# TABLE OF CONTENTS

1.0 Introduction
   1.1 Definitions

2.0 The Sustainability Office
   2.1 Criticisms of the Sustainability Office

3.0 The University Centre Food Court

4.0 Social Marketing Reflection

5.0 Advocacy Reflection

6.0 Recommendations for Future Community Environmental Leadership Students

7.0 Works Cited
1.0 INTRODUCTION

The focus of our community engagement project was geared at increasing levels of waste diversion and promoting waste awareness. This project took a special hands-off approach that provided people with enough information to make sufficiently informed decisions on their own. The scope of the project was limited to waste diversion at the University of Guelph campus with a focused test area of the University Centre Food Court (UC Food Court).

Based on our meetings with key environmental leaders at the University, it was found that the waste removal services provided on campus are both thoughtful and thorough. The Sustainability Office, a key decision maker of waste disposal efforts on campus, has created a number of fantastic documents such as the 2011 Solid Waste Reduction Work Plan and countless recycling instruction posters, all available through the Sustainability Office’s website. With quality resources almost exclusively online, the Sustainability Office is relying on campus goers to seek this information themselves and thus relying on the campus goers’ unaided knowledge of campus waste disposal. Our project sought to use the information provided on the Sustainability Office’s website to create information-based resources to be displayed throughout the UC Food Court.

The first criticism of the University’s current waste program that shaped our project is accessibility which includes accessibility to information and accessibility to the waste receptacles. We found that if information was not readily available at the moment of refuse disposal, little to no consideration would be given to where the articles of waste go. To build on this concept of accessibility further, we found that proximity to the waste receptacles is essential to regular participation in the established waste programs. Additionally, it was important that all types of waste bins were provided at every instance of a garbage bin to ensure that campus goers are given all waste streams at their greatest convenience.

The second criticism we found is that the Sustainability Office has a weak presence on campus and within the community. As such a large decision-making entity on campus that provides a number of essential services, they do not have a strong presence on campus.

The third criticism we found is that waste receptacles do not all consistently look the same in terms of size, shape and colour. Campus goers will yield higher, more effective participation if all waste receptacles collect the same materials and physically appear the same as well.

The waste diversion initiative we began can be split into two projects—a community-based social marketing project and an advocacy project. Together, both projects worked towards an increased knowledge and awareness of waste management on campus. The community-based social marketing project sought to provide information in a readily and accessible fashion at the source to work
towards more educated, supported decisions when disposing of one’s refuse. The advocacy project sought to obtain the permission to conduct the community-based social marketing project and ensure that all options of waste disposal were provided at every instance of a waste bin.

Solid waste bin outside of the University Centre

Former recycling bin model
New recycling bin model

1.1 DEFINITIONS

Solid Waste – Commonly known as trash or garbage.
Waste Bins/Receptacles - A container for temporary storage of waste.
Waste Diversion – Waste diversion or landfill diversion is the process of diverting waste from landfill.
Landfill – The disposal of refuse and other waste material by burying it and covering it over with soil.
Soiled – Make dirty.
Tipping Fees – Fees charged to haulers who unload trash.
Contaminated waste stream – To make a recyclable stream impure i.e. putting garbage in the recycling.
Waste streams/types – Alluding to the different types of refuse collected. The three most common are recycling, garbage and compost.
Campus goers/users – Refers to anybody who enters the University of Guelph campus.

2.0 THE SUSTAINABILITY OFFICE

The Sustainability Office is working to foster sustainability approaches in University of Guelph through empowering individuals to take part in the University's commitment to practicing institutional ecology. The Sustainability Office consists of the Sustainability Co-ordinator, Composting Co-ordinator, Recycling Co-ordinator and volunteers. Of the paid staff, only one is full-time and two are part-time. The Sustainability Office Co-ordinator is responsible for all works related to the Sustainability Office which include the website and monitoring
{5} campus-wide sustainability performance. The positions of Composting and Recycling Co-ordinators are part-time, paid jobs. The Composting Co-ordinator is responsible for providing information on composting throughout campus, monitoring the compost program as well as program expansion. The Recycling Co-ordinator is responsible for the recycling bins around campus, residences as well as the collection of e-waste and responsible for developing new promotional tools and programs. Volunteers provide support on different campaigns run by the Sustainability Office in tasks such as developing printing materials and writing articles for local papers. They are equipped with a toolkit full of information such as promotional materials, and contacts.

The Sustainability Office has taken the initiatives on the basis of waste audit and studies on the campus. Waste audits are conducted bi-monthly in the summer and monthly in academic year. The observations found through the waste audits also helps to prepare the \textit{Solid Waste Reduction Work Plan} for University of Guelph. Work plans from 2007 and 2011 are available through the Sustainability Office's website. These work plans describe the progress and the extent of the Sustainability Office’s duties.

The \textit{Solid Waste Reduction Work Plan 2007} was prepared on the basis of waste audits held in the summer 2006 and winter 2007. This work plan’s main focus was to divert greater levels of campus waste from the landfill. Based on the information from the waste audits, the plan recommended for expansion of recycling programs in outdoors and residence. It also recommended an increase in composting of organic waste and development of additional waste stream for laboratory glass. In this work plan, emphasis was also given to increasing capacity for organic waste and the development of new procedures of hazardous waste and switching paper towel provision technologies.

\textit{2011 Solid Waste Reduction Work Plan} was prepared on the basis of campus waste audits throughout 2009 and 2010. This document builds directly on the summary of programs, findings and recommendations from the 2007 plan and sets a direction for program expansion. Updates are included on the 2007 recommendations, and further waste audit data helps to shape the forwarding-planning 2011 recommendations.

\section{2.1 CRITICISMS OF THE SUSTAINABILITY OFFICE}

The Sustainability Office offers a number of initiatives such as e-waste recycling, hazardous waste disposal, the Sustainability Pledge and 2012 RecycleMania Tournament. These activities serve to engage the campus population in waste reduction and education activities. In conjunction with regular waste audits, these efforts serve to obtain a better understanding of the waste disposed of on campus and encourage campus-wide participation.

These initiatives that are both endorsed and supported by the Sustainability
Office have a weak presence among the campus community. As previously mentioned the Sustainability Office only has three staff members, which limits the amount of work that can be done. For instance, based on an interview with the Recycling Coordinator, Paul Caruso, it was found that while the Sustainability Office aims to conduct waste audits on a monthly basis, they are not always able to conduct them as often as they set out to. This is likely a consequential struggle to having such a small set of paid people working at the Sustainability Office.

Another key criticism of the waste diversion programs on campus is that a two-stream system is operated with an option of on-site campus composting. There is no mandatory stream for organic scraps and food waste which accounts for much of the weight in the solid waste stream. In speaking to Caruso, the Recycling Coordinator, the University of Guelph has chosen to leave out a formal compost stream because the tipping fee charges are less putting food waste in the solid waste stream.

Many on-campus businesses such as the Bullring and PJ’s compost their food scraps on campus. PJ’s has even started to track the amount of food waste that people leave after finishing their meals.

The University of Guelph has 22 on-site campus composters that are installed and maintained by the Sustainability Office. While these composters serve to effectively use the campus space they are not widely used by the campus population. This is in part due to accessibility, but in large part due to their weak presence on campus. The Sustainability Office must make a greater effort to promote the locations of the composters as well as the proper rules and regulations on how to use them in order to reach higher levels of diversion without contaminating the organic stream.

3.0 THE UNIVERSITY CENTRE FOOD COURT

The University Centre is a main hub for academic and social life on campus. A number of services and clubs operate out of the University Centre such as the campus radio station, Student Life and Financial Services. The bus station on campus is located outside of the University Centre with carriers such as the GO Transit, Greyhound and Guelph Transit. The UC Food Court is a well-used area that accommodates campus goers who purchase or pack their own meals. This area was selected for our study because it is one of the most used spaces on campus accommodating most involved at the University.

The area has a main cafeteria area with a number of food outlets inside such as Pizza Pizza, Tim Hortons and Teriyaki Experience. Other food retailers outside of the main cafeteria include Booster Juice, Williams, Starbucks and Subway. All food outlets provide a wide variety of disposable packaging for their food. We found that the main products of refuse are coffee cups, fountain drink
cups, food containers and plastic bottles.

The lounge space provided in the main floor is the space that we have focused on for this study. It seats approximately 540 people in roughly 135 tables amongst two floors (Hospitality Services, 2012).

The UC Food Court has eight waste receptacle locations that include both recycling and garbage receptacles. Across this space, the units have the same appearance. Throughout our data collection in late October a ninth waste receptacle was implemented near the entrance to the cafeteria that has small, generic images of waste products. All recycling receptacles are blue in colour and branded with the recycling symbol while the garbage bins have no details on them. No guidance or description of waste services has been provided with any of the waste receptacles in the UC Food Court.

One of the eight original waste receptacles in the UC Food Court with a recycling bin to the left
New waste receptacles installed October 2009

A major limitation to waste disposal at the UC Food Court is that not enough resources for campus-goers to make educated decisions have been provided for proper waste disposal. Furthermore, waste diversion is extremely limited in terms of what is accepted. The recycling bins in the UC Food Court are labeled bottles and cans only. In reality, these receptacles do accept paper products however the majority of paper products in the food area have been soiled by grease from food products which are then classified as garbage. The Sustainability Office discourages the disposal of paper products in the UC Food Court in favour of avoiding contamination. This approach is problematic because it distinguishes the UC Food Court’s accepted recyclables from the rest of the school.

In speaking to Professor Ralph Martin, the Loblaw Chair in Sustainable Food Production and a professor in the Department of Plant Agriculture, he stressed the importance of focusing on waste reduction. In this respect, the University of Guelph in partnership with Hospitality Services, offers a number of waste reduction incentives to encourage campus goers to reduce the amount of waste produced. This includes a Muggy Mondays which offers an extra stamp on Mondays for those who purchase a hot beverage with a reusable mug and present their loyalty card. i am reusable is a program that allows campus goers to use reusable containers provided by Hospitality Services, when individuals are finished with their containers they can bring their used container back. The buy-in cost of the program is $5.00 for life and Hospitality Services will even clean the container for the participants. Alternatively, Hospitality Services offers waste reductions discounts if campus-goers bring in their own food containers from home. Hospitality Services also offers a $0.50 discount if campus-goers bring in their own cold beverage cup. If users purchase a University of Guelph reusable cold beverage cup their first fountain pop is free of charge.
4.0 SOCIAL MARKETING REFLECTION

The social marketing project aim was to make disposing of refuse easier and have a greater presence to the campus population. The main criticisms we had towards the waste management system at the University of Guelph is its lack of visibility and consistency throughout campus. Through large, simple signs, we sought to bring greater exposure to waste disposal on campus as well as create a more consistent understanding of the one overarching system across campus.

Based on the McKenzie-Mohr (2011) reading, a list of barriers was developed to address the main obstacles preventing the University of Guelph from reaching a higher level of waste diversion. The main obstacles found are accessibility and consistency which both greatly hinder waste diversion levels.

To address these obstacles, behaviours and habits were observed through two unobtrusive observations. The first observation was completely unaided, simply noting estimations of what people would throw out, their age and gender. Based on the main articles of refuse found in the first observation, signs were created to provide campus goers with a sufficient amount of information to know where to put their articles of refuse. These signs were used in the second observation.

There were four different signs used and were all used simultaneously. First was the sign that focused on defining what the University of Guelph classifies as garbage and recycling. The signs were detailed with simple and clear images of the commonly used products in the UC Food Court as determined in our initial observation without signs. Secondly, a sign that explained the rational for the “bottles and cans” restriction in the UC Food Court was included. Thirdly, two signs were used that together informed campus goers of the voluntary compost program on campus and provided directions to the nearest composter to the UC Food Court.
Waste sorting sign designed for the second observation

Compost instruction signs placed next to the waste sorting signs
Soiled waste instructions also placed next to the previous three sigs

The difficulty about integrating the signs was that although they were placed directly above all 8 waste receptacles in the UC Food Court, few people noticed their presence. To improve this initiative we recommend that the Sustainability Office integrates an information-based campaign located closely to where waste is disposed of. For instance, the information-based campaign titled *These Things Come From Trees* demonstrates the effect that location of signs may have on practice.

The following image is a sticker that people can order from *These Come From Trees*’ website directly:
The following image is of a *These Come From Trees* sticker placed a paper towel dispenser:

(These Come From Trees, 2012)

This particular campaign is effective because the social marketing material has been located in a clear, obvious place. While we thought the sorting signs that were placed in the UC Food Court were large and clear, many individuals disposed of their refuse without any notice of the posted sorting signs.

The difficulty of trying to integrate an information-based campaign resource in a well-used location is that space is often limited. If we were to place a sticker or sheet of paper where people disposed of their refuse, the material would likely get damaged or require frequent replacement and cleaning.

Another challenge to creating information-based campaigns is in selecting the information to convey. In the case of waste education and awareness at the University of Guelph there are three waste streams that the campus uses with a number of variables that accompany their use. For instance, paper could be accepted in the recycling stream at the UC Food Court providing that it was grease free. We had decided to include these variables to ensure that users had full knowledge of the systems in place.

The social marketing project provided us with the opportunity to make a change on campus. We felt that if we had a bit more time to conduct this project, a
greater change could have potentially occurred with the long-term implementation of the signs we created. A significant limitation to this project was that while the Sustainability Office gave us their permission to put up signs, we were not directly working with them nor did they wish to see our signs before we launched them. This lack of communication reflects a strong disconnect between the Sustainability Office and other waste reduction initiatives on campus. It also reflects poorly on the Sustainability Office’s capacity to management waste-related programs and initiatives on campus.

5.0 Advocacy Reflection

The advocacy portion of this initiative focused on establishing strong relationships with the waste management decision makers on campus. This project was started at the beginning of October, at that time we contacted Sustainability Office Coordinator, Gillian Maurice, who indicated to us that Waste Reduction Week was from October 15-19 in Canada. With such short notice we were unable to materialise any initiatives for this occasion. Gillian Maurice also directed us to a number of initiatives the Sustainability Office was promoting as well as the McKenzie-Mohr (2011) book.

After brief e-mail communication with Gillian Maurice, she redirected us to the Recycling Coordinator, Paul Caruso. The networking meeting was spent discussing initiatives on campus and the functions of the Sustainability Office. Many initiatives were discussed as well as different methods of better understanding the campus population’s waste disposal habits. Beyond a detailed discussion, no work was done with the Sustainability Office as we had originally intended.

Another additional caveat is that to this day, we still have not met Gillian Maurice in person. We have sustained some correspondence by e-mail regarding the signs but no face to face contact has occurred.

We were extremely surprised to find that permission was granted simply by e-mail with no preview of the content of our sorting signs. With this free reign, we took advantage of being able to communicate more information regarding the complexities of the waste diversion system by addressing the difference between soiled recyclable goods and accepted recyclable goods. We also redirected users to the nearest on-site composter to provide individuals with the option to divert their food waste. These are two initiatives that the Sustainability Office has yet to promote in the UC Food Court.

The e-mail below details the exchange that we had regarding our second observation with the sorting signs above every bin:

Hi Paul,
Thanks again for the policy.

I am in the process of making them and will be very close to the fridge magnets that were created for students in residences.

Is there any way I could obtain your permission to post instructional signs above the waste bins in the University Centre food court seating area on Monday November 12? Our plan is to conduct an unaided waste observation without the signs to observe what students are disposing of in these areas as well as common problems that arise without the educational signs - we will be conducting this observation tomorrow, Monday November 5. The second observation would ideally be held a week later, with the signs above some if not all on Monday November 12, the costs of signs and permission impeding on our full implementation.

We are looking to be able to implement them in the long run. We understand that from the Environmental Protection Act R.S.O. 1990 document (Sept. 2000) [http://www.uoguelph.ca/ehs/sites/uoguelph.ca.ehs/files/01-03.pdf] that under 'Environmental Due Diligence' that it is the responsibility of the department to audit and implement their own environmental programs. I am not certain who runs the University Centre food court - specifically the sit down area... From your last message you stated that it probably goes through you folks, is that so? Ideally, with the 10-12 waste receptacles in this area we could implement signs above each of them to help campus goers make educated decisions when disposing of their waste.

From the policy documents that I've read related to non-hazardous waste, they read quite vague. Are there particular by-laws that determine the conduct within the University Centre? I can't seem to find them, if any! Here are the broad brush documents I've found applicable to the entire campus with no specific department in mind:

1. Physical Resources Policy (Sept 2007) [http://www.pr.uoguelph.ca/pr/prpol_waste_recycling_pr2_041.pdf]
2. Non-Hazardous Waste Management (Sept 2000) [http://www.uoguelph.ca/ehs/sites/uoguelph.ca.ehs/files/12-01.pdf]
Hi Kim,
You have the go-ahead from the food court managers for **November 12**!

If you have any other questions about the initiative, I can help answer them, as Paul is pretty swamped with Adopt-A-Bin.

Cheers,

Gillian

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Half way through our second two-hour waste observation with signs, we received an e-mail from Gillian Maurice saying that the University’s Sustainability Director, Maurice Nelischer, had sent her an e-mail that afternoon praising her new waste signs.

Gillian and Paul  
Wanted to say I just saw your new signs around the waste containers at the UC. They are very effective and well done. They are easy and fast to read and clear. even a description on where the compost is - all wonderful - Nice job!
Hi guys,
I can't remember who had which days, but your work is being noticed! Let us know how the results pan out, and if the food service folk are ok with it, perhaps we can make your pilot permanent!

In the mean time, would you mind sharing the files with Paul?

Thanks,
Gillian

We were not impressed that Gillian Maurice was not able to differentiate the two projects that had been in contact with the Sustainability Office, conducting initiatives under their jurisdiction. This shows how distant the relationship we had formed with the Sustainability Office actually was and were nonetheless able to carry out the project we had intended to do.

6.0 Recommendations for Future Community Environmental Leadership Students

Future initiatives should strive to have an active role within the Sustainability Office rather than integrating a test launch of a well-needed project.

Some complexities we ran into were in deciding the scope of our project. We had originally thought to work with the compost group, however while our projects were similar they were in actual fact very different. The main difference we found was that we wanted to promote the waste diversion system in place while the compost group expressed an interest in collecting waste to be sent to Guelph’s
Organic Waste Processing Facility. This clash in approaches to the University of Guelph’s waste diversion programs led to the eventual collapse of the joint effort.

We were later reminded of this discord when Gillian Maurice tried to connect our groups without realising that we were in the same class together. The distinction we had to ensure that was made is that while on the surface our two projects were similar their approaches are very different. It was a somewhat embarrassing introduction however reflects some consistency in our approaches to make our projects work.

Below is Gillian Maurice’s thoughtful e-mail attempt at connecting the two groups. In the following e-mail she also explained in greater detail the rationale for not recycling paper in the UC Food Court. As I mentioned before, because the Sustainability Office did not check our work before posting it, we decided to tell the campus population that their single-serve food service ware can actually be recycled, provided it is not soiled.

Hi Kim,
I checked with the managers and that will be fine. I’d recommend sticking with this date, though, especially as there is another group who is also looking to do behavioural studies in the UC about waste management (this time with composting).

They have been working with Erin in our office, and are also hoping to firm up dates. I just can't find their contact info to send so that you could co-ordinate to avoid conflict if needed.

Also, to answer your question about the paper waste receptacles, it is because we do not want them putting paper plates or paper cups in with the recyclables. Single-serve food service ware that is paper is almost always contaminated. The smaller exceptions that you mention just weren't worth the mess, especially since they involve a judgment call as to what is "clean". However, if there is a coffee cup ring in the recycling, it won't be judged as contaminated by the staff collecting it.

Hope that helps,
Gillian

Gillian Maurice
Sustainability Co-ordinator
Physical Resources
Hi Gillian,

We are actually all in the same class, pursuing slightly different projects.

Thanks for the hook up though and all the help along the way!

K

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Based on these e-mail exchanges we suggest to future students of the Community Environmental Leadership class feel comfortable communicating solely by e-mail as this is an effective way of negotiation. We however think that the advocacy part of our project could have been more effective in the implementation of our signs if we had developed a personal relationship with Gillian Maurice. There is however a chance that the Sustainability Office may use our sorting signs in the future as they requested the files for potential future implementation.

We made the decision to laminate the sorting signs, which we took down from the UC Food Court three hours after the end of our second observation. The signs have the potential for further use and we intend to put them in our home department buildings, pending approval from the department, based on this University of Guelph policy:
Environmental Due Diligence

6. University departments shall design and implement and audit their own environmental programs to conserve resources, minimize waste production, comply with environmental legislation, and promote operational environmental due diligence including routine monitoring, emergency preparations, and reporting.

7. Local management personnel shall establish systems and contingency plans where necessary to protect the environment, and shall see that these systems and plans are effectively operated and maintained.

8. Employees of the University shall be trained to respond effectively to environmental occurrences and to report remedial actions to supervisory personnel and government authorities. This training and instruction shall be a local or departmental responsibility.

9. Significant environmental issues and environmental due diligence initiatives shall be reported by local management personnel to Environmental Health and Safety to promote internal communications and other appropriate actions.

Guidelines:

The University is committed to preventing pollution by regularly identifying, assessing, managing, and reviewing operational and research activities that may harm the environment. The University expects environmentally responsible behaviour from within its organization and from all University personnel. Departments within the University shall develop their own procedures to carry out environmentally sound activities. All University personnel have a duty to report situations of concern to their immediate supervisors, to their deans or directors, and to Environmental Health and Safety.

The Environmental Protection Act and its regulations, and local municipal by-laws apply to University activities. Daily operations may impact the environment via air emissions, chemical storage, fuel storage, vehicle usage, hazardous waste, use of ozone-depleting substances, hazardous material spills and sewer discharges. The law requires that University personnel conduct their business with due diligence (i.e., with all reasonable care being taken). Consult local by-laws for detailed information about permissible discharges. You may also contact Environmental Health and Safety for assistance.

(Environmental Protection Act R.S.O. 1990, 2000)
7.0 WORKS CITED

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