

Institutional Waste Management and Reduction at Dalhousie University

Project Report for Divert NS

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Throughout the summer and fall I have been able to work on waste reduction and management efforts in residence and food services, as well as on a broader scale through campus education efforts, thanks in part to funding provided by Divert NS. This report is a summary of the work I conducted during this period. It discusses prior initiatives, challenges, positive changes and developments, as well as areas for future focus. The Appendices feature some of the resources released by the Office of Sustainability and internal reports or reviews I penned pertaining to the areas discussed here.

Residence

Residence structure provides unique challenges for creating a culture of waste reduction and educating students to properly sort their waste. Students arrive at Dalhousie from many places in the country and the world that have different environmental stewardship practices and access to environmental services. Students in residence are for the most part an annually renewing population that therefore demands constant education and awareness campaigns and programming. Furthermore, there is a lack of direct monitoring or enforcement of sustainable practices, as well as budgetary and time concerns of residence councils and individual students.

Residence also provides a place where students congregate and live under the supervision of a Residence Assistant, providing an environment geared to delivering campaigns and holding engaging and fun events. Residence has a great opportunity to be a place where residence staff and peer educators get students interested in waste reduction and communicate waste sorting standards from the beginning of students' time at Dalhousie.

Dalhousie already has benchmark events and structures in place to engage students and the broader community in waste reduction efforts. The Office of Sustainability supports the work of a Residence Sustainability Representative (RSR) supervised by Student Life. The RSR chairs the Green Residence Forum, a group that invites residents to promote sustainability in their hall. The RSR also leads student engagement work during Ecolympics, an annual competition between residence halls to reduce water and energy consumption. Finally, the annual Dump and Run move out sale that Dalhousie hosts in conjunction with Saint Mary's University diverts significant amounts of household goods, clothing, and books from the landfill and gives them a new life in the community.

My work with residence this term involved developing and promoting materials for residence assistant training, working with the Student Life Manager to hire an RSR and provide direction with their work, synthesizing information about the Dump and Run to create a guide for the student organizers, and supporting a compostable bag pilot for residents.

Residence Assistant Education

University staff working with residents can see the need for waste reduction and management training given the contamination rates and high volume of waste produced in residence. I imagine the most effective way to educate the thousands of residents at Dalhousie each year is to first educate Residence Assistants, to instruct and encourage them to be sustainability leaders.

My initial approach to this was to design a presentation that I would give in a session during RA training week. I showed this to the Student Life Manager and a Residence Life Manager to gain feedback and understand if this was a possible approach to educate residents on sustainability. Given the opportunity to talk directly with RAs, I would speak to waste reduction, waste management, simple actions for water and energy conservation, active transportation support on campus and in the community, and specific ideas for programming and campaigns. Another aspect of my initial residence strategy was to suggest edits for the Residence Handbook that would provide a stronger directive for waste sorting in residence as well as a means of enforcement.

Partially due to internal restructuring with residence staff, time was not made available for me to deliver this workshop to Resident Assistants. To convey the necessary information without a presentation, I developed a double sided handout adjusted for RAs on the Halifax and Truro campuses (Appendix A). I was able to directly distribute this to about 50 of the 100 or so RAs in Halifax during a Resource 101 Fair that I tabled at during Orientation. The handout was also distributed electronically to RAs in Halifax and Truro.

Green Residence Forum

During the summer I worked with the Student Life Manager to discuss adjustments to the staffing structure of Residence Sustainability Representatives and to reimagine the Green Residence Forum (Appendix B). This work included changing the ideal staff number from one individual to a team of three and adjusting their mandate to promote consistent action and observation on sustainability efforts. To date, one RSR has been hired for the 2016/2017 year. We have guidelines and frameworks in place to provide for a smooth hiring process in the Spring that will allow the GRF a strong start the following fall.

Move-In and Move-Out Guidance

The Dump and Run is traditionally organized by Saint Mary's University and hosted by Dalhousie. I developed a Dalhousie Dump and Run guide for our SMU collaborators that outlines responsibilities, key tasks and contacts, and protocol to maximize waste diversion (Appendix C). Increased waste diversion from the Dump and Run event can be achieved by planning for extra recycling bins during clean up, understanding options for textile recycling, and exploring ways to donate or recycle hard unique items such as large plastic toys and unopened toiletries.

Compost Bag Pilot Program

This summer discussion resumed about the best system for waste collection within residence rooms. Neither the current system nor the office system include an organics collection component and this was seen as a missing part of the waste units provided for residents in their rooms. I suggested and gathered some pricing for cellulose lined paper bags that could be provided or sold at a low cost to residents. Ancillary Services voiced support of a pilot using Bag to Earth Bags, and I connected them with the sales representative for the region. A pilot project with 4000 bags will begin in January under the direction of Ancillary Services.

Catering

Disposable products in catering service generate a significant amount of waste and waste stream contamination. With three on-campus caterers and multiple external companies that service on campus, it is challenging to develop progressive waste management and waste reduction strategies that are accepted and understood by all parties. Disposable catering service is frequently used because it allows the caterer to process more orders in a day and saves clients the extra \$1-1.25 charge per person for china. Disposable service generates a lot of waste in the form of paper plates, soup bowls, coffee cups, and disposable cutlery. Furthermore, there are no guidelines as to who is responsible for sorting the disposables. The volumes of waste produced at events catered with disposables also pose a problem for bin distribution and movement.

During the summer, I facilitated two stakeholder meetings to discuss and generate improvements and commitments regarding waste management and waste reduction in catering service. I also worked with catering staff to explore alternative disposable products. Future work will focus on increasing the use of china service on campus.

Catering Stakeholder Meetings

Two stakeholder meetings brought together representatives from Aramark, Chartwell's, the University Club, Conference Services, Campus Bookings, the Office of Sustainability, and Facilities Management. I entered the meetings with frameworks to achieve two objectives: one, to generate a protocol for waste management from catered events (Appendix D), and two, to secure commitments for reducing waste (Appendix E). These meetings resulted in mutual identification and understanding of existing problems and allowed everyone to take part in drafting solutions. I was able to stress the importance of the waste hierarchy and facilitate a discussion of best practices from within the University and beyond.

Draft protocol for waste management specifies that bins cannot be moved by any party and the catering company should collect and sort leftover waste from disposable service, just as they currently collect material after a china service. Another suggestion that resulted from the meetings is limiting catering in classroom due to a lack of bins and unpredictable key access to these room. This idea has been posed to senior management in Ancillary Services as a cross-campus solution.

The waste reduction commitments that I advocated include replacing all disposable cutlery with silverware; ensuring all plates, cups and containers are compostable or recyclable; using bulk condiments; and promoting sustainable services and sorting guidelines.

Product Review and Changes

A major challenge in realizing waste reduction goals with disposable service is the acceptability of compostable products at municipal compost facilities. Aramark catering had already been using corn-based compostable cutlery and PLA-lined coffee cups and soup bowls in their disposable service. I identified the products they used as well as products purchased by other campus caterers to understand their certification and acceptability.

Corn-based compostable cutlery was definitely not accepted by the municipality, as was already understood, and so this product was just going to the landfill. I invested time into sourcing an accepted and cost-effective compostable alternative and eventually connected with a Canadian distributor for uncoated birch cutlery. Currently, Aramark is using the birch forks and knives in their disposable catering service, diverting 140,000 utensils from the landfill annually.

Unfortunately, certified compostable coffee cups and soup bowls are not accepted at the relevant municipal facilities even after positive on-site testing for full decomposition. Due to these restrictions, disposable catering service and retail operations (covered below) still produce large volumes of poly-lined coffee cups and soup bowls that commonly contaminate other streams. Aramark is continuing to use certified compostable coffee cups and soup bowls, which generally use less resources in raw resources and manufacturing, while directing clients

to place these items in the garbage bin. Clients are advised how to sort by graphic signage created by the Wellness and Sustainability Manager for Aramark that is displayed at events catered with a disposable service (Appendix F).

Food Vendors

Disposable food packaging from on-campus vendors fills and contaminates waste bins across campus. Many different types of packaging are used and several establishments are franchises that must follow the guidelines from their parent companies. Grab-and-go and throw-away culture combine to yield hundreds of thousands of coffee cups going to the landfill and confusion among consumers about how to sort. There is little or no sustainability advising on product decisions by on-campus vendors who then distribute food in disposable containers that must be managed by the campus.

My work to increase reusable dishware and improve waste management in retail began with a review of the products distributed by each on-campus vendor coupled with recommendations for reusable substitutes, compostable or recyclable alternatives, and behavior changes to reduce consumption. I developed relationships with managers at the retail providers on campus and met with them regularly to introduce products, follow up on recommendations, and work with retail staff. Updating bins and signage in back-of-house food preparation and serving areas provided opportunities to talk with staff about what goes where and introduce or reinforce the expectation of sorting waste. Overall, work with food vendors established an expectation of sourcing better product and educating staff, and also allowed me to discover new problem areas and possible solutions.

Upcoming work will include follow up on bin placement and product changes as well as formatting and release of point-of-sale signage targeted to consumers. During the summer I also conducted research on a reusable container exchange program which I hope will be utilized in the future.

Product Review and Changes

In May, I conducted an informal review of the food service products distributed at each vendor on campus (Appendix G). I categorized the disposable materials by waste stream and recommended changes based on the hierarchy of reusable, compostable and recyclable. These recommendations included serving baked goods in bulk as opposed to individually wrapped; serving condiments in bulk; ensuring that all stir sticks are wooden or metal spoons; reducing or eliminating the provision of plastic bags and small, disposable items; and making coffee cups, bowls, and cutlery compostable as per HRM guidelines. As discussed above, it is not advisable

at this time to instruct consumers to compost certified compostable coffee cups and bowls so these recommendations have been suspended.

I walked through these recommendations one by one with managers at Chartwell's and Aramark. Several small but significant changes to date include one vendor taking plastic cutlery behind the counter, some vendors moving from small condiment packets to bulk serving, and several vendors now recycling gloves that were previously landfilled. There is an agreement to move away from plastic stir sticks at the vendors that use them once the stock runs out and an assessment is being conducted to install bulk bins at a vendor that currently sells baked goods individually wrapped on site. Over several months I researched products, contacted sales representatives, ordered samples, and met with store managers to introduce better disposable options. A major victory from this work was a switch to compostable salad containers at Pete's ToGoGo, where salads are a main menu item. The previous container was poly-lined kraft paper so that it looked compostable to the consumer but was in fact garbage. The switch reduces landfill waste and contamination, though it did result in a price increase for consumers.

Finally, franchises are still a difficult place to make changes in the products offered. For example, Subway provides a plastic bag with every sandwich purchase, and often all the waste from someone's meal at this outlet ends up in this bag and then unsorted in the garbage bin. The Office of Sustainability gave a letter of support to the Sustainability and Wellness Manager at Aramark to help when these franchises are approached and asked to alter their practices or disposable takeaway products.

Back-of-House Sorting

The Waste Bin Standards developed by the Office of Sustainability for Dalhousie assigns waste bins and signage by space. Using this guide, I worked with retail managers to retrofit bins and add appropriate signage in food preparation and serving areas. Retail areas were already doing a tremendous job at diverting and tracking food waste and recycling common items like large plastic jugs and metal cans. The bin retrofits were an opportunity to target items like plastic bags and paper towels that often ended up in catch all bins but should be recycled and composted, respectively.

Bin retrofits were also conducted in the four residence dining hall kitchens in Halifax.

Staff Education

A lot of effective staff education was done when I worked with retail managers on back-of-house bin retrofits. Staff respected the managers and I was there to answer questions and respond to input about how to best place bins. Together, we were able to provide one-on-one

instruction to retail staff and reinforce our message about sorting by going through garbage bins on site and pointing out items that could be diverted.

I was also invited to speak to a couple hundred Aramark food services staff during their orientation. In a short presentation, I addressed the importance of sorting, reviewed sorting guidelines, and provided resources and contacts for asking questions.

Point-of-Sale Signage

Point-of-Sale signage is a great strategy for teaching consumers how to sort. This signage employs graphics and text specific to a vendor to reduce confusion for consumers. I have designed a template for updating point-of-sale signage (Appendix H). In January I will finish the photography step with Design Services then format the posters.

Reusable Container Exchange Program

A lot of the work that I have done with retail has been about mitigating the effects of disposable products by switching to compostable alternatives. Of course, the best choice is reusable, and that is why I also conducted research on reusable container exchange programs (Appendix I). I spoke with a few Canadian schools and thought about the benefits and challenges of implementing such a program at Dalhousie. This initiative has also been proposed to Ancillary Services but is not currently a priority project for the Office of Sustainability.

Sustainable Event Planning

A major project for me this summer was creating an updated Sustainable Event Planning Guide to inform sustainable decision making by student societies, Dalhousie staff, and external parties (Appendix J). The Guide includes step-by-step planning guidance, detailed recommendations, and resources. It addresses transportation, printing and promotions, participant involvement, vendor involvement, food and drink, waste management, waste education, and water and energy reduction. The Guide is also available in a condensed, double sided sheet format (Appendix K). Both can be found [here](#) on the Office of Sustainability website, under Education Materials.

I invited food service groups, Campus Bookings, Conference Services, the DSU Membership Services Coordinator and other applicable parties to review the guide before publication. From stakeholder meetings for catering described above and in doing research for this guide I was able to identify discrepancies between groups' understanding of protocol for waste management for events involving food services. A unified protocol is now actively being worked on by senior staff.

In the future I plan to promote the guide with the help of the Dalhousie Student Union and Student Life. I have plans in place with the DSU Membership Coordinator to include the Guide in Risk Management and Event Planning training for all student societies and incorporate the guide into DSU website resources. We have also discussed tying mandatory DSU Risk Management event forms with Green Events Certification. This Certification could give groups access to a green event fund to cover cost discrepancies that may arise from making more sustainable purchasing decisions. I have talked with the Student Life Manager about using the condensed Guide to inform RA programming and integrate it with their programming requests.

Orientation

September is a busy time of the year on campus, and it marks a crucial period for promoting a culture of reuse and educating students and staff on waste sorting expectations. I attended First Year Orientation's Summer Orientation Resource Fair, International Student Orientation, the DSU Dal101 Resource Fair, and the DSU Orientation Field Party. These resource fairs provided an opportunity to connect with students, parents, and Residents Assistants. As well as explaining the importance of waste reduction and communicating sorting guidelines, I promoted active transportation, natural spaces, and water and energy reduction on behalf of the Office of Sustainability.

During the summer I approached the Vice President of Student Life at the DSU and asked to advise their Orientation planning as a sort of sustainability consultant. I presented a condensed version of the Sustainable Event Planning Guide to the Orientation Committee and had several meetings with the Orientation Coordinator and the VPSL about swag and promoting reusable bottles, avoiding Styrofoam and other landfill-destined products, organizing clear waste sorting stations, and communicating sustainability goals to vendors. Unfortunately, many of my hopes for Orientation were not met. I hope that next year the Dalhousie Student Union Sustainability Office (DSUSO) can also provide support for a more sustainable Orientation week.

My co-worker and I also developed draft material for staff and faculty orientation that communicates waste reduction and management, active transportation, and energy and water reduction. The Office of Sustainability release a final double-sided sheet with this information to be included in staff and faculty orientation to the University (Appendix L).

Multi-Media Waste Education

My co-worker and I developed a multi-media waste education strategy to change the waste habits of the Dalhousie community through strategic social marketing (Appendix M). The key messages we intend to communicate with this strategy are:

1. The Office of Sustainability aims to clear up the common confusion about 'What Goes Where' in regards to waste management. We are the go-to source for on campus questions and concerns about waste.
2. The Dalhousie community has a responsibility to dispose of their waste according to Dalhousie guidelines. This includes following Pack It Up, Pack It Out signs and source separating at PROG systems, as well as properly disposing of universal and hazardous waste per specific Dalhousie programs.
3. Single use items are discouraged by the Office of Sustainability. Reusable items provide a better user experience, reduce waste, and set a positive example.

The campaign involves the release of a series of short videos, questions, graphics, and photographs through Dalhousie news outlets, Twitter, Facebook, and the Office's website. It includes physical posters campaigns across campus (Appendix N). The waste education strategy also involves a [dedicated page](#) on the Office of Sustainability's website with an original animation, customized quiz, and a link to the Dalhousie Guide to Waste Management on Campus.

A small but important piece of the strategy targets student behavior in classrooms. Students must be instructed to sort their waste in hallway/atrium PROG bin systems as garbage bins have been removed from most classrooms. We have requested that professors display an educational slide showing a PROG set and a Pack It Up, Pack It Out sign with a short explanation as students enter the classroom during the first week of classes this January. The slide will be distributed to professors through faculty administration and departmental heads.

Appendix A
Physical and electronic handout for Halifax Residents Assistants

Hey Resident Assistant!
Can you share this sustainability information with
your floor?



Sort Out Your Waste

(This part is so important! Please share at one of your first floor meetings)

In your room, put garbage in the black bin and recycling in the blue bin (unbagged). Take your organics out daily to the organics bin in your recycling area. Remember to sort all of your waste in the recycling room. There are simple, informative signs about what goes where, and a more detailed guide in your room. **As a resident, it is your responsibility to sort your waste properly.**

Common areas have four stream sorting stations or Pack It Up, Pack It Out signs that tell you to remove all waste from the room and sort it at the nearest station.



Reduce Waste, Save Money

- Always bring your reusable mug for coffee/tea and receive a 10-20 cent discount
- Bring your own container and cutlery if getting take-out
- Skip the plastic bag and carry a cloth one for shopping

Conserve Water and Energy

- Remember your reusable water bottle (and mug) and skip the bottled water
- Wash full loads of laundry in cold water and consider a drying rack for your room
- Unplug appliances and switch off the lights



Active Transportation

- At the Bike Center, you can rent a bike for free or have help to tune up your bike
- There is bike parking and service stations across campus
- You have a bus pass included in your tuition - explore with it! There are local parks and beaches accessible by transit.



Thank you for sharing this RA! If you or your residents have any questions, please visit the Office of Sustainability website or email rethink@dal.ca. The Office can help provide educational resources and connect you with waste and conservation educators. Be sure to check out our Sustainable Event Planning Guide and checklist to make your programming green!

Appendix B

Green Residence Forum Review and Recommendations

Options for Residence Engagement Through Green Residence Forum

Office of Sustainability, May 2016

The Green Residence Forum (GRF) seeks to engage students living in residence at Dalhousie with on-campus sustainability pursuits, particularly efforts geared towards residence life. A key event coordinated in part by the GRF is the Ecolympics, a competition between the residences on all Dalhousie campuses to reduce water and energy consumption during a two-week period. The GRF works to promote the Ecolympics and typically runs several fun events during the competition period.

The GRF is chaired by the Residence Sustainability Representative (RSR). Their roles and duties, as outlined in the 2015-2016 Halifax Residence Handbook, are as follows:

- A student staff member who works collaboratively with Residence Life Staff and the Office of Sustainability to raise awareness about sustainability issues and conservation in residence.
- Chairs the Green Residence Forum (GRF) and recruits members from all residences to participate in activities related to sustainability in residence.
- Provides leadership to student teams in the organization of Ecolympics and other sustainability-focused events in residence.

The previous RSR has now graduated, and so this position will have to be filled for the 2016-2017 year. Optimally, the hiring committee would include the Student Life Manager and/or Residence Life Managers and a member of the Office of Sustainability. To maintain accountability throughout their term, the RSR should have regular meetings with the Director of the Office of Sustainability and with RLMs. Another method of maintaining accountability is to split the RSR job between two positions such that the two eco-rep coordinators have a responsibility to report to each other. As well, having two positions as opposed to one allows

the eco-rep coordinators to bounce ideas off of each other and make leadership decisions as a team.

Overall, the GRF forum has the potential to make a greater impact and take a larger role in sustainability efforts on campus that it does in its current form. What follows are two suggestions about modifications in the structure and activities of the GRF that could promote greater student engagement in sustainable efforts in residence. This engagement could be measured by quantitative changes in student habits (reduced energy use, better waste sorting, greater cycling frequency); increased environmental dialogue at council meetings, residence events, and conversations among students; and campus-wide knowledge and positive perception of the activities of the GRF.

Option 1, Stronger Council Environmental Representatives:

In conjunction with the Student Life Manager and/or Residence Life Managers, we could draft a richer and stronger framework for the activities and duties of the Residence Council Environmental Representatives. These Reps may be tasked to:

- Sit on the Green Residence Forum
- In conjunction with GRF, engage residence in Ecolympics and the spirit of the Ecolympics year round
- Promote low to no waste planning for residence council events utilizing the Sustainable Events Planning Guide
- Advocate reduction and reusing as the main objective in waste reduction
- Promote and exemplify proper waste sorting among residents
- Encourage energy and water saving practices in residence
- Plan residence activities that promote a sustainable lifestyle such as bike rides, no-waste picnics, clothing swaps, environmentally-themed film screenings
- Advocate for sustainability improvements in residence and on the campus at large
- Promote Dump and Run at end of Winter semester

All residence councils would be required to send at least one Eco Rep to sit on the GRF and be engaged in the above pursuits. For more effective residence engagement, each house or floor grouping of larger residences would send an Eco Rep. There should also be at least one position open for first-year off-campus students to create an inclusive organization. Eco Reps should attend all GRF meetings to the best of their ability and report back to their council about their activities. It would be beneficial for eco-reps to work in pairs to keep each other on track (Erickson 2012). In addition to planning and executing residence-wide events with the GRF, eco-reps should consistently advocate for sustainable purchasing and behavior in their respective residence building.

Eco-reps at other schools have worked on a volunteer basis, obtained a small wage, or received school credits. In the past, the GRF has worked on a volunteer basis, except for the RSR. If this is to be continued, it is even more important to provide snacks, training, and a sense of community to members of the GRF to recognize their work (Erickson 2012). Offering environmental leadership training to members at the beginning of the term will work to make the organization more effective and enrich the experiences of eco-reps. The GRF can capitalize on other leadership training programs, such as the Organizational DalConnects path. This path in the DalConnects program teaches participants how to effectively work with others, facilitate meetings, and plan events. The GRF can also subsidize or waive the fee for the Sustainable Leadership Certificate if members have the prerequisites and can commit to the three-weekend long program. Finally, depending on budget constraints and participant involvement, the GRF can fund and promote external professional development programs for its members, such as conferences or workshops beyond the university.

Maintaining an eco-rep program comprised of students builds a network of peer-to-peer educators and allows students to feel ownership over sustainability initiatives. This involvement makes it more likely that participants will follow through on their work and commitments. Furthermore, eco-rep programs display the school's commitment to sustainability to student, faculty and staff, as well as the broader community off-campus.

Option 2, Dedicated Environmental Residence Assistants:

Another option for improving residence sustainability is structuring the Green Residence Forum to have dedicated Environmental RAs as the primary members, with other seats open to residents and Council Environmental Representatives. In this option, Eco RAs would receive more in-depth environmental training than that given to general RAs and would have additional responsibilities like those outlined in Option 1 for Council Eco Reps. These additional responsibilities would likely be accompanied by a higher wage, bonus, or honorarium as compared to general RAs.

Environmental RAs may have a stronger voice or feel abler to direct residence purchasing and behavior due to their position of power. For this same reason their direction could be better received from residents than suggestions by their peers. However, residents may actually be less accepting of messages from RAs because they are not as relatable as their peers and/or because the RAs' direction seems forced.

Defining and Branding the GRF

The GRF needs to rearticulate its mission and define its short and long term inputs, impacts and resources (Erickson 2012). The GRF should also work on developing an organization reputation and brand (Erickson 2012). This should include creating/confirming a formal logo that is used on promotional materials and publications. The timing of this defining and branding process is difficult, as it is important to have student input and yet have the GRF promotional strategy begin in Fall 2016. Given the time constraints, it may be best to pull together residence life staff and a small student focus group to have the GRF branded and better defined before member recruitment commences in the fall.

There exists a Terms of Reference for the GRF, but much of the information is outdated and does not reflect the current residence staffing or the programming of residence and the Office of Sustainability.

Measuring Success and Maintaining Records

It is important to maintain records of member and participant involvement in the GRF to determine success and provide resources to subsequent staff and board. The RSR should

maintain information on member demographics and retention, resident participation in events, and any relevant quantitative energy, water or waste reduction data. As well, it is beneficial to ask for log sheets for each member of the GRF that include information about what initiatives, events, or campaigns they organized (Erickson 2012).

Creating and/or modifying manuals or resource guides that can be used by other sustainability groups and/or the subsequent GRF staff and members allows the activities of the year to have a longer and deeper impact. These guides can involve event planning steps, methods to engage with residence students, or tips for energy and water reduction in residence.

Combining all of the records and resource guides thus compiled into an end of year report allows for evaluation of the GRF from year-to-year and may assist with securing/maintaining funding.

Event Ideas

- Sustainable snack night, especially during exam time
- Reuse workshops, in collaboration with the DSU and Dal After Dark
- On-the-spot simple reuse crafts performed at a table in the SUB
- Bike rides
- No waste picnics
- Clothing swaps
- Environmentally-themed screenings

References

Erickson C. 2012. Student sustainability educators: a guide to creating and maintaining an eco-rep program on your campus. National Wildlife Federation.

Halifax Campus Residence Handbook 2015-2016. Dalhousie University. Available from:
<http://www.dal.ca/content/dam/dalhousie/pdf/residence/Residence%20Living%20Guide-2015-16.pdf>

Appendix C

Organizing guide for Saint Mary's University Dump and Run coordinators

Dalhousie's Dump and Run Guide

For SMU Coordinators and Dalhousie Contacts

Key Roles and Responsibilities of Dalhousie Staff

Office of Sustainability Staff (Director or Staff)

- Oversees bookings and coordination with Athletic Services (for Studley gym booking) – Friday, Sat, Sunday, and Monday until noon (all items should be picked up or disposed of before noon).
- Submits a FAMIS request and pay for Facilities Management for:
 - Security Services to block parking area beside the Studley Gym (Figure 1) for dumpsters and DUMP and RUN vehicles (Thursday – Monday)
 - Security Services to receive cash from the DUMP and RUN organizers in appropriately marked clear cash bags for safe deposit through-out the day on Sunday
 - Grounds to order a dumpster from ReGroup (to place any extra garbage items that are not taken at the event Sunday and not picked up by scheduled Charities Monday)
 - Grounds to deliver paper recycling, recycling, and organics totes on Friday for extra recycling and organics then pick up the bins Monday morning
 - Trucking to set-up the gym according to (Figure 2) – tarps, tables Friday morning and pick up these items starting Monday at 11:00 am. They will also be requested to pick up any items for electronics recycling
- Maintains direct communication with SMU coordinators and provides direction and information about Dalhousie involvement.
- Provides volunteer waiver to SMU DUMP and RUN organizers that they provide to volunteers to sign.
- Is present at the Dump and Run event for the morning time.

Residence Sustainability Reps:

- Three residence sustainability reps are in charge of the Green Residence Forum. The DUMP and RUN is identified as a key activity for them to promote.

Dalhousie Student Sustainability Union Office:

- Provides honorarium(s) for student(s) to help collect material in residence to bring to residence room locations at Dal and work at the event (Appendix 1: Dump and Run Commissioner position) and helps recruit student volunteers for the Friday, Saturday, Sunday, Monday.

Facilities Management, Custodial Services - Residence:

- Determines collection location
- Stores any items not collected for sale

Facilities Manager, Ancillary Services for Residence

- Arranges placement of collection bins in residence buildings (Appendix 2-List of residence buildings and locations) and establishes storage areas prior to the event
- Places signage provided by SMU coordinators in residence to direct materials
- Connects with the DSUSO student so they can help sort material to go to the residence rooms

Date and Booking

- Choose the date for Dump and Run as soon as possible
- Generally, the Studley gym is booked for Friday to mid-Monday with the main event on Sunday
- Office of Sustainability staff will book the gym through Athletic Services

Parking

- Identification of parking spot for Dump and Run Truck (Figure 1)
- Office of Sustainability confirms location with Security Services to ensure that SMU truck does not get ticketed



Figure 1. Parking location for Dump and Run vehicles and rented dumpster boxed off in red to the left of the Studley Gymnasium.

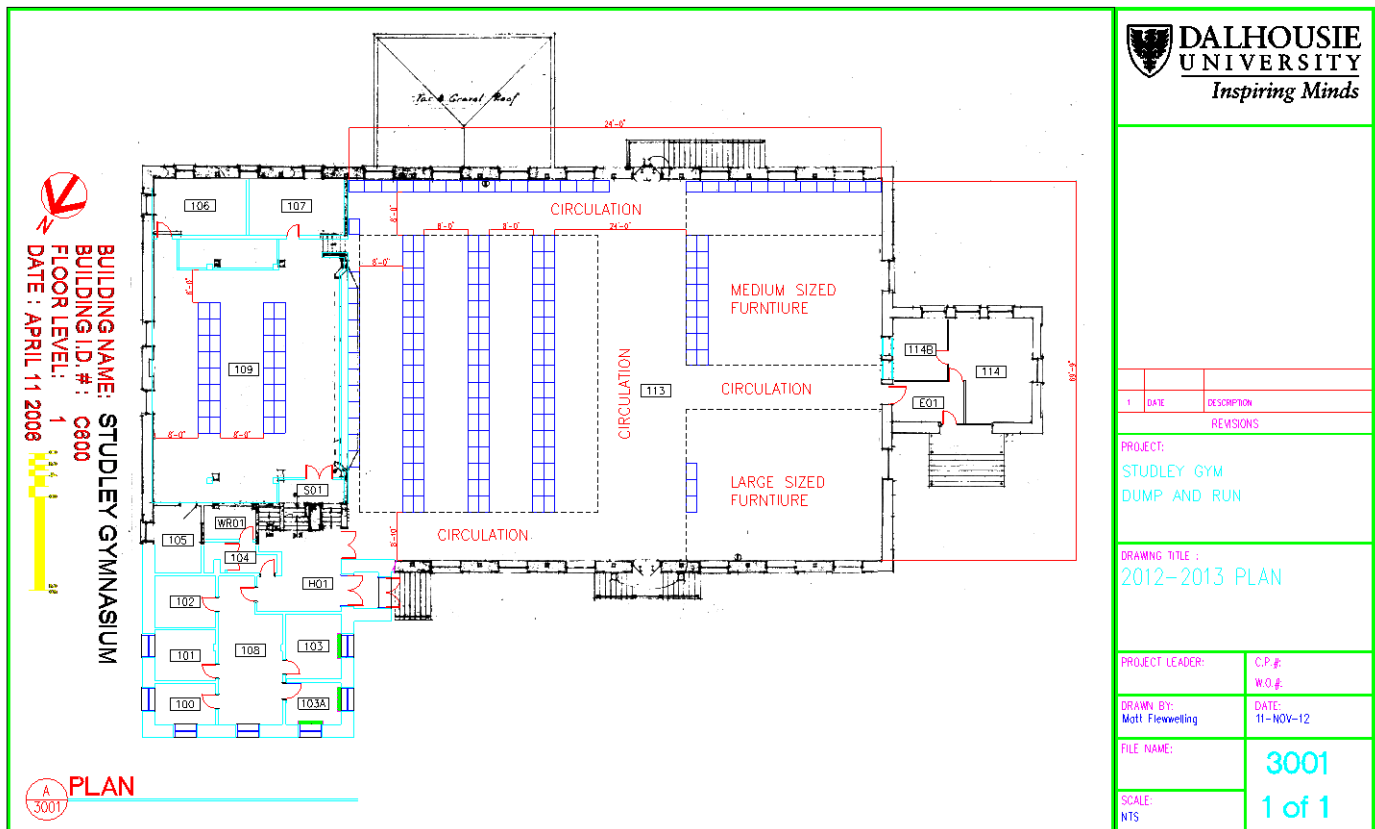


Figure 2. Layout used by Facilities Management staff to set up for the Dump and Run.

Residence Collection

Donations bins are placed in the lobbies of several residences on the Dalhousie campus. These locations are for residence students only, not for public drop off. Materials are moved into a collection area on site as required. **These areas, alongside SMU residence collection sites, are the priority for the Dump and Run event.**

Consideration must be taken of the closure times for each residence when moving items for the main event. The contact for this information is the Facilities Manager for the majority of the residences. On the actual weekend the Facility Manager should identify key contacts for the weekend.

Promotion and Media Contacts

The SMU Team designs and provides posters to advertise the Dump and Run, and is responsible for managing media outreach, the Facebook page, and the Dump and Run website (<http://halifaxdumpandrun.webs.com/>). The Office of Sustainability and/or Residence Sustainability Representatives will assume the responsibility for

promoting the event at Dalhousie through Dalhousie news outlets, social media, and physical postering.

Below are a number of websites and contacts that can be used to promote the event to the broader community.

- [Eastlink](#)
- [The Coast](#)
- CBC Radio: CBC Radio will accept requests for public service announcements for non-profit organizations. Please send announcements by emailing infomorning.halifax@cbc.ca or by calling Information Morning's talkback line at [\(902\) 420-4499](tel:(902)420-4499) or toll free [1-800-582-5526](tel:1-800-582-5526).
- [C100](#)
- [The Bounce](#)
- [Global Maritimes](#)
- [Halifax Kiosk](#)
- [Kijiji](#)
- [SNAP Halifax](#)
- [SNAP Dartmouth](#)

Occupancy and Cash

The maximum occupancy of the gym is 300. A representative from the Office of Sustainability or hired security staff count people coming in and out so the gym does not exceed capacity. Peak flow is from 9:00 – 10:30 am.

Cash envelopes and a receipt book with a carbon copy will be used so organizers can periodically provide cash to security services over the course of the Dump and Run day. All money is managed by SMU organizers who then provide funding to charity groups as listed on their website. SMU organizers please call 902-494-6400 for security services on the day.

Volunteers

Volunteers are sources from SMU, Dalhousie, and the broader Halifax community. SMU Coordinators create volunteer recruitment material that they distribute at SMU and to the community based on a list that they maintain. The Residence Sustainability Representatives and DSU Sustainability Office will assume the responsibility of recruiting volunteers at Dalhousie with the aid of these materials and SMU's chosen volunteer registration process.

Dalhousie has a volunteer waiver provided by the Office of Sustainability that the SMU organizers provide to the volunteers for signature.

Remaining Items

Following the Dump and Run, a number of items are expected to be leftover. The SMU coordinators must coordinate in advance the collection of these materials by various charities, non-for-profits, or clothing/book/furniture drives.

Any material not fit for reuse shall be disposed of according to [Dalhousie's Campus Waste Management Guide](#). Generally, an onsite dumpster is arranged with FM Environmental Services (Grounds) through the Office of Sustainability but all efforts must be made to minimize the amount of material sent to landfill. Organizers should familiarize themselves with the waste streams at Dalhousie, including universal and C&D waste, and be prepared with a list of contact information/locations to dispose of particular items. Plans should be made to ensure that material is properly sorted into bins for the source separation of Paper, Recycling and Organics throughout the event. Coordinators should also investigate the [options for textile recycling](#), especially considering the large volumes of clothing and linens at the event. The Association for Textile Recycling, [AFTeR](#), works to facilitate textile recycling between a number of charities. This group is a valuable resource for organizing used textile collection from the Dump and Run.

Appendix D

Draft protocol for waste management at catered events

Protocol for Waste Management at Catered Events at Dalhousie University Office of Sustainability, June 2016

Preamble

As the Indoor/Outdoor Waste Bin Standard is rolled out to all Dalhousie campuses, there will be changes in the placement of bins to reduce contamination and increase diversion. Hallways and commonly catered meeting rooms and classrooms will have four bin sorting stations (Paper, Recycling, Organics, Garbage). All bins will be removed from other meeting rooms and classrooms and a Pack It Out, Pack It Up sign will be posted to remind individuals to remove their waste and source separate in the hallway.

Waste bins are equipped with colour-coded, informative, simple signage to direct participants as to where their waste belongs. The Office of Sustainability is also planning a waste education campaign for Fall 2016 to promote reuse and reinforce the message that waste is everyone's responsibility. This campaign will involve waste sorting educational tools and the promotion of Dalhousie's Guide to Waste Management on Campus.

Protocol

In spaces with four bin stations, event attendees are able to source separate any disposable items resulting from a catered event. For spaces that do not have a four-bin station, participants may bring waste to a nearby four-bin station for source separation. *Waste bins are not permitted to be moved to the space from the hallway or other rooms by meeting participants, custodial, the caterer, or any other party.*

The caterer is responsible for removing and sanitizing dishes from events with china service. Any disposable items included in the china service, such as paper napkins, should be collected and/or source separated by the caterer if they have not been disposed of by participants.

DSU Food Services shall offer complementary china service for events and meetings of all sizes served in the Student Union Building.

The caterer is responsible for collecting and source separating all disposable items from paper service that are not disposed of by meeting attendees at a sorting station. The caterer may source separate items into a nearby four bin sorting station or remove items to be source separated into back-of-house bins at the catering kitchen.

Meeting organizers must book custodial services or clean-up the room if it is a small meeting/event. This custodial service entails wiping tables, cleaning the floor etc. after all catering dishes, including disposables, have been removed from the space.

*If catering services continues to have a large number of events catered with paper service and they are responsible for clean-up, it may be wise and effective to suggest that catering services and/or conference service purchase a fleet of 16-23 gal. organics bins. At Seattle University, their catering booklet indicates: "Compost for your guests' used cups, plates, napkins and cutlery is available. Contact your event coordinator at Conference and Event Services for compost bins for your event. Smaller events can utilize existing compost bins at your event location."

Appendix E

Draft waste reduction commitments for caterers

Waste Reduction Commitments for Catering at Dalhousie University

Office of Sustainability, June 2016

Catering services at Dalhousie are provided by Aramark, Chartwell's and the University Club. There is also catering on campus by external catering companies. The voluntary commitments below outline actions to reduce waste from catering and promote sustainability. These commitments are targeted towards on-campus caterers but will be communicated to external caterers as well. Though voluntary, these commitments reflect expectations and standards moving forward with catering at the University, and will be reflected in future contracts.

Catering services will:

1. Adjust prices to decrease the price disparity between china (other lightweight) and paper service.
2. Promote china service on catering website and through digital and/or physical signage/posters.
3. Provide condiments, including dairy and sauces, in bulk containers. Condiments such as sugar in minimal, compostable packaging are acceptable, though less preferable than bulk.
4. Only offer disposable coffee cups, soup bowls, and plates that are fiber-based and certified compostable when offering a paper service.
5. Display signage indicating which disposable items are compostable and recyclable at all events and meetings with paper service.
6. Ensure that all disposable products that are not compostable are recyclable under the recycling guidelines of Dalhousie University and the local municipality.
7. Provide metal cutlery at all catered events, including those with paper service.
8. Investigate alternative means to plastic wrap for covering dishes prior to serving.

Cost Benefits Associated with Silverware vs. Disposable Utensils

Reusing items is preferable to using disposable goods that have a short lifespan before being deemed 'waste.' Disposable cutlery generates a significant amount of garbage, and there is an opportunity to instead invest in silverware for catering. If Aramark catering used the annual cost of disposable cutlery (estimated \$10,100) and instead purchased metal cutlery (assuming that all pieces cost \$0.58 each) they could buy 6700 forks, 6700 knives, and 4000 spoons. This is more than is necessary to maintain daily operations, and as such storage equipment may also be financed in part or in full using the disposable cutlery budget of one year.

Changing all catering options to silverware as the standard is economically feasible and addresses the goal of decreasing waste and increasing reuse as identified in Dalhousie sustainability plans for food and solid waste.

Logistical work must be done to evaluate the infrastructure and labour necessary to transport, collect, wash, and store the silverware. During this planning process, it would be beneficial to also explore the infrastructure and labour necessary to offer on-campus catering with reusable dishes only as well.

Appendix F

Sign displayed at Aramark catered events

Catering, what goes where

COMPOST



Birch Wood Fork & Knife



Wooden Stir Stick



Paper Plate & Paper Napkin

LANDFILL



Spoon, made with renewable cornstarch



Paper cup & Soup bowl, lined with Ingeo™
biopolymer, a plant-based plastic

Appendix G

Review of take-away packaging by food vendor on Dalhousie Halifax campuses

Strategies for Diversion & Waste Management at On-Campus Vendors

Dalhousie Office of Sustainability, May 2016

Table 1 Summary of current food packaging and their respective waste streams by vendor, with recommendations for diversion and waste management by product.

Vendor	Current Food Packaging	Diversion & Waste Management Recommendations
Pete's ToGoGo	<ul style="list-style-type: none"> • Salad boxes (G) • Condiment containers (G) • Baked goods wrap (G) • Soup bowls (G) • Styrofoam trays w/plastic wrap for snacks (G&R) • Wooden stir sticks (O) • Plastic wrapped bread, candy bags (R) • Packaged butter, crackers (G) • Wooden stir sticks (P) • Plastic cutlery (G) 	<ul style="list-style-type: none"> • Adopt compostable salad boxes, condiment containers & soup bowls • Place baked goods in plastic shelves w/lids & accompanying paper bags (bulk food) • Compostable paper tray w/clear plant-based lid (or still plastic wrap) for snack tray • Take butter and crackers behind counter • Bread in lidded container w/tongs • Switch to metal spoons for coffee • Bring plastic cutlery behind counter and only provide upon request
Tim Horton's (SUB)	<ul style="list-style-type: none"> • Coffee cups & lids (G) • Paper bags (O) • Plastic cold drink containers (R) • Plastic stir sticks (G) 	<ul style="list-style-type: none"> • Sell Tim Horton's branded mugs & cups • Switch to wooden stir sticks or metal spoons
Bento Sushi	<ul style="list-style-type: none"> • Sushi boxes (R) • Plastic grass (G) • Chopsticks (O) • Soy sauce packets (G) 	<ul style="list-style-type: none"> • Do not include soy sauce packets in pre-packaged food • Supply large soy sauce bottle at counter • Only give out small packets on request
Global Village	•	•
Fresh Grill	•	•
LSC Coffee/Snacks	• Coffee cups and lids (G)	• Switch to compostable

	<ul style="list-style-type: none"> • Soft plastic bagged baked goods (G) in plastic shelf w/lids • Plastic stir sticks (G) • Bulk ketchup; single serving mustard & relish (G) • Single packet sugar 	<ul style="list-style-type: none"> • cups and lids • Investigate no wrapping for baked goods, just paper bags and tongs • Switch to wooden stir sticks or metal spoons • Also make mustard and relish bulk (squeeze bottles) • Switch to bulk pour sugar • Change to all paper wrap
Extreme Pita	<ul style="list-style-type: none"> • Paper/plastic pita wrap (P/R) 	
Pizza pizza Grille Works	<ul style="list-style-type: none"> • Paper pizza trays (O) • Paper pizza trays and plates (O) • Plastic lined soup bowls and boxes (G) • Plastic bagged wrapped bread (R) • Packaged butter, crackers (G) 	<ul style="list-style-type: none"> • Change to compostable soup bowls and boxes • Take butter and crackers behind counter • Bread in lidded container w/tongs
Topio's	<ul style="list-style-type: none"> • Paper pizza trays (O) • Coffee cups & lids (G) • Bulk sugar • Paper sleeves (O) 	<ul style="list-style-type: none"> • Switch to compostable cups and lids
Killam Bistro	<ul style="list-style-type: none"> • Wax paper sleeves (O) • Plastic containers (R) 	
Second Cup	<ul style="list-style-type: none"> • Coffee cups & lids (G) • Coffee cup sleeves (P) • Paper sleeves (O) • Various non-recyclable plastic packages (G) • Packaged sandwiches (R) 	<ul style="list-style-type: none"> • Sell branded reusable mugs and cups • Increase sale of products with sustainable packaging • Provide option for ceramic mug with deposit for in-atrium use
Starbucks	<ul style="list-style-type: none"> • Coffee cups & lids (G) • Coffee cup sleeves (P) • Paper sleeves (O) • Various non-recyclable plastic packages (G) 	<ul style="list-style-type: none"> • Sell branded reusable mugs and cups • Increase sale of products with sustainable packaging
Subway	<ul style="list-style-type: none"> • Plastic bags (G) • Soup bowls (G) • Paper sub wrap (O) 	<ul style="list-style-type: none"> • Only give plastic bag when asked; optimally, remove plastic bags entirely

Grad House	<ul style="list-style-type: none"> • Napkins (O) • Coffee cups & lids (G) 	<ul style="list-style-type: none"> • Switch to compostable soup bowls • Single layer of sub wrap
	<ul style="list-style-type: none"> • Disposable cutlery, straws, coffee stirrers (G) • Packaged sushi (see Bento Sushi for composition and recommendations) 	<ul style="list-style-type: none"> • Bring disposable products behind the counter • Switch to metal spoons (from plastic stir sticks) and offer metal cutlery for in house • Ensure optional inventory of in-house ceramic/metal/glass dishware options

Table 2 Common food packaging products and specific disposal guidelines and replacement options by item.

Item	Alternative/Disposal Solution
Plastic stir sticks	Replace w/wooden stir sticks, metal spoons
Wooden stir sticks	Organics; replace w/metal spoons
Coffee cups & lids	Replace w/compostable coffee cups; options of ceramic mugs with deposit for in house; greater reusable mug discount
Sugar packets	Organics/paper; replace w/bulk sugar jar
Paper food wrap	Organics
Disposable cutlery	Replace w/compostable, recyclable, edible, metal cutlery; keep behind counter and provide upon request w/option of added charge
Plastic straws	Replace w/compostable option; ask before including
Napkins	Organics; only give when asked
Soup bowls	Replace w/organics option

Appendix H

Template for retail Point-of-Sale signage

?

Sort it Out!

Paper

- [list of items]?
- [item]?
- [item]?
-?

?



Recycling

Organics

Garbage

Increasing Reusable Container Use at On-Campus Vendors

May 16th 2016

Bringing a coffee mug to on-campus vendors, and often receiving a 10-20 cent discount as an incentive, is a normal and well-received sustainable lifestyle action at Dalhousie. Toting a reusable container to on-campus retailers is much less common and not promoted or incentivized. Generating a strategy to increase reusable container use on campus works to create a culture of reuse and significantly reduce a large category of waste, food packaging, which is often landfill bound.

Strategy 1: Personal and For-Purchase Containers

One strategy to increase reusable container use at on-campus vendors is to promote 'bring your own container' and offer a monetary incentive. The technique would be applied in a similar fashion to reusable mug programs, employing posters, social media campaigns, prizes and signage to indicate the benefits of bringing your own container and advertising a discount.

This campaign could be accompanied by reusable container and cutlery sales in the Dalhousie Bookstore at on-campus vendors. Products could include plastic, metal, or glass containers; reusable snack baggies or containers; reusable chopsticks; sporks; and bamboo cutlery with a carrying case. Reusable product offerings could also include cold drink cups for smoothies and iced coffee, to extend the 'bring your own mug' concept to cold drinks.

Strategy 2: Reusable Container Program at Dalhousie

Another strategy adopted by a number of North American institutions is a container exchange program. Typically, students buy into the program for \$2-5 dollars. In return, they receive their meal in a standard plastic container at participating vendors or dining halls, and return the container once their meal is complete. Upon return, they receive a card that is exchanged for a container at the next time of purchase. The initial cost may or may not be refundable to the participant.

In 2014 the SUST3502 class conducted preliminary research for a reusable container program in the Student Union Building. An online survey indicated that 87.8% of participants thought that waste was a problem or somewhat of a problem in the SUB. As well, 86.7% of participants said that they would participate in a reusable container program in the SUB. Also, the majority of respondents thought that a membership price of \$1-3 would be most reasonable. Reusable container programs have a membership fee of \$2 at Simon Fraser and \$5 at UBC, for reference.

The research team interviewed Craig Kennedy and Adam Bellefontaine as part of their project. The complete interview transcripts are included at the end of the report. Kennedy expressed an interest in such a program and learning about the funding, costs,

and labour associated with programs at other universities. He noted that the updated Chartwell's contract has improved food services at the SUB and that contracts would play a role in designing and implementing the program. Bellefontaine noted several barriers to implementation, including effective serving size, washing facilities, and monopolies/branding. Bellefontaine noted that Chartwell's has a sustainability office at the University of Toronto and that the university funded a reusable container program. Adam said that a discount on food purchases would be provided to program participants, as is often done with other university programs of this sort, but only if the university funded the purchases of the containers.

The research team concluded that the reusable container program would be a feasible project to be undertaken through collaboration between Chartwell's, the SUB, and the University. Low implementation costs and achievable sanitation requirements would allow this projected to be implemented relatively easily.

Steps outlined to implement the project are as follows

1. Research container suppliers
2. Request quotes in partnership with Dalhousie's procurement department
3. Determine location for container storage in the SUB; assign the task of cleaning the containers to staff

The team should also have included an initial and essential step of securing funding for the program. The report suggested that further research be done to determine the feasibility of expansion of a reusable container program beyond the SUB.

Other points to consider when envisioning a reusable container program at Dalhousie are cost balances and container acceptance policies. Any discounts provided by vendors for reusable containers must be subsidized or absorbed if the discounts are greater than the cost of disposable containers. Also, before any sort of reusable container campaign is promoted, organizers must review personal container acceptance policies at all on-campus vendors.

Reusable Container Program Case Studies

To garner more information about this program, short interviews were conducted over the phone with Western, Wilfred Laurier, and Simon Fraser University about their reusable container programs. Interviewees were Anne Zok, Hospitality Services at Western; Kaipa Bharucha, Student Union Programming and Services at Wilfred Laurier; and Dan Travis, SFU Dining Services at Simon Fraser University.

Western University administers their Choose2Reuse program through their dining hall, so their program is less applicable to the vendor-based program that would take place at Dalhousie. Still, the interview provided some insight into the administration of the program. Western finds the program beneficial publicity wise as it displayed a commitment

to corporate social responsibility. Choose2Resure has allowed the dining hall to remove almost all paper products entirely and therefore cut down on paper packaging costs, as the program is mandatory if students wanted to take their food to-go. An individual has \$5 added to their meal the first time a take-out purchase with a container is made. After eating, the student returns the container at a drop off area and receives a card in return. There is no database that tracks who is in the program and the membership cards are now made of cardstock, not PVC, to cut down on cost. Western is able to track the sale of containers by membership by residence, showing that 84% of students participate in the program. Problems they have experienced with the program include a 3-4% disappearance rate for containers as well as soup container lids that could not be properly cleaned with the dishwasher. Due to the latter problem, the dining hall had to revert back to paper soup bowls. Finally, a limiting factor in expanding the program to other parts of campus is a lack of dishwashers at on-campus retailers.

The reusable container program at Wilfred Laurier began in 2010. It includes vendors in the student union, on-campus pubs, and residence dining halls, but does not include other franchises. The reusable container program has recently undergone a re-launch that was instigated largely by staff and then promoted by students. Wilfred Laurier used to have a typical by-in model with a refund at the end, but no longer charges for their containers after receiving funding through their student life levy fund. When originally collecting fees for the program, they experienced problems in tracking, splitting and storing the money. For example, they found it difficult to organize the provider for refund money between a number of participating retailers. A membership card goes into all first year orientation kits and students work to provide free cards to other groups at the university. Like Western, there is no database that monitors program members.

Simon Fraser University's (SFU) Go Green Container Exchange program is run in collaboration between contracted food service providers and Ancillary Services. Ancillary Services funded the initial purchase of the containers, and many were given out free of charge to kick start the program. Containers are regularly sold at \$2 and the program is cost neutral. Food service operators i.e. vendors sanitize the containers and exchange used containers for tokens at a drop-off location at the counter. Initially, a number of containers were taken home and lost from the program, but that aspect has improved. Some staff use the program consistently and have the benefit of an office space for storage until they drop off the used container. SFU found that to establish the program it is important to partner with and/or target a specific group that has an interest in sustainability and will form a loyal base. Tabling, point-of-sale signage, stamp cards or scanning rewards systems, discounts, and/or prizes can be used to promote and positively reinforce participation in the container exchange program. Furthermore, the program benefits from peer-to-peer promotion and education employing sustainability ambassadors.

Reusable Container Exchange Product Offerings

Some schools offer a number of container options that include simple clamshells, sectioned containers, and soup bowls, especially if their programs are based out of a residence dining hall. Most schools use a single product, a simple clamshell, that is offered at specific vendors. The [9"x9" Single Entrée Food Container](#) of the Eco-Takouts line by G.E.T. is the typical container used.

Strategy Comparison

The first strategy, personal and for-purchase containers, encourages personal agency and is very low cost apart from planning personnel. This strategy encourages students and staff to bring along containers they may already own. Any container purchases could be used beyond the Dalhousie campus. Additionally, depending on sales, container and cutlery products could produce a profit.

The second strategy employs containers that are not designed or intended for use off-campus, but allow students to eat from a reusable container without the forethought of bringing one from home. The elements of convenience and immediacy are what makes reusable container programs appealing and effective at reducing disposable food packaging waste. Reusable container programs do require investments of time and energy by the University, food service companies and/or specific food vendors. Once a program is running, however, it is fairly low maintenance. Containers are cleaned by an industrial dishwasher and there is minimal administrative work as the program does not need to have a database.

A final point to consider for both strategies is how to promote reusable cutlery use alongside reusable container use. If students brought their own containers, they would likely also bring along cutlery. Also, reusable cutlery could be sold alongside reusable containers. The reusable container program would benefit from including cutlery in its offerings, something that none of the interviewees spoke to. However, a large disappearance rate would be expected for cutlery, and consequences for loss would have to be devised. Alternatively, an incentive system could be designed such that participants receive a larger discount when they bring their own cutlery to use with the program containers (or their own).



SUSTAINABLE EVENT PLANNING

CAMPUS GUIDE



 DALHOUSIE
UNIVERSITY
Office of
Sustainability

Appendix K

Double sided condensed Sustainable Event Planning Guide

SUSTAINABLE EVENT PLANNING

CAMPUS GUIDE



Sustainable event planning seeks to minimize water and energy consumption and waste production at meetings, conferences, or other group engagements. Sustainable events also entail the promotion of environmental values and education on sustainable practices.

Participant Involvement

- Encourage participants to bring their own dishware, bags etc.
- Communicate the sustainability goals and features of the event to participants before, during, and after the occasion
- Gift or give away ethical consumables, reusable mugs or bags, or non-material gifts such as donations

Exhibitor Involvement

- Communicate your event's sustainability features and goals to all exhibitors or vendors
- Samples or giveaways should align with the event's message
- Integrate sustainability concepts into vendor contracts, by mandating reusable or compostable sample cups, for example
- Request that no single garbage bins be provided for each booth



Procurement

When making purchases for your event, consider:

- Necessity
- Durability
- Efficiency
- Locality
- Responsibility
- Reusability
- Impact
- Size

Food and Beverage

Food Choices

- Local
- Seasonal
- Organic
- Fair Trade
- Vegan & vegetarian options



Waste Reduction

- Choose china first, compostable dishware second
- Have finger food if metal cutlery is not available
- Locate waste bins, especially organics bins
- Try to ensure that the food ordered is consumed



Waste Management

- Understand how to sort waste into Paper, Recycling, Organics and Garbage
- Abide by any Pack It Up, Pack It Out signage
- Do not move bins – locate the nearest sorting station
- Tell participants how to sort common items at the event



For large events such as conferences, it is beneficial to hire or arrange for volunteers to provide education at core waste stations.

Thank you! By considering the impacts of your actions and educating others, you are helping foster sustainability culture at Dalhousie. Reference the full Sustainable Event Planning guide online for step-by-step instructions on organizing an event, more sustainability tips and guidance, pre-written text for emails, and a list of resources.

Please share your experiences with us by emailing rethink@dal.ca.

Appendix L

Orientation material for staff and faculty



AN ORIENTATION TO SUSTAINABILITY AT WORK



SUSTAINABILITY CAN BE ONE OF THOSE WORDS THAT STRETCH AND BEND TO TAKE ON MANY MEANINGS. IN THE CONTEXT OF THIS TIP SHEET IT REFERENCES SUSTAINABLE DEVELOPMENT: LIVING WITHIN IN OUR ENVIRONMENTAL LIMITS, SUPPORTING HEALTHY AND JUST SOCIETIES, AND A RESILIENCE ECONOMY. THESE ARE BROAD CONCEPTS THAT WILL TAKE MAJOR CHANGE. IT ALSO WILL TAKE SMALL CHANGES THAT MANY PEOPLE CAN DO. HERE ARE A FEW "HOW-TO'S" FOR THE WORKPLACE.

STRATEGIC PURCHASING

- Reduce work, costs, and waste by sharing, renting, reusing or rethinking. Some examples include the work-place norm of not providing printed handouts for meetings. [Dalhousie's Paper Policy](#) provides guidance on specific requirements and ideas.
- Purchase quality items that are energy and water efficient, durable, low-maintenance, low emissions, and have third-party certification like [ENERGY STAR®](#), [ECOLOGO](#), and [FAIRTRADE](#). Sustainable purchasing criteria should be in request for proposals, tenders, and contracts. [Dalhousie's purchasing policy](#) has sustainability language embedded in it that directs readers to required [sustainability criteria](#) for use in purchasing decisions. In addition, a [surplus good policy and program](#) helps to reuse items on campus and in the community.
- When ordering catering or having small events, order or use reusable items if possible, including water in jugs. It is simply the easiest way to reduce waste.

SORT IT OUT

Today's contamination rates in the garbage stream (things that shouldn't be there like organics and recyclables) at many workplaces are still between 40 and 70%. Stop and think before tossing. Identify what goes where. There will be workplace guides to help you understand what materials go into what stream. At Dalhousie, there is a workplace ["What Goes Where Guide"](#) and specific standards of bins and signage by space.

Cont'd



MAKE CONSERVATION A HABIT

Yes, it is the same list that you likely have heard before. Why is it constantly repeated? Hundreds and thousands of people who model conservation behaviour will make substantial sustainability impacts in a workplace. When looking at energy and water data, occupant behaviour can clearly influence key consumption trends. So ask a peer to help you make these actions a habit through some peer reminding:

- Turn off the lights and equipment.
- Shut the fume hood sash.
- Turn down the heat.
- Turn off the tap.
- Use a re-usable mug and water bottle.
- Reduce your waste and sort your stuff.
- Take the stairs where possible.

REPORT IT

In workplaces, you could be the key eyes and ears for an area. Report to facilities management issues such as tap and window leaks, lights on when they should be off, and other potential energy and water issues.

SUPPORT IT

Many workplaces participate in public sustainability reporting programs that have supportive policies and initiatives. There maybe opportunities to join relevant committees and take action. Dalhousie has a President's Advisory Council on Sustainability, reports publically through the [Sustainability Tracking Assessment Rating System \(STARS\)](#), and has a number of plans (ex. [Climate Change Plan](#)) and policies (ex. [Green Building Policy](#)).

USE YOUR POWER

Whatever position you have at work you can influence sustainable actions. Appreciating and respecting people and nature can be practiced through active listening, caring, and a stewardship approach.

MOVE AROUND

Commuting to and from work can provide an opportunity for exercise, reduce green houses gases, and create down time. Many workplaces have programs that support a variety of transportation demand management options. At Dalhousie check out the [SMART TRIP](#) website where information is available on a number of programs such as:

- The University Student Transit Pass (Upass) and the Employee Bus Pass (Epass).
- Ride Share program offering preferential parking for carpoolers.
- Car sharing services.
- The Bike Centre providing drop in tune-ups, educational classes, and events. Indoor and outdoor end-of-trip facilities are also available.
- Work shift policies that include tele-working and compressed work week.
- The Guaranteed Ride Home program that provides emergency taxi-chits to those taking alternative transportation.

LIFE-CYCLE THINKING

When making decisions, consider the full costs of capital, operating and disposal. The best decision may cost more upfront, but saves in the long-term. Think through the ecological, health and social impacts of products purchased. Environmental product declarations (EPDs) provide life-cycle product information to potential buyers. A life-cycle analysis may often result in different decisions than those made solely on capital costs.

ENGAGE AN ADVISOR

Speed up ideas and get advice for planning events, making purchases, or taking action on sustainability by contacting workplace experts. There maybe tools and resources already developed. Dalhousie has materials such as a [Sustainable Events Planning Guide](#), Checklists and Sustainability Maps and tours as examples.

Tools for Waste Management Education

Communications Plan

BACKGROUND

In 2015 Dalhousie released the Indoor/Outdoor Waste Bin Standard developed to reduce waste contamination and increase diversion on campus. The four bin PROG system combined with a Pack It Up, Pack It Out system seeks to alter the way students, faculty and staff at Dalhousie take responsibility for their waste. Waste audits reveal that the contamination rate in the garbage stream averages between 40 and 70%. Confusion around what goes where, social practices and workplace norms, as well as inconsistent bin placement negatively impacting source separation rates. The goal of the new system and educational strategy is to change the waste habits of the Dalhousie community through strategic social marketing, with an intended outcome of reducing the overall waste generated at Dalhousie.

GOALS AND OBJECTIVES

- Encourage, inform and educate the Dalhousie community of improved waste management either complete or in progress at Dalhousie.
- Change the habits of the Dalhousie community in regards to the generation and disposal of waste.
- Decrease contamination of garbage stream to below 50% on average.
- Serve as an opportunity to ask questions about waste disposal efforts and guidelines on campus, supplemented by an FAQ sheet.
- Encourage the conversation around waste reduction and disposal at Dalhousie, in hopes of making lasting changes in attitudes and behaviours.
- Promote the guidelines, PROG system, and Pack It Up, Pack It Out to reduce confusion and pushback from the community
- Establish the Office of Sustainability as a resource for waste education

KEY MESSAGES

4. The Office of Sustainability aims to clear up the common confusion about 'What Goes Where' in regards to waste management. We are the go-to source for on campus questions and concerns about waste.
5. The Dalhousie community has a responsibility to dispose of their waste according to Dalhousie guidelines. This includes following Pack It Up, Pack It Out signs and source separating at PROG systems, as well as properly disposing of universal and hazardous waste per specific Dalhousie programs.

6. Single use items are discouraged by the Office of Sustainability. Reusable items provide a better user experience, reduce waste, and set a positive example.

TARGET AUDIENCES

Internal Audiences

Students
 Student Societies
Faculty
Staff

External Audiences

Visiting community members
Other Universities
Halifax Community

EDUCATIONAL STRATEGIES

Waste Education Online Module

This module will include an informational video and Dalhousie's guide to waste management on campus as tools to provide information. The interactive portion of the module will include a waste sorting game based on the rules and regulations in place at Dalhousie and/or a visual and interactive sorting guide. It will be promoted to Dalhousie students, faculty and staff, though it will be open and can be shared with the Halifax region. The module may engage classes directly, especially those with a sustainability focus, by working with professors to make it a part of the curriculum or available for bonus points. As well, it will be designed such that components can be delivered in staff or faculty meetings without a knowledgeable facilitator.

Classroom Information and Learning

Students must be instructed to sort their waste in hallway/atrium PROG bin systems as garbage bins have been removed from most classrooms. During the first week of classes, we will request that professors display an educational slide as students enter the classroom, showing a PROG set and a Pack It Up, Pack It Out sign with a short explanation. The slide will be distributed to professors through faculty administration and departmental heads.

Multi Media Waste Education Campaign

The campaign will see the release of a series of short videos, questions, graphics, and photographs through Dalhousie news outlets, Twitter, Facebook, and the Office's website. It will include physical posters campaign targeted to campus hubs. The campaign will also work to promote the waste education online module with prize draws. We will utilize the Dal tiger to create fun videos, document waste audits, and obtain testimony from students, FM, Office staff, key administration.

WASTE EDUCATION ONLINE MODULE

The waste education online module at Dalhousie will engage all members of the community in actively changing their waste disposal habits. The educational and informational content will convey to participants what is expected of them in on-campus waste management. We hope that by positioning this education as a means of helping students, faculty and staff reduce waste sorting confusion it will increase their willingness to participate and abide by the guidelines. It is vital that the entire Dalhousie community cooperate in waste management efforts. This program also positions participants to be positive sustainable change leaders in the broader community.

The tone used in material regarding the waste education online module will be educational, informative, helpful, non-accusatory, and urgent. Using these tones ensures that everyone is aware of the importance and expectation of change in their waste management practices. It is important that the Office remains a non-accusatory source of information and help for questions on the topic.

The content of the learning module will include information in the form of text, videos, games and/or infographics. A testing component will be integrated into the game and/or take the form of a quiz.

Behavior Modification and Motivation:

Table 1 Awareness/knowledge, behavioral, and belief objectives of the Waste Education Online Module.

Awareness/Knowledge Objectives	<ul style="list-style-type: none">• Be aware of the changes in the availability of bins in classrooms in regards to the Pack It Up, Pack It Out system.• Recognize materials as Paper, Organics, Recycling or Garbage as per Dalhousie Guidelines• Understand that reusable items have a significantly reduced environmental impact in place of disposable goods.• Be informed as to the disposal of universal waste items (toners, batteries, electronics, etc) as separate from regular streams.
Behavioral Objectives	<ul style="list-style-type: none">• Correctly follow the Pack It Up, Pack It Out signs by

	<p>not leaving garbage and sorting it correctly in the hallway bin systems</p> <ul style="list-style-type: none"> • Confidently sort basic items in terms of the four streams present at hallway bin systems. • Tote reusable mugs, dishware/cutlery • Utilize other waste services such as e-waste collection, battery boxes, textile collection bins
Belief Objectives	<ul style="list-style-type: none"> • Feel that their choice to use reusable products and refuse disposals is important and influential in terms of producing less waste and setting an example • Assume responsibility for personal waste production and source separation

Table 2 Logic Model of the attitudes, knowledge, skills, and social norms of the Dalhousie community.

Attitudes & Values	Knowledge and Awareness	Skills	Barriers & Social Norms
<p>-aesthetics of the PROG systems and people not wanting the bin systems by their office</p> <p>-sorting garbage is "custodian's responsibility"</p> <p>-'garbage' doesn't matter</p> <p>- landfills are not a detrimental environmental factor</p> <p>-if you don't know, just put it in the garbage</p>	<p>-no need to source separate because it is done by someone else later</p> <p>- lacking knowledge of what can be placed in each waste stream</p>	<p>-material identification, skills to differentiate materials</p> <p>-apply knowledge to practice</p>	<p>-single use culture</p> <p>-last priority of companies and people</p> <p>-minimal assignment of waste responsibility to producers</p> <p>-international culture, language barriers and different waste mgmt. practices</p> <p>-cultural self-centeredness</p> <p>-time and personal barriers, esp. with food vendors and labs</p> <p>-cleanliness means out of sight not necessarily proper sorting</p>

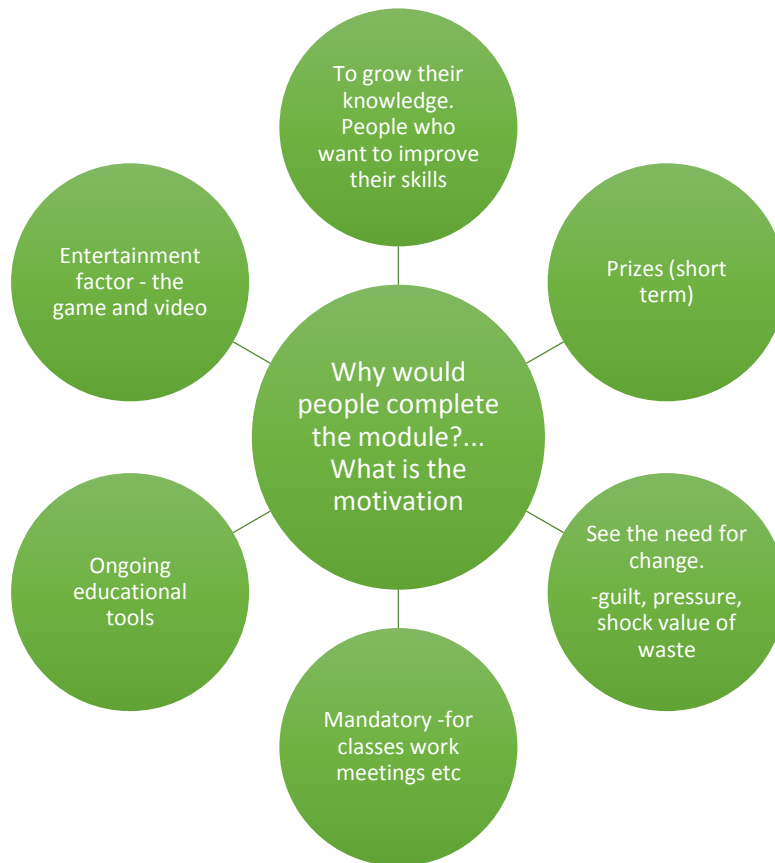


Figure 1 Sources of motivation for Module participants.

Content:

Welcome to the Waste Management Online Module

Thank you for visiting our page to improve your waste sorting skills and make Dalhousie a more sustainable community. Currently the garbage stream at Dalhousie is 40-70% contaminated, and we are ready for this to change! Learn about what Dalhousie is doing to make waste sorting easier for you, and develop the skills and confidence necessary to make *reduce, reuse, recycle* second nature.

Watch the [name] video below and review our Waste Management Guide. Then test your knowledge with the sorting game and quiz, and be entered to win a prize. Show off your skills at campus sorting stations and set an example of what it means to be a sustainable Dal citizen.

VIDEO embedded in the page
WASTE MGMT GUIDE PDF and Thumbnail

Ready to test your knowledge? Make sure your sorting skills are top notch and have some fun playing the [name] game (link game here)

Office of Sustainability

Search Office of Sustainability

- Home
- About Us
- Campus Programs**
- Rethink for a Sustainable Campus
- Get Involved
- Resources
- SmartTrip Dalhousie

Dal.ca Home > Office of Sustainability > Campus Programs > Waste > Waste Education Online Module

WASTE EDUCATION ONLINE MODULE

Welcome to the Waste Management Online Module

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Watch the Waste Sorting Video below and review our Waste Management Guide. Then test your knowledge with the sorting game and quiz, and be entered to win a prize. Show off your skills at campus sorting stations and set an example of what it means to be a sustainable Dal citizen.

Embedded YouTube Educational Video

[Waste Management Guide \[4,8KB\]](#)

Test Your Knowledge

Practise makes perfect. Make sure your sorting skills are top notch and have some fun playing our game (link game here)

Ready to test your knowledge? Take the quiz (link quiz)

- Campus Programs

- Transportation
- Built Environment
- Natural Environment
- Procurement
- Energy & Climate Change
- Food
- Waste**
- Reduce, Re-Use
- Paper and Cardboard
- Recyclables
- Organics
- Garbage
- Construction and Demolition
- Universal Waste
- Hazardous Waste
- Waste Education Online Module
- Water

Drag components or assets here

Promotional Methods:

The Waste Education Online Module will be promoted to the general Dalhousie community through the Office of Sustainability's social media, Today@dal, DalNews, ACNews, Gazette, Sextant.

To provide targeted promotion to students, we will send out direct emails to sustainability-related groups and faculty and table in active student areas and at student events.

For staff and faculty, we will share the module to the admin email list on file for Dalhousie departments, asking for the link to be shared to faculty and staff. This email will also encourage departments to present aspects of the module at staff/faculty meetings. Videos and games will be constructed such that they can stand along without a knowledgeable facilitator present. Similarly, aspects of the module will be integrated into HR orientation for staff/faculty. The module will also be promoted at workplace events through tabling.

CLASSROOM INFORMATION AND LEARNING

Digital waste education targeted towards students will begin in the fall semester 2016. The first initiative is to inform students of the Pack It Up, Pack It Out program. This will be accomplished via a PowerPoint slide distributed to all teachers to show on the first day of classes. The waste education online module will also be promoted for student participation.

Content:

Power point slide



Waste Education Online Module – See above description.

Promotional Methods:

To distribute the PowerPoint slides for the first day of classes, we will be accessing Professors through the head of the faculty (such as administrator for the dean) and then departmental heads.

To provide targeted promotion for the Waste Education Online Module, we will send out direct emails to sustainability-related groups and faculty and table in active student areas and at student events.

MULTI MEDIA WASTE EDUCATION CAMPAIGN

The social media strategy for waste education at Dalhousie will engage on-campus members of the community through content that is both educational and fun. In bringing comedy and entertainment to the topic of waste management at Dalhousie we hope to capture attention and increase retention of the information promoted by the campaign. The objective of the campaign is to make a lasting impact on the waste management habits of the Dalhousie community.

The tone for the content being shared over social media will be fun, shocking, lighthearted, but educational at its core. Content will be snippets of vital information, as keeping information shorter and more fun ensures that we capture the attention of the viewers and their ability to retain the information provided.

The content, including videos, pictures, text, quizzes and games, will follow the tone and match the objectives of the campaign.

Engagement Objectives:

- Change the habits of the Dalhousie community in regards to the generation and disposal of waste.
- Serve as an opportunity to ask questions about waste disposal efforts and guidelines on campus, supplemented by an FAQ sheet.
- Encourage the conversation around waste reduction and disposal at Dalhousie, in hopes of making lasting changes in attitudes and behaviours.
- Promote the guidelines, PROG system, and Pack It Up, Pack It Out to reduce confusion and pushback from the community
- Establish the Office of Sustainability as a resource for waste education
- Increase traffic flow and social media engagement by 15% over the promotional period

Slogans to include:

- Sort it out.
- Sort your trash after class.
- Confused about What Goes Where? (w/logo)
- Be a sustainable Citizen of Dalhousie.

- You're here at Dalhousie to fill your mind, not the landfill. Refuse disposables.
- Keep your coffee warm and the planet cool. Bring a reusable mug.
- Every piece of waste has its place. Sort it right.

Content:

A variety of social media post will be released throughout the campaign period. Content will be shared on Facebook, Twitter and Instagram. There will be a blog post written for the Sustainability Blog. Original content will be created in the form of posters, videos, testimonials etc. For examples of media that will be released please see appendices A through D.

Promotional Methods:

The content of the campaign will be released directly from the Office of Sustainability's social media platforms. To increase the reach of the information we will target certain groups online who will share our campaign and encourage their network to participate.

Groups to reach out to:

Dalhousie HR
DSU
Dal After Dark
College of Sustainability
Dal Alumni
Dal President
Dalhousie Bookstore
Gazette and Sexton news papers
Dal News
Dalhousie Residence
Dal Libraries
DSUSO

Appendix N

Posters used in the multi-media waste education campaign

We're here at Dal to fill
our minds,
Not the landfill.



Refuse disposables.



 Sort it Out!

 DALHOUSIE
UNIVERSITY
Office of
Sustainability

If you're not for
Zero Waste,
How much
waste are you
for?

