

Reducing the Ecological Footprint of The Honour Roll: Social Marketing of Sustainability

Initiatives Group

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Scenario 2

Reducing the Ecological Footprint of The Honour Roll:
Social Marketing of Sustainability Initiatives



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1. ABSTRACT

In order to decrease the ecological footprint of The Honour Roll, social marketing strategies of current sustainability initiatives such as the bring-your-own container discount was looked at as a potential solution. Deviation from the original scenario to implement a lighter footprint menu item at The Honour Roll resulted from a meeting with a key stakeholder involved in the Alma Mater Society's (AMS) Lighter Footprint Strategy, Nancy Toogood, as well as the group's desire to choose an area of research that could be transformed easily into action. Signs were developed that convey sustainability awareness messages through different information channels and a survey was conducted to test the effectiveness of these signs. Statistically significant data proved that images with colours and money figures were the most appropriate channel to convey messages and influence an individual's action to further engage in sustainability practices. Other strategies to lower the ecological footprint of The Honour Roll in terms of waste reduction include offering free green tea when customers bring their own mugs and increasing advertising of environment discounts in the AMS Insider student agenda. These recommendations, among others, were made to The Honour Roll as well as recommendations to future AGSC 450 students for further research to decrease the ecological footprint at The Honour Roll in all areas of service.

2. INTRODUCTION

As the world's population continues to increase at an extremely high rate, so does the industrialization and globalization of our food system. These phenomena make it increasingly difficult to stretch the Earth's carrying capacity beyond its current state. In 1996, Wackernagel and Rees first proposed a way of measuring the ecological impact of our production and consumption patterns as humans, which they called our ecological footprint. The ecological footprint is represented as "the total sum of global hectares (gha) of productive land and water required to produce the needs and consume

the waste of a given group, individual or action” (Mitchell, 2007; Group 15, 2008). The ecological footprint of the average Canadian was most recently reported in 2003 as being 7.6 gha, the fourth highest in the world. (Mitchell, 2007). Since food is a resource that is essential to human existence, and currently contributes greatly to the high ecological footprint of the average Canadian, we believe that with a few small changes to our food consumption patterns, there is the possibility for wide-spread change and the lightening of the globe’s ecological footprint (UBCFSP Scenario, 2009).

This paper outlines our approach to lightening the ecological footprint of the University of British Columbia’s (UBC) food system. First, we define the problem and address our value assumptions and how they relate to our vision statement. Next, we describe our methodology, present our findings and discuss them, and make recommendations to the different stakeholders in the project based upon our findings. Finally, we conclude our paper with a summary of our discussions and reaffirming the viability of our recommendations.

2.1. Problem Definition

The main goal of the UBC Food System Project (UBCFSP) is to transition towards developing a sustainable UBC food system, and in turn, setting UBC apart as a model of campus food system sustainability (UBCFSP Scenario, 2009). The UBC Vancouver campus represents a microcosm of larger food systems including the city of Vancouver, the province of British Columbia, the nation of Canada and the world as a whole (UBCFSP Scenario, 2009). Thus, the initiatives developed by the UBCFSP are applicable to these larger food systems, and will hopefully be adopted by them. For the past eight years, the UBCFSP has been working towards the goal of increasing the environmental, social and economic sustainability of the UBC food system. This goal cannot be achieved without collaboration with the Faculty of Land and Food Systems’ AGSC 450 students, UBC Food Services, the AMS Food and Beverage Department (AMSFBD), UBC Waste Management, The Centre for Sustainable Food Systems at UBC Farm, and many others (UBCFSP Scenario, 2009).

Our group was presented with the task of exploring ways to lighten the AMS Food and Beverage Department's ecological footprint, building upon the existing AMS Lighter Footprint Strategy. Upon consultation with other groups working on this assigned task, our group chose to investigate sustainable practices at The Honour Roll, AMSFBD's only sushi restaurant located in the basement of the Student Union Building (SUB). Specifically, our group was given the task of developing a lower ecological footprint menu item for The Honour Roll in order to help further reduce its ecological footprint. However, given the fact that this was the first time The Honour Roll participated in the UBCFSP and that sustainable menu items are already in place such as wild salmon and local, seasonal produce, we decided to focus our project on the advertisement of The Honour Roll's current sustainability initiatives, while also investigating new ways in which The Honour Roll could reduce its ecological footprint (N. Toogood, personal communication). A further in depth description of reasons why our group deviated from the original scenario are discussed further in the "Discussion" section of this paper, specifically the sections "Interview with Nancy Toogood" on page fifteen and "Barriers to Research" on page nineteen.

2.2 Vision Statement and Value Assumptions

As a group, we held a meeting to discuss how our values, experiences, and world-views would shape the outcome of our research at The Honour Roll. Most members of the group identified best with a form of weak anthropocentrism, similar to Murdy's "modern anthropocentrism" (1993; Bomke, Rojas & Skura, 2005). Murdy suggests that it is "natural for human beings to give themselves more importance than other things in nature", but also that it is in the best interest of humans to understand that our health is inextricably linked to the health of the biosphere (Bomke et al, 2005). Our group recognized the importance of healthy and sustainable ecosystems in the health and persistence of the human population. Several group members identified with having primarily eco-centric values, and so therefore our group

was fortunate enough to be informed by both schools of thought. We found that this mix greatly contributed to diversifying our approach to research.

Our group feels that our value assumptions compliment the seven guiding principles of the Vision Statement for a Sustainable UBC Food System very well (Vision Statement for a Sustainable UBC Food System, 2009). We believe that all seven of the guiding principles are important to the development of a sustainable UBC Food System, and upon finding that some were already in practice at The Honour Roll, we decided to focus on the principles of reducing landfill waste by increasing recycling and composting of materials used at The Honour Roll, promoting awareness among customers about cultivation, processing, ingredients and nutrition, and having food bring people together and enhance the UBC community (Vision Statement for a Sustainable UBC Food System, 2009).

3. METHODOLOGY

Our group used Community Based Action Research (CBAR) strategies to examine our project. CBAR is a democratic, equitable, participatory, empowering and life-enhancing method of research, and these are the characteristics that make CBAR our preferred research method (Stringer, 2004; Mullett J, 2000). CBAR employs involving the community that is being surveyed in the research process to gain further insight into their thoughts and feelings regarding the direction of the project, and creates ownership in the initiatives generated from the project on their behalf to ensure that the initiatives are carried out in the future (Stringer, 2004; Mullett J, 2000).

Every aspect of our research included the involvement of representatives of the AMS Food and Beverage Department, UBCFSP facilitators and the public. These representatives and partners all contributed their best knowledge and opinions towards our project and therefore, our group was able to come up with an efficient and effective strategy for reducing the ecological footprint at our chosen outlet, The Honour Roll.

To begin our project, we firstly began reviewing the work of previous AGSC 450 groups and the sources of information provided in our scenario to help us understand and define the concept of ecological footprints. We then investigated the factors that affect ecological footprints and reviewed what measures other institutions and businesses across North America have taken to lower their ecological footprints. These findings are discussed in more detail below.

In the beginning of our work with The Honour Roll, we encountered several challenges. Unlike other AMSFBD establishments such as Pie R Squared, the Pendulum, and Blue Chip Cookies, there had not been previous research conducted on The Honour Roll with the primary focus of reducing its ecological footprint. To identify the restaurant's greatest impediments to sustainability, we conducted an interview with Nancy Toogood, the AMSFBD manager (see "Discussion" section for description of interview). Through this interview, we ascertained that it would be best to focus on reducing waste by encouraging people to recycle and bring their own reusable containers. In order to achieve this goal, our group members qualitatively observed The Honour Roll during busy lunch times on several different occasions without making our presence obvious. After collecting these observations, we realized that there was no effective signage promoting the sustainability initiatives that the AMS Food and Beverage Department and specifically The Honour Roll have in place. We decided to come up with a survey that included three different types of signs and a set of seven multiple-choice questions (see [Appendix A](#) for survey) that was eventually conducted on Monday, March 23, 2009 between 11:00am and 1:30pm at The Honour Roll. In total, 100 individuals were surveyed. Each of the three signs was designed using a different approach (see [Appendix B](#) for signs):

- **Sign one** has large pictures with little wording
- **Sign two** uses a catchy phrase with a simple picture
- **Sign three** uses a more abstract picture and more text requiring the viewer to read the sign carefully in order for the message to be understood.

The intention of this variance in sign design was to investigate the mode of communication that is favoured amongst those surveyed, and the type of sign most people will more likely respond to and be influenced by if they were to see it displayed in the SUB. All 100 respondents polled were solicited and surveyed in accordance with the guidelines set forth by the UBC Behavioural Research Ethics Board (Rojas, 2008). We also collected information on the age, gender and role of each participant with respect to UBC, as well as the frequency with which they visited the outlet. The results of each survey question were tallied, and were later analyzed using basic mathematical calculations. Any relevant associations between the signs chosen and the variables of age, gender and role were examined.

4. FINDINGS AND RESULTS

The following sections 4.1 to 4.3 were investigated despite the fact that our group decided to change the direction of our project to focus on the advertising of sustainability initiatives at The Honour Roll. Our group felt that these investigations were appropriate regardless of our project focus to allow us to envision the bigger picture and widen the focus of our paradigm or lens.

4.1 Initiatives Taken by Other Institutions and Businesses to Reduce their Ecological Footprint

Many institutions and businesses have taken steps to lower the ecological footprint of their food services, in terms of food purchasing and practices, in order to increase the sustainability of their operations. Initiatives taken by both on and off UBC campus food service organizations were examined in order to gain knowledge of some of the successful programs that are in place and to provide perspective and direction to our project.

4.1.1 UBC Campus

The AMS Food and Beverage Department has enacted a number of initiatives within its administration, and among its non-franchise outlets Pie R Squared, Blue Chip Cookies, The Pendulum,

Bernoulli's Bagels, The Moon, and The Honour Roll to reduce the ecological footprint of its operations. These initiatives include: sourcing local ingredients where possible; selling only fair-trade coffee; offering discounts for customers who provide their own reusable mug or food containers; maintaining composting bins and making use of UBC's In-Vessel Composting Facility for customer and food outlet biodegradable waste; developing the local, organic, and vegan (LOV) line of products; reducing paper use by using only electronic copies where possible; using 30% recycled paper; using "Green-Seal" certified cleaning products in all food outlets, and creating a "Lighter Footprint" web site (Alma Mater Society, 2008).

A few of the AMS outlets have contributed to reducing their ecological footprints even further by working in partnership with AGSC 450 students to develop lower footprint menu items. Pie R Squared has developed and sells a pizza using squash grown at the UBC Farm (Group 5, 2008). Also, The Pendulum restaurant has developed and sells the "Beetalicious Salad" which uses beets grown at UBC Farm (Group 24, 2008). Furthermore, Blue Chip Cookies has developed and sells an animal-product-free ginger molasses cookie and a BC fruit bar made with local BC fruit (Group 15, 2008).

A number of UBC Food Service outlets source local and organic ingredients to help reduce their ecological footprints. Place Vanier's residence dining kitchen incorporates UBC Farm produce, local products, and organic apples into their menu items (Chef Steve Golob, personal communication).

There are also two student-volunteer-run programs on campus that have committed to sourcing local, organic and vegan food items. Agora Café, located in the McMillan building, offers menu items featuring produce grown on the UBC Farm (Amy Frye, personal communication). The on-campus food co-operative Sprouts sells local organic produce, local eggs, UBC Farm produce, fair trade coffee, vegan items, and operates a bicycle delivery service for their weekly produce box (Sprouts, 2008).

4.1.2 Local Establishments

Many restaurants in the Vancouver area have taken initiatives to reduce the ecological footprint of their operations through a variety of actions. Bishop's Restaurant in Kitsilano features menu items made with produce grown on Hazelmere Farms in Delta, B.C. (G. King, personal communication). The Fairmont Hotel and Resorts contribute to ecological sustainability by recycling, reducing GHG emissions, reducing energy usage, providing local and organic ingredients in their menu items, and participating in the Ocean Wise and Green Partnership Programs (Fairmont Hotel and Resorts, 2008). Another local restaurant, Rain City Grill, offers menu items featuring local and organic products including a 100-mile menu (Group 15, 2008). Aphrodite's Cafe and Pie Shop, located on 4th Avenue, sells items featuring local and organic food, including produce from the UBC Farm (Group 15, 2008). Also, Vij's Restaurant featuring Indian cuisine offers menu items featuring local and organic food (Group 15, 2008).

Another local organization, Green Table, certifies restaurants to be "Green" if they compost, recycle, use energy efficient appliances, reduce water use, use ecologically friendly products, and sell local and/or organic food. Green Table currently has forty-two member organizations in the Lower Mainland and Whistler (Green Table, 2002).

4.1.3 Other Universities

Several universities in Canada and the United States have taken initiatives to reduce the ecological footprints of their food service operations.

In terms of Canadian universities, Simon Fraser University is currently implementing the Local Food Project, which aims to increase the amount of locally produced food on campus, to increase awareness of the benefits of eating locally produced food, and to encourage and support food production and distribution projects on campus (2006). McGill University operates an organic farm on campus which provides fruits and vegetables for the students and staff at affordable prices (2008). The

volunteers at the farm also provide workshops to raise awareness and build support for the farm (McGill University, 2008). Also, The University of Saskatchewan has established an organic community garden for students and campus residents (Jacoby-Smith, 2007).

In terms of American universities, Brown University has a Community Harvest program, sells local and ecologically friendly food, and promotes a public education program to increase awareness of the benefits of lower ecological footprint food items (Brown Dining Services, 2009). Also, Harvard University's Dining Services incorporates seasonally available local food products (2008). Portland State University's Food For Thought Cafe sells local, seasonal, organic, sustainable, and fair trade food products (2007). Yale University has a three tiered procurement policy that prioritizes local, organic, and fair trade products (2008). Finally, the University of California in Santa Cruz has a Farm to College program that brings local produce to the student dining halls (2007).

4.2 The Ecological Footprint of Food Items Sold at The Honour Roll

Food items exert a corresponding ecological footprint that can be determined through a close analysis of the inputs, emissions, and wastes associated with the production, processing, storage, and transportation of the food item (Chambers et al. as cited in Group 15, 2008). The process of calculating ecological footprints of food items is complex, and many different methods have been developed. Chambers et al. express the ecological footprints of food items in units of m^2/kg , and base their calculations on global averages of land productivity (as cited in Group 15, 2008). Using this method of calculation, the ingredients and food items used and sold by The Honour Roll can be arranged in a spectrum from high to low ecological footprints as follows:

FOOD ITEM	m^2/kg
Fish	561.75
Cream Cheese	205.69
Beef	66.33
Pork	29.83

Tea	25.17
Milk	20.92
Poultry	20.75
Beans	12.73
Oil/fat (solid)	9.34
Oil/fat (liquid)	7.41
Mayonnaise	7.14
Rice/noodles	4.65
Juice	1.42
Vegetables/fruit	1.06

4.3 Issues of Food Procurement for The Honour Roll

The Honour Roll faces many challenges with respect to the procurement of local ingredients for their menu offerings. These challenges influenced our group’s decision to change the focus of our project away from creating a local ingredient menu item for The Honour Roll. The main issues that are faced include purchasing policy, availability, quantity, and price.

4.3.1 Purchasing Policy

The AMSFBD pools the purchasing resources of all of its food outlets to simplify the ordering process and to increase the volume of individual orders to receive lower prices from their suppliers (N. Toogood, personal communication). The Honour Roll has exclusive orders for its specialty items, but the majority of its suppliers are selected by the AMSFBD in order to satisfy the needs of all of its establishments (N. Toogood, personal communication).

4.3.2 Availability

The Honour Roll uses a variety of ingredients in its menu items that are imported from other nations because there are no domestic producers of these items (N.Toogood, personal communication).

The Honour Roll does source some ingredients locally, but there is often an insufficient supply of these ingredients throughout the year as a result of limitations in seasonal availability (N.Toogood, personal communication). Since The Honour Roll specializes in foreign cuisine, and because the customers' preferences do not change in unison with the local growing seasons, The Honour Roll must import many ingredients to serve the demands of their customers (N.Toogood, personal communication).

4.3.3 Quantity

Many local producers operate small farms, and are unable to consistently produce quantities of products sufficient for the needs of the AMSFBD (N. Toogood, personal communication). The UBC Farm, in particular, sells organic fruit and vegetable items that are already in high demand and the potential for an increased quantity purchased by the AMSFBD is low (Amy Frye, personal communication).

4.3.4 Price

The Honour Roll must operate in an economically sustainable manner while meeting the demands of their customers. It is imperative that The Honour Roll maintains competitive pricing since the majority of the customers of The Honour Roll are students on limited budgets, and so the suppliers that are used must also be able to provide competitive pricing as well (N.Toogood, personal communication).

4.4 Survey Results

We conducted a consumer survey at The Honour Roll with the purpose of determining the components of effective signage. We describe effective signage as capturing the attention of its intended audience and influencing the actions of that audience based upon the message conveyed by the sign. We surveyed 100 participants (62 females and 38 males). The majority of the participants were undergraduate students (78%), followed by a small quantity of graduate students (7%), staff members (6%), faculty (5%) and others (4%) who were visiting campus (see [Appendix C](#) for survey results).

The majority of the people polled were between the ages of 19-24 (60%), followed by 18% which were 18 years old and under, 11% were between 25-31 years of age and 11 % were in the 33-55 age range. The majority of the people surveyed frequent The Honour Roll one to three times per week (55%), followed by 18% who visit the outlet one to three times per month, 12% who visit it one to five times per week, 8% that never visit The Honour Roll and 7% that frequent it four to seven times per week.

Out of the three signs that we created, the majority of participants (43%) stated that sign two would influence their actions the most, closely followed by sign one with 40%. The least chosen sign was sign three with 17%. The most appealing sign was sign one with 47% of votes, followed by sign two with 33% and lastly sign three with 20% of votes. The most common reason that people found a sign appealing was image with 45% of votes, followed by both message and image with 33% of votes, and message and other (colour, simplicity, design, creativity, and attractiveness) being the least voted reasons for the appeal of signs with 11% of votes each.

We did not find any different reason patterns for choosing the most appealing sign between females and males. The majority of both undergraduates and graduates also chose image as the reason behind their decisions. However, the majority of faculty members chose message and no faculty participant chose image as their reason for choosing a sign. We did not find any relevant differences in the signs chosen (most appealing and most influential) between females and males.

We did find significant differences between the signs that would influence an individual's action to bring their own container to The Honour Roll. For undergraduates, the sign that would influence their actions the most resulted to be sign two (42%) closely followed by sign one (41%). On the other hand, for graduate students, the sign that would influence their actions the most was sign three (43%) followed by sign two and sign one tied with 29% each.

We also obtained valuable feedback from interviewees on why they liked a particular sign. For sign one, the feedback was that the colour was the most common reason for choosing the sign, followed by simplicity and design. For sign two, feedback told us that the quarter, witty message, colours, and sense of environmental responsibility caught attention. The feedback for sign three included that it was attractive and creative but the idea was not conveyed clearly.

5. DISCUSSION

5.1 UBC Food System Initiatives in Reducing its Ecological Footprint Compared to Other Institutions and Businesses

Many local restaurants have made commitments to sustainable food purchasing patterns, such as buying local and/or organic food products, recycling waste and joining the OceanWise sustainable seafood program (see Findings). Other universities and colleges have also recognized the importance of sustainable food systems by increasing the amount of sustainably-sourced food products used in their facilities and through public education programs focused on educating the university community on the importance of sustainable food systems (see Findings).

While these institutions and businesses should be commended for their efforts to include sustainability in their daily practices, UBC remains one of the few institutions maintaining a holistic vision of their food system, striving to incorporate all facets of environmental, social and economic sustainability relating to food. These facets include waste management, food procurement, ethical payment to growers and producers, the ethnic appropriateness and nutrition of food on campus, and the role of food in building and strengthening community (UBCFSP, 2009). Because of its holistic vision of food system sustainability, UBC remains a leader in this area, and is hoped to be viewed as an example for other businesses and institutions to follow (UBCFSP, 2009).

5.2 Interview with Nancy Toogood, AMSFB Manager, March 3, 2009

Our discussion with Nancy Toogood provided the direction to our project. She was the most appropriate person to talk to concerning our group's original idea of making the UBC Farm Yam Roll a permanent local and vegan menu item at The Honour Roll. However, our interview with Toogood yielded key information that led to us to deviate from the original food system scenario we were presented with to one that focused on the social marketing of sustainable actions already being practiced at The Honour Roll. Firstly, we learned that The Honour Roll already has several vegan items including seasonal vegetable rolls, kappa rolls, avocado rolls, salads, and edamame. We also learned that The Honour Roll uses local produce whenever possible; however, Vancouver's short summer growing season and the fact that the majority of The Honour Roll's business occurs in the autumn, winter and early spring seasons makes it difficult to obtain local produce when it is needed most. Secondly, finding a locally grown alternative for rice, a fundamental in a sushi restaurant, did not seem feasible. Based on this information received from Toogood and the fact that our group was keen on choosing an area of research that could be transformed easily into action, the direction of our project was changed.

Toogood informed us of several sustainable actions that The Honour Roll currently employs concerning packaging that, in our opinion, receive very little promotion and have great potential to attract customers. Currently, customers of The Honour Roll pick up and purchase pre-packaged food that has been prepared by Honour Roll staff. The rolls come in plastic containers that make for convenient pick up for customers, but the resources needed to produce and deliver the packaging as well as the adverse impact the plastic waste has on the environment makes the practice unsustainable. According to Toogood, The Honour Roll serves approximately 1200 people per day with the vast majority using these plastic containers. Furthermore, our group qualitatively observed the two recycle bins located in The Honour Roll dining area for one hour during the lunch rush between 12 to 1pm on Monday, March 9, 2009 and noticed the recycle bins being used only five times. It was postulated by our

group that perhaps customers are unsure of which items were to be placed in which bins. We discussed the possibility of a larger sign above each bin with photos of the specific items that should be placed there upon their discard, as opposed to the small written description that is currently being provided. The Honour Roll also offers a discount to those who purchase a boxed combo or two maki rolls. However, this practice is both difficult to advertise to customers and difficult for The Honour Roll staff to enforce, as it involves only some menu options making it very challenging to understand. No one in our group was aware that this policy was in effect at The Honour Roll, but we firmly believe that if this policy were promoted effectively, we could drastically reduce the use of plastic packaging at The Honour Roll.

In addition, Toogood informed us that she was willing to serve free green tea with any purchase for customers that bring their own mugs. This would make for a cheap and sustainable way of increasing The Honour Roll patronage. When customers bring their own containers and mugs, it creates a rare situation where three parties benefit. The Honour Roll benefits as they reduce packaging costs, the customers benefit from the price discounts, and finally, the environment benefits as the amount of plastic waste in our landfills is reduced.

It was our belief that promoting The Honour Roll's current sustainable actions through the use of social marketing surveys would be the best way to reduce its ecological footprint. By creating signs and surveying the public's response, we hoped to gain insight into how to effectively inform students about The Honour Roll's current sustainability initiatives, including the bring-your-own mug and container discounts, and its use of wild salmon and local, seasonal produce. Ideally, the most effective sign would lead to increased consumption of local food, reduce the need for plastic packaging, and ultimately create a more sustainable campus food system.

The feasibility of changing the packaging to something more eco-friendly in a biodegradable sense was determined to be low within the context and time constraints of our project this term. It was a group consensus that we would develop signs to be posted in eye-catching locations at The Honour Roll

sushi bar to promote awareness of on-going AMS Food and Beverage initiatives. In the development of the signage, the issue of 'sign pollution' was kept in mind, such that our primary goal would be to suggest one type of signage that could be implemented at The Honour Roll. This was done so that all suggested signage would be used in collaboration with existing AMS signs. This information will be useful to future AGSC 450 groups wishing to carry on with this sign development, given that there are multiple sign prototypes developed by our group that were not used in the survey but have been included in the appendices (See [Appendix D](#) for additional signs for possible future use).

5.3 Exploration of Survey Results

As past AGSC 450 groups acknowledged, consumer education is a critical component in achieving a sustainable food system at UBC (Group 15, 2008; Group 28, 2008). Promotional advertisements are one way to increase customer awareness in busy venues (Group 15, 2008). Several AGSC 450 groups have focused on creating promotional posters and signs (Group 15, 2008; Group 28, 2008; Group 17, 2007); however, the effectiveness of such signage remains in question. Although we did not test signage that has already been created by other groups, several of the characteristics found in past groups' advertisements were integrated into our own signage.

Our survey provided interesting results related to creating effective educational signage. Image by itself resulted to be very important for survey participants as it was the most common reason noted for choosing a particular sign. Based on the face-to-face interaction and the written comments from participants, characteristics that played a major role in grabbing an individual's attention turned out to be colours (sign one) and money figures (sign two). We speculated that if the image is not attractive, despite the intent of the message, people were not going to take notice of the sign and hence the goal to promote sustainability awareness would not be met. This is particularly true for undergraduate interviewees already in the sushi purchase line-up, who were less inclined to read the signs due to time constraints.

It is important to note that the survey results may have been biased by multiple factors that no quantitative data can account for. A potential factor for bias may be the formatting of the signs. Regrettably, sign three's large formatting could not be reduced to a size similar to the other two signs. As a result, signs one and two were on one side of the survey sheet and sign three took up the entire backside of the same sheet. It is possible that the image size differences skewed the interviewees' perception of the images. Furthermore, only three copies of each sign were printed, limiting our group's efficiency in conducting surveys due to a lack of resources. This meant that one group member had to manually hold the signs sheet and flip sides as necessary for standing interviewees to complete the survey with ease whereas sitting interviewees were left alone with their survey and a copy of the signs sheet so they could flip the sheet at their own pace. The issue with the standing scenario is that the presence of one or more group members may have also induced unintentional pressure on the interviewee while sitting interviewees had the benefit of privacy while completing the survey. There is also the bias that comes out in face-to-face surveys. It was much more likely that group members administering the survey for people in the line-up would approach people that made eye contact with them first, as many people avoided eye contact as a subtle refusal to participate.

Nevertheless, it is our belief that these findings provide insight as to which type of sign would be more suitable under the circumstances encountered at the SUB, especially at lunch hour rushes. In our case, the signs that would increase awareness and would help reduce the ecological footprint of The Honour Roll would be either sign one or sign two.

5.4 Barriers to Research

Because The Honour Roll has not participated in the UBCFSP prior to 2009, we encountered several significant barriers to our research process. These barriers ultimately helped us choose our different direction for the project.

The first barrier we encountered was an important one, as it concerned our key informants of The Honour Roll's sustainability practices. We were informed that the manager of The Honour Roll spoke English as a second language, and may not have fully understood our project's scope or possible outcomes, which could have created difficulties in working with The Honour Roll staff (N. Toogood, personal communication). To avoid confusion on behalf of her employees, Toogood suggested that she be our primary informant concerned with the day-to-day operation of The Honour Roll (N. Toogood, personal communication). This barrier affected our research considerably, as we found it difficult to conduct research without the direct involvement of The Honour Roll staff.

One of the barriers we encountered into looking into developing a new lower ecological footprint menu item was the nature of The Honour Roll's business as a Japanese restaurant. Though it is important to have culturally diverse cuisines available on the UBC campus, it is difficult from a sustainability point of view since the main ingredient used at The Honour Roll is rice, which is not cultivated in Canada and thus must be shipped from outside the country (N. Toogood, personal communication). Rice can be cultivated in California; however, the economic sustainability of using California rice at The Honour Roll is unknown at this time (California Rice Commission, 2009).

Another barrier we encountered upon exploring the option of making the UBC Farm Yam Roll a permanent menu item at The Honour Roll is the lack of available growing space at UBC Farm. We discussed the idea with David Bradbeer, who conducted research on yams at UBC Farm last summer. David informed us that unless a research project is being conducted on yams, there is virtually no space at the farm to cultivate them (D. Bradbeer, personal communication). Also, because UBC Farm is a research facility and not a commercial farm, the potential for obtaining produce grown there is limited (D. Bradbeer, personal communication). We were also interested in seeking out suppliers of yams from just outside Vancouver, in the rich agricultural region of the Fraser Valley. This option; however, was not feasible due to an absence of food transportation opportunities from this region to the UBC campus

(N.Toogood, personal communication). The limited feasibility of developing new sustainable menu items for The Honour Roll at this stage of their involvement in the project resulted in our decision not to pursue this avenue any further at this time.

6. RECOMMENDATIONS

6.1 To Honour Roll and AMSFB

Our group believes that with more inputs and research, The Honour Roll can be a sustainable food outlet in terms of waste reduction. The Honour Roll could further decrease its ecological footprint in the following ways:

1. Offer more discounts and promotions when customers bring their own containers

Throwing away sushi containers after eating may be more practical for some of The Honour Roll customers who don't have room to carry re-usable containers with them, but we believe there is potential to expand the proportion of customers who would be willing to provide their own container. We recommend setting a fixed price point for receiving discounts to avoid ambiguity and to make advertising more effective. Furthermore, our group suggests that The Honour Roll offer the incentive of a free green tea when customers bring their own mug. We believe this incentive will not only increase sales at The Honour Roll, but will further encourage students to engage in sustainability practices. In addition, we recommend that The Honour Roll develop a customer punch card unique to the outlet that persuades students to bring their own container ten times to receive a free roll.

2. Prioritize training of AMS staff members about sustainable waste management policies

We believe that if all employees of the AMS Food and Beverage Department were on board with waste management policies, composting of foodstuff, and recycling of materials, then these practices would increase. We recommend that a greater emphasis be placed on training all AMS staff on proper waste management policies and sustainability initiatives.

3. Increase advertising of sustainability initiatives

Advertising is a great way to increase awareness about environmental issues to UBC students, staff, faculty and visitors. We recommend that The Honour Roll increase signage promoting current eco-friendly projects such as The UBC Farm Yam Roll made from local ingredients. We recommend signs be developed by the AMS Food and Beverage Department and then tested using focus groups to evaluate their effectiveness at conveying messages. In the 2008-2009 AMS Insider student agenda given free to students in September, The Honour Roll made advertisements promoting its fast and “made to order” service. The advertisements were noticeable, bright and repeated several times throughout the agenda. We recommend that The Honour Roll advertise their efforts for creating a more sustainable university food system in the 2009-2010 AMS Insider student agenda to increase student awareness about how to be eco-friendly.

6.2 To Future AGSC 450 Students

- 1.** The construction of the new “Green” SUB is anticipated to begin in the coming years. We recommend that future AGSC 450 students look into the design of the new SUB, especially the set up of the AMS food outlets that would be conducive to greater sustainability in terms of post-consumer waste. To achieve this, we recommend that the students look into how feasible it would be to set up the food outlets like a cafeteria/food court with a central washing station including a commercial dishwasher/sanitizer for dishes. This idea would allow AMS food outlets to serve food on ceramic or plastic dishes that can be washed and re-used by customers.
- 2.** We recommend that future AGSC 450 students look into how to overcome barriers to increasing local suppliers of food products. We suggest that students focus on finding transportation options for local/vegan food items since Nancy Toogood identified this as the biggest barrier to increasing local food purchasing at the AMSFBD.

3. Rice and fish are some of the food products that are used in the largest amounts at The Honour Roll. We recommend that future AGSC 450 students look into finding more sustainable rice and fish options to decrease The Honour Roll's ecological footprint. We acknowledge that this might be a challenging endeavour since rice must be imported.
4. Communication with The Honour Roll staff was a challenge for our group. We recommend that future AGSC 450 students make contact directly with the staff so that the communication may be enhanced compared to going through a third party.
5. We also recommend that future students look into creating signs for the recycling/compost bin that are easy to follow using photo collages of the items that can be recycled/composted specific to the food establishment.

7. CONCLUSION

As we have demonstrated, reducing the ecological footprint of the UBC Food System can be achieved through waste reduction of packaging at AMS food outlets. There are current sustainability initiatives in place at The Honour Roll to encourage students to engage in sustainability practices; however, they are largely unknown due to a lack of advertising. The results of our survey demonstrate that effective advertising that calls for action from students to practice sustainability includes signs using images with colours and money signage. By incorporating this type of advertising at The Honour Roll, we believe the outlet's ecological footprint can be decreased and student awareness about sustainability practices can be increased in the hopes that these behaviours are applied to other aspects of their lives. The signs we developed will be sent to Nancy Toogood and encouraged to be incorporated into the AMS Lighter Footprint Strategy with official labels. Toogood will also receive our survey results so that the AMSFBD can use our findings for sustainability promotions in other outlets.

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9. APPENDICES

9.1 Appendix A: Honour Roll Survey

Please indicate that which applies to you:

1. What is your role at UBC?

- Undergraduate Student
- Graduate Student
- Faculty
- Staff
- Other (please specify) _____

2. What is your gender?

- Male
- Female
- Other

3. What is your age?

- 18 and under
- 19-24
- 25-31
- 33-55
- 56 and over

4. How often do you visit *The Honour Roll*? Please fill in the blank.

- 4-7 times per week
- 1-3 times per week
- 1-3 times per month
- 1-5 times per term
- Never

5. Of these three signs, which one do you think would influence your actions **the most**?

- 1
- 2
- 3

6. Of these three signs, which do you find most appealing?

- 1
- 2
- 3

7. What influenced your decision in **Question 6**?

- The message conveyed on the sign
- The image(s) present on the sign
- Both
- Other (please specify) _____

9.2 Appendix B: Signs

Sign One:



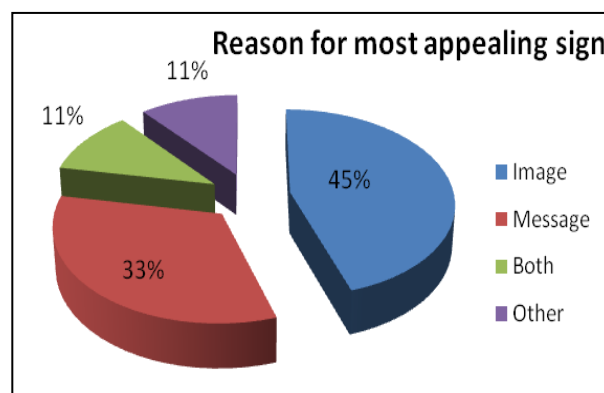
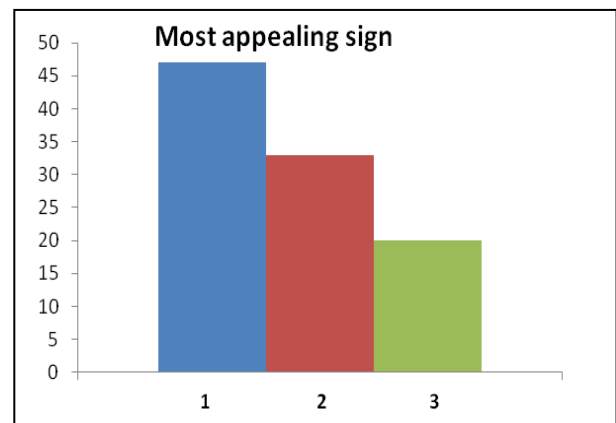
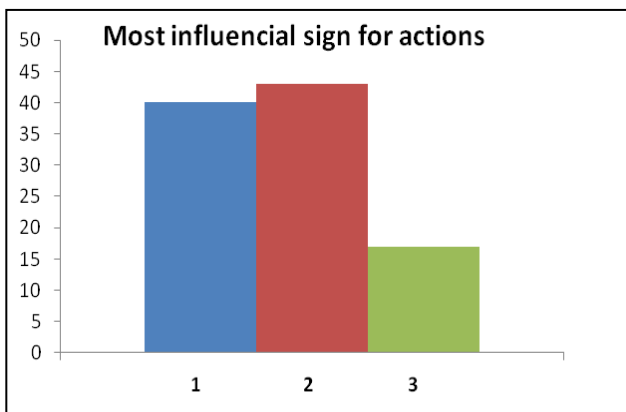
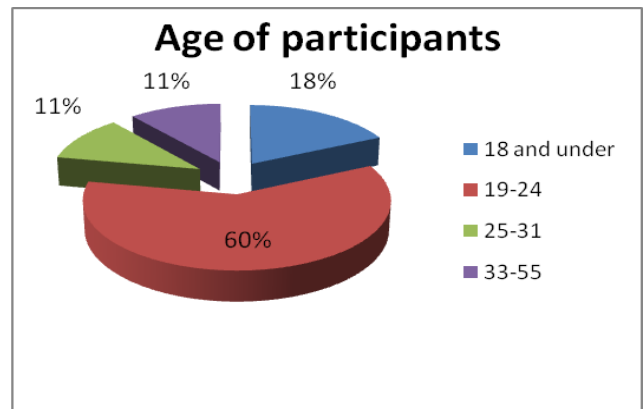
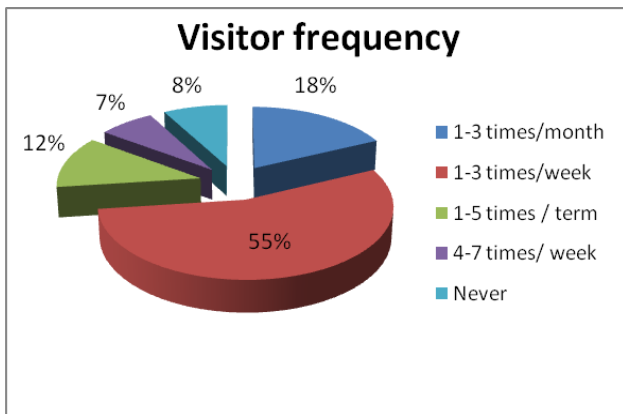
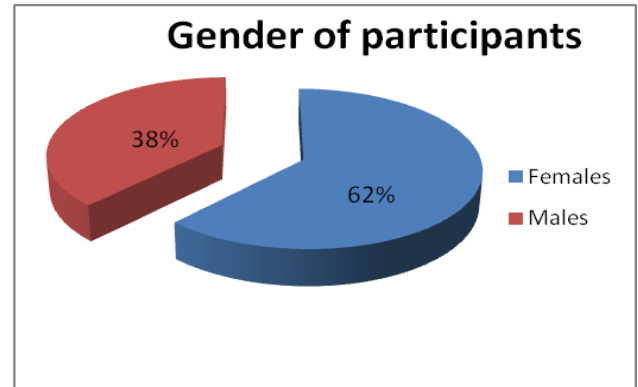
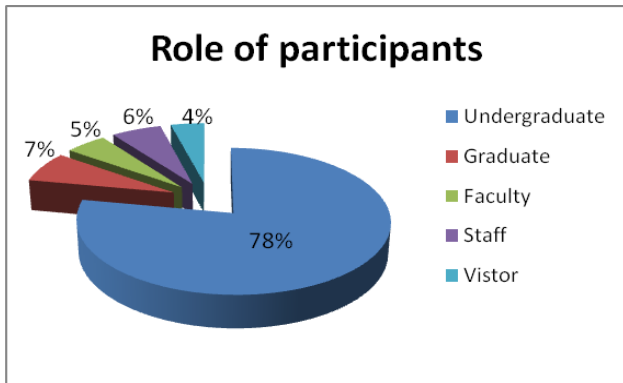
Sign Two:



Sign Three:



9.3 Appendix C: Survey Results



9.4 Appendix D: Additional Signs for Possible Future Use



A Short Story at The Honour Roll

One day a sushi master called in his disciple and said "Son, **green tea is at its finest** when you drink it from an actual cup, not made from foam."

The disciple replied, "Thank you teacher, I have learned a most valuable lesson."

(Save 10 cents on green tea
By using your own travel mug.)

