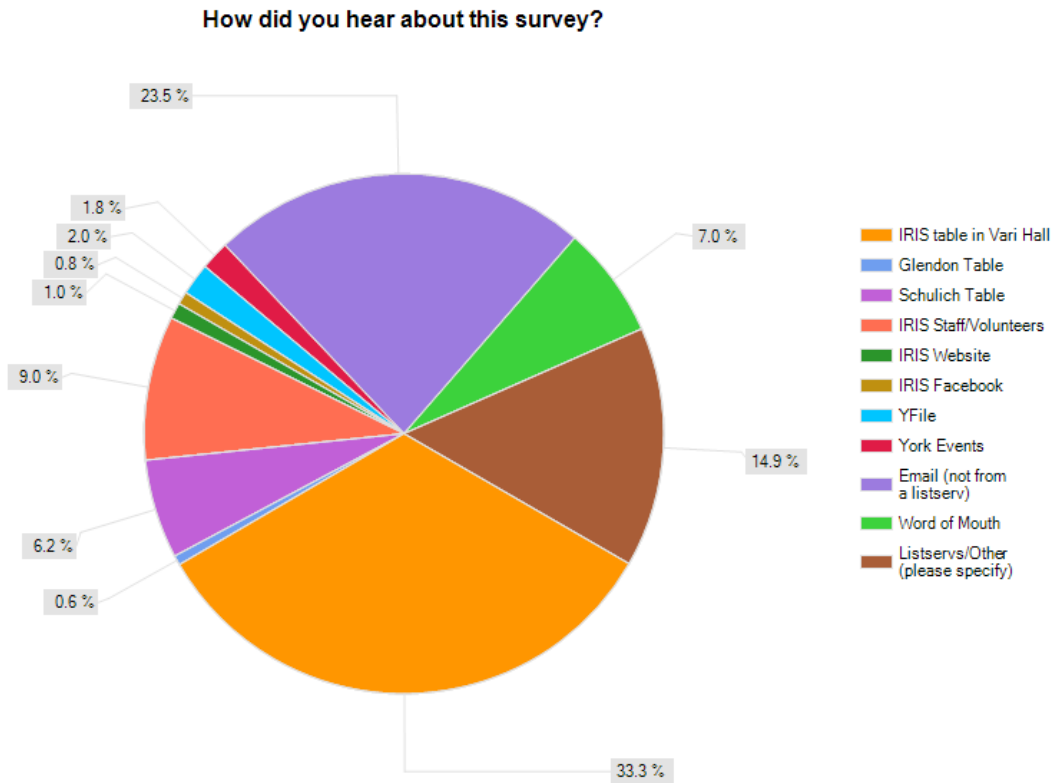
The majority of the responses indicated that the best ways to increase participation in waste reduction initiatives was to have more bins (54%), create clearer labels for waste bins (48%), and provide feedback on waste reduction progress (42%). When the responses were segregated by the faculty or administrative body to which the response corresponds, the data suggested that 34% of those who wanted more bins were from the Faculty of Liberal Arts and Professional Studies, 22% were from the Faculty of Environmental Studies and 15% were from the Faculty of Science and Engineering.

Of the 40 respondents who provided an “other” recommendation, the following highlights were evident:

- Have maps around campus that say: “If you would like to compost, composting bins are available at the following locations”
- Y-File should explain how waste can be reduced and where the waste containers are located.
- Send out messages via email about new recycling initiatives
- Prepare a mailer for staff and faculty outlining recycling policies and where and how waste can be recycled, reduced, etc.
- Have a composting system that mimics the municipal system.
- Make green bins available in kitchen areas in all buildings.
- York is a workplace. Waste reduction should focus the campus as a workplace, with reduction to be implemented through negotiated programs.
- Have more contests to promote reductions, like the Res Race to Zero.
- Have a cleanup day!

QUESTION 19

How did you hear about this survey?



Overall, 40.1% of respondents found out about the waste survey through tabling sessions in Vari Hall, Schulich and on the Glendon campus. 23.5% learned of the survey through an email (non-listserv), 14.9% via a listserv notification, 9% by a IRIS staff or volunteer, and 7% through word of mouth.

This section explored our respondents’ environmental awareness, interest, and engagement. Through respondent responses it becomes clear that there is much interest in environmental issues and effort being put forth by respondents to comply: 63% of respondents stated that “they are aware of what can be recycled and composted, and do the best they can”. Respondents identified key priorities that would further engage them, indicating that having more bins available, creating clearer labels for waste bins, and providing feedback on how well York is reducing and diverting waste would do the trick. In the end, the York community’s interest in environmental issues will prove beneficial in further implementation of environmental initiatives.

RECOMMENDATIONS

think green

The results of this survey provided some interesting insights into the York community's waste behaviours, attitudes and knowledge. From this information a number of recommendations have been proposed to further improve campus waste diversion. The recommendations centre on education and communication, convenience, paperless practices, end of year residence drop-off depots, and re-useable dishes. These recommendations are outlined in greater detail below.

EDUCATION AND COMMUNICATION

First and foremost improved education and communication of on-campus waste management is essential to improving the effectiveness of York's waste management system. The York community is interested: 84.3% of survey respondents were either interested or very interested in environmental issues, 89.7% identified themselves as either a dedicated recycler/ composter or aware of what could be recycled/ composted and did their best to comply. Of those who knew that composters existed but didn't use them, none said it was because they didn't see them as an important part of waste management. The issue has become simply that the York community is confused about what they can and cannot do at York: 70% agree or strongly agree that they are confused about what is recyclable on campus, 76% of respondents thought paper coffee cups were recyclable at York when they are not, and if respondents used the composters many thought salad with dressing, pizza and Ecotainers were all compostable when they are not. Many respondents also did not know that specific waste infrastructure existed on campus: 45.5% did not know that there were composters, and only 28.4% knew that York had the capacity to recycle batteries. How do we fix this? Educate. Communicate.

Communication

When asked how York could increase their participation in waste reduction, 48% of respondents said clearer labels for waste bins, and 42% said they wanted feedback on how well York is reducing and diverting waste. 32.6% wanted more posters reminding them to recycle, compost, etc., and 29.4% thought a website devoted to waste would be beneficial.

Currently, York's waste management information is hidden within the CSBO website. As the above responses indicate, if information is made more readily available there may be a chance to improve participation in waste reduction.

Recommendations to improve communication are as follows:

- **Waste-devoted website:** Currently all waste information is hidden online on a rather bland CSBO waste page: at <http://www.yorku.ca/csbo/groundsfleetwaste/index.html>. For user-friendliness and ease of accessibility it is recommended that all waste-related information be placed on a visually appealing page that has an easy to remember and advertise URL such as www.yorku.ca/waste. As the "Waste Initiatives at Other Universities" section notes, many other North American and international schools have implemented such websites, so they may be looked to for a model. A waste wizard function, similar to that found on the City of Toronto website (<http://www.toronto.ca/garbage/>), that would allow users to type in a waste item and be given the proper disposal method would also be beneficial.
- **Campus maps/ signage:** There is currently a map available on the CSBO website that outlines composter, battery recycling, and clothing drop-off locations. However, making these maps available

in some capacity around campus would also be beneficial. Maps, in addition to signage, would allow the York community to identify and become familiar with waste locations closest to them and ensure ease of accessibility. 54% of respondents indicated that their participation in waste reduction would improve if more bins were available, so knowing where current bins are would certainly help with this issue. Bins may be located near participants, but they are unable to see them because they are not on their regular walking path.

- Improve waste bin labeling: There is great confusion over what can be placed in the waste bins on campus. 48% of respondents said clearer labels for waste bins would help improve their participation in waste reduction. York had developed new labels over the last year, but they had not been fully rolled out by the time the survey was administered. Regardless of this, it may be worthwhile to complete focus groups with the York community to evaluate current labels, and determine the changes (if any) that need to be made to make the labels user-friendlier. In the least, labels should be reviewed when program changes occur.

Education

By educating the York community on proper waste habits, not only they can work towards improving their own behaviour, but through leading by example they can also work towards improving the behaviour of their fellow community members. Education initiatives could take the following forms:

- Orientation waste lesson: Waste management orientation should be provided during residence and program orientation week. The waste lesson needs to be short and engaging, and could take one of two forms. The first being the form of IRIS's successful Waste Challenge. At the end of the Spring 2010 semester, IRIS's SWEEP team engaged the York community over 2 days by holding the Waste Challenge. The Challenge engaged community members in a timed competition that had them deposit everyday waste items into the correct waste bins. The challenge was both entertaining and educational, because the IRIS team took the time afterward to identify what was correctly placed and what was not. The second form could be through a train the trainer format where residence dons and program orientation leaders are trained on campus waste management, and then they pass their learning onto their trainees. On a bigger scale this orientation challenge or train the trainer format could be led by a group of students, including possibly student groups like Regenesys who have missions to improve campus waste management.
- Staff outreach: Many York staff (librarians, professors, staff) spends more years at York than the students who are limited by undergraduate and graduate program lengths. By informing the people who have been at York for many years on campus waste management, we can improve their habits and also rely on them to lead new staff and students in changing their behaviour. When asked how to increase participation in waste reduction some "others" thought that Y-File should delineate how waste can be reduced and where the waste containers are located (the *ZeroWaste* program was highlighted in Y-File on April 22: <http://www.yorku.ca/yfile/archive/index.asp?Article=14722>). They also noted that York should prepare a mailer for staff and faculty outlining recycling policies, along with and where and how waste can be recycled, reduced, etc. Though this was done or the *ZeroWaste* initiative, it should continue to be done on an annual basis or was waste programs change.

Res Race to Zero Waste: This challenge could build off of the successful Rez Race to Zero program, which challenged on-campus residents to reduce their energy consumption. Though this may be logistically difficult, engaging on campus residents on waste programs is important since they spend so much of their time on campus.

Convenience

54.1% of survey respondents who knew that composters existed said they didn't use them because they weren't conveniently located. Additionally, when respondents were asked what York could do to increase their participation in waste reduction initiatives, the need for more bins captured the majority of support (54%).

Some of these concerns will be overcome by the new addition of organic collection bins in campus kitchenettes, however in most locations these kitchenettes are only available to staff and faculty not students. York should look for additional opportunities to add organic collection bins in other high traffic campus areas like the Keele Campus Student Centre. Additional work may also be done to improve the accessibility of outdoor composters. Placing the bins at high traffic points will be essential to the increased use.

Paperless Practices

When responding to what participants thought York should make its top waste diversion priorities, the second most popular option was the use of more paperless practices. To satisfy this desire York could build on the success of the electronic course kits that were adopted first in the 2009 school year, and work to increase the number of electronic course kits being offered.

In those cases where paper needs to be used double-sided printing should be promoted. Of survey respondents, 41.4% rarely or never double side printed. To increase this, many tactics could be undertaken. First, York could set all capable printers to double side print as a default. Secondly, professors could require students to submit work that has been printed on both sides of the sheet. Additionally, as campus printers die out there could be a mandate to replace them with double-sided printing capable units. Providing incentives to students who print double sided in campus print labs may also go far to increase this behaviour. Since double sided printing uses one less piece of paper, perhaps students could be charged on a 2-sided for the price of one basis.

End of Year Residence Drop-off Depots

Of respondents, 50% always sell online or donate items rather than throwing away. As a way to promote re-use, York could implement year-end residence drop off depots. At a time when students are packing up, and figuring out what stays and goes, much "waste" has the potential to be diverted. Providing drop-off bins in residence commons for unused food items, batteries, clothing, etc. provides an ideal opportunity for these goods to be diverted from the waste stream. Unused food could be donated to food banks, and batteries and clothing could be placed in the traditional on-campus recycling streams available for these items.

Re-usable Dishes

When asked which waste diversion measures York should make its top priorities- budgets, and regulations permitting, the third most popular choice was to encourage food vendors to offer re-useable dishes and

cutlery. Though this option has traditionally been a challenge for many food vendors who do not have access to dishwashers, the new eco-takeout program could provide an alternative.

Eco-Takeout launched in the fall 2010 at Stong, Winters, and Glendon cafeterias are intended for students on meal plans. The program essentially allows students two containers, which they can use and then return for new cleaned and sterilized containers each time they purchase a meal. There is the potential to expand this program to the rest of the York Community once the logistical constraints of limited storage and dishwashing facilities are dealt with.

In addition to *Eco-takeout*, the *Lug-a-Mug* initiative also exists on campus where consumers are rewarded with 20 cents off their drink when they bring a re-useable mug. The survey indicated that 13.4% more respondents always or most of the time use a re-useable water bottle than a re-useable mug. A re-launch of this program may be necessary to re-establish awareness and promote the establishments that are offering this program. With this more people may start to use their re-useable mugs that provide a financial incentive for use.

Through the implementation of communication and education strategies, and programs that promote paperless practices, re-usable dishes, convenient bin access, and collections during residence move out, York can improve community waste knowledge and behaviours leading them closer to their goal of 65% waste diversion by 2013.

CONCLUSION



Not surprisingly, York University's waste management system is complex. Though many waste programs existed before the SWEEP survey including outdoor composting, *Lug-a-mug*, and battery recycling, many new initiatives have been launched since, including kitchenette organic collection, the *Eco-takeout* program, and new waste bin labels. Given the widespread lack of knowledge about outdoor composters, and the wide-ranging confusion about what can be recycled at York, it is evident that there is room for improvement. Through communication and education, the launch of additional programs, and the York community taking responsibility for its waste York can properly prepare itself to divert 65% of waste from landfill by 2013.

Improvement from a communication and education perspective is essential to York's waste management success. Without the knowledge, imparted through communication, people cannot change behaviour. Through planned and strategic communication initiatives, such as a user-friendly waste website and improved waste signage, along with education programs such as orientation week waste lessons, staff outreach and residence engagement programs York can improve the knowledge and behaviours of its community.

Through the implementation of new programs that offer re-useable dishes in campus eateries, promote paperless practices, improve the convenience of waste bins, and present end of year residence disposal depots for students, York can also better cater to the waste management needs of the York community.

The effectiveness of waste reduction does not rely on York's administration alone, and communication, education and the implementation of new programs can only go so far. To truly improve waste diversion on campus, York community members will need to take even more responsibility for their waste. The community will need to work within the established programs and tools to understand the complexity of campus waste management, and also, work to improve individual behaviour. If everyone does their part and leads in their own way, then change, for the better, is sure to occur.

Ultimately, through communication, education and community involvement in waste initiatives, York will be in a better position to divert 65% of waste from landfill by 2013, and move beyond this target in the coming years.

REFERENCES

- Biodegradable Products Institute. (2009). BPI Logo Program. Retrieved April 21, 2009, from <http://www.bpiworld.org/BPI-Public>
- Canadian Council of Ministers of the Environment. (2005). Guidelines for Compost Quality. Retrieved April 21, 2009, from http://www.ccme.ca/assets/pdf/compostgdlns_1340_e.pdf
- CSBO. (2010). Glendon Campus Services. Retrieved August 18, 2010, from <http://www.yorku.ca/csbo/glendon/index.html>
- Five Winds International, for the Extended Producer Responsibility Task Group, CCME. (2008). Inventory of Sustainable Packaging Initiatives and Proposed Approach to Develop Sustainable Packaging Guidelines. Retrieved April 21, 2009, from http://www.ccme.ca/assets/pdf/pn_1405_sp_inventory_e.pdf
- Haagsma, T. (2009, March 18). Manager Grounds, Fleet and Waste Management, York University . (M. Heath, Interviewer)
- Ministry of the Environment. (2008). What is Recycling. Retrieved March 2, 2010, from <http://www.ene.gov.on.ca/en/land/wastedisposal/index.php#recycling>
- Sercon Management Consulting Inc. (2005). Canadian Food Trends to 2020: A Long Range Consumer Outlook. Retrieved May 13, 2009, from http://www4.agr.gc.ca/resources/prod/doc/agr/pdf/ft-ta_e.pdf
- “The Social Context of Recycling”. American Sociological Review, 58, 434-442. Derksen, L. and Gartrell, J. 1993
- University of British Columbia. (2009). UBC Food Services: Sustainability Initiatives. Retrieved June 5, 2009, from <http://www.food.ubc.ca/about/initiatives.html>
- University of British Columbia. (2009). UBC Waste Management: Composting. Retrieved June 1, 2009, from <http://www.recycle.ubc.ca/compost.htm>.
- York University. (2009). Grounds, Fleet and Waste Management: Recycling Program. Retrieved April 21, 2009, from <http://www.yorku.ca/csbo/groundsfleetwaste/recycling/program.html>

APPENDICES

Appendix 1a: Waste Management Guidelines (Pre-June 2010)

Note: The following appendix details the waste management guidelines at the time that the survey was conducted. These guidelines have since changed, as mentioned in the report, to reflect new program elements such as organic waste collection inside kitchenettes.

Tri-bins and Composters

The following chart outlines the guidelines for disposing of waste in tri-bins and composters on campus:

Recycling		Composting
Paper Products	Bottles & Cans	
Acceptable: <ul style="list-style-type: none"> Any type of paper (staples and clips are okay) Boxboard (i.e. cereal boxes) Newspapers & magazines Sticky-notes Books (remove and dispose of hard cover in garbage) 	Acceptable: <ul style="list-style-type: none"> Glass & plastic bottles Metal cans Milk & juice cartons & boxes Plastic tubs & lids Aluminium trays Aerosol container (empty) Paint cans (empty) 	Acceptable: <ul style="list-style-type: none"> Fruit & vegetable waste Tea bags & coffee filters Paper napkins Plain bread or grains (pasta, rice, etc.)
Not acceptable: <ul style="list-style-type: none"> No coffee cups No biodegradable containers No coated paper (with wax, plastic, or foil) No plastic binders No transparencies No cardboard 	Not Acceptable: <ul style="list-style-type: none"> No foam cups or containers No clear plastic clamshells No biodegradable containers No plastic bags No aluminium foil No scrap metal or plastic No crystal, ceramic or porcelain No window glass or mirrors No light bulbs 	Not Acceptable: <ul style="list-style-type: none"> No meat No dairy No oil or dressings No packaging (including biodegradable) No animal waste
Where: <ul style="list-style-type: none"> Tri-bins 	Where: <ul style="list-style-type: none"> Tri-bins 	Where: <ul style="list-style-type: none"> Organic digesters (composters)

Bulk and Other Material Recycling

The following outlines the guidelines for disposal of bulk and other recycling on campus:

- Bulk washroom waste bins** are for paper towels only, which are collected for recycling, unless labelled “garbage”. Please do not contaminate with other waste.
- Cardboard** (with a ruffled inner layer) can be flattened and deposited in the specially marked blue containers found at any loading dock or recycling depot.
- Foam packing material** (i.e. the blocks used to package electronics – not foam peanuts) can be bagged and left on any loading dock.
- Furniture** can be left on any loading dock. For any significant quantity, fill a Service Request (link to www.yorku.ca/csbo/forms/requestform-keele.html). When possible, furniture will be repurposed and redistributed. Otherwise, it will be disassembled for recycling and disposal.
- Books** can be donated for re-use. York University’s Bookstore often buys back used text books, and sells

them at a discounted price to students. Custodial Services can provide a rolling “Book Collection” container at your Service Request (link to www.yorku.ca/csbo/forms/requestform-keele.html).

- **Confidential office paper** can be collected for shredding and recycling- fill out a Service Request form at: www.yorku.ca/csbo/forms/requestform-keele.html.

Special Waste

The following outlines the guidelines for special waste disposal on campus:

- **Batteries** can be deposited in specially marked black containers located on the loading docks at Scott, Stong, Winters, Founders, Calumet, Centre for Film and Theatre, TEL, Schulich, Farquharson, Physical Resources Building, and Health, Nursing and Environmental Studies.
- **Electronic waste** (i.e. computers & monitors, televisions, etc., including printer cartridges) can be left on any loading dock. For any significant quantity, fill out a Service Request form at: www.yorku.ca/csbo/forms/requestform-keele.html.
- **Household hazardous waste** (cleaners, paint, etc.) can be left on any loading dock.
- **Light bulbs** can be left on any loading dock in the original packaging.

Appendix 1B: Waste Management Guidelines (Post-June 2010)

Note: The following appendix reflects the current waste management guidelines, as of June 2010.

TRI-BIN RECYCLING STATIONS:

Much of the University’s waste diversion program is achieved through the tri-bin system, which covers the indoors and outdoors of York University’s Keele and Glendon campuses. Tri-bins consist of grouping of three waste receptacles, for the collection of source-separated recyclables (1) paper products and (2) bottles and cans, as well as a third bin for (3) non-recyclable garbage.

Materials should be sorted and disposed of as follows:

Recycling	Garbage	
Paper Products	Bottles & Cans	Acceptable:
Acceptable:	Acceptable:	
<ul style="list-style-type: none"> • Any type of paper (staples and clips are okay) • Boxboard (i.e. cereal boxes) • Newspapers & magazines • Sticky-notes • Books (remove and dispose of hard cover in garbage) 	<ul style="list-style-type: none"> • Glass & plastic bottles • Metal cans • Milk & juice cartons & boxes • Plastic tubs & lids • Aluminum trays • Aerosol container (empty) • Paint cans (empty) 	<ul style="list-style-type: none"> • Mixed material waste (i.e. coffee cups or binder with plastic & metal parts) • Non-recyclable plastics (i.e. takeout containers, cups and cutlery) • Plastic bags • Biodegradable packaging

<p>Not acceptable:</p> <ul style="list-style-type: none"> • No coffee cups • No biodegradable containers • No coated paper (with wax, plastic, or foil) • No plastic binders • No transparencies • No corrugated cardboard 	<p>Not Acceptable:</p> <ul style="list-style-type: none"> • No coffee cups • No foam or plastic clamshells • No biodegradable containers • No plastic bags • No aluminum foil • No scrap metal or plastic • No crystal, ceramic or porcelain • No window glass or mirrors • No light bulbs 	<p>Not Acceptable:</p> <ul style="list-style-type: none"> • No recyclable materials • No organic/food waste • No bulk waste: cardboard, packing foam, furniture • No special waste: batteries, electronics, household hazardous, light bulbs
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ORGANIC WASTE COMPOSTING:

Composting is an important part of York’s waste diversion program – we have several different means to capture organic waste:

- Approximately 60 Organic Digesters (a.k.a. composters) are located around the outdoors of Keele and Glendon campuses (see the Waste Diversion Map for locations). These digesters can be used by the York community to dispose of any fruit or vegetable waste.
- As a part of the *ZeroWaste* program, since June 7, 2010, all kitchenettes/coffee rooms have been fitted with a container to collect food waste for composting.
- All food vendors on campus are required to collect organic waste kitchen scraps for composting at an off-site industrial facility.

The types of food waste that should go into the indoor kitchenette organic waste container and outdoor digester are different. Use this chart as a reference:

Indoor (Kitchenette) Food Waste Container	Outdoor Organic Digester (Composter)
<p>Acceptable:</p> <ul style="list-style-type: none"> • Any food waste • Soiled napkins or tissues 	<p>Acceptable:</p> <ul style="list-style-type: none"> • Fruit & vegetable waste • Tea bags & coffee filters • Soiled napkins or tissues • Plain bread or grains (pasta, rice, etc.)
<p>Not Acceptable:</p> <ul style="list-style-type: none"> • No gum • No packaging (including biodegradable) • No animal waste • No material that is not compostable (i.e. plastic, metal, glass) 	<p>Not Acceptable:</p> <ul style="list-style-type: none"> • No meat • No dairy • No oil or dressings • No packaging (including biodegradable) • No animal waste
<p>Where:</p> <ul style="list-style-type: none"> • In food waste containers located in all kitchenettes 	<p>Where:</p> <ul style="list-style-type: none"> • In organic digesters around campus – Appendix 2

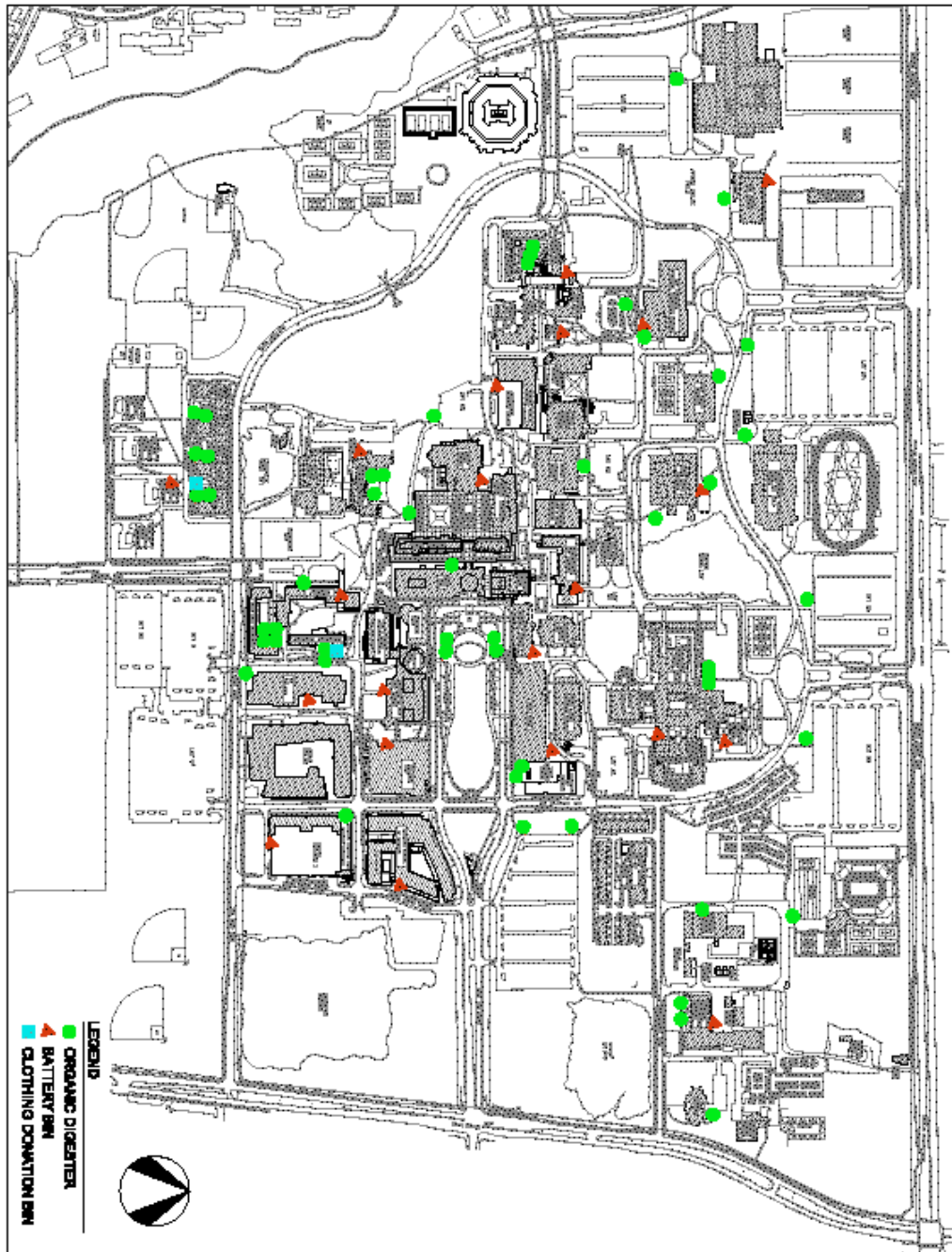
BULK AND OTHER RECYCLING:

- **Washroom waste bins** in washrooms with paper towel dispensers are for paper towels only, which are collected for recycling, unless labelled “Garbage”. Please do not contaminate with other waste. York University continues to reduce paper towel consumption by replacing towel dispensers with new generation hand dryers in high use areas.
- **Corrugated cardboard** (with a ruffled inner layer): Flattened and deposited in the specially marked blue containers found at any loading dock or recycling depot.
- **Foam packing material** (i.e. the blocks used to package electronics – not foam peanuts): Bag and leave on any loading dock.
- **Furniture:** Leave on any loading dock. For any significant quantity, fill a Service Request. When possible, furniture will be repurposed and redistributed. Otherwise, it will be disassembled for recycling and disposal.
- **Books:** Donate for reuse. York University’s Bookstore will often buy back used text books, and sell them at a discounted price to students.
- **Office paper and books:** Do not overfill communal recycling bins. If you have a large quantity of paper to recycle, Custodial Services offers a free “Clean Out” service. Bins can be requested by emailing facilities@yorku.ca.
- **Clothing:** Donate for reuse in the two clothing bins are location on Keele campus (see the Waste Diversion Map for locations)

SPECIAL WASTE:

- **Batteries** can be deposited in specially marked black Battery Recycling containers located on loading docks (see the Waste Diversion Map). Please do not bring in batteries from home to deposit for recycling; only work usage batteries are acceptable.
- **Electronic waste** (i.e. computers & monitors, televisions, etc., including printer cartridges): leave on any loading dock. For any significant quantity, fill a Service Request
- **Household hazardous waste** (cleaners, paint, etc.) should be left on any loading dock.
- **Light bulbs:** Leave on any loading dock in original packaging.

APPENDIX 2: Waste Diversion Map – Keele Campus



APPENDIX 3: ECO-TAKEOUT HANDOUT



Welcome to the Eco-Takeout Program

Food Services, Aramark and York's Zero Waste campaign are introducing an exciting new program this year: eco-takeout!

When you buy food at participating locations, you have the option to take your food to go in a reusable container. Using these containers is a more sustainable way to buy takeout and will help significantly reduce packaging waste.

As a residence student with a Meal Plan, your membership in the program is free! Two eco-takeout membership cards have been included for you in this package. Here's how you use them in three easy steps:

1. When you buy food at participating locations (see below) give the restaurant staff one of your eco-takeout cards when you order.
 - If you're ordering two types of food (for example, soup and a sandwich) you can use both of your cards to have them put in separate containers.
 - There are different containers available to suit any type of food—soup, stir-fry, entrees and side dishes, sandwiches, etc.
2. Take your food to go and enjoy your meal anywhere you choose.
3. When you're finished, return the container to any of the participating locations. You'll either get your card back or a different clean container if you're buying food again.

The restaurant will wash and sterilize the containers so they can be re-used, saving you time and reducing waste. Broken or lost containers or membership cards will not be replaced, so take care of them!

We hope you enjoy the new eco-takeout program. Let's put our forks where our mouths are and make a difference to reduce waste!

Participating locations for 2010/2011:

- Stong Cafeteria
- Winters Cafeteria
- Glendon Cafeteria

