Environmental Audit 2014

Mount Allison University

PART TWO: Waste

May 2014

Environmental Audit 2014

Preamble & Policy 2102

The audit was carried out according to Mount Allison University's Environmental Policy (2102) Section 5 "Audit and Accountability". The policy dictates that an audit of at least two policy subsections will be carried out every summer by a student of the University. The 2014 audit, carried out in May of 2014, is an appraisal of Policies 2101 (PART ONE: Energy & Emissions) and 2102.c (PART TWO: Waste) and examines progress toward goals set out in the aforementioned policies.

Conducted through a series of interviews with Mount Allison employees and service professionals, analysis of collated data provided by the University, research of external resources and the practices of outside institutions the auditor attempts to adequately and comprehensively measure compliance with and progress toward sustainability goals as outlined in the University policy, and provides recommendations throughout, pertaining both to the progress toward goals and targets, and critique of the policy itself.

Special thanks goes to those in Facilities Management and Financial Services who answered continuous questions and provided me with the documents I needed to carry out this audit, no matter how many emails I might have sent them in a single afternoon. Thanks goes to: Robert McCormack, Perry Eldridge, Matt Estabrooks, Michelle Strain, Chris Milner, Carolyn Richards, Andrea Towers, Phil Cormier, Bart Musgrave, Helmut Becker, Michael Cantwell, Jenna and Tina at Westmorland Albert, Graham Muise, Clara Doucette, J.P. Oulette from NB Power, University Advancement, who housed me for a month, and of course thank you to Robert Inglis who provided priceless guidance, aid and advice throughout the process

Lauren Latour

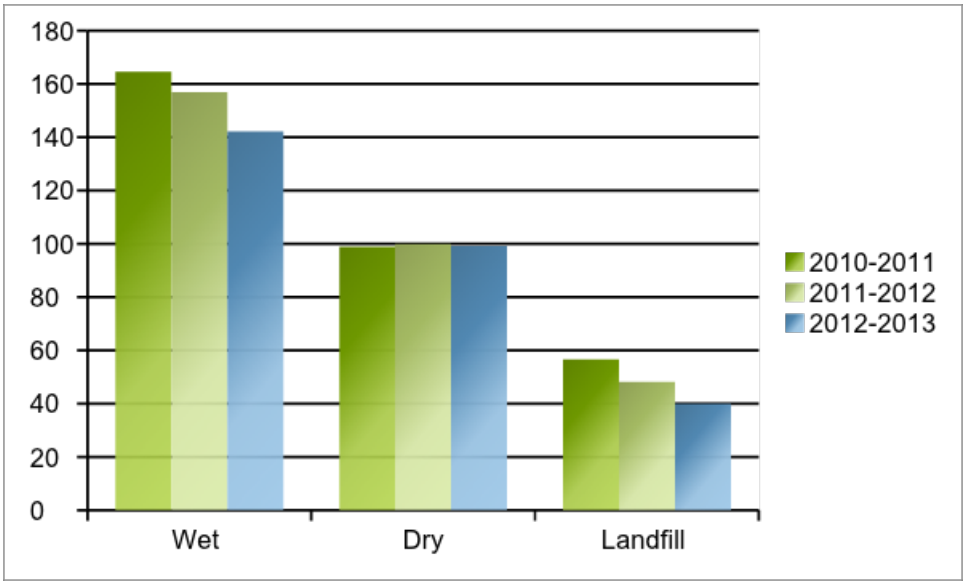
Environmental Audit 2014

Waste: Environmental Policy 2102.c

"It is the University's policy to concentrate efforts in waste reduction at source and in best management of waste streams"

The Policy is divided between source reduction and waste stream management.

University Waste Output 2010-2013



The above graph illustrates waste output over the past three academic calendars.
Values along the *Y Axis* are expressed in Metric Tonnes.

Data provided by Facilities Management

Reduction of waste at the source (2102.c 2.1)

Results:

After speaking with those in Facilities Management, it is clear that efforts have been made to reduce waste output, and based on the above graph, amounts appear to have decreased slightly with every year,

however, the exact numbers of waste output are difficult to compare year to year, as factors such as student and staff population, construction projects, and departmental changes have a substantial effect on waste generation.

There are several actions MTA has taken over the years to reduce waste, which have had a very positive affect on campus. The Surplus Assets and Dump N' Donate programs both help to divert reusable items from landfill, while Big Hanna and the soon-to-be-instated cardboard shredder will reduce food waste from Jennings almost entirely, which in itself is a reduction of almost 55 tonnes annually (based upon food waste output from the 2010/2011 school year).

Waste values coming out of the 2013/2014 year are expected to be unusually high, with both the Fine Arts and Drama departments "cleaning house" in preparation for the new Purdy Crawford Arts Centre. Another contributing factor to MTA's (expected) increased waste numbers this year comes from the R.P. Bell Library's purge of journals and articles in the conversion from hard documents to online journal databases.

Recommendations:

- Report waste output values on a per capita basis to better reflect actual output reductions.
- Develop an educational program to present to students and staff to ensure people are aware of the quantity of waste MTA generates and what happens to that waste
- Because the Campus Climate Challenge (C3) is so successful in making students aware of energy consumption, perhaps a similar residence contest could be held to make students more conscious of their waste output, and sorting habits.
- A greater emphasis should be placed on waste reduction through behavioural change and cultural shift on campus.

Wet/Dry separation will follow guidelines set out by the Westmorland Albert facility (2102.c 2.2)

Results:

Although efforts are made by staff and students to properly separate waste, it has proved to be a difficult system to properly convey to the Mount Allison Community, and a lack of education ultimately leads to poor sorting across campus. Efforts to properly separate were further impeded when Westmorland Albert overhauled their system this past year and failed to adequately communicate these changes with Facilities Management and work with those at MTA to develop best practices to ensure waste is properly sorted and results in optimal landfill diversion. Issues also arise in the very waste receptacles we use on campus. Very often, in individual offices or classrooms, there is not one blue and one green bag available, resulting in one, if not both bags being contaminated. When bags are "contaminated" with material which should not otherwise be present in the bag (for instance, food in a blue bag, or glass in a green bag) it results in the entire bag being rejected, and its contents going directly to landfill. Issues also arise with outdoor waste receptacles; all garbage cans outdoors on campus are limited to one bag, either blue or green, by nature of their structure, which results in all outdoors bags being misused and contaminated. Ultimately, there is an excess of confusion surrounding the Wet/Dry waste system we use in Sackville and on campus, and this poor division of waste results in much of Mount Allison's waste not being recycled or composted, but instead going directly to landfill.

Recommendations:

- Launch an education program during orientation week partnering with Facilities Management and Westmorland Albert

to ensure students understand how to properly sort waste and answer any questions which may arise (consider partnering with the MASU)

- Ensure custodial staff know the importance of providing both Green and Blue bags in receptacles, and make efforts to ensure both bags are available for those students and staff who refill their own cans
- Continue education of residence students during September and October, repeating a similar program to that which was carried out during Orientation to clarify use of the system (consider partnering with the residence EcoReps)
- Educate incoming employees on the Wet/Dry system, and ensure existing employees understand the new changes being made to the system (consider partnering with the EcoReps devoted to academic and office buildings)
- All common-area receptacles should be switched for multi-stream containers, allowing for easier and more consistent sorting across campus.
- Outdoor garbage cans should be placed in sets of two, and should be marked to clearly indicate which can is for wet waste and which is for dry
- All classrooms, offices, similar spaces should be equipped with both a wet and a dry receptacle, and should always be outfitted with the appropriate bag
- Small “wet” receptacles with individual white bags should be removed from campus offices, as small plastic bags are prohibited in the wet stream
- Design and post area-specific sorting guides. For instance a guide posted around Gracie’s and The Flying Bean would provide details on coffee cups, paper plates, napkins, plastic wrappers, etc. While a guide posted in residence room would specify where popcorn bags, cans, bottles and hygiene products should be disposed of.

- Consistency is extremely important! Green and Blue bags should always be available wherever a garbage can exists.
- Make every effort to communicate and collaborate with Westmorland and Facilities Management to ensure accuracy of information. Confusion begets poor sorting, which in turn results in bags being rejected. If this continues it deems the dollars MTA spends on the Wet/Dry system wasted.

Metal waste will be recycled (2102.c 2.2)

Results:

Due to the nature of the Wet/Dry system that Westmorland utilizes, the best Mount Allison can do to ensure metals are recycled is to properly sort waste into the green and blue bags, or to alternatively collect metals and take them to Wheaton's All-In-One recycling facility in Sackville's Industrial Park. The latter is what some students in residences opt to do, collecting recyclable metals (cans, for instance) in common areas of residence buildings and delivering them to Wheaton's as a means of income for the residence in question.

Recommendations:

- Consider rephrasing clause or eliminating it altogether, as recycling of metal is carried out by Westmorland Albert, along with processing of general waste
- Residence staff should ensure students know where and when to leave their metal (and glass) recyclables for pickup, and how to properly sort waste into the blue and green bags supplied in custodial closets
- Make sure that both blue and green bags are available in common spaces on campus. In front of Gracie's café for instance, where mixed material waste is generated it should be made certain that students have the option of blue and green, in addition to the can & bottle receptacle that is typically available.

Construction waste resulting from demolition or remodeling will be reused or recycled (2102.c 2.2)

Results:

Construction waste which is not separated and shipped to Westmorland separately will ultimately end up in landfill, resulting in many reusable items going to waste. Mount Allison makes every effort to keep construction materials separate, renting huge bins for construction material dumping, however, any non-construction waste (plastic bags, etc) result in the entire load being rejected to landfill. It is ultimately up to Westmorland to recycle construction materials once they reach the facility, similar to the trust placed in the facility towards properly dealing with everyday recyclables. Mount Allison also makes efforts to separate reusable items at the construction/ demolition site itself. Up until very recently the University had its own stone yard to collect and store sandstone bricks, like those which would have been collected during the demolition of the Memorial Student Centre & Windsor Theatre. Currently, the only stone kept is that which can be used for replacements, and all other stone is disposed of in construction waste bins or sold off.

Recommendations:

- Every effort should be made by Facilities Management to ensure that Construction Waste bins aren't compromised, educating employees on the importance of only putting those accepted materials in the Construction Waste bin
- Continue to reuse and sell reusable materials, utilizing the Surplus Assets program when appropriate
- Communicate with Westmorland Albert, confirming which materials are accepted in Construction Waste bins, in an attempt to avoid construction waste reaching landfill.

Hazardous waste will be kept to a minimum by taking steps to reduce use of hazardous materials when it is reasonable to do so. (2102.c 2.2)

Results:

It is reported by those who collect Hazardous Waste on campus that disposal levels have remained relatively steady over the past three years, with these levels expected to remain constant for the foreseeable future, until the sciences complete their faculty-wide purge of old chemicals some three

years from now, at which point, Hazardous Waste levels will be considerably lessened, as will disposal amounts.

The collection and disposal of hazardous waste is twofold, with Phil Cormier in Biochemistry handling and disposing of waste generated by Biology, Chemistry, Biochemistry, the Owens, Fine Arts, Physics, and occasionally Facilities Management. While Facilities Management collects and disposes of hazardous waste generated through University Operations, and the small amount collected in residences.

It should be noted that what Westmorland Albert considers "Hazardous Waste" is not necessarily hazardous waste by general standards. Typically hazardous waste is considered that which poses serious danger to public health or the environment, usually because of high chemical content. Westmorland considers many everyday items to be Hazardous waste, beyond what would be assumed, including glass, aerosol containers, razorblades, nail polish remover, etc.

Efforts are being made to reduce hazardous waste output in the sciences through "Green Chemistry" practices (working on a micro scale as opposed to the typical gram scale) and though the current investigation of solvent recovery systems.

Although disposed of separately from typical hazardous waste, one of the largest contributors to output on campus is the fluorescent lightbulb, specifically compact fluorescents, which make up the vast majority of lights on campus. Although fluorescents are lauded as having a far longer life, and using far less energy to power than a standard halogen bulb, the lifetime of a fluorescent is considerably reduced when connected to a motion sensor, a system which is designed to reduce energy use by turning lights off when a space is unoccupied. Fluorescent bulbs also contain large quantities of mercury, an extremely dangerous substance, and as a result, make disposal a complex, expensive and environmentally taxing process. Ultimately, until Compact Fluorescent bulbs are retired in favour of LEDs (which are free of hazardous materials and have a far longer lifetime) hazardous waste levels will remain relatively high and constant.

Recommendations:

- Replace fluorescent bulbs with LED lights as they burn out.
- Teach students what hazardous wastes are considered to be, and encourage their proper disposal in bins provided in residential garbage rooms.
- Support the sciences in their purchase of a solvent recovery system to reduce output of dangerous chemicals

Reusable items (furniture, clothing, etc.) will be made available to the university and Sackville communities or charitable organizations. (2102.c 2.2)

Results:

The "Dump n' Donate" and "Surplus Assets" programs have been especially helpful in ensuring reusable items are diverted from landfill. The "Dump n' Donate" program works within residence buildings, taking those reusable items left behind by students and donating them to charitable organizations. The "Surplus Assets" program on the other hand, is operated by Procurement, taking reusable equipment from the University (for instance, filing cabinets, furniture, speakers) and selling those items, first within the University community, and finally to the wider Sackville community, via an online bidding page. Thus far both programs have been extremely successful, helping to divert an excess of equipment and reusable items from landfill annually.

Recommendations:

- Make the Dump n' Donate program available to off-campus students

Cardboard will be recycled. (2102.c 2.2)

Results:

In the past, cardboard has either been sent directly to markets for sale, or used by students to pack belongings to move in the spring. The cardboard bin behind Jennings, which was formerly where cardboard was collected and processed separately has been done away with, and cardboard is typically sent to Westmorland in bags with blue waste, or used by students. Since the purchase of the two Big Hanna industrial composters Facilities Management has investigated procurement of a cardboard shredder, and as of spring, 2014 has made a purchase. The shredded cardboard will take the place of

some of the wood pellets needed to bind the food waste in the composter, and will considerably reduce cardboard shipped to Westmorland for recycling.

Recommendations:

- Consider rephrasing clause or eliminating it altogether, as recycling of cardboard is carried out by Westmorland Albert, along with processing of general waste
- Any cardboard which goes un-shredded should be properly sorted into blue bags for proper recycling, to prevent recyclable materials going to landfill after being deemed contaminated.

Performance Indicators, Accountability, and Targets (2102.c 3)

"Facilities Management will collect information and report metrics and progress on waste reduction annually."

- Tonnes of waste delivered to Westmorland Albert
- Number of truck trips to Westmorland Albert
- Number or volume of repurposed items
- Amount of disposed Hazardous Waste

Although an annual report of this nature is not written each year, the majority of the above information is available, excluding the "number or volume of repurposed items". The remaining three metrics were available upon request of Facilities Management and Financial Services. It is recommended that a report of this nature be compiled and released annually as per the above policy, perhaps excluding the currently required "number or volume of repurposed items".

See appendices for those available values.

Appendices

Appendix A. Environmental Policy 2102

Policy #: 2102

Subject: **Environmental Policy**

Group: Institutional

Approved by: Executive Committee

Approval date: May 11, 1999

Effective date: May 11, 1999

Revised: April 20, 2012

Administered by: Vice-President (Administration)

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1. PREAMBLE

Mount Allison University's mission is to provide a rigorous liberal education of high quality primarily to undergraduate students.

Because the University is a perpetual and endowed institution, it must be even-handed between the current and future generations. Therefore it must protect the interests of the current generation by operating as efficiently as it reasonably can and by providing a healthy environment for its students, faculty and staff, and it must protect the interests of future generations by operating in a sustainable manner.

Because the University operates in a local and global context, it must also consider the impact it has on others, including its impact on future generations.

For these reasons, Mount Allison seeks to improve its efficiency and to minimise its negative impact on the environment through a program of continual improvement in environmental performance. This will be achieved by implementing a feasible and comprehensive environmental policy with measurable and achievable metrics as set out in its sub policies. Compliance with, and progress towards metrics set out in, the sub-policies is the responsibility of the applicable University departments who are accountable to their respective vice-presidents.

2. POLICY

This policy is structured into eight areas: Emission Reduction, Transportation, Water, Waste, Food, Paper, Grounds and Buildings.

The performance indicators and metrics associated with each area will serve as standards, and progress in meeting these standards will be measured through an independent audit process.

2.1 Emission Reduction

The University will endeavour to minimize energy consumption and emissions emanating from heating, electrical consumption and University approved travel and vehicle use as set out in its Emission Reduction Policy.

2.2 Transportation

The University will endeavour to minimise energy consumption and encourage less carbon intensive means of transportation as set out in its Transportation Policy.

2.3 Water

The University will endeavour to use water responsibly as set out in its Water Policy.

2.4 Waste

The University will endeavour to minimize solid waste production and to recycle and divert as much waste as possible as set out in its Waste Policy.

In accordance with that Policy the University will also monitor the use and disposal of hazardous materials.

2.5 Food

The University will endeavour to minimize the ecological impact of food consumption and food waste on campus as set out in its Food Policy.

2.6 Paper

The University will endeavour to minimize the use of paper and paper products as outlined in the Paper Policy and encourage responsible, environmentally-aware paper procurement consistent with the University's Procurement Policy.

2.7 Grounds

The University will endeavour minimize the ecological impact of its grounds maintenance program as set out in its Grounds Policy.

2.8 Buildings

The University will endeavour to minimize the ecological impact of the construction, maintenance and operation of its buildings as set out in its Buildings Policy.

3. ENVIRONMENTAL ISSUES COMMITTEE MEMBERSHIP

The Environmental Issues Committee will have the following membership:

- Three administrative members appointed by the Vice President, Administration;
- Three faculty members appointed by the Provost and Vice President, Academic & Research;
- One community member appointed by the Vice President, Advancement;
- Five students appointed by the Students' Administrative Council; and
- A chair appointed by the President.

4. ENVIRONMENTAL ISSUES COMMITTEE MANDATE

The mandate of the Committee will be as follows:

i. to educate members of the University community on environmental issues and initiatives;

ii. to foster co-operation and facilitate communication between the University and the broader community concerning environmental matters of mutual interest;

iii. to foster co-operation and facilitate communication with other universities concerning environmental initiatives so that all institutions will benefit from environmental progress made at any one institution;

iv. to highlight to the community those courses and other educational opportunities that focus on environmental matters;

v. at least once every three years to review and to either recommend to the President amendments to the Environmental Policy and its sub policies or recommend that they be confirmed;

vi. to review and to report to the President on the results of the annual audit completed under this policy; and

vii. to report to the President on any other matter on which it considers it appropriate to report.

5. AUDIT AND ACCOUNTABILITY

Each summer the University will complete an audit of its compliance with, and the progress made towards goals set out in, at least two of the sub-policies under this Policy, which audit may include criteria from external bodies such as Stars, ISO14000 or others. It is expected the audit will usually be completed by a student.

This Policy and related sub-Policies will be included in the University's annual legal, regulatory and policy compliance report to the University's Audit Committee.

Appendix B. Waste Policy of the Environmental Policy 2102.c

Policy #:	2102.c
Subject:	Waste Policy of the Environmental Policy
Group:	Institutional
Approved by:	Vice-President, Administration
Approval date:	November 28, 2012
Effective date:	November 28, 2012
Revised:	
Administered by:	Director of Facilities Management

1 - PURPOSE
Mount Allison is committed to practicing responsible and sustainable management of solid waste material to reduce the University's impact on the environment.

2 - POLICY
It is the University's policy to concentrate efforts in waste reduction at source and in best management of waste streams:

2.1 Source Reduction
The University will decrease the amount of waste at the source by preventing or delaying entry of material into waste streams.

2.2 Waste Streams: General Practices
The University will ensure consistent location and labelling of disposal sites across campus and will educate the University community on proper waste separation. Types of waste will be managed according to Federal and Provincial guidelines:

- Wet/Dry waste separation will follow guidelines set out by the Westmorland Albert facility;
- metal waste will be recycled;
- construction waste resulting from demolition or remodeling of campus facilities will be reused or recycled where it is economically feasible to do so;
- hazardous waste will be kept to a minimum by taking steps to reduce the use of
- hazardous materials where it is reasonable to do so;
- reusable items such as surplus furniture, clothing from residence students and other items will be made available to the University community, the local community or charitable organizations; and
- cardboard will be recycled.

3 - Performance Indicators, Accountability, and Targets

Facilities Management will collect information and report metrics and progress on waste reduction annually. The metrics to be considered for inclusion are

- tonnes of waste delivered to Westmorland Albert;

- number of truck trips to Westmorland Albert;
- number or volume of re-purposed items; and
- amount of disposed hazardous waste.

Maintained by the Office of the Vice-President (Administration) November 30, 2012

Appendix C. Performance Indicators, Accountability, and Targets

Values were all provided by Facilites Management and are from April 2013-2014.

- Tonnes of waste delivered to Westmorland Albert
    - Jenning's waste: 15.37 kg
    - Waste excluding Jenning's: 524.56 T
- Number of truck trips to Westmorland Albert
    - Jenning's waste: 39
    - Waste excluding Jenning's:172
- Number or volume of repurposed items
    - Unknown value
- Amount of disposed Hazardous Waste
    - Unknown value