



# Perceived Barriers Impacting Participation of Dalhousie University Residents in Waste Diversion Programs

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Dump and Run Program

Matt Conlin  
Amanda Lavallee  
Michael Shorter  
Allison Smith  
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## **Authors Details**

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**Matt Conlin**

Faculty of Environmental Science

**Amanda Lavallee**

Faculty of Environmental Science

**Michael Shorter**

Faculty of Environmental Science and Biology

**Allison Smith**

Faculty of Sustainability and Biology

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# 1 - Executive Summary

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The purpose of this study is to identify the perceived barriers affecting participation in the waste diversion program, Dump and Run, and to provide recommendations on how to increase resident input. The study characterizes the perceived barriers and focuses on significant behaviours influencing the participation and knowledge of the Dump and Run program.

The study explores waste diversion programs at other institutions, as well as principles from community based social marketing. The results from this study provide recommendations to the Dump and Run program, as well as Dalhousie residences, to further increase resident participation in the waste diversion program.

Surveys were conducted in Dalhousie University's Howe Hall residence, outside of the meal hall, with 91 participants. The surveys focused on determining the physical and behavioural barriers limiting residence participation. The survey findings indicated that the majority of residents have previous recycling experience but were unaware of the Dump and Run program. In addition to awareness, the major barriers revealed are lack of interest and an inability to physically bring their items to the Saint Mary's collection site.

Based on our findings, our recommendations to the Dump and Run program include increasing awareness of their program by having a more active presence on campus and by increasing advertisement. Increased participation could also be facilitated by providing students with specific pick-up times in residence and by establishing a Dalhousie campus collection site. Recommendations to Dalhousie University residences involve raising awareness of students through Resident Assistants and resident interactions and by providing residents with a location in the Hall where they could dispose of items prior to the Dump and Run or their move-out date.

Recommendations for future action and research are to assess participation in Dump and Run 2013, complete interviews with Resident Assistants to identify further barriers and to expand survey conduction to all Dalhousie residence halls.

## 2 - Introduction

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### 2.1 Project Definition

Each year there are new students cycling through the residences at Dalhousie University. There are ten different residences for Dalhousie students located within the city of Halifax and more than ten if campuses outside the Halifax Regional Municipality are included (Dalhousie Residence life, 2013). In September of every year, thousands of new students move into a Dalhousie residence building (Dalhousie residence life, 2013). In Howe hall alone there is a capacity for 716 students to reside for the academic year (How Hall residence, 2013). For most of the students living in these residences it is their first year away from home and living on their own. In order for students to feel more at home in their new residence room, the majority of the them add their own personal touches and decorative flare to their new rooms. Throughout their stay in residence, students may purchase items such as electronics, cookware, clothing, sports equipment, furniture, artwork, stereos, and many other types of goods that can collect within their dorm rooms.

As the end of the school year approaches and thoughts gravitate to summer plans away from residence, students have the task of disposing of the goods that they cannot bring back home or to their new lodgings. In fact, students are limited in the time they have to pack up and leave residence at the end of the winter academic term. The Dalhousie residence life rules state that students are forced to checkout of residence within 24 hours of writing their last exam (Dalhousie Campus living, 2013). With such a short timeframe for students to determine how best to dispose of their unwanted items, many students might make unsustainable choices like just tossing their garbage to the curb. The main goal of the Dump and run project is to encourage students in residence to recycle and modify their current waste disposal methods to foster more sustainable behaviour (Halifax Dump and Run, 2013).

The Dump and Run event is a community wide garage sale where students in residence can choose to donate their unwanted items so that other individuals can

purchase them second-hand at a lower cost (Halifax Dump and Run, 2013). Participating in this recycling event extends the life cycle of that item and therefore the landfill would be avoided until it is absolutely necessary because the item is no longer functional. On a grander scale, Statistics Canada released that there has been a large increase in the volume of items recycled from residential dwellings throughout the country within the last decade. There has been an increase in recycled materials, by roughly 65% within the years 2000-2004 (Wang & Babooram, 2008). As sustainability students we are interested in what would attract the students to take advantage of this recycling event and change their current waste disposal behaviours.

Therefore the question we researched was; what are the perceived barriers that prevent students from participating in the Dump and Run project? The goal was to understand the perceived physical barriers, mental barriers, and social barriers that may be the cause for students choosing not to participate in Dump and Run. It is important to attempt to understand student behaviour within the residences so that suggestions can be made to adapt the Dump and Run procedure to better suit the needs of students.

The objective was to study what makes students less likely to take part in a sustainable project like Dump and Run so that we can avoid and solve those barriers and increase the participation level of Dalhousie students living in residence.

The study took place on Studley Campus at Dalhousie University, specifically at the residence with the largest student capacity, Howe Hall (Dalhousie Campus living, 2013). We restricted our research to Howe Hall residence due to the short time frame provided to complete this research study and the need for an accurate representation of the student population as a sample for statistical validity.

Waste diversion is one of the goals associated with sustainable living on Dalhousie University campuses (Office of Sustainability, 2012). Dump and Run is an event focused on waste diversion of gently used goods that are in good condition and providing community members the opportunity to recycle those goods (Halifax Dump

and Run, 2013). In addition, there are also many other benefits associated with participation in the event, for example all proceeds from the sale event go to supporting local charities (Halifax Dump and Run, 2013). Dump and Run works towards sustainable campus living here at Dalhousie, however, without student participation in this event, the accumulated benefits are weak and non-existent (Halifax Dump and Run, 2013).

The option for students in residences to donate their unwanted used items to Dump and Run is a sustainable alternative to the traditional toss it to the curb mentality. The premise behind Dump and Run is to divert items in good condition from ending up in the landfill and becoming garbage before their lifecycle as a consumer good has ended (Halifax Dump and Run 2013). Throwing away goods prematurely is an unsustainable practice that will cause further environmental waste issues (Kassirer, 2012).

The majority of students living in residence are in their first year of university living (Dalhousie Residence living, 2013). The new experiences can be overwhelming at times and students may be shy and look towards what the surrounding student body population is doing in terms of behaviour in order to feel socially secure (Wray-Lake, 2010). In these beginning stages of university living, many students may have more perceived barriers that cause them to overlook aspects of sustainable living. It is crucial to study and then remove these barriers for the newer Dalhousie students so that they feel comfortable and excited to take part in positive sustainable behaviours that they may not have been exposed to in their previous dwellings.

A possible outcome from our research could be that this project ignites a spark in students to share a sustainable lifestyle choice, and catalytic validity will take hold. If the barriers behind students hesitating from partaking the green-living initiative are corrected, then students will more easily be inspired to adapt to more sustainable lifestyles where new and long lasting positive habits can be instilled and maintained (Barlett & Chase, 2004).

## **2.2 Background and Rationale**

Living in a residence is a good start to an independent life, however students in these environments still have a lot to learn regarding independent life. In particular relying on janitorial staff for maintenance and residence advisors for direction contradicts the lessons of independence we are expected to develop in our early years in university. Learning these lessons is additionally hampered by the academic expectations students have (Leroy & McBrine, 1994). The items left behind in residence rooms, common rooms, or thrown onto the curb are a testament to the lack of knowledge and motivation first year students have when it comes to dealing with the things they have collected over the year sustainably. Bulky items like refrigerators and microwaves offer a particular problem to a carefree student looking to start his or her summer. Without the responsibility of life under a landlord there is little stopping a student from tossing their items somewhere in residence or curbing it. This problem is exacerbated by the fact that students are only given 24 hours to move out once their last exam is over. The conditions in residence along with a naïve first year mentality contribute to an inward inconsiderate behaviour that is characteristic of many students living in residence (Cullum & Harton, (2007).

The biggest concern regarding these items is that the majority of them are reusable. Simply selling the items through Kijiji or donating them to charity would avoid them from being wastefully discarded in a landfill. To help alleviate this situation, the Dump and Run program was created. This organization, composed of students from St. Mary's and Dalhousie University, collects the left over items from their respective students and holds a charitable community sale. In 2011 the charities involved included: Feed Nova Scotia, Environmental Health Association of Nova Scotia, The Nova Scotia Sea School, Phoenix Youth Programs, Supportive Housing for Young Mothers and Habitat for Humanity. In 2010 the Dump and Run program diverted almost eight metric tons of furniture, electronics, books, clothing and other left over items from landfills. The organization also contributed nearly \$10,000 in proceeds to charity (Halifax Dump and Run, 2013). Despite the huge success of the organization, which is in its 11<sup>th</sup> year, residences are still cluttered with items at the end of the year and are appealing for the Dump and Run to expand their operation.



For this reason, our group investigated how the Dump and Run could be more successful. Specifically our study addressed the perceived barriers limiting the success of dump and run. We felt it was necessary to address this issue from a behavioural standpoint because it is progress in this area that can have the greatest influence on the Dump and Run. Alternatively, our study could have focused on increasing Dump and Run advertising as a means of enhancing student involvement. Our group felt that because the Dump and Run already used the most common mediums of communication, social media and physical advertising, any attempt to increase these could only have limited success. Addressing the behaviours of first year students to determine how to better approach them, remove barriers or attempt to change their behaviours would lead to better results in terms of increasing Dump and Run participation. This study addresses the root of the sustainability habits of first year students in residence, the likely hood of their involvement in the Dump and Run program, and how Dump and Run can be tailored to suit the needs of the student and therefor increase student participation.

The background literature on the Dump and Run comes from previously held Dump and Run projects throughout North America. There is a complete lack of scientific literature regarding a full analysis of Dump and Run projects possibly due to the grassroots nature and small scale of dump and run projects. The various webpages of Dump and Run programs serving universities around North America support the continued need for such a program because of the numerous student, community and environmental benefits.

Beyond the Dump and Run literature, the ideas of community-based social marketing (CBSM) are connected to our study. As our general goal is to understand the behaviours of students that affect their willingness to participate in the Dump and Run, the application of the CBSM techniques will be pertinent to the success of our study. These techniques include: the identification of the barriers and benefits to an activity, the development of a strategy that utilizes proven effective tools, a pilot testing of this strategy, and finally, the evaluation of the study once it has been implemented to the sample population (McKenzie-Mohr, 2011). Although it is not within the scope of this study to directly change the behaviours of our sample, our study will relate to future

increases in Dump and Run participation. Additionally, this study is of significance because it relates to the principles of the Greening the Campus movement and the Green Guide. Finally, the study will bring together students of Dalhousie University, affiliated organizations and members of the community.

Waste reduction is a major focus of sustainability departments within universities. One of the inherent difficulties regarding reducing waste is that the practice incorporates the efforts of the student body. The University of Northern British Columbia highlights this difficulty. In 2007 they trademarked themselves as a “green” university, however, when a waste audit was performed it revealed that 73% of the waste sent to landfills could have been diverted through recycling (Smyth, Fredeen, Booth & Connell, 2009). The problem of waste management is apparent on the Dalhousie campus as well. In an effort to reduce the amount of incorrect garbage disposal, signs have been posted above many of 4 bin waste disposal stations around campus defining exactly what constitutes garbage and recycling as well as other forms of waste. Based on the signs there is surprising confusion as to the correct method of disposal of coffee cups. The apparent lack of environmental awareness leading to the mishandling of waste results from a student body lacking environmental considerations.

Research has shown that since its peak in the 1970s environmental behaviours of students have steadily declined (Wray-Lake, Flanagan, & Osgood, 2010). While efforts on behalf of students to appeal for societal and governmental change have increased, a study examining trends in adolescent environmental attitudes, beliefs, and behaviours across three decades, published in *Environment and Behavior*, suggests that personal actions taken to reduce environmental impacts, such as cutting down on heat and electricity or using public transit have become less prominent in the actions taken by young people as a means of environmental activism (Wray-Lake, Flanagan, & Osgood, 2010). For environmentalists, this trend is very concerning as the notions youth have toward the environment are critical for its protection in the future. Experts claim that a society based on materialism has resulted in young people relying on future technological advances to solve our environmental problem and for stifling the development of sound environmental behaviours (Wray-Lake, Flanagan, & Osgood, 2010).

Changing the environmental behaviours of their respective student body so as to indirectly decrease their environmental impacts has not been a common route to promote sustainability (McMillin & Dyball, 2009). *Assessing Environmentally Responsible Behavior*, published in *Psychological Reports*, showed that the three dimensions of environmentally responsible behaviour are reusing/recycling, conserving, and replacing harmful products with environmentally friendly ones (Caltabiano & Caltabiano, 1995). The research suggests that further improvements in promoting these behaviours in students rather than simply implementing them as institutional practices, needs to be made in order to achieve a more holistic sustainable approach. As a lack of environmental considerations is a barrier to participating in the Dump and Run, insights into what promotes environmental behaviour is directly related to our study.

A large component of sustainability within a university context is enhancing the efficiency of energy consumption around campus and other efficiency related infrastructural changes (Bacow & Moomaw, 2007). Infrastructural changes that reduce pollution by improving efficiency, while reducing cost to the university, are common implementations because they are financially, ethically, and environmentally appealing. The Mona Campbell building at Dalhousie is a prime example of this type of change. A Leadership in Energy and Environmental Design (LEED) award of gold has been assigned to the building. However for true sustainability to be achieved universities must take a wider set of sustainable factors into consideration. For any sustainability program to be truly sustainable it must incorporate the four pillars of sustainability, these are: political, natural, economic, and social (Renner & Cross, 2009). While Dalhousie has addressed the former three to a certain degree through their policies, regulations and infrastructure adjustments, the last component has yet to be largely incorporated into Dalhousie's sustainability program. This could be for a variety of reasons including the incompatibility of Dalhousie University and community agendas or a lack of finding a medium in which both bodies can benefit. The Dump and Run organization provides a sustainable connection between the two while promoting upstanding environmental behaviour and the natural service of waste diversion.

## 3 – Methods

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### 3.1 Research Methods

The research tools that we chose to use for this study were a self-administered questionnaire, as well as face-to face interviews. It was our hope that these tools would yield a substantial amount of data regarding an array of potential barriers to help us pinpoint sources of major hindrance towards student participation and motivation in the Dump and Run campaign at the end of the winter semester. Unfortunately, face-to-face interviews could not be carried out; this will be discussed in our limitations.

As one of the most prominently used research methods, survey research methodology, when administered properly, can capture a large amount of data in a short period of time (Malhotra, 1998). Our approach used both exploratory (becoming more familiar with a topic) and explanatory (finding causal relationships between variables) survey research to create a well-rounded method of acquiring and understanding data (Malhotra, 1998). One of the major justifications for choosing these methods was the fact that statistically, response rates are quite high from participants (in the range of 70-90 %) (Palys, 2008).

We gathered information from the students in residence that focused on behavioural practices and mindsets contributing to, or against, participating in the Dump and Run program within the residence. We examined details like how long students have lived in residence, the students current knowledge of the Dump and Run, if students are thinking about disposing of items and if so, how they are planning on doing so, in an effort to get students thinking about waste disposal methods leading up to move out day. Once the data had been gathered from the questionnaire, we used a coding scheme based on a category system to assess the data (Palys, 2008). By assigning each answer of each question a number, we categorized how many students chose each answer and established any trends in the data (Palys, 2008). As most of our questions had 2-5 possible answers and subsequent categories (see Appendix), we were able to partially achieve validity regarding data (Palys, 2008). Without being able to conduct face-to-face interviews,

validity could not be completely established, as it was impossible for us to accurately reflect and assess the specific concept that we were attempting to measure (CSU, 2013). We feel we have established reliability based on the fact that our experiment can be replicated quite easily, both by performing the steps we took to administer the questionnaire, as well as being able to use the exact same questions if needed, to fully replicate what we have done (University of Ottawa, 2010). However, achieving the same results, an important part of complete reliability, is not a guarantee, due to the fact that different participants will potentially yield different answers and overall results (Palys, 2008).

Surveys generalize the entire population by drawing inferences based on data from a small portion of the student body within the residence, which helped to minimize cost and time, while still giving our group good insight and valid data regarding the students in residence (Rea, 2009). The relevance of this data to our study stems from the fact that the answers provided from students in the survey allowed us to pin point which areas of residence life appear to have the greatest effect on students' behaviours towards sustainable practices, including participation in the Dump and Run. Through its widespread use in academic institutions, survey research has become a method used quite frequently for gathering primary data (Rea, 2009). It was our belief that by trying to reach the students through a simple yet specific set of questions, we would be able to get honest and relevant feedback regarding what each individual student perceives as the major source of hindrance to their own ability or motivation to participate. The benefit of survey methods is, by being present while questionnaires are being filled out, we could ensure that all questions were being answered and properly interpreted, leading to more valid and reliable data (Rea, 2009).

The research method chosen by our group was a quantitative approach. Had the interviews occurred, it would have been a qualitative method which is a human-centered approach focusing on people's ability to think and give a response (Maxwell, 2013). This approach comes from a phenomenologist ideal, the idea that we must take into account that humans are cognitive beings who actively perceive the world, and have the ability to

act based on their experiences and learning, and are affected by these factors and the world around them, in an effort to understand human behaviour (Palys, 2008). The quantitative approach of deductive research has an emphasis placed on the preliminary study, to help get a foundation for how the study will develop and evolve moving forward (Palys, 2008). In doing so it was our intent to create an iterative process by which we could identify patterns or themes that helped us to identify the key factors or barriers involved in the Dump and Run process within the residence (Palys, 2008). In addition to this, we employed a technique known as community based social marketing, which strives to foster sustainable behaviour (McKenzie-Mohr, 2011). This technique consists of four steps:

- 1) Identifying the barriers and benefits to an activity
- 2) Developing a strategy that utilizes “tools” that have been shown to be effective in changing behaviour
- 3) Piloting the strategy
- 4) Evaluating the strategy once it has been implemented across a community (McKenzie-Mohr, 2011).

Our focus centered around the first two steps, to help students become more aware of the benefits of the Dump and Run, as well as getting them to spread awareness to their peers and broaden the knowledge and effectiveness regarding the Dump and Run.

The questions asked in the questionnaire were designed to address specific issues and assess the participants’ level of understanding of things like recycling practices and environmental responsibility. Performing pilot tests of our questionnaire enabled us to determine which questions were “problem questions,” those that confused the participants or just did not turn out to be very helpful to our gathering of data, to better structure our questions and questionnaire, and our approach to the survey method as a whole (Krosnick, 1990). We aimed to develop, or further develop, the participant’s knowledge of the Dump and Run program, creating a study that promotes catalytic validity. Catalytic validity can be described as “the degree to which a given research study empowers and liberates a research community” (Onwuegbuzie, 2007).

On a more applicable level, we hope to enhance peoples understanding of how they and the people around them can make positive change environmentally, starting with the upcoming move out period at the end of the semester, as well as their knowledge of the residence's recycling and waste diversion practices (Palys, 2008).

The questionnaire was structured to take about five minutes for a participant to complete and return. Members of our group set up one table outside of the meal hall of Howe Hall residence, and handed out the surveys. We decided to go from 4:30pm-6:30pm on Saturday March 16, coinciding our timing with the hours of meal hall, which closed at 6:30 pm. We have chose this location because it was seen as a common area for the majority of students in the residence, and thus would yield the greatest possibility of being able to administer the questionnaire to a large group of students in the residence. We used a method known as an intercept survey, which is literally to intercept students as they are walking in or out of meal hall (Rea, 2009). We chose to use the method of convenience sampling, a process of non-probability, based on the ease or convenience of gaining statistical data, to quickly show trends in the data we collect, in an effort to get a large amount of students information compiled quickly (Larsen, 2012).

We set out to have 100 surveys completed, but in the end were only able to have 91 done by students. Choosing to use a research tool with face-to-face contact, we were more likely to have a better response rate from the participants (Palys, 2008). Furthermore, by having group members present at the time of the questionnaire, any confusion or questions could be addressed on the spot, and students will have the opportunity to talk further with the group members about anything they are interested in knowing more about (Palys, 2008). Our group was only able to perform our survey attempt once as the Residence Life manager informed us that multiple groups had been performing research in the residence and with students for a few weeks, and they did not want any more groups interacting with the students and potentially creating a stressful environment for the students.

### **3.2 Limitations and Delimitations**

The limitations of this study begin with sampling error, the fact that were not able to have every student in residence fill out the questionnaire means the conclusions drawn were not 100% representative of the entire population in residence (Fowler, 2009). Further more, of the students that did participate in the questionnaire, there was no guarantee that they provided honest answers and results.

Our most prominent limitation was our inability to perform the face-to-face interviews. We emailed Residence Life, and sent one follow up email to try and establish times to perform interviews, however no response was ever received from Residence Life. It was our hope that by conducting interviews, we could collect valid information regarding student behaviour and perception of sustainable practices and the Dump and Run from individuals that have a very close relationship with the students. Without this component to our research, we felt it was much more difficult to have a well rounded idea of what the perceived barriers facing students really was. By conducting interviews, a more in-depth source of knowledge and data can be attained as the process allows for the respondent to answer in their own opinion and express themselves freely rather than choosing a response that best fits their opinion (Suchman & Jordan, 1990).

Another limitation to this study is the fact that all our group could do is assess what barriers exist that may be holding students back from participating in the Dump and Run, while our hope was to promote awareness and participation in the waste diversion practice, we could actively get more people to participate unless they themselves wanted to. An extension of this limitation would also be that the Dump and Run is normally held on May 1, at which point all of our members are no longer in class, and may not be able to attend the Dump and Run, or participate within the campus, in the effort to move items to the Dump and Run location (Dump and Run, 2013).

The scope of this study is the major delimitation faced by our group. Because we are not going to be administering our questionnaire to all residences of Dalhousie

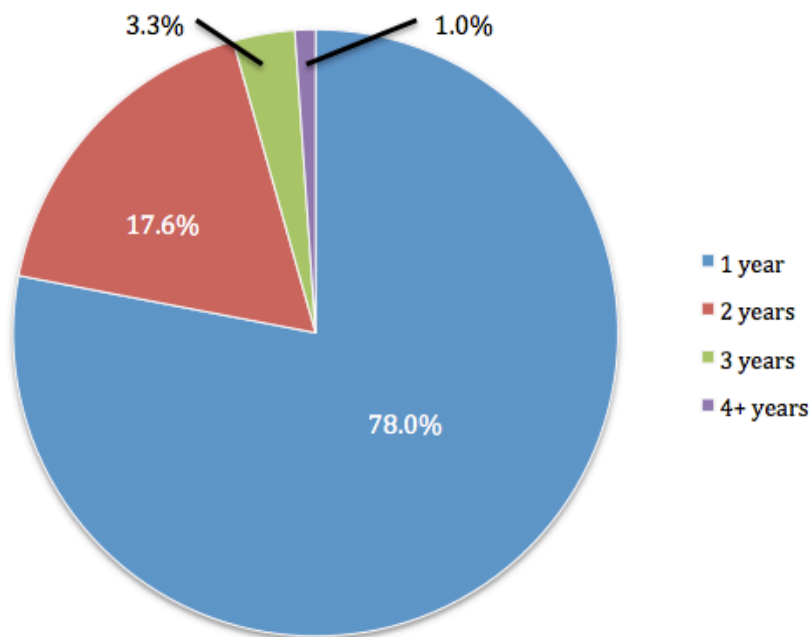


University, our research question can only address the perceived barriers of students living in Howe Hall residence.

## 4 – Results

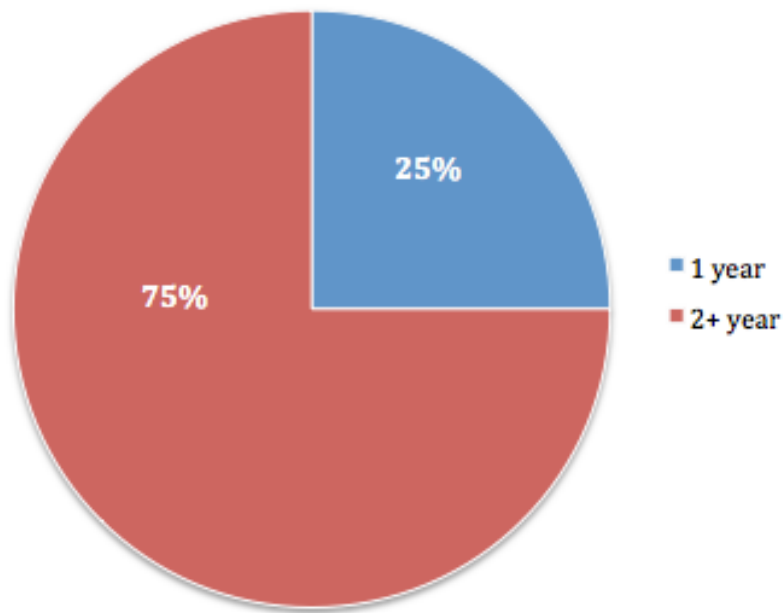
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In total, 91 surveys were completed by residents in Howe Hall on Dalhousie's Studley campus. This represents 12.7% of the Howe Hall population. The majority of residents surveyed (78.1%) were living in residence for their first time, with 17.5% in their second year of residence, 3.3% in their third year and finally 1.1% in their fourth year of residence.

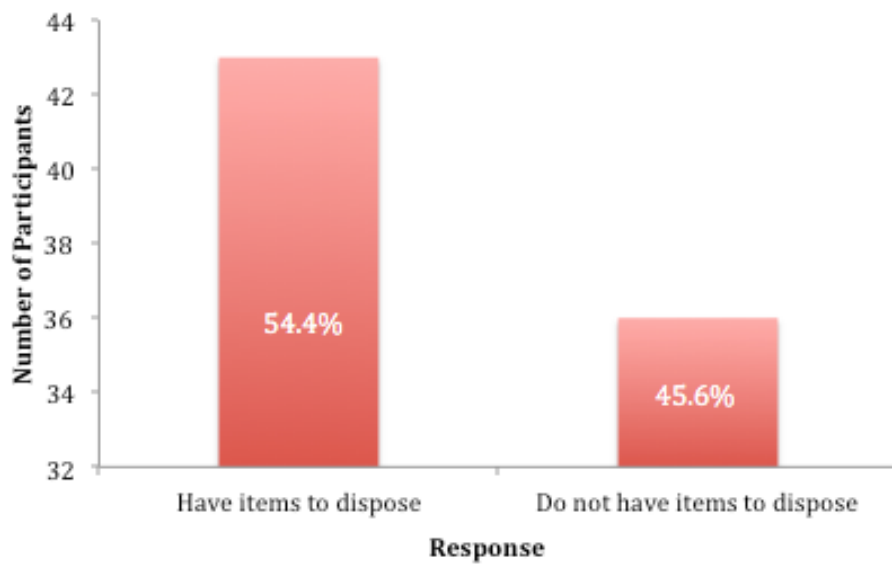


**Figure 1 Number of years participants will have lived in residence by April 2013.**

Figure 1 depicts the number of years participants lived in residence and Figure 2 shows the proportion of students in their first year of residence aware of the Dump and Run program (25%), compared to the residents in their second year or more who were aware of the Dump and Run (75%).



**Figure 2 Year of residence of participants that were aware of Dump and Run program.**



**Figure 3 Number of participants planning to dispose of items at the end of the school year.**

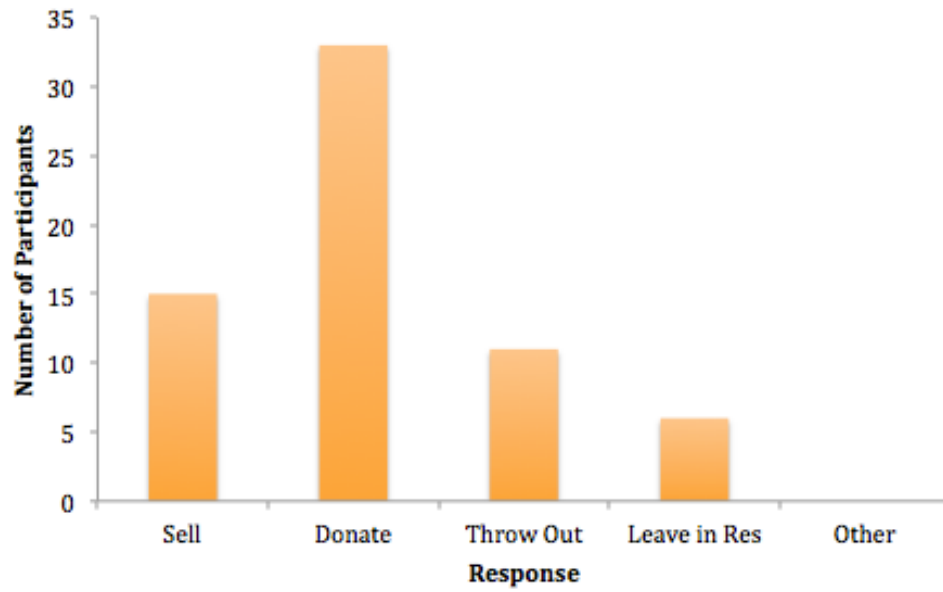


Figure 4 Methods participants plan to use to dispose of their items at the end of the school year.

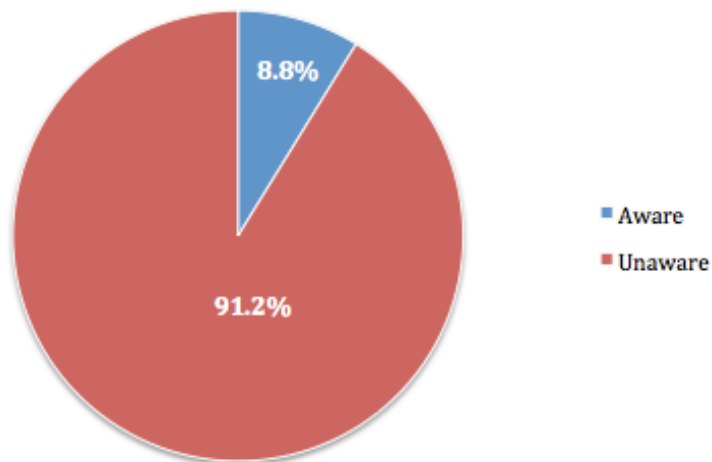
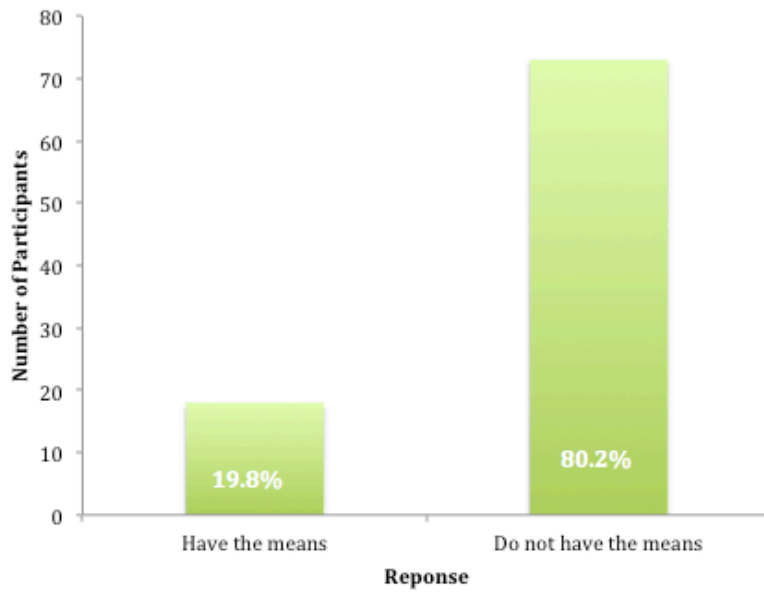
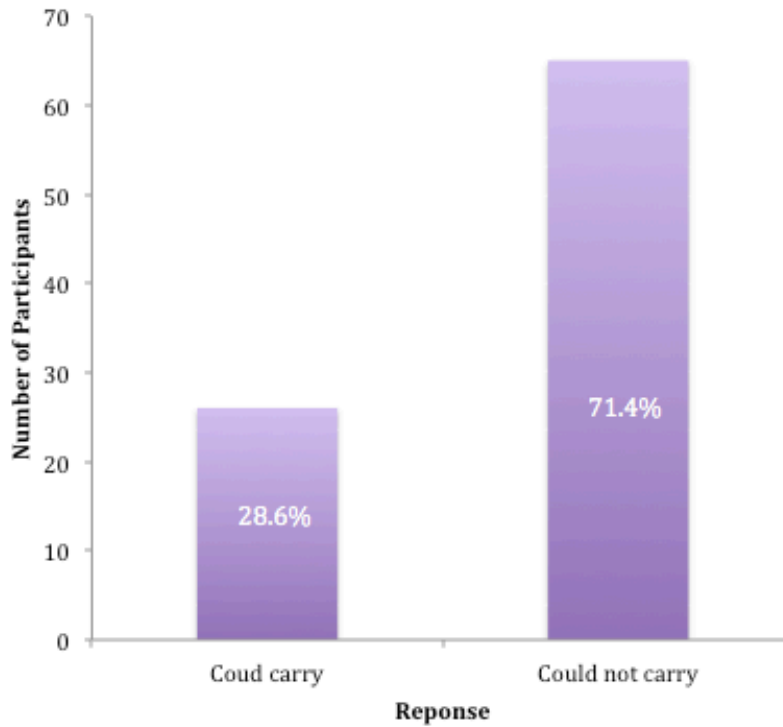


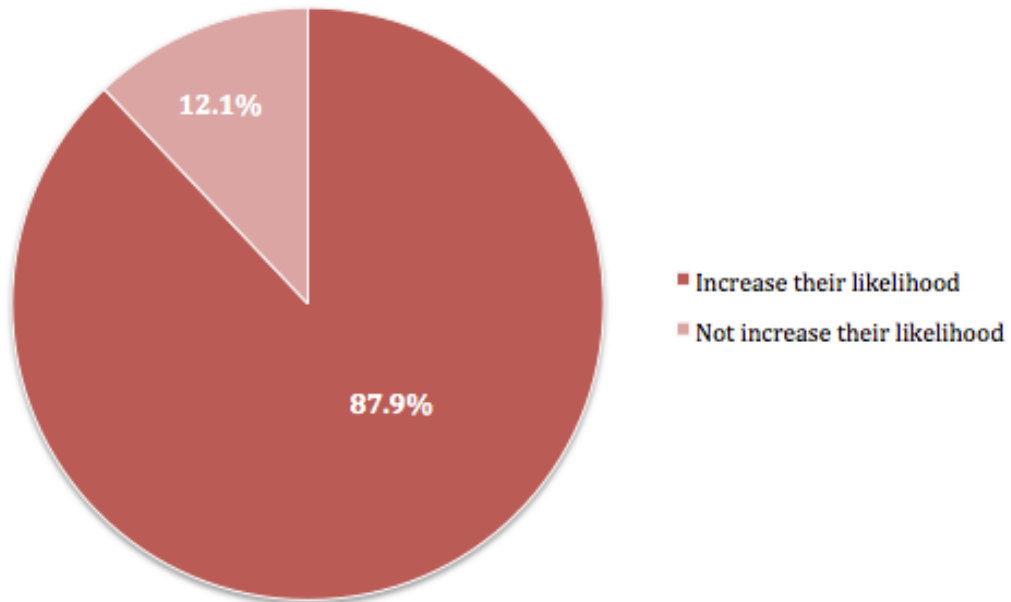
Figure 5 Number of participants that were aware of the Dump and Run program.



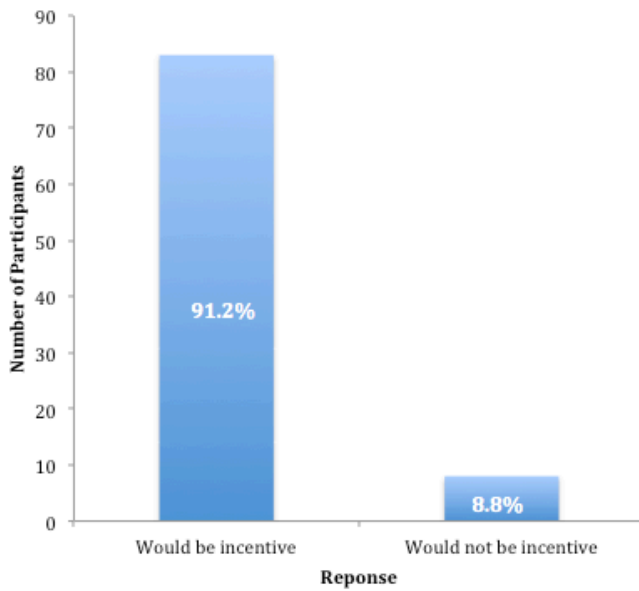
**Figure 6** Number of participants who have the means (transportation) to bring their items to the Saint Mary's Dump and Run collection site.



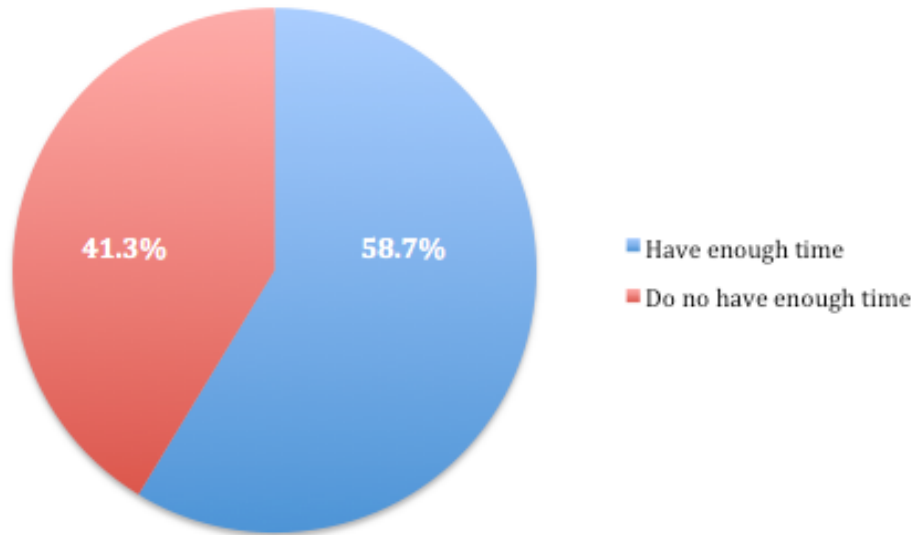
**Figure 7** Number of participants who believe they could physically carry their items to the Saint Mary's Dump and Run collection site.



**Figure 8 Proportion of participants who state that having specific pick up dates at their residence would increase their likelihood to donate to the Dump and Run program.**



**Figure 9 Proportion of participants stating that knowing items are being donated to a charitable organization as being incentive enough to donate.**



**Figure 10 Proportion of participants stating that the 24-hour move-out period provides adequate time to be able to participate in Dump and Run.**

## 5 – Discussion

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Our study identified four potential barriers that would restrict first year students from participating in the Dump and Run, these are: that the students do not care about the initiative, they do not know about it, they do not have the time, and finally that they do not have the ability to get their items picked up or drop them off. From our results we concluded that lack awareness and to a lesser degree a lack of interest are the primary restrictions for student participation in the dump and run.

25% of first year students and 75% of upper year students surveyed had heard of Dump and Run (Figure 2). As can be seen in Figure 5, 91.2% of participants were unaware of the Dump and Run. This is a serious problem for the participation in dump and run. It is also a problem for this study because a lack of awareness does not provide any indication of the other barriers that could limit Dump and Run participation. This lack of awareness could result from the fact that the Dump and Run program does not feel that expanding their operation is a top priority because it is already a success and so

has not requested Dalhousie to increase advertisement (S. Murray, personal communication, January 28, 2013). Alternatively, Dalhousie has not coordinated with the Dump and Run executives in order to promote their business. Once increased awareness is achieved this study should be redone in order reassess barriers.

Time was an expected barrier that was proved to not have an influence on student participation. Because students only have 24 hours to move out of residence after their last exam we felt as though this would restrict students from participating in the Dump and Run in light of other obligations such as packing or social gatherings. When asked if 24 hours was enough time to donate to Dump and Run, 54 students responded yes and 38 said no (Figure 10). A follow up question asked if students would consider donating before the 24 hour move out period and 77 out of the 91 respondents said yes. This tells us that even if 24 hours was not enough time to participate in the Dump and Run students would find the time before the move out period.

Another barrier that was addressed is that the students are not capable of donating their items due to physical inability. Although the majority of the data supports this there is evidence, which also suggests that a lack of concern for sustainable disposal is influencing students negatively. It was predicted that the majority of students would not be able to transport their items to the collection site, which was reflected by the survey (73:18, Figure 6). The next question asked if students could physically bring their items to the collection site (Figure 7) and 71.4% responded with no. What is interesting about this is that there are eight students who are physically capable of taking their items to the collection site but do not seem to want to transport their items there. This suggests that they are not willing to put in the effort to take their items to the collection center. This conclusion is supported by the next question that is related to convenience. We asked students if having specific pick up dates would influence their likelihood to donate, as can be seen in Figure 8 87.9% said yes. This indicates that efforts made by the Dump and Run program to make donating less cumbersome would lead to increased participation. A lack of personal action on behalf of the adolescents to act in an environmentally friendly manner has been supported in the literature regarding environmental behaviour. The rise of materialism and the belief that it is not their

responsibility to right the environmental wrongs have led many young people who might insist that they have environmental considerations to avoid personal environmental action (Wray-Lake, Flanagan, & Osgood, 2010).

Interpreting our data with respect to behavioural barriers to the dump and run was much more difficult because it involves correlating a lack of concern for the study to a potential lack of concern for the dump and run. There was also a considerable amount of experimental error, which made interpreting the results more complicated. In particular the major issue was that some respondents skipped certain questions. The most striking evidence for a lack of concern for the study was through the answers to two questions. Question four asked students if they have items that they plan to dispose of at the end of the year. 43 of the 79 students who responded to this question said yes. Question eight asked students how likely they were to participate in the dump and run. 53 said they were somewhat likely and 21 said they were very likely, together this means that 74 of the 90 people who responded to this question were inclined to participate. It is evident that at the very least 21 students did not read the questions because they would have known that you could not participate in the Dump and Run unless you have items that need to be disposed of at the end of the year.

Our final question was open ended and asked students to write down what benefits they saw in participating in the Dump and Run. The vast majority of students left this question blank. Because there are many benefits to the Dump and Run, most of which come to mind very readily, we have concluded that it was the students who did not care about the study that left this question blank. This could have been for reasons other than they did not care, such as they were in a hurry and did not have the time for an open ended question. However due to the fact that we only had 5 people respond to this question we believe that it is more likely that those 86 people did not care about the study than they all had something to do.

As was mentioned in the limitations section, we believe that the ordering of the questions influenced the responses to the survey in a way that made the respondents seem more environmentally considerate than they actually are. In particular if we had asked



how students plan to dispose of the items they have after their term before we mentioned second hand stores we believe we would have received more honest answers with respect to how many people actually plan on donating their items to second hand stores.

## **6 – Conclusion**

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### **6.1 Recommendations for action**

Recommendations for future action involve the assessment of participation in Dump and Run 2013 to determine whether catalytic validity occurred due to our survey conduction. This would also give indication to the level of awareness of the Dump and Run program achieved by our study. Additionally, in order to increase awareness, the Dump and Run program should include further advertising and have a more active role on Dalhousie campuses. We recommend that Dump and Run also establish a Dalhousie campus collection site as it could eliminate the physical barrier of students not having the ability to bring their items to the Saint Mary's collection site. This barrier could also be tackled by providing residents with specific pick-up dates at the residence halls or by having an in-hall item disposal location.

To broaden the scope of the study, future action could be taken by conducting surveys in all Dalhousie residence halls. This would allow for a more thorough analysis of barriers across the entire Studley campus.

### **6.2 Recommendations for future research**

Recommendation for future research includes conducting interviews of Resident Assistants in order to achieve a more detailed analysis of the perceived barriers of Dump and Run participation. It would also provide researchers with qualitative data and further recommendations. Furthermore, additional research could be conducted to determine the impacts of the current waste disposal methods on students' waste diversion behaviour.

## 7 – References

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## 8 – Acknowledgements

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## 9 - Appendices

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### 9.1 Appendix A

#### **Resident Questionnaire Consent Form:**

Hi! We are students from ENVS 3502- Environmental Problem Solving II. We are conducting a study to try and establish ways to improve residence participation in Halifax's community garage sale known as Dump and Run. In order to be prepared for this project, we would like to ask you a few questions to help us determine the root of what is holding students back from participating as well as the factors promoting student involvement in the Dump and Run program. The survey questions are anonymous, and we will not ask you any personal information; we are interested only in information regarding opinions and views of students in residence regarding the Dump and Run. If, upon completion of the survey, you would prefer your answers not be used, we will discard them.

If you have any questions or concerns about this project, please contact Tarah Wright ([tarah.wright@dal.ca](mailto:tarah.wright@dal.ca)), Environmental Science Program Coordinator.

Thank you for participating in our questionnaire!

I consent to having my answers used as data for this project      Yes      No  
(If neither answer is circled we will assume the answer is No)

1. At the end of this semester, how many years will you have you lived in residence?
  - a. 1
  - b. 2

- c. 3
- c. 4+

2. Did you recycle at home (before living in residence)?

- a. Yes I personally recycle
- b. Yes, people I live with do, but not me personally
- c. No I do not recycle

3. Do you recycle in residence?

- a. Yes
- b. No

4. Have you ever donated to a second hand store or event?

- a. Yes
- b. No

5. Do you have items (clothing, furniture, electronics, etc.) you plan to dispose of at the end of the year?

- a. Yes
- b. No

6. If yes, how do you plan to dispose of them?

- a. Sell
- b. Donate to be sold second hand
- c. Throw out
- d. Leave in residence
- e. Other: please list \_\_\_\_\_

7. Have you heard of Dump and Run?

- a. Yes
- b. No

The Dump and Run is a charitable event that runs every year. Items that would be disposed of in residence are sold and profits are given to charities. You can donate your items by calling the Dump and Run in April, and they will call you back with a specific pick-up date when to leave your items on the curb. You can also bring your items to the collection site, which is usually located on Saint Mary's campus. The Dump and Run sells items on May 1st. Items include: clothing, electronics, furniture, sports equipment, cookware, household items and books. Dump and Run email: [halifaxdumpandrun@gmail.com](mailto:halifaxdumpandrun@gmail.com)

8. How likely would you be willing to participate in Dump and Run?

- a. Very likely
- b. Somewhat likely
- c. Somewhat unlikely

d. Very unlikely

9. What would help you be more aware of the dump and run? (Please rank 1-most likely, 5-least likely)

- Posters around residence
- Announcement at Floor meetings
- Pamphlets slipped under residence room door
- Email
- Social Media (facebook, twitter, etc.)

10. What day do you plan to move out of residence? (Approximation is fine)

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11. Dalhousie residence requests that you to move out of residence 24 hours after your last exam. In your opinion, do you believe that you would have enough time to donate your items to Dump and Run?

- a. Yes
- b. No

12. Would you consider donating items before your 24 hours move out period?

- a. Yes
- b. No

13. Would you be willing to call Dump and Run and plan for them to collect your items?

- a. Yes
- b. No

14. If the dump and run pick-up schedule does not fit your schedule, do you have the means (transportation) to bring your items to Saint Mary's Dump and Run collection site?

- a. Yes
- b. No

15. Do you believe that you could physically bring your items to the Saint Mary's collection site?

- a. Yes
- b. No

16. Would having specific pick up dates at your residence increase your likelihood to donate?

- a. Yes
- b. No

17. Would knowing that items will be going to a charitable organization be incentive enough for you to donate?

- a. Yes
- b. No





**1. Purpose and Rationale for Proposed Research:** *Briefly describe the purpose (objectives) and rationale of the proposed project and include any hypothesis(es)/research questions to be investigated*

We would like to acquire information from students and Residence staff to help formulate a pool of data to answer the research question : What perceived barriers are causing the Dump and Run participation within residence to be less efficient than it could be?

We believe that by pooling data from different sources (students, RA's, and residence life staff) we can collect enough data to have a well informed answer to our research question in an effort to help the residence and University divert unnecessary waste from the landfill, as well as inform students about sustainable practices that can be used in residence and moving forward in their academic and personal lives.

## **2. Methodology/Procedures**

**a. Which of the following procedures will be used? Provide a copy of all materials to be used in this study.**

- Survey(s) or questionnaire(s) (mail-back)
- Survey(s) or questionnaire(s) (in person)
- Computer-administered task(s) or survey(s)]
- Interview(s) (in person)
- Interview(s) (by telephone)
- Focus group(s)
- Audio taping
- Videotaping
- Analysis of secondary data (no involvement with human participants)
- Unobtrusive observations
- Other, specify \_\_\_\_\_

**b. Provide a brief, sequential description of the procedures to be used in this study. For studies involving multiple procedures or sessions, the use of a flow chart is recommended.**

Questionnaire:

1. Set up table in Howe Hall, close to meal hall entrance
2. Talk to students passing by and ask if they would like to participate in a questionnaire
3. Upon agreeing to do questionnaire, describe brief overview of our project
4. Give paper copy of questionnaire to student along with a pen and let student fill out questionnaire
5. Have student give completed questionnaire back to group members
6. Ask them if there is anything they need clarification on regarding questionnaire
7. Smile and thanks student for their participation

Interview (With RA)

1. Make a meeting with each individual RA
2. Sit down with each RA individually in one-on-one setting
3. Begin interview, asking each question and listening/ recording answers

4. Upon completion of interview questions ask if the participant has any comments or concerns
5. Thank participant, interview ends

Interview (With Residence Life representative)

1. All steps are the same as interview with RA, only the questions would be different.

**3. Participants Involved in the Study: *Indicate who will be recruited as potential participants in this study.***

Dalhousie Participants:

- Undergraduate students
- Graduate students
- Faculty and/or staff

Non-Dal Participants:

- Adolescents
- Adults
- Seniors
- Vulnerable population\* (e.g. Nursing Homes, Correctional Facilities)

*\* Applicant will be required to submit ethics application to appropriate Dalhousie Research Ethics Board*

**b. Describe the potential participants in this study including group affiliation, gender, age range and any other special characteristics. If only one gender is to be recruited, provide a justification for this.**

Participants for survey will be residence of Howe Hall. Requests for participation will be random so although we would like both male and female participants, it is up to those who agree to participate with regards to how many males or females, and their age.

Age and gender of RA's and Residence Life representative is unknown and does not have a bearing on whether we choose them or not, we are only interested in the position they hold within the residence and the insight and knowledge they possess regarding the students and operations of the residence.

**c. How many participants are expected to be involved in this study? \_\_\_\_\_**

75-100 (ideally) students for questionnaire

4-5 RA's

1 Residence Life representative

**4. Recruitment Process and Study Location**

**a. From what source(s) will the potential participants be recruited?**

- Dalhousie University undergraduate and/or graduate classes
- Other Dalhousie sources (specify) Residence building (Howe Hall)
- Local School Boards\*
- Halifax Community
- Agencies
- Businesses, Industries, Professions

- Health care settings\*
- Other, specify (e.g. mailing lists) \_\_\_\_\_ \* Applicant may also require ethics approval from relevant authority, e.g. school board, hospital administration, etc.

**b. Identify who will recruit potential participants and describe the recruitment process.**

*Provide a copy of any materials to be used for recruitment (e.g. posters(s), flyers, advertisement(s), letter(s), telephone and other verbal scripts in the appendices section.*

1) All members of the group will be asking students to participate in the questionnaire. There are no formal materials being used to recruit students other than questionnaire form (see appendix).

2) Please see Appendix for interview requests of both RA's and Residence Life representative.

**5. Compensation of Participants: Will participants receive compensation (financial or otherwise) for participation?**

Yes  No  If Yes, provide details:

**6. Feedback to Participants**

**Briefly describe the plans for provision of feedback and attach a copy of the feedback letter to be used.** Wherever possible, written feedback should be provided to study participants including a statement of appreciation, details about the purpose and predictions of the study, contact information for the researchers, and the ethics review and clearance statement. Note: When available, a copy of an executive summary of the study outcomes also should be provided to participants.

Thank you for your participation in our ENVS 3502 group project. Your knowledge on the topics discussed and opinions expressed during the interview conducted were greatly appreciated. It was our hope when we created the parameters of this study, to find a way to help create a better understanding of what behaviors and perceived barriers are currently making the Dump and Run program less efficient than it can be within your residence, and with your contributions, we are confident we can achieve this goal. By talking with you and the other people participating in our study (through interviews and questionnaires) we will be able to compile our findings and give an informed report back to the residence staff, to allow them to see what we have found to be the major barriers to the participation of the students in residence regarding the Dump and Run. We hope you are as excited as we are to be a part of the effort to improve waste diversion methods and efforts on Dalhousie campus within the residences.

**POTENTIAL BENEFITS FROM THE STUDY**

**1. Identify and describe any known or anticipated direct benefits to the participants**

## **from their involvement in the project**

The participants will benefit from being a part of an interview/ questionnaire process, which may help them later on in their own degree, if they are to conduct research of their own. Furthermore each participant can feel a sense of pride and fulfillment knowing they have actively contributed to attempting to understand and improve waste diversion within residence. Lastly, our group hopes that by participating in this study, each student involved will feel empowered to help spread the word and encourage more of their friends and fellow students in residence to live and act more environmentally conscious within their residences.

## **2. Identify and describe any known or anticipated benefits to society from this study.**

The potential for the ideas and conversations regarding waste diversion and efforts to recycle items that could be useful to someone else, can certainly spread from just within the residence. As this study is conducted towards the end of the winter semester and many students are going back home, the ideas and concepts can be brought back with each student to their families and communities, and potentially create changes in attitude and behaviour on a more societal scale.

## **POTENTIAL RISKS TO PARTICIPANTS FROM THE STUDY**

### **1. For each procedure used in this study, provide a description of any known or anticipated risks/stressors to the participants. Consider physiological, psychological, emotional, social, economic, legal, etc. risks/stressors and burdens.**

No known or anticipated risks Explain why no risks are anticipated:

Minimal risk \* Description of risks: With face to face interviews, there is the potential for the participant to feel stress or anxiety if they are not very comfortable with that kind of conversation. Because the participants will be meeting our group members for the first time when we sit down to conduct the interview, we can try our best to make it an informal and comfortable atmosphere, but in the end we must be conscious of the fact that some people are not quite as comfortable and social toward people they don't know. Further more with interviews or questionnaires regarding people's personal behaviours, there is potential that people will feel nervous to tell us how they act, as they may feel self conscious or think we or their peers will judge them.

Greater than minimal risk\*\* Description of risks:

*\* This is the level of risk associated with everyday life. \*\* This level of risk will require ethics review by appropriate Dalhousie Research Ethics Board*

### **2. Describe the procedures or safeguards in place to protect the physical and psychological health of the participants in light of the risks/stresses identified in Question 1.**

Our group will meet before administering any questionnaire or interview to make sure we are all clear on how to conduct our studies. Before beginning the interviews and

questionnaires we will verbally address that we are not interested in peoples personal information, and that all answers will remain anonymous, as we are not asking for names (regarding questionnaires) as well as a disclaimer written on the questionnaire (see Appendix). With regards to the interview process, in addition to beginning the process with the previously mentioned assurance, we will also let them know that at any time if they feel uncomfortable or have questions regarding the process, they should feel free to voice these concerns and we will do everything in our power to make the process acceptable and comforting for them to participate in. The fact is that our entire study is based on the feedback generated from the participants, so we will be making it very clear regarding all our research methods being administered, that our first priority is to get the most honest, well thought out answers, which we believe comes from a good atmosphere between our group members and each participant.

### **INFORMED CONSENT PROCESS**

Refer to: <http://pre.ethics.gc.ca/english/policystatement/section2.cfm>;

**1. What process will be used to inform the potential participants about the study details and to obtain their consent for participation?**

Information letter with written consent form; provide a copy

Information letter with verbal consent; provide a copy

Information/cover letter; provide a copy

Other (specify) \_\_\_\_\_

**2. If written consent cannot be obtained from the potential participants, provide a justification.**

### **ANONYMITY OF PARTICIPANTS AND CONFIDENTIALITY OF DATA**

**1. Explain the procedures to be used to ensure anonymity of participants and confidentiality of data both during the research and in the release of the findings.**

For questionnaire we will not be asking for the participants names or age or sex/ gender and there is a disclaimer on the questionnaire form detailing privacy and consent (see Questionnaire in Appendix). Regarding interviews, a letter on consent will be filled out, the participant will be given the option to have a recording device used or not during the process, the participants are encouraged to voice concerns at any time, that we the group members, will address and rectify to their satisfaction. In addition no names will be published in our final report if the participants do not wish to have their names used, instead we will just address them by their title (RA or Residence Life representative).

**2. Describe the procedures for securing written records, questionnaires, video/audio tapes and electronic data, etc.**

All group members will ensure that all questionnaires are kept together in one location and only be uploaded on one computer. All audio recordings from interviews will be uploaded and kept on the same computer.

**3. Indicate how long the data will be securely stored as well as the storage location over the duration of the study. Also indicate the method to be used for final disposition of the data.**

Paper Records

Confidential shredding after \_\_\_\_\_

- Data will be retained until completion of specific course.
  - Audio/Video Recordings
  - Erasing of audio/video tapes after \_\_\_\_\_
  - Data will be retained until completion of specific course.
  - Electronic
  - Erasing of electronic data after \_\_\_\_\_
  - Data will be retained until completion of specific course.
  - Other \_\_\_\_\_
- (Provide details on type, retention period and final disposition, if applicable)

**Specify storage location:** \_\_\_\_\_

**Appendices: ATTACHMENTS** Please **check** below all appendices that are attached as part of your application package:

- Recruitment Materials:** A copy of any poster(s), flyer(s), advertisement(s), letter(s), telephone or other verbal script(s) used to recruit/gain access to participants.
- Information Letter and Consent Form(s).** Used in studies involving interaction with participants (e.g. interviews, testing, etc.)
- Information/Cover Letter(s).** Used in studies involving surveys or questionnaires.
- Materials:** A copy of all survey(s), questionnaire(s), interview questions, interview themes/sample questions for open-ended interviews, focus group questions, or any standardized tests used to collect data.

**SIGNATURES OF RESEARCHERS** \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

**FOR ENVIRONMENTAL SCIENCE PROGRAM USE ONLY:** Ethics proposal been checked for eligibility according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans

\_\_\_\_\_ Signature Date

\_\_\_\_\_ Signature Date

## 9.3 Appendix C

# Dump and Run

## ENVS 3502 Project Proposal

Group members:

Matthew Conlin

Amanda Lavalley

Michael Shorter

Allison Smith

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## **Project Definition**

Each year there are new students cycling through the residences at Dalhousie University. There are 10 different residences for Dalhousie student located within the city of Halifax and more ten 10 if campuses outside the Halifax Regional Municipality are included (Dalhousie Residence life, 2013). In September of every year thousands of new students move into a Dalhousie residence building (Dalhousie residence life, 2013). In Howe hall alone there is a capacity for 716 students to reside for the academic year (Howe Hall residence, 2013). For most of the students living in these residences it is their first year away from home and living on their own. In order for students to feel more at home in their new residence room the majority of the students add their own personal touches and decorative flare to their new rooms. Throughout their stay in residence, students may purchase items such as electronics, cookware, clothing, sports equipment, furniture, artwork, stereos, and many other types of goods that can collect within their dorm rooms.

As the end of the school year approaches and thoughts gravitate to summer plans away from residence, students have the task of disposing of the goods that they cannot bring back home or to their new lodgings, wherever that place may be. In fact, students are limited in the time they have to pack up and leave residence at the end of the winter academic term. The Dalhousie residence life rules state that students are forced to checkout of residence within 24hours of writing their last exam (Dalhousie Campus living, 2013). With such a short timeframe for students to determine how best to dispose of their unwanted items, many students might make unsustainable choices like just tossing their garbage to the curb. Given that tight window of opportunity, it is possible that time might be the biggest barrier preventing students from taking action and participating in the Dump and Run event.

Therefore a question worthy of further research is what are the perceived barriers that prevent students from participating in the Dump and Run project? The goal is to understand the perceived physical barriers, mental barriers, and social barriers that may be the cause for students choosing not to participate in Dump and Run. It is important to attempt to understand student behaviour within the residences so that we can suggest how to adapt the Dump and Run procedure to better suit the needs of students.

The objective is to study what makes students less likely to take part in a sustainable project like Dump and Run so that we can avoid and solve those barriers and increase the participation level of Dalhousie students living in residence.

The study will take place on Studley Campus at Dalhousie University, specifically at the residence with the largest student capacity, Howe Hall (Dalhousie Campus living, 2013). We have restricted our research to Howe Hall residence due to the short time frame provided to complete this research study and the need for an accurate representation of the student population as a sample for statistical validity.

Waste diversion is one of the goals associated with sustainable living on Dalhousie University campuses (Office of Sustainability, 2012). Dump and Run is an

event focused on waste diversion of gently used goods that are in good condition and providing community members the opportunity to recycle those goods (Halifax Dump and Run, 2013). In addition, there are also many other benefits associated with participation in the event, for example all proceeds from the sale event go to supporting local charities (Halifax Dump and Run, 2013). Dump and Run works towards sustainable campus living here at Dalhousie, however, without student participation in this event, the accumulated benefits are weak and non-existent (Halifax Dump and Run, 2013).

The option for students in residences to donate their unwanted used items to Dump and Run is a sustainable alternative to the traditional toss it to the curb mentality. The premise behind Dump and Run is to divert items in good condition from ending up in the landfill and becoming garbage before their lifecycle as a consumer good has ended (Halifax Dump and Run 2013). Throwing away goods prematurely is an unsustainable practice that will cause further environmental waste issues (Kassirer, 2012).

The majority of students living in residence are in their first year of university living (Dalhousie Residence living, 2013). The new experiences can be overwhelming at times and students may be shy and look towards what the surrounding student body population is doing in terms of behaviour in order to feel socially secure (Wray-Lake, 2010). In these beginning stages of university living, many students may have more perceived barriers that cause them to overlook aspects of sustainable living. It is crucial to study and then remove these barriers for the newer Dalhousie students so that they feel comfortable and excited to take part in positive sustainable behaviours that they may not have been exposed to in their previous dwellings.

A possible outcome from our research could be that this project ignites a spark in students to share a sustainable lifestyle choice, and catalytic validity will take hold. If the barriers behind students hesitating from partaking the green-living initiative are corrected, then students will more easily be inspired to adapt to more sustainable lifestyles where new and long lasting positive habits can be instilled and maintained.

### **Project Background and Rationale**

Living in a residence is a good start to an independent life, however students in these environments still have a lot to learn regarding independent life. In particular relying on janitorial staff for maintenance and residence advisors for direction contradicts the lessons of independence we are expected to develop in our early years in university. The items left behind in residence rooms, common rooms, or thrown onto the curb are a testament to the lack of knowledge and motivation first year students have when it comes to dealing with the things they have collected over the year sustainably. Bulky items like refrigerators and microwaves offer a particular problem to a carefree student looking to start his or her summer. Without the responsibility of life under a land lord there is little stopping a student from tossing their items somewhere in residence or curbing it. This problem is exacerbated by the fact that students are only given 24 hours to move out once their last exam is over. The conditions in residence along with a naïve first year

mentality contribute to an inward inconsiderate behaviour that is characteristic of many students living in residence.

The biggest concern regarding these items is that the majority of them are reusable. Simply selling the items through Kijiji or donating them to charity would avoid them from being wastefully discarded in a landfill. To help alleviate this situation, the dump and run program was created. This organization, composed of students from St. Mary's and Dalhousie University, collects the left over items from their respective students and holds a charitable community sale. In 2011 the charities involved included: Feed Nova Scotia, Environmental Health Association of Nova Scotia, The Nova Scotia Sea School, Phoenix Youth Programs, Supportive Housing for Young Mothers and Habitat for Humanity. In 2010 the dump and run program diverted almost eight metric tons of furniture, electronics, books, clothing and other left over items from landfills. The organization also contributed nearly 10,000\$ in proceeds to charity (Halifax Dump and Run, 2013). Despite the huge success of the organization, which is in its 11<sup>th</sup> year, residences are still cluttered with items at the end of the year and are appealing for the dump and run to expand their operation.

For this reason, our group decided to investigate how the dump and run could be more successful. Specifically our study addresses the perceived barriers limiting the success of dump and run. We felt it was necessary to address this issue from a behavioural standpoint because it is progress in this area that can have the greatest influence on the dump and run. Alternatively, our study could have focused on increasing dump and run advertising as a means of enhancing student involvement. Our group felt that because dump and run already used the most common mediums of communication, social media and physical advertising, any attempt to diversify or increase these could only have limited success. Addressing the behaviours of first year students to determine how to better approach them, remove barriers or attempt to change their behaviours would lead to better results in terms of increasing dump and run participation. This study addresses the root of the sustainability habits of first year students in residence, the likely hood of their involvement in the dump and run program, and how dump and run can be tailored to suit the needs of the student and therefor increase student participation.

The background literature on the dump and run comes from previously held dump and run projects throughout North America. There is a complete lack of scientific literature regarding a full analysis of dump and run projects possibly due to the grassroots nature and small scale of dump and run projects. The various webpages of dump and run programs serving universities around North America support the continued need for such a program and cite their relative successes.

Beyond the dump and run literature, the ideas of community-based social marketing (CBSM) are connected to our study. As our general goal is to understand the behaviours of students that affect their willingness to participate in the dump and run, the application of the CBSM techniques will be pertinent to the success of our study. These techniques include: the identification of the barriers and benefits to an activity, the

development of a strategy that utilizes proven effective tools, a pilot testing of this strategy, and finally the evaluation of the study once it has been implemented to the sample population (McKenzie-Mohr, 2011). Although it is not within the scope of this study to directly change the behaviours of our sample, our study will relate to future increases in dump and run participation. Additionally, this study is of significance because it relates to the principles of the Greening the Campus movement and the Green Guide. Finally, the study will bring together students of Dalhousie University, affiliated organizations and members of the community.

Waste reduction is a major focus of sustainability departments within universities. One of the inherent difficulties regarding reducing waste is that the practice incorporates the efforts of the student body. The University of Northern British Columbia highlights this difficulty. In 2007 they trademarked themselves as a “green” university, however, when a waste audit was performed it revealed that 73% of the waste sent to landfills could have been diverted through recycling (Smyth, Fredeen, Booth & Connell, 2009). The problem of waste management is apparent on the Dalhousie campus as well. In an effort to reduce the amount of incorrect garbage disposal, signs have been posted above many of 4 bin waste disposal stations around campus defining exactly what constitutes garbage and recycling as well as other forms of waste. Based on the signs there is surprising confusion as to the correct method of disposal of coffee cups. The apparent lack of environmental awareness leading to the mishandling of waste results from a student body lacking environmental considerations.

Research has shown that since its peak in the 1970s environmental behaviours of students have steadily declined (Wray-Lake, Flanagan, & Osgood, 2010). While efforts on behalf of students to appeal for societal and governmental change have increased, the study Examining trends in adolescent environmental attitudes, beliefs, and behaviours across three decades, published in *Environment and Behavior*, suggests that personal actions taken to reduce environmental impacts, such as cutting down on heat and electricity or using public transit have become less prominent in the actions taken by young people as a means of environmental activism (Wray-Lake, Flanagan, & Osgood, 2010). For environmentalists, this trend is very concerning as the notions youth have toward the environment are critical for its protection in the future. Experts claim that a society based on materialism has resulted in young people relying on future technological advances to solve our environmental problem and for stifling the development of sound environmental behaviours (Wray-Lake, Flanagan, & Osgood, 2010).

Changing the environmental behaviours of their respective student body so as to indirectly decrease their environmental impacts has not been a common route to promote sustainability. Assessing Environmentally Responsible Behavior, published in *Psychological Reports*, showed that the three dimensions of environmentally responsible behaviour are reusing/recycling, conserving, and replacing harmful products with environmentally friendly ones (Caltabiano & Caltabiano, 1995). The research suggests that further improvements in promoting these behaviours in students rather than simply implementing them as institutional practices, needs to be made in order to achieve a more holistic sustainable approach. As a lack of environmental considerations is a barrier to

participating in the dump and run, insights into what promotes environmental behaviour is directly related to our study.

A large component of sustainability within a university context is enhancing the efficiency of energy consumption around campus and other efficiency related infrastructural changes (Bacow & Moomaw, 2007). Infrastructural changes that reduce pollution by improving efficiency, while reducing cost to the university, are common implementations because they are financially, ethically, and environmentally appealing. The Mona Campbell building at Dalhousie is a prime example of this type of change. A Leadership in Energy and Environmental Design (LEED) award of gold has been assigned to the building (U.S. Green Building Council, 2011). However, for true sustainability to be achieved universities must take a wider set of sustainable factors into consideration. For any sustainability program to be truly sustainable it must incorporate the four pillars of sustainability, these are: political, natural, economic, and social (Renner & Cross, 2009). While Dalhousie has addressed the former three to a certain degree through their policies, regulations and infrastructure adjustments, the last component has yet to be largely incorporated into Dalhousie's sustainability program. This could be for a variety of reasons including the incompatibility of Dal and community agendas or a lack of finding a medium in which both bodies can benefit. The dump and run organization provides a sustainable connection between the two while promoting upstanding environmental behaviour and the natural service of waste diversion.

### **Proposed Research Methods**

This study is intended to assess the possible barriers standing in the way of students in Dalhousie residences from participating in the Dump and Run campaign, in an effort to help the residences improve their diversion of waste in the future. To do this successfully, we believe it is important to get direct feedback from the students and try and assess what they perceive as the major issues standing in the way of more students participating. The research tools that we have chosen to use for this study are a self-administered questionnaire, as well as face-to face interviews. It is our hope that these tools will yield a substantial amount of data regarding an array of potential barriers to help us pin point sources of major hindrance towards student participation and motivation in the Dump and Run campaign at the end of the winter semester. As one of the most prominently used research methods, survey research methodology, when administered properly, can capture a large amount of data in a short period of time (Malhotra, 1998). Our approach will use both exploratory (becoming more familiar with a topic) and explanatory (finding causal relationships between variables) survey research to create a well-rounded method of acquiring and understanding data (Malhotra, 1998). One of the major justifications for choosing these methods was the fact that statistically, response rates are quite high from participants (in the range of 70-90 %) (Palys, 2008).

We intend to gather information from the students in residence that focuses on behavioral practices and mindsets contributing to, or against, participating in the Dump and Run program within the residence. We will examine details like how long students

have lived in residence, the students current knowledge of the Dump and Run, if students are thinking about disposing of items and if so, how they are planning on doing so, in an effort to get students thinking about waste disposal methods leading up to move out day. Once the data has been gathered from the questionnaire, we will be using a coding scheme based on a category system to assess the data (Palys, 2008). By assigning each answer of each question a number, we can categorize how many students chose each answer and begin to define any trends in the data (Palys, 2008). As most of our questions have 2-5 possible answers and subsequent categories (see Appendix), we can be assured a higher chance of reliability regarding our data (Palys, 2008). The ability to use a survey to generalize the entire population by drawing inferences based on data from a small portion of the student body within the residence, will help to minimize cost and time, while still giving our group good insight and valid data regarding the students in residence (Rea, 2009). The relevance of this data to our study stems from the fact that the answers provided from students in the survey will allow us to pin point which areas of residence life appear to have the greatest effect on students behaviors towards sustainable practices, including participation in the Dump and Run. Through its widespread use in academic institutions, survey research has become a method used quite frequently for gathering primary data (Rea, 2009). It is our belief that by trying to reach the students through a simple yet specific set of question, we will be able to get honest and relevant feedback regarding what each individual student perceives as the major source of hindrance to their own ability or motivation to participate. The benefit of survey methods is, by being present while questionnaires are being filled out, we can ensure that all questions are being answered and properly interpreted, leading more valid and reliable data (Rea, 2009). Information gathered from interviews conducted with the RA's will be assessed differently as it is a more personal interaction and there is not a set of answers to choose from, so we will not use a coding scheme. However the data collected will be just as valuable and yield more detailed and in-depth data, as there is more of a rapport created between our group member and the participant during the process (Palys, 2008). We will be reviewing audio recordings of the interviews and attempt to find similarities or patterns between the responses of each interviewer, to help strengthen the validity of our data. Using an audio recording will allow the interviewer to pay more attention to the participant, jotting down only the major points, and retain the flow of the interview (Palys, 2008)

The research method chosen by our group is a qualitative approach. This type of study is a human centered approach focusing on people's ability to think and give a response (Palys, 2008). This approach comes from a phenomenologist ideal, the idea that we must take into account that humans are cognitive beings who actively perceive the world, and have the ability to act based on their experiences and learning, and are affected by these factors and the world around them, in an effort to understand human behaviour (Palys, 2008). This type of inductive research has an emphasis placed on the preliminary study, to help get a foundation for how the study will develop and evolve moving forward (Palys, 2008). In doing so it is our intent to create an iterative process by which we can begin to identify patterns or themes that will help us to identify the key factors or barriers involved in the Dump and Run process within the residence (Palys, 2008). In addition to this, we will be employing a technique known as community based social marketing,

which strives to foster sustainable behaviour (McKenzie-Mohr, 2011). This technique consists of four steps: 1) Identifying the barriers and benefits to an activity, 2) Developing a strategy that utilizes “tools” that have been shown to be effective in changing behavior, 3) Piloting the strategy, and 4) Evaluating the strategy once it has been implemented across a community (McKenzie-Mohr, 2011). Our focus will center around the first two steps, to help students become more aware of the benefits of the Dump and Run, as well as getting them to spread awareness to their peers and broaden the knowledge and effectiveness regarding the Dump and Run.

The questions asked in the questionnaire were designed to address specific issues and assess the participants’ level of understanding of things like recycling practices and environmental responsibility. Performing pilot tests of our questionnaire enabled us to determine which questions were “problem questions,” those that confused the participants or just did not turn out to be very helpful to our gathering of data, to better structure our questions and questionnaire, and our approach to the survey method as a whole (Krosnick, 1990). We aim to develop, or further develop, the participant’s knowledge of the Dump and Run program, to create a study that promotes catalytic validity. Catalytic validity can be described as “the degree to which a given research study empowers and liberates a research community” (Onwuegbuzie, 2007).

On a more applicable level, we hope to enhance peoples understanding of how they and the people around them can make positive change environmentally, starting with the upcoming move out period at the end of the semester, as well as their knowledge of the residence’s recycling and waste diversion practices (Palys, 2008) The questionnaire has been structured to take about five minutes for a participant to complete and return. Members of our group, who will be setting up a table in the vicinity of the meal hall of Howe Hall residence, will hand out the surveys. We have chosen this location because it was seen as a common area for the majority of students in the residence, and thus would yield the greatest possibility of being able to administer the questionnaire to a large group of students in the residence. We will use a method known as an intercept survey, which is literally to intercept students as they are walking in or out of meal hall (Rea, 2009). We have chosen to use the method of convenience sampling, a process of non-probability, based on the ease or convenience of gaining statistical data, to quickly show trends in the data we collect, in an effort to get a large amount of students information compiled quickly (Larsen, 2012). Choosing to use a research tool with face-to-face contact, we are more likely to have a better response rate from the participants (Palys, 2008). Furthermore by having group members present at the time of the questionnaire, any confusion or questions can be addressed on the spot, and students will have the opportunity to talk further with the group members about anything they are interested in knowing more about (Palys, 2008) The group will be setting up the table from 4:30 pm until meal hall closes.

The limitations of this study begin with sampling error, the fact that we will not be able to have every student in residence fill out the questionnaire means the conclusions drawn will not be 100% representative of the entire population in residence (Fowler, 2009). Further more, of the students that do participate in the questionnaire, there is no

guarantee that they will provide honest results. When considering the interviews, it is possible that the participants are shy or uncomfortable in the one-on-one setting and this may affect the quality and insight of the responses given to our questions. Another limitation to this study is the fact that all our group can do is assess what barriers exist that may be holding students back from participating in the Dump and Run, while our hope is to promote awareness and participation in the waste diversion practice, we cannot actively get more people to participate unless they themselves want to. An extension of this limitation would also be that the Dump and Run is normally held on May 1, at which point all of our members are no longer in class, and may not be able to attend the dump and run, or participate within the campus in the effort to move items to the Dump and Run location (Dump and Run, 2013).

The scope of this study is the major delimitation faced by our group. Because we are not going to be administering our questionnaire to all residences of Dalhousie University, our research question can only address the perceived barriers of students living in Howe Hall residence.

### Dump and Run Schedule

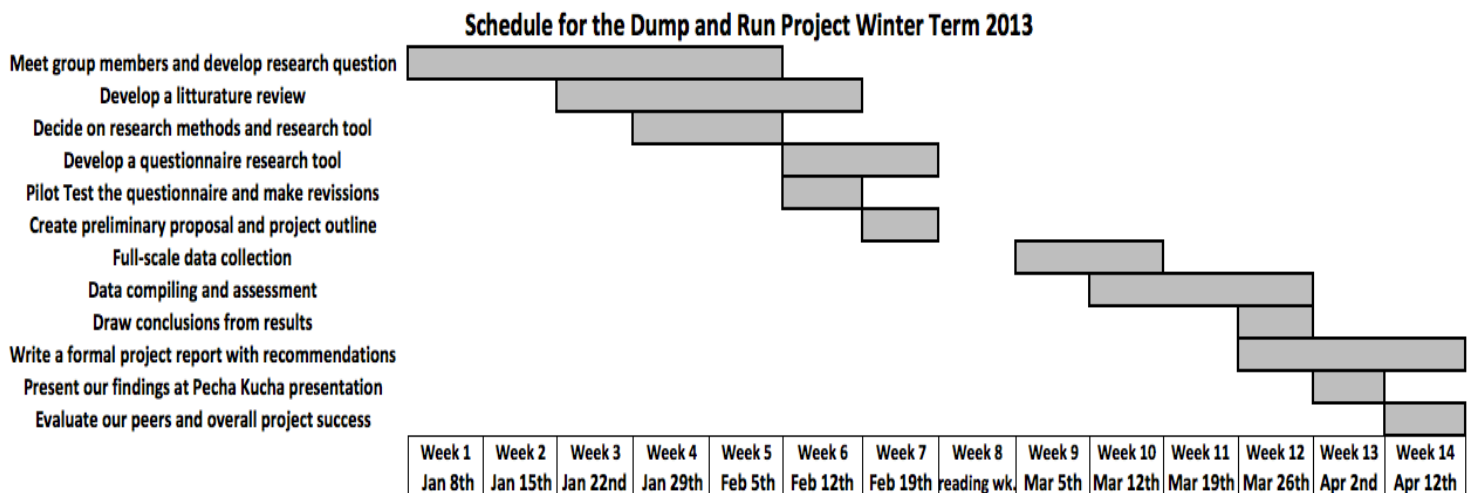


Figure 1. The tentative project schedule for the Dump and Run Campus Sustainability Project for ENVS 3502 winter semester 2013. All aspects of the project schedule are completed as a group effort by Amanda Lavalley, Michael Shorter, Allison Smith, and Matthew Conlin.

### Budget For Dump and Run

There are little to no costs associated with this research project. There are two possible expenses that we as a group may decide to seek external funding. The first optional expense would be to purchase a reward item or incentive item for those students who volunteer to fill out our questionnaire. We discussed the possibility of offering a cookie to the students who devote their time and questionnaire data to our project. The cookie serves as incentive as well as a thank you for participating. The second possible expense for our project will be the cost of printing hard copies of our questionnaire to do



our data collection. Printing costs of a multiple page long questionnaire can add up quickly. We as a group are contemplating applying for funding in order to cover these project expenses.

### **Deliverables**

Throughout the research project, there will be several deliverables. The initial deliverable is this proposal, followed by the presentation and the final report. Within these are data sheets, interview transcripts and a project schedule. The principle deliverable for the project is the recommendation that we will make for Dump and Run. We will communicate our findings to the Dump and Run coordinators, preferably in person. After the study, we plan to advise the Dump and Run coordinators on what actions can be taken to make the program more efficient.

### **Communication Plan**

#### Objectives

The principle communication objectives of this research project are to identify the perceived barriers of the Dump and Run's productivity, increase student awareness of the Dump and Run, find more efficient ways to increase knowledge of the program and influence student sustainability on Dalhousie campuses.

#### Target Audience

The target audience for the project is primarily the individuals who coordinate and facilitate the Dump and Run, as well as Dalhousie University student residents and residence staff members (including Residence Assistants and Residence Life Manager).

#### Communication Tools

The tactics necessary to communicate our project with the Dump and Run staff members and residence staff are online communications (email) and interviews with the members. The key materials are the final report, the questionnaire results, interview transcripts and online communications (emails).

#### Evaluation

Evaluation will show how our success is measured. This could be done with a year-end summary of the Dump and Run, with comparison of money raised or number donations with past years.

## **APPENDIX**

### **Resident Questionnaire Consent Form:**

Hi! We are students from ENV5 3502- Environmental Problem Solving II. We are conducting a study to try and establish ways to improve residence participation in Halifax's community garage sale known as Dump and Run. In order to be prepared for this project, we would like to ask you a few questions to help us determine the root of what is holding students back from participating as well as the factors promoting student involvement in the Dump and Run program. The survey questions are anonymous, and we will not ask you any personal information; we are interested only in information regarding opinions and views of students in residence regarding the Dump and Run. If, upon completion of the survey, you would prefer your answers not be used, we will discard them.

If you have any questions or concerns about this project, please contact Tarah Wright ([tarah.wright@dal.ca](mailto:tarah.wright@dal.ca)), Environmental Science Program Coordinator.  
Thank you for participating in our questionnaire!

I consent to having my answers used as data for this project      Yes      No  
(If neither answer is circled we will assume the answer is No)

1. At the end of this semester, how many years will you have you lived in residence?

- a. 1
- b. 2
- c. 3
- c. 4+

2. Did you recycle at home (before living in residence)?

- a. Yes I personally recycle
- b. Yes, people I live with do, but not me personally
- c. No I do not recycle

3. Do you recycle in residence?

- a. Yes
- b. No

4. Have you ever donated to a second hand store or event?

- a. Yes
- b. No

5. Do you have items (clothing, furniture, electronics, etc.) you plan to dispose of at the end of the year?

- a. Yes
- b. No

6. If yes, how do you plan to dispose of them?

- a. Sell
- b. Donate to be sold second hand
- c. Throw out
- d. Leave in residence
- e. Other: please list \_\_\_\_\_

7. Have you heard of Dump and Run?

- a. Yes
- b. No

The Dump and Run is a charitable event that runs every year. Items that would be disposed of in residence are sold and profits are given to charities. You can donate your items by calling the Dump and Run in April, and they will call you back with a specific pick-up date when to leave your items on the curb. You can also bring your items to the collection site, which is usually located on Saint Mary's campus. The Dump and Run sells items on May 1st. Items include: clothing, electronics, furniture, sports equipment, cookware, household items and books. Dump and Run email: [halifaxdumpandrun@gmail.com](mailto:halifaxdumpandrun@gmail.com)

8. How likely would you be willing to participate in Dump and Run?

- a. Very likely
- b. Somewhat likely
- c. Somewhat unlikely
- d. Very unlikely

9. What would help you be more aware of the dump and run? (Please rank 1-most likely, 5-least likely)

- Posters around residence
- Announcement at Floor meetings
- Pamphlets slipped under residence room door
- Email
- Social Media (facebook, twitter, etc.)

10. What day do you plan to move out of residence? (Approximation is fine)

\_\_\_\_\_

11. Dalhousie residence requests that you to move out of residence 24 hours after your last exam. In your opinion, do you believe that you would have enough time to donate your items to Dump and Run?

- a. Yes
- b. No

12. Would you consider donating items before your 24 hours move out period?

- a. Yes
- b. No

13. Would you be willing to call Dump and Run and plan for them to collect your items?  
a. Yes  
b. No

14. If the dump and run pick-up schedule does not fit your schedule, do you have the means (transportation) to bring your items to Saint Mary's Dump and Run collection site?  
a. Yes  
b. No

15. Do you believe that you could physically bring your items to the Saint Mary's collection site?  
a. Yes  
b. No

16. Would having specific pick up dates at your residence increase your likelihood to donate?  
a. Yes  
b. No

17. Would knowing that items will be going to a charitable organization be incentive enough for you to donate?  
a. Yes  
b. No

18. After hearing about Dump and Run, do you think it is efficient?  
a. Yes  
b. No

19. What benefits do you see in participating in the Dump and Run?

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## **Interview questions**

### RA's

1. How long have you been an RA?
  - If you've been an RA for more than one year, has it been in the same residence?
2. Would you say that the students on your floor see you as a role model, do you feel you have an influence on how they act (at least to a certain degree)?
3. What is your perception of the environmental awareness of the students on your floor, and in residence is possible?
4. How aware are you of the residence's garbage and recycling operations?
  - Could you explain how garbage/ recycling gets from a students room to the garbage truck?
5. Are you aware of the Dump and Run program Dalhousie participates in?
6. Are you encouraged by Residence Life or superiors to talk about the Dump and Run program?
7. Do you talk to students and/ or encourage them to use the Dump and Run as a way to dispose of unwanted items from their dorm room?
8. Do you know, or have an idea, of what might be the biggest deterrent to students that is keeping them from using the Dump and Run program?

**RA interview request form**

During the same conversation with the Residence Life representative, the group member will elaborate on our study by asking the following:

- Group member: We are also hoping to conduct similar interviews with 4-5 RA's within Howe Hall, is this something that would be possible for our group to do?
- Group member: (Assuming a positive response is given) Could you please advise me on the best way to contact 4-5 RA's to request an interview with them at their earliest convenience?
- Thank you for your help, once again, feel free to contact Tara Wright with any questions or concerns you may have.

Consent form for potential participants.

We are students in ENVS 3502, and are conducting a study of the students in Howe Hall residence, in an effort to try to find answers to our research question: What perceived barriers are causing the Dump and Run participation within residence to be less efficient than it could be? As a part of our research, we would like to conduct a face-to-face interview with you. In this interview we will be asking questions regarding your opinion on certain matters pertaining to the residence garbage disposal methods and student's involvement with garbage disposal as well as general behaviour. We feel that you hold a position within the residence that allows you to observe on a daily basis, activities that we are trying to gain a better knowledge about. The interview will last about 10 minutes (depending on how long answers are) and you are encouraged to ask any additional questions or voice any concerns you have at any time during the process to help us ensure you feel comfortable and happy with the process. During the interview process we will be using a recording device to ensure we can gather all the answers properly and in their entirety, however the device will not be used if you, the participant, requests that we do not use it. We hope that you will be as excited to meet with us as we are to meet with you, if you have any questions please feel free to send an email to one of our group members and/or our professor Tarah Wright.

I \_\_\_\_\_ consent to be a participant in the face-to-face interview being conducted by the Dump and Run group members of ENVS 3502.

\_\_\_\_\_ (group members email and name)

[Tarah.Wright@dal.ca](mailto:Tarah.Wright@dal.ca) (Tarah Wright, Professor of ENVS 3502)

## Ethics Form

**ENVIRONMENTAL SCIENCE PROGRAM  
FACULTY OF SCIENCE  
DALHOUSIE UNIVERSITY  
(version 2010)**

**APPLICATION FOR ETHICS REVIEW OF RESEARCH INVOLVING HUMAN PARTICIPANTS  
UNDERGRADUATE THESES AND IN NON-THESIS COURSE PROJECTS**

### **GENERAL INFORMATION**

**1. Title of Project:** Dump and Run Awareness

**2. Faculty Supervisor(s)** Tarah Wright      **Department** Environmental Science    **e-mail:**  
Tarah.Wright@dal.ca

**3. Student Investigator(s)** Matt Conlin      **Department** Environmental Science    **e-mail:**  
mt482857@dal.ca      Amanda Lavallee  
Environmental Science      am622712@dal.ca  
Michael Shorter      Sustainability  
michaelshorter@me.ca  
Allison Smith      Sustainability  
alliesmith@hotmail.com

**4. Level of Project:** Non-thesis Course Project [ ] Undergraduate [ X ] Graduate [ ]  
**Specify course and number:** 3502 ENVS/SUST Campus as a Living Lab

**5. a. Indicate the anticipated commencement date for this project:** March 4, 2013  
**b. Indicate the anticipated completion date for this project:** April 12, 2013

### **SUMMARY OF PROPOSED RESEARCH**

**1. Purpose and Rationale for Proposed Research:** *Briefly describe the purpose (objectives) and rationale of the proposed project and include any hypothesis(es)/research questions to be investigated*

We would like to acquire information from students and Residence staff to help formulate a pool of data to answer the research question : What perceived barriers are causing the Dump and Run participation within residence to be less efficient than it could be?

We believe that by pooling data from different sources (students, RA's, and residence life staff) we can collect enough data to have a well informed answer to our research question in an effort to help the residence and University divert unnecessary waste from the landfill, as well as inform students about sustainable practices that can be used in residence and moving forward in their academic and personal lives.

**2. Methodology/Procedures**

**a. Which of the following procedures will be used? Provide a copy of all materials to be used in this study.**

- Survey(s) or questionnaire(s) (mail-back)
- Survey(s) or questionnaire(s) (in person)
- Computer-administered task(s) or survey(s)]
- Interview(s) (in person)
- Interview(s) (by telephone)
- Focus group(s)
- Audio taping
- Videotaping
- Analysis of secondary data (no involvement with human participants)
- Unobtrusive observations
- Other, specify \_\_\_\_\_

**b. Provide a brief, sequential description of the procedures to be used in this study. For studies involving multiple procedures or sessions, the use of a flow chart is recommended.**

Questionnaire:

8. Set up table in Howe Hall, close to meal hall entrance
9. Talk to students passing by and ask if they would like to participate in a questionnaire
10. Upon agreeing to do questionnaire, describe brief overview of our project
11. Give paper copy of questionnaire to student along with a pen and let student fill out questionnaire
12. Have student give completed questionnaire back to group members
13. Ask them if there is anything they need clarification on regarding questionnaire
14. Smile and thanks student for their participation

Interview (With RA)

6. Make a meeting with each individual RA
7. Sit down with each RA individually in one-on-one setting
8. Begin interview, asking each question and listening/ recording answers
9. Upon completion of interview questions ask if the participant has any comments or concerns
10. Thank participant, interview ends

Interview (With Residence Life representative)

2. All step are the same as interview with RA, only the questions would be different.

**3. Participants Involved in the Study: Indicate who will be recruited as potential participants in this study.**

Dalhousie Participants:

- Undergraduate students
- Graduate students
- Faculty and/or staff



Non-Dal Participants:

- Adolescents
- Adults
- Seniors
- Vulnerable population\* (e.g. Nursing Homes, Correctional Facilities)

*\* Applicant will be required to submit ethics application to appropriate Dalhousie Research Ethics Board*

**b. Describe the potential participants in this study including group affiliation, gender, age range and any other special characteristics. If only one gender is to be recruited, provide a justification for this.**

Participants for survey will be residence of Howe Hall. Requests for participation will be random so although we would like both male and female participants, it is up to those who agree to participate with regards to how many males or females, and their age.

Age and gender of RA's and Residence Life representative is unknown and does not have a bearing on whether we choose them or not, we are only interested in the position they hold within the residence and the insight and knowledge they possess regarding the students and operations of the residence.

**c. How many participants are expected to be involved in this study? \_\_\_\_\_**

75-100 (ideally) students for questionnaire

4-5 RA's

1 Residence Life representative

#### **4. Recruitment Process and Study Location**

**a. From what source(s) will the potential participants be recruited?**

- Dalhousie University undergraduate and/or graduate classes
- Other Dalhousie sources (specify) Residence building (Howe Hall)
- Local School Boards\*
- Halifax Community
- Agencies
- Businesses, Industries, Professions
- Health care settings\*
- Other, specify (e.g. mailing lists) \_\_\_\_\_ \* Applicant

*may also require ethics approval from relevant authority, e.g. school board, hospital administration, etc.*

**b. Identify who will recruit potential participants and describe the recruitment process.**

*Provide a copy of any materials to be used for recruitment (e.g. posters(s), flyers, advertisement(s), letter(s), telephone and other verbal scripts in the appendices section.*

1) All members of the group will be asking students to participate in the questionnaire. There are no formal materials being used to recruit students other than questionnaire form (see sppendix).

2) Please se Appendix for interview requests of both RA's and Residence Life representative.

**5. Compensation of Participants: Will participants receive compensation (financial or otherwise) for participation?**

Yes [  ] No [  ] If Yes, provide details:

**6. Feedback to Participants**

**Briefly describe the plans for provision of feedback and attach a copy of the feedback letter to be used.** Wherever possible, written feedback should be provided to study participants including a statement of appreciation, details about the purpose and predictions of the study, contact information for the researchers, and the ethics review and clearance statement. Note: When available, a copy of an executive summary of the study outcomes also should be provided to participants.

Thank you for your participation in our ENVS 3502 group project. Your knowledge on the topics discussed and opinions expressed during the interview conducted were greatly appreciated. It was our hope when we created the parameters of this study, to find a way to help create a better understanding of what behaviors and perceived barriers are currently making the Dump and Run program less efficient than it can be within your residence, and with your contributions, we are confident we can achieve this goal. By talking with you and the other people participating in our study (through interviews and questionnaires) we will be able to compile our findings and give an informed report back to the residence staff, to allow them to see what we have found to be the major barriers to the participation of the students in residence regarding the Dump and Run. We hope you are as excited as we are to be a part of the effort to improve waste diversion methods and efforts on Dalhousie campus within the residences.

**POTENTIAL BENEFITS FROM THE STUDY**

**1. Identify and describe any known or anticipated direct benefits to the participants from their involvement in the project.**

The participants will benefit from being a part of an interview/ questionnaire process, which may help them later on in their own degree, if they are to conduct research of their own. Furthermore each participant can feel a sense of pride and fulfillment knowing they have actively contributed to attempting to understand and improve waste diversion within residence. Lastly, our group hopes that by participating in this study, each student involved will feel empowered to help spread the word and encourage more of their friends and fellow students in residence to live and act more environmentally conscious within their residences.

**2. Identify and describe any known or anticipated benefits to society from this study.**

The potential for the ideas and conversations regarding waste diversion and efforts

to recycle items that could be useful to someone else, can certainly spread from just within the residence. As this study is conducted towards the end of the winter semester and many students are going back home, the ideas and concepts can be brought back with each student to their families and communities, and potentially create changes in attitude and behaviour on a more societal scale.

## **POTENTIAL RISKS TO PARTICIPANTS FROM THE STUDY**

### **4. For each procedure used in this study, provide a description of any known or anticipated risks/stressors to the participants. Consider physiological, psychological, emotional, social, economic, legal, etc. risks/stressors and burdens.**

[ ] No known or anticipated risks Explain why no risks are anticipated:

[ X ] Minimal risk \* Description of risks: With face to face interviews, there is the potential for the participant to feel stress or anxiety if they are not very comfortable with that kind of conversation. Because the participants will be meeting our group members for the first time when we sit down to conduct the interview, we can try our best to make it an informal and comfortable atmosphere, but in the end we must be conscious of the fact that some people are not quite as comfortable and social toward people they don't know. Further more with interviews or questionnaires regarding people's personal behaviours, there is potential that people will feel nervous to tell us how they act, as they may feel self conscious or think we or their peers will judge them.

[ ] Greater than minimal risk\*\* Description of risks:

*\* This is the level of risk associated with everyday life. \*\* This level of risk will require ethics review by appropriate Dalhousie Research Ethics Board*

### **2. Describe the procedures or safeguards in place to protect the physical and psychological health of the participants in light of the risks/stresses identified in Question 1.**

Our group will meet before administering any questionnaire or interview to make sure we are all clear on how to conduct our studies. Before beginning the interviews and questionnaires we will verbally address that we are not interested in peoples personal information, and that all answers will remain anonymous, as we are not asking for names (regarding questionnaires) as well as a disclaimer written on the questionnaire (see Appendix). With regards to the interview process, in addition to beginning the process with the previously mentioned assurance, we will also let them know that at any time if they feel uncomfortable or have questions regarding the process, they should feel free to voice these concerns and we will do everything in our power to make the process acceptable and comforting for them to participate in. The fact is that our entire study is based on the feedback generated from the participants, so we will be making it very clear regarding all our research methods being administered, that our first priority is to get the most honest, well thought out answers, which we believe comes from a good atmosphere between our group members and each participant.

## **INFORMED CONSENT PROCESS**

Refer to: <http://pre.ethics.gc.ca/english/policystatement/section2.cfm>;

1. What process will be used to inform the potential participants about the study details and

to obtain their consent for participation?

- Information letter with written consent form; provide a copy
- Information letter with verbal consent; provide a copy
- Information/cover letter; provide a copy
- Other (specify) \_\_\_\_\_

2. If written consent cannot be obtained from the potential participants, provide a justification.

### **ANONYMITY OF PARTICIPANTS AND CONFIDENTIALITY OF DATA**

#### **1. Explain the procedures to be used to ensure anonymity of participants and confidentiality of data both during the research and in the release of the findings.**

For questionnaire we will not be asking for the participants names or age or sex/ gender and there is a disclaimer on the questionnaire form detailing privacy and consent (see Questionnaire in Appendix). Regarding interviews, a letter on consent will be filled out, the participant will be given the option to have a recording device used or not during the process, the participants are encouraged to voice concerns at any time, that we the group members, will address and rectify to their satisfaction. In addition no names will be published in our final report if the participants do not wish to have their names used, instead we will just address them by their title (RA or Residence Life representative).

#### **5. Describe the procedures for securing written records, questionnaires, video/audio tapes and electronic data, etc.**

All group members will ensure that all questionnaires are kept together in one location and only be uploaded on one computer. All audio recordings from interviews will be uploaded and kept on the same computer.

#### **6. Indicate how long the data will be securely stored as well as the storage location over the duration of the study. Also indicate the method to be used for final disposition of the data.**

- Paper Records
- Confidential shredding after \_\_\_\_\_
- Data will be retained until completion of specific course.
- Audio/Video Recordings
- Erasing of audio/video tapes after \_\_\_\_\_
- Data will be retained until completion of specific course.
- Electronic
- Erasing of electronic data after \_\_\_\_\_
- Data will be retained until completion of specific course.
- Other \_\_\_\_\_

(Provide details on type, retention period and final disposition, if applicable)

**Specify storage location:** \_\_\_\_\_

**Appendices: ATTACHMENTS** Please **check** below all appendices that are attached as part of your application package:

- Recruitment Materials:** A copy of any poster(s), flyer(s), advertisement(s), letter(s), telephone or other verbal script(s) used to recruit/gain access to

participants.

- [ X ] **Information Letter and Consent Form(s).** Used in studies involving interaction with participants (e.g. interviews, testing, etc.)
- [ ] **Information/Cover Letter(s).** Used in studies involving surveys or questionnaires.
- [ X ] **Materials:** A copy of all survey(s), questionnaire(s), interview questions, interview themes/sample questions for open-ended interviews, focus group questions, or any standardized tests used to collect data.

**SIGNATURES OF RESEARCHERS** \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_  
\_\_\_\_\_

Signature of Student Investigator(s) Date \_\_\_\_\_

**FOR ENVIRONMENTAL SCIENCE PROGRAM USE ONLY:** Ethics proposal been checked for eligibility according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans

\_\_\_\_\_ Signature Date

\_\_\_\_\_ Signature Date

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#### 9.4 Aggregate Data from Surveys

| Question | a  | b  | c  | d | e  |
|----------|----|----|----|---|----|
| 1        | 71 | 16 | 3  | 1 | 91 |
| 2        | 74 | 8  | 9  |   |    |
| 3        | 73 | 18 |    |   |    |
| 4        | 73 | 21 |    |   |    |
| 5        | 43 | 36 |    |   |    |
| 6        | 15 | 33 | 11 | 6 |    |
| 7        | 8  | 83 |    |   |    |
| 8        | 21 | 53 | 12 | 6 | 92 |
| 9        |    |    |    |   |    |
| 10       |    |    |    |   |    |
| 11       | 54 | 38 |    |   |    |
| 12       | 77 | 14 |    |   |    |
| 13       | 66 | 25 |    |   |    |
| 14       | 18 | 73 |    |   |    |
| 15       | 26 | 65 |    |   |    |
| 16       | 80 | 11 |    |   |    |
| 17       | 83 | 8  |    |   |    |
| 18       | 83 | 8  |    |   |    |