"Moving Forward"

A Waste Recycling Strategy for

The Townships of Beckwith, Drummond/North Elmsley, Montague and the Towns of Carleton Place and Mississippi Mills

Created with assistance from
Waste Diversion Ontario

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1. Introduction

This Waste Recycling Strategy is intended to provide guidance in future recycling decision making by a group of Lanark County municipalities. It was initiated by the Townships of Beckwith, Drummond/North Elmsley, Montague and the Towns of Carleton Place and Mississippi Mills, the "Municipal Waste Group" (MWG) and most figures contained herein are based on the 2010 WDO datacall unless otherwise indicated.

MWG members are responsible for managing and planning for the residential solid waste generated within their respective boundaries in accordance with the "Municipal Act" 2001. The five member municipalities are geographically adjacent to one another and have recently entered into a short term joint recycling contract, resulting in more recyclables being added to their blue box programs without any increase in the contract cost. At present, all five enjoy recycling curbside pick-up with a strategically placed depot system for #3 through #7 plastics. However, this contract expires May 31, 2013.

The Township of Beckwith with 2846 households, a population of 6395 and covering 240.51 square kilometers is rural with several privately serviced subdivisions. Otherwise the township's land use is predominantly agricultural.

The Township of Drummond/North Elmsley with 3496 households, a population of 6991and covering 366.03 square kilometers is rural and except for two villages is predominantly agricultural.

The Township of Montague with 1390 households, a population of 3000 and covering 279.74 square kilometers and except for 4 hamlets is rural and acts as a bedroom community for Smiths Falls as well as nearby Ottawa.

The Town of Carleton Place with 4115 households and a population of 9905 is a rapidly growing small urban community with a good commercial/industrial base. Its recent growth has been widely attributed to the extension of the four lane highway # 407 from Ottawa to its border.

The Town of Mississippi Mills with 5131 households, a population of 12,143 and covering 519.53 square kilometers is a geographically large rural (agricultural) municipality with two small urban centers.

With a land mass of 1415.51 square km and almost 1000 km of roads combined with the fact that there are many of the 16,978 households located on remote country roads, MWG faces many challenges regarding reduction of its high recycling costs while maintaining or enhancing its existing recycling programs which this recycling strategy will address.

Encouraged by the fact that the "economies of scale" concept had already provided an enhancement to their recycling program with no cost increase over its last five-year contract, MWG was convinced there were other potential improvements to the joint recycling program that could further increase the efficiency and effectiveness of its recycling program, maximize the amount of blue box material diverted from disposal and reduce net annual recycling costs. Thus the decision was made by the five municipalities to proceed with a multi-municipal recycling strategy in the fall of 2010.

Specifically, the purpose of this recycling strategy is to provide MWG with a guide for immediate and future improvements to its recycling programs and also for recycling policy changes and implementation of those changes. The existing joint short term contract serves to bridge the gap between the present and the point at which most future changes to MWG's blue box program will commence.

2010 Datacall Information for MWG							
Municipality	***Size (Sq. Km)***	***Roads (Km)***	***Net Cost of Recycling (2010)***	***No of Households***	***Tonnage***	***Population 2010***	***Population 2011 Census***
Carleton Place	10.00	55	$198,132.84	**4115**	631.88	9905	9809
Montague	279.74	145	$78,848.06	**1390**	197.16	3000	3438
Drummond/North Elmsley	366.03	250	$144,456.24	**3496**	943.93	6991	7487
Beckwith	240.51	186	$148,928.20	**2846**	447.99	6395	6986
Mississippi Mills	519.53	358	$191,048.61	**5131**	691.91	12143	12,385
TOTAL	**1415.81**	**994**	**$761,413.95**	**16978**	**2512.88**	**38435**	**40105**

2. Overview of the Planning Process

This Waste Recycling Strategy was prepared through the efforts of a committee of staff representatives from each of the municipalities involved in the Municipal Waste Group. Volunteers from Environment Committees from some of the municipalities also provided assistance and input.

Committee members strongly agreed that research, public participation and a structured approach to the creation of the strategy were key elements of the planning process on which the Committee was about to embark.

MWG received financial assistance from the Continuous Improvement Fund and that allowed it to engage the services of Wayne D. Fraser Consulting to take the lead role in the creation of this Multi-Municipal Recycling Strategy.

Various committee members participated in numerous recycling training seminars including the Continuous Improvement Fund's "Fundamental Principles in Recycling Planning, Data Management, and Promotion and Education Courses" and they shared the information they gleaned from these courses with other committee members.

The committee and Wayne Fraser have conducted detailed research into the recycling programs presently operating in other communities in Ontario and beyond attempting to learn how and why some communities enjoyed very successful programs and others did not. Another area investigated was the relationship between the size of recycling budgets and the degree of the success of recycling programs in various municipalities.

Early in this project the committee decided that the foundation for the creation of this recycling strategy would be based on the ideals of **cost effectiveness** and **environmental impact** and the Committee's direction throughout the project was always guided by these two ideals.

The next steps in this process were to:

- Explore partnerships with additional municipalities to maximize the benefits of economies of scale.
- Examine promotion and education of recycling as a key waste diversion tool
- Work collaboratively with local environmental groups and businesses to encourage and establish future take back programs
- Establish realistic and obtainable goals and objectives for improving our existing recycling programs recognizing the diversity among our urban and rural partners
- Review by Councils (of the Municipal Waste Group) of all recommended future initiatives identified in this document

To ensure the public and local stakeholders were able to participate in the preparation of this waste recycling strategy, the public was consulted via telephone surveys, with each of the five municipalities obtaining opinions from between two and three percent of their households. In addition, the survey was also posted on Municipal websites. Environmental committees from the MWG member municipalities were consulted, further broadening public consultation process.

For more details on our public consultation process, see Section 4.

3. Study Area

The study area for this Waste Recycling Strategy includes the Towns of Mississippi Mills (Urban and rural) and Carleton Place (urban) and the Townships of Beckwith (rural), Drummond-North Elmsley (Rural and urban), and Montague (rural).

This Waste Recycling Plan will address the following sectors:

- Single and multi-family residential dwellings
- Small (3 blue boxes or less) commercial establishments

4. Public Consultation Process

The public consultation process followed in the development of this Waste Recycling Strategy consisted of the following activities:

- Municipal telephone surveys
- Municipal website surveys

Stakeholder groups included in this consultation included:

- General public from all the member municipalities
- Councils of the member municipalities
- Environmental Committees from the member municipalities (if applicable)

All surveys were conducted between December 20, 2010 and April 15, 2011.

The response from the public and stakeholders indicated that there was a great deal of uncertainty as to what was recyclable and what was not. In addition, many comments indicated that residents were unsure of why recycling was important and in some cases where recyclables went when they were collected. Obviously, more emphasis must be placed on public education and promotion of the group's recycling program.

The most mentioned comment was that "all plastics should be included in the blue box program. This feedback provided the group with a good background for the development of the report's goals and objectives.

Public Recycling Survey Results (Average of Participating Municipalities)		
Questions	Responses %	Comments
Do You Recycle?	Yes - 96 % No- 4 %	A “no” answer was usually because the respondent was confused about which items were and were not recyclable or unaware of the beneficial results of recycling.
How would you like to receive recycling information?	Brochure 28% Calendar 26% Magnet 5% Newspaper 5% Website 32% Other 4%	In general, respondents preferred to receive recycling information by way of their municipal websites (especially urban areas). In Mississippi Mills and Carleton Place respondents also liked the idea of receiving brochures.
Do you currently backyard compost?	Yes - 54 % No- 46 %	Surprisingly, back yard composting is practiced by approximately two thirds of the respondents in both the urban and rural sections of the group of municipalities. Carleton Place was the anomaly with only 33 % of respondents presently composting. Some of the “no” responses were from respondents who lived in urban apartments.
Would you participate in an organics/green bin program?	Yes - 47 % No- 43 % Unsure- 10 %	Most respondents who were unsure or said “no” were concerned about the program cost and /or had no place to store organics.
Do you have any concerns about an expanded recycling or new organics collection program?	Yes - 27 % No- 73 %	Respondents with “yes” answers had concerns about how taxes would be affected if these programs were implemented and that an organics program would attract animals, rodents and create unpleasant odours. It is assumed that those who skipped this question (approximately 18%) had no concerns.

5. Stated Problem

Management of municipal solid waste, including the diversion of blue box materials, is one of the more important responsibilities for all municipal governments in Ontario. The factors that encourage or hinder municipal blue box endeavours can vary greatly and depends on the size and geographic location of the service area and population. This is especially true when dealing with multi-municipal contracts.

The key reasons that led to the development of this multi-municipal recycling strategy include:

- Regional Approach/Opportunities
- Viable markets/economy
- Expiration of existing contract
- Consistent level of service
- WDO requirements/financial incentives
- Public pressure for recycling change

Residents of MWG have indicated that they are interested in a simpler, less confusing recycling program (i.e. some plastics accepted in the blue box and some not) and one that includes more items being collected in the blue box at curbside.

Municipalities involved in MWG are located in close proximity to the nation's Capital, Ottawa. Many of MWG's residents are previous residents of Ottawa and these individuals have high expectations regarding their level of recycling services. These and many other residents are lobbying for enhanced recycling services.

MWG decided to engage professionals to conduct a recycling-waste audit for the MWG municipalities in an attempt to obtain a better understanding of its waste and recycling streams.

To that end, from March 7 through 11, 2011, Waste Management Green Squad was retained by MWG to perform curbside recycling/waste audits on residences in Carleton Place, Mississippi Mills, Drummond/North Elmsley, and the Township of Montague. The purpose of the project was to obtain an understanding of the composition of MWG's waste and recycling streams in order to move forward with the recycling strategy MWG had decided to create.

A summary of the results are as follows:

Summary of Results

The data collected and analyzed by Green Squad from the waste composition audit have yielded the following:

- The average household in Lanark County sets out 1.7 bags of waste weekly and generates 12.6 kg per household per week (kg/hh/wk).
- The average household generates 5.4 kg/hh/wk of blue box recyclable materials.
- Approximately 15% of the waste set out is recyclable in the current collection program.
- Organic waste accounts for 38% of the waste going to landfill.
- Mississippi Mills achieved the highest diversion rate at 37% while Carleton Place had the lowest diversion rate of the four municipalities at 20%.
- 65% of all recyclable paper generated by Lanark County is captured in the blue box program with Mississippi Mills achieving the highest recovery rates for recyclable paper at 81%.
- 66% of all recyclable containers generated by the County are captured with Drummond North Elmsley achieving the highest recovery rates at 78%.

The information gleaned from the waste audit provided MWG with a baseline to help formulate its recycling goals and objectives to be incorporated into its Recycling Strategy document.

Subsequently, the Recycling Strategy was developed (using information gleaned by MWG from the aforementioned public consultation process), which helped to:

- Identify gaps in their current municipal recycling system;
- Develop and analyze potential waste recycling options;
- Review best practice information on similar municipal recycling programs; and
- Draft a strategy to maximize the effectiveness of the municipal recycling programs and formulate recommendations for improvements.

In developing the plan, the MWG recognized that designing the elements of an enhanced waste diversion plan depended on the desired objectives from the process as well as a number of other key considerations, which included:

- **The diversion level required:** When contemplating a waste management system, diversion goals must be clearly defined. A wide range of materials needs to be targeted if high diversion is expected, however some programs may be limited by the availability of viable markets. Programs designed to be the most convenient for the residents will experience the highest participation and are generally required to achieve high diversion levels. MWG needed to decide what diversion rates it wanted to achieve.

- **Costs:** Costs have an enormous influence on the design decision. As an example, collection of recyclable material using a depot-based program is cheaper than a curb side collection program but also recovers less material.

- **Markets:** The availability of stable markets for the material produced by waste diversion programs are a key element of making decisions on the best waste management system design. If stable end markets cannot be found for a material, it should not be included in the program. Again, this does not always happen, as a material may be mandated for collection by various regulations, or there may be strong local push to provide recycling opportunities for a material, even though markets are weak i.e. #3 though #7 plastics.

- **Policies:** Policies such as bag limits and landfill bans can have a significant impact on how the design of a waste management system will perform. The willingness of a community and its Councillors to support and enforce waste reduction/diversion policies i.e. recycling, will ultimately impact its effectiveness.

The strategy was designed to help MWG move towards reaching its broad recycling objectives. These objectives are to:

- Increase capture rate from the existing 52.5% to 80% of available recyclable material.

- Provide effective promotion and education of municipal recycling programs to residents, resulting in correct and sustainable participation.

- Ensure that any new material added to the recycling stream must have a sustainable market.

- Utilize a collaborative approach between the participating municipalities when implementing initiatives to increase participation in recycling and control costs.

- Increase landfill life.

To help meet these objectives, a series of priority initiatives were identified, as well as other initiatives for future consideration. The successful implementation of these initiatives will improve the efficiency and balance the cost effectiveness of the municipal recycling programs. It will also maximize the amount of recyclable material diverted from disposal

6. Goals and Objectives

This Waste Recycling Strategy has identified a number of goals and objectives for Beckwith, Drummond/North Elmsley, Mississippi Mills, Montague and Carleton Place. These are presented below.

Waste Recycling Goals and Objectives		
Goals	**Objectives**	**Deadline**
To ensure that MWG always has the ability to modify its recycling and other waste diversion programs to capitalize on new advanced technology, techniques and relevant legislation	Structure new contracts so that modifications to them are permitted within a predetermined framework agreed to by both parties when the contracts are executed.	December 2012
To maximize recycling capture rates through existing and future recycling programs striving to eventually attain the mandatory 60 % diversion rate	Increase MWG`s present average recycling capture rate (52.5%) on an ongoing basis striving to reach the goal of 80% blue box recycling capture rate over the next 5 years.	May 2013 (annually)
To enhance capture rates through Public education.	Develop an effective communication and public engagement strategy that will be considered a best practice for any waste diversion program. This will help MWG`s communities by raising the awareness of the new recycling initiatives. This strategy will also help foster a change in residents so that waste diversion becomes the norm rather than the exception, with the goal of significantly reducing material sent for disposal	June 2013 (ongoing)
To enhance our current recycling program to provide an easy to understand, efficient and effective service for our communities	Review our current program and available options on a biannual basis to ensure that we are receiving the most cost effective service with a balance of program performance	June 2014

This Waste Recycling Strategy has also identified a series of broader community goals to which it can contribute. These broader community goals are presented below.

Community Goals and Objectives		
Goals	**Objectives**	**Deadline**
To enhance recycling at community events and in public spaces.	Provide more recycling depots in all public areas and encourage the provision of portable recycling containers at community events (fairs, festivals, rallies etc.) over three years.	2013 2014 2015
To encourage non-municipal Recycling programs	Provide technical and potentially financial support to community organizations wishing to provide diversion options that are considered to be beneficial i.e. WEEE depots, tire collections etc.	2013
To enhance recycling in the downtown core.	Provide alternatives to the trash cans in the downtown core. I.e. recycling containers.	2013

7. Current Solid Waste Trends, Practices and System and Future Needs

Community Characteristics

In 2010, MWG had a collective population of 38,435. The MWG is also home to 17,774 total households or dwellings. Of these, 16,564 are single-family households and 414 are multi-family households. There are also an additional 796 seasonal dwellings, which are generally occupied during the months of June through October.

Current Waste Generation and Diversion

Currently, MWG generates approximately 15,101 tonnes of residential solid waste per year. Of this, 4392 tonnes, or 29.1 percent, is diverted, through the blue box and other programs. Currently, the most common material recycled is paper while the least is plastics.
The table below summarizes the current waste generation and blue box diversion rates.

Residential Solid Waste Generated and Diverted through Blue Box		
Residential Waste Stream/Blue Box Material	**Tonnes**	**Percent of Total Waste**
Total MWG waste generated	15,101	100 %
Papers (ONP, OMG, OCC, OBB and fine papers)	1794.20	11.88 %
Metals (aluminum, steel, mixed metal)	226.97	1.50%
Plastics (containers, film, tubs and lids)	146.19	0.97 %
Total Blue Box material currently diverted	2,512.88	16.64 %

As the table below indicates, MWG's 2010 diversion rate was below average for its WDO municipal grouping.

Average Blue Box Diversion Rate (per year)	
MWG	16.64 %
Combination- Small urban/Rural Coll'n South	30.96 %

Potential Waste Diversion

To estimate MWG's current waste composition a waste audit was conducted in 2010 *(see APPENDIX E)*. The Township of Beckwith did not participate in the audit so the results for the Township of Montague are considered as representative for Beckwith as they are both primarily rural and border one another.

The audit found that MWG had approximately 15 % of recyclables found in its waste streams. If you apply this result to the total waste produced by MWG (15,101 Tonnes- *see APPENDIX B*) one can estimate that there is a total of **2273 Tonnes of recyclables still remaining in MWG's waste stream**. If you add this to the 2513 Tonnes of recyclables marketed in 2010 *(see APPENDIX D)* MWG has a total of 4786 Tonnes available for diversion yielding a **recyclables capture rate of 52.5%.** Capture rate is the percentage of recyclables recovered out of the overall amount of recyclables available for recovery.

Estimates of blue box material available for diversion are listed in the table below.

Current and Potential Diversion			
Material	***Total Available in Waste Stream (Tones/year)***	***Currently Recycled (Tonnes/year)***	**Potential Increase *(Tonnes/year)***
Papers (ONP, OMG, OCC, OBB and fine papers)	3418	1794.2	1623.8
Metals (aluminum, steel, mixed metal)	432	227.0	205.0
Plastics (containers, film, tubs and lids)	278	146.2	131.8
Glass	658	345.5	312.5
Total	4786	2513	2273

On APPENDIX B MWG's total 2010 waste generated is listed as 15101.23 Tonnes and its total waste diverted was 4391.59 Tonnes. As waste diversion is the percentage of waste diverted from landfill out of the total amount of waste generated, MWG's diversion rate is 29.1%

Increasing MWG's recycling capture rate from the present 52.5 % to 100 % of the blue box material remaining in MWG's waste streams would raise its group waste diversion rate to 44.1 %. MWG realistically targets achieving 80 % of this figure which, if achieved would raise its present waste diversion rate to 35.3 % over the next 5 years.

Existing Programs and Services

Currently, MWG has the following policies and programs in place to manage residential solid waste although they vary from municipality to municipality:

- Individual recycling and Garbage collection by-laws
- User pay per garbage bag policies
- Garbage bag limits

Collection services of regular waste for the 5 MWG municipalities have individual municipal contracts with one common contractor. However, Blue Box collection services are provided to MWG using a joint inter-municipal contract with one common Contractor who transports all the recyclables to his recycling facility in Black's Corners where it is processed and marketed. The waste collection contractor transports the garbage to a second municipal contractor's transfer station at Carp, Ontario and this second contractor hauls the Garbage to a disposal site at Moose Creek, Ontario.

Disposal and recycling services are paid for primarily through recycling revenue, taxation and the purchase of additional garbage tags.

In 2010, the total net annual recycling cost for MWG was **$761,413.95**. This amounts to **$303.00** per tonne, or **$19.81** per capita. As the table below shows, net annual recycling costs for MWG which is primarily categorized as Rural Collection South are below average for its WDO municipal grouping. (See Appendix C)

Net Recycling Cost (per tonne per year)	
Municipal Waste Group (MWG average/member)	$303.00 *(see APPENDIX C)*
Municipal Grouping: Small urban Rural Collection South	$287.88 $458.78

Anticipated Future Waste Management Needs

Collectively, annual solid waste generated rates in MWG (presently 392.9 kg/Capita) are expected to stay the same over the next eight year planning period. The Table below depicts the expected growth rates for solid waste generation and blue box material recovery (based on projected population growth rates).

Anticipated Future Solid Waste Generation Rates and Available Blue Box Material			
	2010	**2015 (8.4%)**	**2020 (4.6%)**
Population	38,435	41960	43908
Total Waste (tonnes)	15,101	16,486	17,251
Blue Box Material Available(tonnes)	4786	5216	5458

8. Planned Recycling System

Overview of Planned Initiatives

MWG reviewed a number of options for consideration in its Waste Recycling Strategy. The options were then scored based on a series of criteria, which included:

- Ease of implementation.
- Economic viability
- Proven results
- Probable percentage of waste to be diverted
- Access to the public
- Reliable end market

A summary of the options reviewed and their scoring are provided in Appendix A.

Once scored, the top ranking Waste Recycling Strategy options were organized into Priority Initiatives and Future Initiatives. The estimated cost for implementing the priority initiatives is estimated to be approximately $27,500 while implementation of the future initiatives is estimated at $42,500. The Table below presents the Priority Initiatives and Future Initiatives and their estimated costs. A review of these initiatives and their implementation are reviewed on the following pages.

Priority and Future Initiatives		
Initiatives	**Implementation Costs**	**Additional Annual Operation Costs**
Priority Initiatives		
• Develop an effective communication and public engagement strategy. ($2. Per household)	$10,000.	$0
• Implement a Public education and promotion program	$0	$16,978
• Train Key program staff	$10,000	$10,000
• Optimize Collection/hauling/processing operations including adding #3 to #7 plastics to blue box pickup.	$5,000	$0
• Enter into a new joint recycling contract in 2013 that provides flexibility, allowing contract modifications within a predetermined framework agreed to by both parties when the contract is executed.	$2,500.	$181,335
Estimated Total Cost (Priority Initiatives)	**$27,500**	**$208,313**

Future Initiatives		
• Increase blue box capture rates (monitoring and reporting annually)	$0	$10,000
• Review and modify waste by-laws to encourage diversion through recycling/provide enforcement (i.e. garbage bag limits)	$7,500	$50,000
• Provide recycling opportunities for the public in parks, public buildings and at community events.	$35,000	$10,000
Estimated Total Cost (Future Initiatives)	**$42,500**	**$70,000**

Priority Initiatives

Initiative "A":

Develop a Communication and Public Engagement Plan
and
Implement a Public Education and Promotion Program

As these two initiatives are closely related they will be discussed jointly:

Overview:

Effective communications, public engagement and also public education and promotion are typically considered to be "best practices" for any waste diversion program. These joint initiatives will help MWG to:

- Raise the awareness of the new waste management program; and,
- Foster change in behaviour in residents so that waste diversion becomes the norm instead of the exception, with the goal of significantly reducing material sent for disposal.

Such strategies should contain:

- The goals and communications objectives of the strategies;
- Identification of the audience to which these strategies will apply;
- Branding and slogan development;
- Appropriate tactics, messages and communications methods/vehicles to be used to reach the target audience and achieve the aforementioned goals and objectives;
- Implementation timeline, including steps to implement the strategies and their cost; and
- Performance measures to evaluate the effectiveness of these new initiatives.

Implementation:

The following outlines the steps and outcomes regarding the development of the two initiatives:

Step 1: Context Scan

- Review local reference materials (existing communications materials, surveys, participation rates, material tonnages, etc.);
- Identify existing communications mechanisms and channels, linked projects/programs, and companion opportunities – including those potentially available in conjunction with major stakeholder groups e.g. Chamber of Commerce and B.I.A.;
- Explore opportunities for partnership support from other stakeholders;
- Engage interested stakeholders and the public to discuss potential communications approaches;

Step 2: Audience Identification

- Identify differences in audience receptiveness, based on knowledge of the area, existing demographic data, and experience;
- Identify target audiences and key drivers behind behaviour change;
- Review communication tactics, mechanisms, frequency and reach, to access those audiences and identify core messages and design elements;

Step 3: Identify Core Messages and Design Elements

- Develop core messages and design elements and identify feedback mechanisms;
- Focus test messages and designs;

Step 4: Develop Detailed Communications Strategy

- Draft the Communication and Public Engagement Strategy containing the results of steps 1-3;
- Test messages and design elements for public acceptance.

Possible methods and tools that could result from the communication strategy include:

- Consistent promotion and education across the participating municipalities, including a common theme and links to all other MWG websites (this can reduce the cost of designing the promotion for each municipality);
- Newsletters to the general public and the private sector;
- Public events and speaking engagements;

- Liaison with and leverage stakeholder groups;
- School programs; and
- Contests

Furthermore, the communication strategy should utilize the same materials and tools across the six municipalities to take advantage of economies of scale and reduce costs.

Initiative "B":

Initiate an ongoing training program for key staff involved in recycling and waste management.

Overview:

Supplying municipal staff with adequate, ongoing training is considered a "best practice" by Waste Diversion Ontario, which rewards municipalities that do so with extra annual funding.

Typically, the communities involved in MWG are smaller and have limited staff resources, which usually results in there being nobody solely dedicated to municipal environmental issues and responsibilities including recycling. Those staff members who do inherit these responsibilities on a part time basis often lack the skills and knowledge to perform them well.

Part of MWG's recycling strategy must address this issue.

Implementation:

Staff of MWG's municipalities involved in administering recycling responsibilities must have an ongoing annual training budget. Alternatively, MWG may wish to consider sharing training expenses with other municipalities for one individual who would be responsible for the recycling responsibilities for all MWG members.

Initiative "C":

Optimize collection/hauling/processing operations with a new flexible joint recycling contract in 2013.

Overview:

The recycling program for municipal members of MWG has remained unchanged for eight years while new technology, new equipment, and new recycling methods have emerged. The rural part of MWG is presently not interested in a green bin program. The two urban/semi-urban members are not prepared at this time to initiate a joint municipal green bin program but would like, throughout the term of the upcoming new recycling contract, to

have the option to start organics collection and processing. The new recycling or garbage contractor (may be one and the same) will have to be prepared to cooperate with MWG.

Implementation

MWG will issue a "Request for Proposal" inviting qualified contractors to submit proposals to provide recycling services to MWG. The RFP will be less prescriptive as to how this service should be provided allowing various contractors to utilize, what they believe to be, the most efficient and effective technology, equipment and methods (with associated costs) in their proposals. This should provide MWG with various options for optimizing the collection/hauling/processing operations in the new joint recycling contract.

Future Initiatives

Initiative "D":

Review and modify waste by-laws to encourage diversion through recycling.

Overview:

Once the new recycling and garbage contracts are up and running in 2013/2014, MWG will review and recommend modifications to waste by-laws to encourage diversion through recycling, to the respective municipal councils. These new contracts will contain clauses that enable MWG to alter methods or materials throughout their terms. The cost of new by-law enforcement will also be investigated. The following options will be considered:

- **Garbage Bag Limits**
  In recent years, many communities in Ontario have implemented programs that limit the number of bags/items that can be disposed of as garbage. Bag limits restrict the number of bags of garbage a resident is allowed to dispose. In many municipalities, reducing bag limits to 2 bags or less have been seen to result in increased waste diversion. For example, some municipalities within the Region of York, Ontario have reduced the number of bags residents can set out as garbage to a maximum of 2 per week. Since the change, the municipalities have noticed an increase in waste diversion of up to 5%.

- **Mandatory Recycling**
  A municipal By-law requiring community participation in recycling.
  Mandatory recycling by-laws can require participation from the residential and IC&I sectors. Municipalities with mandatory recycling have shown increased participation in diversion programs and reduced waste generation. Implementation costs can vary for enforcement and public education.

- **Disposal Ban on Recyclable Materials**
  Providing that viable markets are available for recyclables other than paper or cardboard, a disposal ban for all other recyclables to be included in the curbside collection program could be imposed with clear bags becoming mandatory. The effect of the ban would depend on the level of enforcement that is applied. A strictly enforced ban could result in significant waste diversion. Again, implementation costs can vary for enforcement and public education.

- **User Pay**
  User pay systems known as "Pay As You Throw" require residents to pay by the amount of waste that they dispose. These types of programs have the most dramatic impact on increased recycling participation. The cost of such a system will vary with the type of system but generally is limited to promotion and enforcement.

Implementation:

Passing the bylaws necessary to impose these strategies can be unpopular politically but have a proven track record of success

Initiative "E":

Recycling in Public Spaces

Overview:

Currently MWG municipalities provide modest recycling opportunities to residents in public buildings and spaces. In keeping with MWG's diversion goals, purchasing and maintaining recycling receptacles in parks and other outdoor public spaces, public buildings will become a priority in 2013 and beyond.

Implementation:

Because of the capital costs involved this initiative will be phased in over 3-5 years. The focus in 2013 will be to provide recycling opportunities in public buildings and the expand the initiative into other public spaces in the subsequent two to three years. If MWG wants all residents to participate in waste diversion it has a responsibility to "Walk The Talk". This initiative will be a high profile example of the importance of recycling in MWG's communities.

Contingencies

Even the best planning can be delayed by a variety of foreseen and unforeseen circumstances. Predicting and including contingencies can help to ensure that these risks are managed for minimum delay. The table below identifies contingencies for possible planning delays.

Waste Recycling strategy Contingencies	
Risk	**Contingency**
Staffing shortfall	• Hire contract or summer student employees to assist planning/implementing/monitoring recycling activities
Public opposition to recycling or solid waste changes	• Improve public communication and education • Use of newspapers, municipal websites, and public meetings to engage the public
Insufficient Funding	• Rearrange municipal priorities • Implement or raise user fees • Increase recycling budget

9. Monitoring and Reporting

The monitoring and reporting of MWG's recycling program is considered a fundamental Blue Box program "best practice" and will be a key component of this Waste Recycling Strategy. Once implementation of the strategy begins, the performance of the Waste Recycling System will be monitored and measured against the baseline established for the current system. MWG has a good baseline to begin with as it completed a recent waste audit to which future monitoring results can be compared.

Performance will also be measured against the goals set out in this document, and against other municipalities and best practices. These results will be reviewed and reported to MWG to assist in the continued improvement of the recycling program.

Once the results are compiled and analyzed measured, they will be reported to Council and the public.

The approach for monitoring MWG's waste recycling program is outlined in the following table.

Recycling System Monitoring		
Monitoring Topic	**Monitoring Tool**	**Frequency**
Waste disposed of (by type and weight)	Review weigh scale summaries	monthly
Total waste generated (type and weight)	Measure waste & recyclables at transfer station or disposal site (i.e. weigh scales)	monthly
Diversion rates achieved (by type and weight)	Formula: Total Blue Box (plus other diversion) * 100 = Total waste generated (%)	annually
Program success and participation	-Waste Audit -Monitor participation rates -Customer survey (e.g. telephone or website)	-Annually --- bi-annually -annually
Customer satisfaction	Tracking calls or complaints received at the municipal office	ongoing
Opportunities for improvement	Tracking calls or complaints received at the municipal office	ongoing
Review recycling strategy	Review strategy and update where and when necessary to ensure that initiatives have been successful and to move forward with continuous improvement.	annually

10 Conclusion

MWG and the Municipalities that it represents are committed to diverting recyclables from disposal. As a group, MWG's 2010 blue box program is diverting only 16.64% of its total generated solid waste. Waste Diversion Ontario statistics show that the Small Urban/Rural Collection South type municipalities across the province in 2010 had an average diversion rate of 31% demonstrating that MWG must improve its performance in this respect.

The aforementioned audit found there were two materials contained in MWG's waste composition that, if removed, would significantly increase its diversion rate. Organic material was found to be 38% and recyclables were 15% of MWG's waste. (see Appendix E, page 34 of this report).

Municipal members of MWG have decided that, at this time, they are not prepared to begin a joint "Green Bin" (organics) program. This leaves one viable option. MWG feels that it must work towards improving its recycling program.

The audit found that MWG had approximately 15 % of the total waste mass was due to recyclables contained therein. If one applies this result to the total waste produced by MWG (15,101 Tonnes -see Appendix "B") one can estimate that there are 4778 Tonnes of blue box materials available for diversion, of which approximately 2265 tonnes are still currently in MWG's waste stream resulting in a present capture rate of 52.5%. The capture rate is defined as the percentage of recyclables recovered through a recycling program compared with the overall amount of recyclables available for recovery.

Increasing MWG's recycling capture rate from the present 52% to 80 % would result in raising its group waste diversion rate from 29.1% to 35.3 % or a 21.3% increase over the next 5 years.

To achieve this result MWG recommends the following:

- Developing an effective communication & public engagement strategy
- Implementing a Public education and promotion program
- Training Key program staff
- Optimizing Collection/hauling/processing operations including adding #3 to #7 plastics to blue box pickup
- Entering into a new joint recycling contract in 2013 that provides flexibility, allowing contract modifications within a predetermined framework agreed to by both parties when the contract is executed
- Increasing blue box capture rates (monitoring and reporting annually)
- Reviewing and modifying waste by-laws to encourage diversion through recycling and providing enforcement (i.e. garbage bag limits)
- Providing recycling opportunities for the public in parks, public buildings and at community events

This recycling strategy provides the users with a road map to a more effective and efficient recycling system. The key to the future success of maximizing recycling will be the ability of MWG member municipalities to encourage public support and participation, to overcome barriers to participation and to allocate adequate financial and human resources.

Appendix A: Waste Recycling Option Scores

Suitable? Y/N	Description of Options/Best Practices **(For more information:** *More information: Blue Box Program Enhancement and Best Practices Assessment Project Final Report, Volume 1)*	Criteria (Score out of 5)						Total Criteria Score
		% Waste Diverted	Proven Results	Reliable Market/ End Use	Economically Feasible	Accessible to Public	Ease of implementation	
Promotion and Outreach								
Y	**Public Education and Promotion Program**	5	5	3.5	5	5	5	28.5
Y	**Training of Key Program Staff**	5	5	4	5	0	5	24
Y	**Communications Plan**	5	5	4	5	5	5	29
Collection								
Y	**Optimization of Collection Operations**	5	4	3	4.5	5	5	26.5
Y	**Bag Limits**	5	5	2	4	1	1	18
Y	**Provision of Free Blue Boxes**	5	5	5	5	5	5	30
Transfer and Processing								
Y	**Optimization of Processing Operations**	4	5	4	4	3	3	23
Partnerships								
Y	**Multi-Municipal Collection and Processing of Recyclables**	5	5	5	5	3	5	28
Y	**Intra-Municipal Committee**	5	5	5	5	5	5	30
Additional Research								
Y	**Assess Tools and Methods to Maximize Diversion**	4	2	1	4	4	3	18
Administration								
Y	**Following Generally Accepted Principles for Effective Procurement and Contract Management**	4	3	3	5	4	4	23
Other Options								
	Public spaces/buildings recycling	4	5	5	3	5	5	27

Appendix B

2010 Data Call

Municipality	Total Reported Single Family Households Including Seasonal Households	Reported Multi-Family Households	Reported Seasonal Households	Reported Pop'n	Reported Population + Calculated Seasonal Population	Total Residential Waste Generated		Total Residential Waste Diverted		Total Residential Waste Disposed		Residential Waste Diverted							Res'l Waste Disposed			
												Res'l Deposit Return Program	Res'al Reuse	Res'l On Property	Res'l Recyclables Diverted	Res'l Organics Diverted	Residential MHSW Treatment/ Reuse /Recycling	Total Res'l Diversion Rate	Res'l EFW	Res'l Hazardous Waste Disposal	Res'l Landfill	Total Res'l Disposal Rate
						Tonnes	Kg/Cap	Tonnes	Kg/Cap	Tonnes	Kg/Cap	%	%	%	%	%	%	%	%	%	%	%
CARLETON PLACE	3,703	412	0	9,905	9,905	3,988.72	402.70	1,252.89	126.49	2,735.83	276.21	1.37%	0.00%	3.99%	16.89%	9.16%	0.00%	31.41%	0.00%	0.30%	68.29%	68.59%
DRUMMOND-NORTH ELMSLEY	3,494	2	519	6,775	6,991 [1]	3,197.02	457.29 [2,6]	1,080.10	154.49 [6]	2,116.92	302.80	1.17%	0.00%	8.99%	23.62%	0.00%	0.00%	33.78%	0.00%	0.00%	66.22%	66.22%
MISSISSIPPI MILLS	5,131	0	0	12,143	12,143	4,805.87	379.30	1,236.94	101.86	3,368.93	277.44	1.45%	0.00%	4.38%	18.15%	2.60%	0.27%	26.86%	0.00%	0.07%	73.08%	73.14%
BECKWITH	2,846	0	277	6,280	6,395 [1]	2,232.06	349.01	575.71	90.02	1,656.35	258.99	1.55%	0.00%	2.88%	20.99%	0.00%	0.37%	25.79%	0.00%	0.02%	74.18%	74.21%
MONTAGUE	1,390	0	0	3,000	3,000	1,077.56	359.19	245.95	81.98	831.61	277.20	1.53%	0.00%	4.14%	16.48%	0.00%	0.68%	22.82%	0.00%	0.17%	77.01%	77.18%
TOTALS	16,564	414	796	38,103	38,435	15,101.23				10,709.64												

[1] Includes population reported by the municipality plus a calculated seasonal population using 2.5 people per regular household - 1 seasonal household = 1/6 regular household

[2] Per capita waste generation above 450 kg likely indicates either over reporting of waste disposed and/or materials diverted or under reporting of population and/or, where

[3] Removed unreasonable estimated yard waste tonnes and replaced with municipal group average.

[4] Includes calculated garbage tonnes based on municipal group average for municipalities not reporting garbage tonnes and

[5] Includes calculated garbage tonnes for missing households based on reported tonnes.

[6] Removed unreasonable Tire and/or Scrap Metal estimated tonnes and replaced with OTS and/or Natural Resources Canada average kgs per capita per year.

[7] Removed unreasonable estimated blue box tonnes and replaced with municipalgroup average per capita.

Appendix C

FINAL BLUE BOX FINANCIAL RESULTS (2010 DATA CALL)

Program Name	Calculated Blue Box Tonnes Marketed	Total Gross Costs	Gross Costs Per Tonne	Total Gross Revenue	Gross Revenue Per Tonne	Total Net Cost	Net Cost Per Tonne	Identification of Single Tier or located within Regions, Counties or Districts
CARLETON PLACE	631.88	$300,282.28	$475.22	$102,149.44	$161.66	$198,132.84	$313.56	Lanark
BECKWITH	447.99	$226,819.07	$506.30	$77,890.87	$173.87	$148,928.20	$332.44	Lanark
DRUMMOND-NORTH ELMSLEY	543.93	$239,826.20	$440.91	$95,369.96	$175.33	$144,456.24	$265.58	Lanark
MISSISSIPPI MILLS	691.91	$325,411.68	$470.31	$134,363.07	$194.19	$191,048.61	$276.12	Lanark
MONTAGUE	197.16	$116,561.35	$591.19	$37,713.29	$191.28	$78,848.06	$399.91	Lanark
TOTALS	**2,512.88**	**$1,208,900.58**	**$2,483.94**	**$447,486.63**	**$896.33**	**$761,413.95**	**$1,587.61**	

[1] Simple average of per tonne values

[2] Weighted averages are group total costs or revenues divided by total group tonnage

2010 Blue Box Tonnage Data

Municipality	Total Households Served	TOTAL Reported and/or Calculated Marketed Tonnes[1]	Paper (tonnes)				Plastic (tonnes)						Metal (tonnes)		Glass (tonnes)	
			Printed Paper Reported and/or Calculated Marketed[2]	OCC/OBB Reported and/or Calculated Marketed[3]	Mixed Papers Reported and/or Calculated Marketed[4]	Poly Coat Reported and/or Calculated Marketed[5]	PET Reported and/or Calculated Marketed	HDPE Reported and/or Calculated Marketed	Plastic Film Reported and/or Calculated Marketed	Tubs and Lids Reported and/or Calculated Marketed	Polystyrene Reported and/or Calculated Marketed	Mixed Plastic Reported and/or Calculated Marketed[6]	Steel Reported and/or Calculated Marketed	Aluminum Reported and/or Calculated Marketed	Flint Reported and/or Calculated Marketed	Coloured Reported and/or Calculated Marketed
BECKWITH	2,846	447.99	185.87	134.79	0.00	0.00	13.76	10.88	0.00	0.00	0.00	0.46	26.77	15.04	41.83	18.59
CARLETON PLACE	4,115	631.88	364.16	80.40	0.00	0.00	27.53	0.00	0.00	0.00	0.00	13.26	36.47	16.46	70.13	23.47
DRUMMOND-NORTH ELMSLEY	3,496	543.93	225.70	163.63	0.00	0.00	16.71	13.21	0.00	0.00	0.00	0.56	32.50	18.27	50.78	22.57
MISSISSIPPI MILLS	5,131	691.91	203.40	295.30	0.00	0.00	20.74	16.45	0.00	0.00	0.00	1.59	40.42	22.70	63.21	28.10
MONTAGUE	1,390	197.16	81.70	59.25	0.00	0.00	6.05	4.79	0.00	0.00	0.00	0.20	11.77	6.57	18.66	8.17
TOTALS	**16,978**	**2,512.88**	**1,060.83**	**733.37**			**84.78**	**45.33**				**16.08**	**147.93**	**79.04**	**244.61**	**100.90**

[1] Blue Box Marketed Tonnes is the summation of Reported Blue Box Marketed Tonnes and Reported Blue Box Collected Tonnes less a residual calculation of 7.59% for multi-stream collections and 11.16% for single-stream collections

[2] Includes Newspaper, Household Fine Paper, Telephone Books, Magazines & Catalogues and Printed Paper

[3] Includes Old Corrugated Cardboard, Old Box Board and Paper Based Packaging

[4] Includes Residential Mixed Papers and Mixed Fibres

[5] Includes Gable Top Cartons, Aseptic Containers and Paper Laminants

[6] May include PET, HDPE, Polystyrene, Plastic Film, Tubs & Lids and Other Mixed Plastics

Note:

All tonnes are as reported in Datacall, after the allocation of commingled materials by Stewardship Ontario

W. D. Fraser

March 13, 2012

Appendix E

Sustainability Solutions

Waste to Resource Assessment™ Report

Lanark County Recycling Strategy

March 7-11, 2011
Prepared by Green Squad[SM]

Table of Contents

Summary of Results

The data collected and analyzed by Waste Management Sustainability Services from the waste composition audit study have yielded the following:

- The average household in Lanark County sets out 1.7 bags of waste weekly and generates 12.6 kg per household per week (kg/hh/wk).
- The average household generates 5.4 kg/hh/wk of blue box recyclable materials.
- Approximately 15% of the waste set out is recyclable in the current collection program.
- Organic waste accounts for 38% of the waste going to landfill.
- Mississippi Mills achieved the highest diversion rate at 37% while Carleton Place had the lowest diversion rate of the four municipalities at 20%.
- 65% of all recyclable paper generated by Lanark County is captured in the blue box program with Mississippi Mills achieving the highest recovery rates for recyclable paper at 81%.
- 66% of all recyclable containers generated by the County are captured with Drummond North Elmsley achieving the highest recovery rates at 78%.

1.0 Introduction

1. 1.1 Background

From March 7-11, 2011, Waste Management Green Squad was retained by Lanark County to perform curbside waste audits on residences in Carleton Place, Mississippi Mills, Drummond/North Elmsley, and the Township of Montague. The purpose of the project was to obtain an understanding of the waste and recycling composition in order to move forward with a County wide group recycling strategy.

Figure 1.1 – Map of Lanark County Municipalities

2. 1.2 Goals and Objectives

The waste audit study was intended to accomplish the following objectives:

- Determine the composition of residual waste materials set out by residents;
- Determine the composition of recyclable materials set out by residents;
- Establish baseline data for future monitoring purposes; and to,
- Provide information on the capture rates of materials that are accepted in the County Blue Box program to target promotion and education.

3. 1.3 Audit Information

Table 1.1 – Assessment Summary

Item	Comments	
Performed By:	Matt Adams	
Performed On:	March 7 - 11, 2011	
Report Written :	Matt Adams	
Report Reviewed:	Patrick Curran /s/	
Assessment Type	Waste to Resource Assessment	
Assessment Level	☑ Basic Material Characterization	☐ Detailed Material Characterization
	☑ Basic Options Analysis	☑ Detailed Option Analysis
	☐ Carbon Analysis	☐ Material process mapping
	☑ Implementation Feasibility Analysis	☑ Action Plan

2.0 Methodology

4. 2.1 Sampling Method

Waste and recycling samples were obtained from a selection of homes throughout Lanark County over a one and two week collection period. Samples from Mississippi Mills, Montague and Carleton Place were examined over a two week period while Drummond North Elmsley participated for only week.

Each week, the waste and recycling samples were collected from the selected households by municipal staff. The addresses of the homes were recorded onto labels and affixed to each of the sample bags. All material collected by the municipal staff was taken to Waste Management's facility located at 8011 Highway 15 in Carleton Place to be audited by Waste Management.

5. 2.2 Material Analysis

Waste and recyclable samples were audited separately for each household. Samples were categorized into 8 major waste groups consisting of several sub-categories. The full list of material categories can be seen in the Appendix A. The material weights were measured using a digital scale to the nearest $1/10^{th}$ kilogram and recorded. After being weighed and analyzed, material from both the waste and recycling streams were dumped into separate bins for disposal or recycling by Waste Management staff.

6. 2.3 Definitions

To ensure that the terminology used throughout this report is consistently understood by the reader, a list of definitions has been provided as follows:

Capture Rate – Defined as the percentage of recyclables recovered through a recycling program compared with the overall amount of recyclables available for recovery. For example, if a household puts 70 kg of aluminum cans in the recycling stream and 30 kg in the garbage stream, the capture rate is 70% (70% of the available 100 kg was captured).

Contamination Rate – The amount of non-recyclable material in the recycling stream as a percentage of the total amount of material collected in the recycling stream.

Diversion Rate – The percentage of waste diverted from the landfill out of the total amount of waste generated.

3.0 Results & Discussion

7. 3.1 Waste Audit Results

Table 3.1 summarizes the generation and set-out rates for the audited households.

Table 3.1 – Lanark County Generation and Set out Rates

	Carleton Place	Drummond North Elmsley	Mississippi Mills	Montague	County Average
# of Sampled	25 x 2	50	50 x 2	25 x 2	**250 (Total)**
Average Waste Generation per Household (kg/hh/wk)	14.4	12.6	10.0	13.4	**12.6**
Average # of Waste Bags per Household	1.6	1.7	1.4	1.9	**1.7**
% of Recyclables Found in Waste Stream	16%	12%	14%	19%	**15%**
Average Recycling Generation per Household (kg/hh/wk)	4.7	5.8	6.3	4.7	**5.4**
% Contamination	4%	1%	2%	2%	**2.3%**
Diversion Rate (%)	20%	30%	37%	26%	**28%**

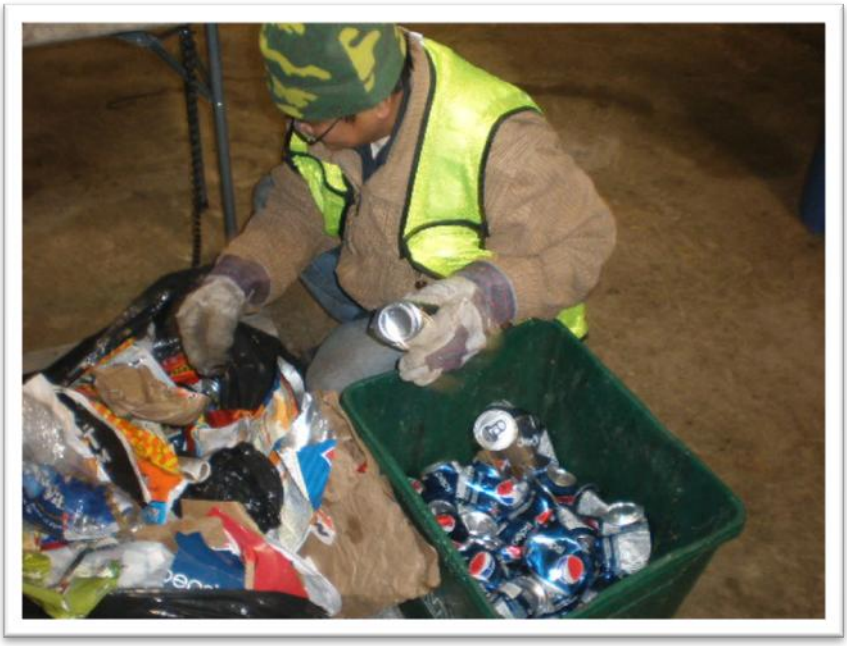
3.2 Curbside Waste Generation, Recovery and Composition

A breakdown of the collected waste samples from the curbside sample areas is summarized below in 3.2. Total Recyclable Paper includes all fibre materials that are currently accepted in the curbside Blue Box program in Lanark County. Total Recyclable Containers covers plastic, metal and glass materials that are accepted in the blue box program. Total Residual Waste includes all other material in the audited waste stream that is non-recyclable.

Table 3.2 – Waste Composition for Curbside Sample Areas

	Carleton Place		Drummond North Elmsley		Mississippi Mills		Montague		Combined	
	Kg/wk	%	Kg/wk	%	Kg/wk	%	Kg/wk	%	Kg/wk	%
Organic Waste	195.9	34%	200.2	39%	145.2	41%	173.9	39%	178.8	38%
Total Recyclable Paper	62.4	11%	38.7	7%	35.7	9%	54.3	12%	47.7	10%
Total Recyclable Containers	30.9	5%	26.2	5%	19.8	5%	29.0	6%	26.5	5%
Total Recyclable Materials	**93.3**	**16%**	**64.9**	**12%**	**55.3**	**14%**	**83.3**	**19%**	**74.2**	**15%**
Total Residual Waste	**492.7**	**84%**	**462.8**	**88%**	**331.7**	**86%**	**365.6**	**81%**	**413.0**	**85%**
Total All Materials	**584.9**	**100%**	**527.8**	**100%**	**386.9**	**100%**	**448.8**	**100%**	**486.9**	**100%**

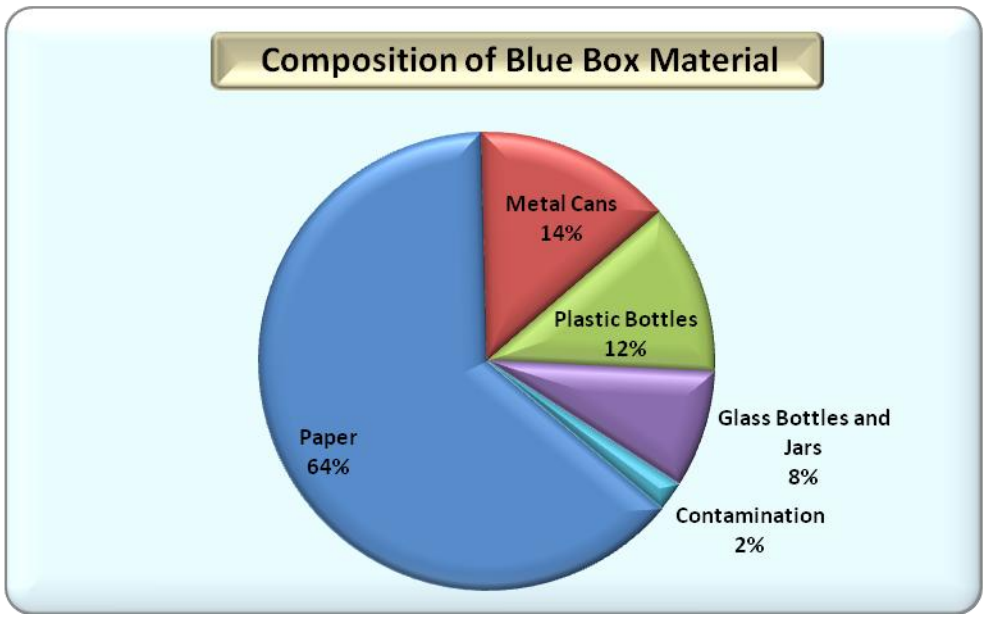
Photograph 2 – Recyclables Found in Waste Sample



3.2.1 Blue Box Materials

The combined composition of recyclables in the blue box is shown in Figure 3.1. Paper represents a significant amount of the blue box composition at 64% with Metal Cans, Plastic Bottles, and Glass Bottles and Jars accounting for 14%, 12% and 8% respectively. The percentage of contamination in the blue box was quite low at only 2%.

Figure 3.1 – County Composition of Blue Box Material by Weight

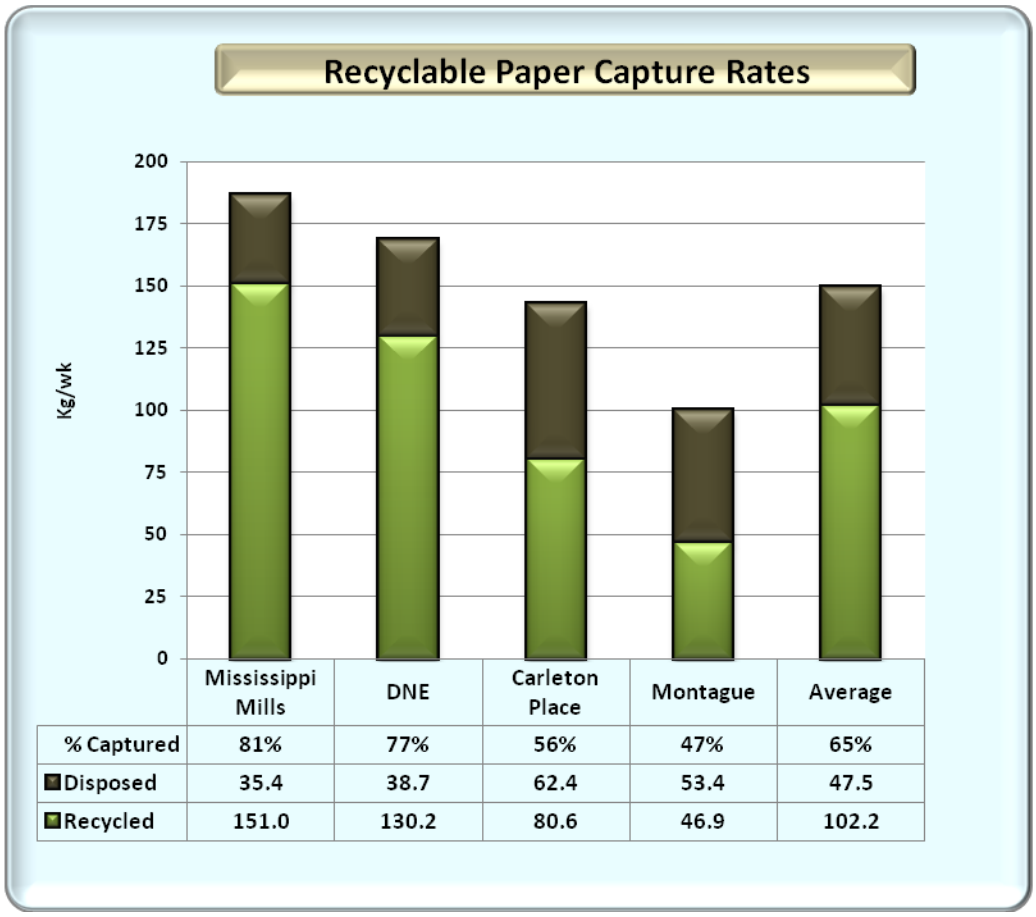


Photograph 2 – Blue Box Materials Collected for Audit

Recyclable Paper Generation and Recovery

Generation and recovery rates are presented in Figure 3.2 for all paper materials collected over the two week audit period in Lanark County. The audited areas are currently achieving an overall recovery rate of 65% for recyclable paper materials captured through the blue box. Mississippi Mills and Drummond North Elmsley (DNE) have the highest capture rates achieving 81% and 77%. Montague achieved the lowest capture rate of the four areas recovering only 47% of recyclable paper materials.

Figure 3.2 – Combined Recyclable Paper Capture Rate

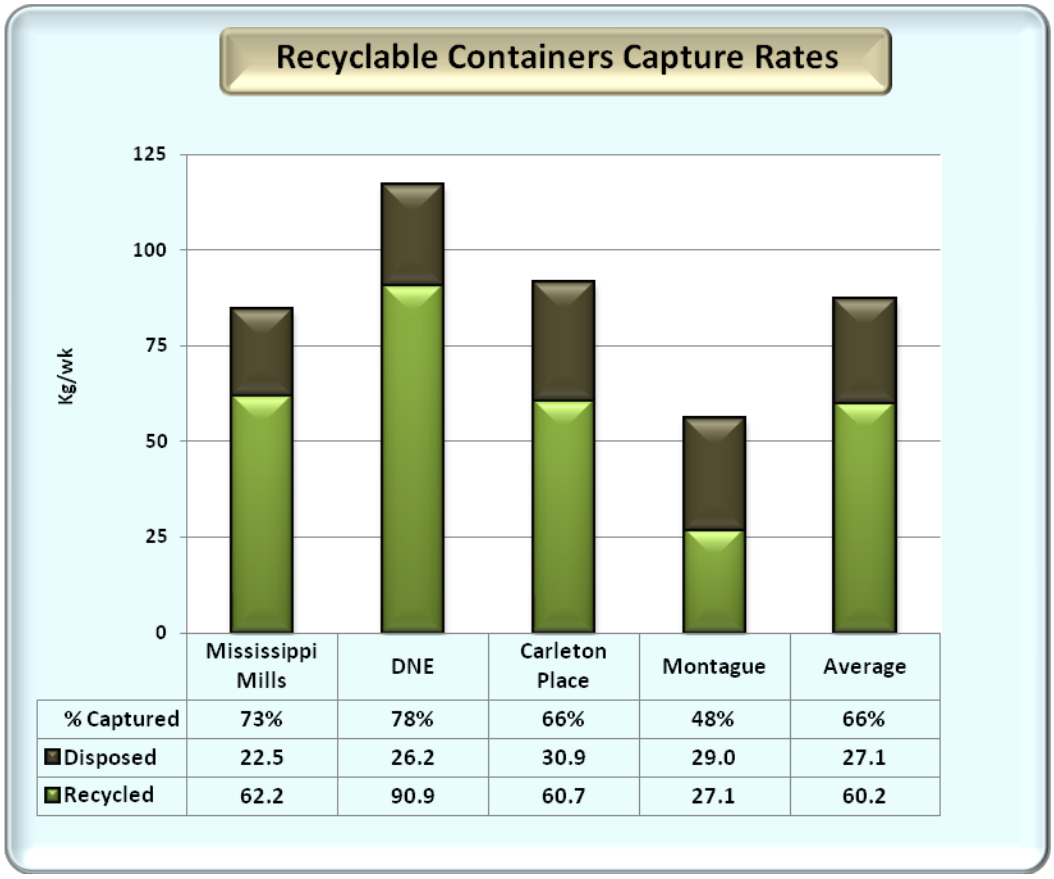


	Mississippi Mills	DNE	Carleton Place	Montague	Average
% Captured	81%	77%	56%	47%	65%
Disposed	35.4	38.7	62.4	53.4	47.5
Recycled	151.0	130.2	80.6	46.9	102.2

Recyclable Container Generation and Recovery

Generation and recovery rates are presented in Figure 3.3 for all container materials collected Lanark County's blue box program. The audited households are currently recovering 66% of all recyclable containers generated. The highest achievers are Drummond North Elmsley at 78% and Mississippi Mills at 73%. Montague had the lowest capture rate, recovering only 48% of the recyclable containers generated.

Figure 3.3 – Combined Recyclable Container Capture Rates



	Mississippi Mills	DNE	Carleton Place	Montague	Average
% Captured	73%	78%	66%	48%	66%
Disposed	22.5	26.2	30.9	29.0	27.1
Recycled	62.2	90.9	60.7	27.1	60.2

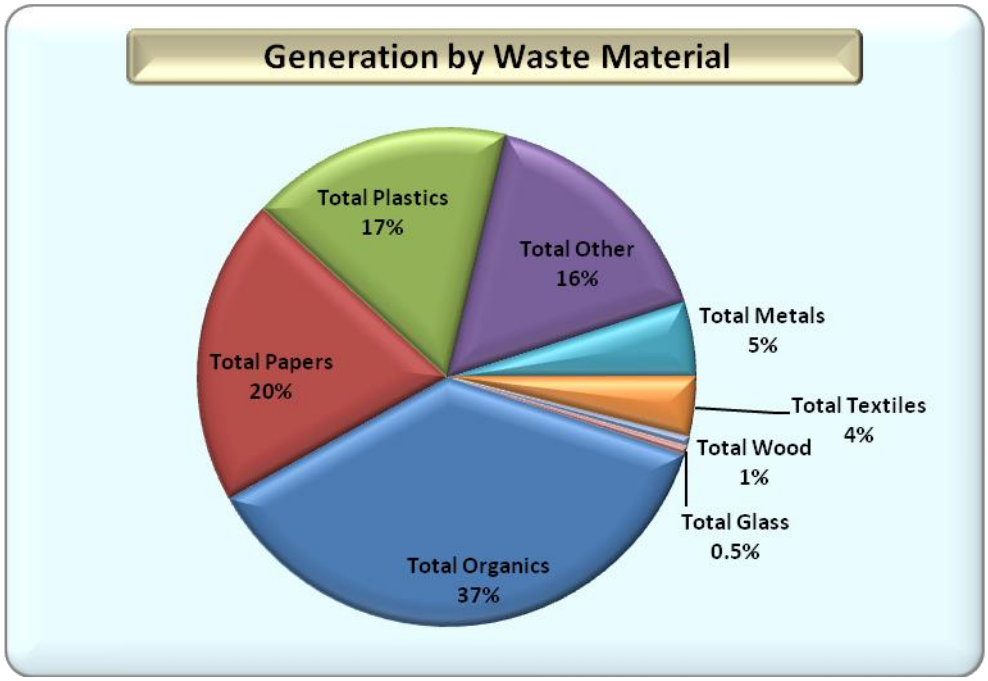
3.2.2 Lanark County Waste Stream

Table 3.3 shows the combined composition of the waste stream. Currently, there is no source separated organics program in Lanark County to divert food waste, which comprises over a third (37%) of the waste stream. Paper, Plastic, and Other Waste were also notable contributors to the waste stream accounting for 20%, 17% and 16% respectively.

Table 3.3 – Combined Waste Material Comparison by Category

Waste Category	Total Audited Waste (kg)	Material Composition (%)
Total Organics	860.3	37%
Total Papers	463.6	20%
Total Plastics	396.6	17%
Total Other	379.5	16%
Total Metals	114.1	5%
Total Textiles	89.7	4%
Total Glass	14.5	1%
Total Wood	12.8	1%
Total	**2,330.9**	**100%**

Figure 3.4 – Lanark County Waste Material by Category



4.0 Opportunities for Increasing Diversion

8. 4.1 Promotion and Education

To be successful, a waste management system requires a sound communications strategy that supports all of the system's waste management components. An effective communications program will engage residents and businesses to participate in waste reduction and diversion programs by raising awareness about Lanark County programs and overcoming barriers to participation. Some key areas of focus that will help improve communication about your diversion programs are:

- County Website
- Print/Newspapers

9. 4.1.1 Town Website

Many counties maintain websites related to their recycling and other diversion programs, but often there is substantial room for improvement. Websites are an important point of contact with residents as users want to access the information they need quickly and easily. A key challenge for many counties is that the website offering information on recycling is often part of a larger municipal site. This reduces the site's visibility and requires several click-throughs to access the recycling information. If residents cannot readily locate the information it can lead to frustration, often reinforcing attitudes that recycling can be too complicated.

One way of improving the communication to residents is to include photographs of the accepted materials on the waste management website. While descriptions for some items such as cardboard or aluminum cans are commonly understood, describing the different types of plastic resins without a picture can sometimes be difficult to communicate. By displaying photographs of #1 PETE and #2 HDPE plastic this will eliminate any possibility of confusion.

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11. 4.1.2 Print/Newspapers

If you are launching a new program or a major program change newspaper remains a very important tool. Whether its newspaper ads or inserts, newsletters or calendars; newspapers are typically the most effective method of informing residents. In some Townships, #2 HDPE plastic and #3-7 plastic have only been accepted in the recycling program for less than a year. Since the area has a stringent bag tag policy, by encouraging and educating residents about these newly accepted materials, less material needs to be set out as waste. Arrange for door to door distribution with print media, trying to ensure that it does not end up lost with other junk mail. Also, use large, vivid graphics when discussing recyclable materials with relevant examples so as to create less confusion.

Figure 4.2 is from the Region of Halton Recycling and Waste webpage on the Region's website. This example clearly shows the effective use of graphics indicating which materials are accepted in each stream. This method would be most effective for the recyclable plastics since residents often have difficulty identifying the type of resin the material is made from. Additionally, they have included a large section of graphics that distinguish the materials to be sent to landfill rather than recycled. This helps identify troublesome items such as other types of plastics and paper that may appear to be recyclable but are not.

Figure 4.2 – Acceptable Items in Diversion Programs

Put Waste In Its Place

Visit **www.halton.ca/waste** and use our new "Put Waste In Its Place" online tool – enter an item you are unsure what to do with and it will tell you how to reuse, recycle or dispose of it properly.

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12. 4.2 Source Separated Organics Program

Organic materials present a major opportunity for increasing diversion, as it makes up 38% of the waste going to landfill. To capture this waste stream, many municipalities in Ontario have implemented a curbside organics program, increasing their diversion by a significant amount. Currently, based on the audit results the diversion rate for Lanark County is 28%. If Lanark County were to implement an organics program and include similar materials as the City of Ottawa, they could potentially increase their diversion to 66%.

Figure 4.1 – Acceptable Items in Diversion Programs

Waste Assessment Categories

Paper	General Descriptions
White Ledger	White Paper, Printer Paper
OCC	Cardboard
Boxboard	Cereal Box Material
Newsprint	Newspapers
Polycoat	Milk Cartons, Tetra Packs
Paper Towels	Paper Hand Towels
Kraft Paper	Paper bags, Heavy Brown Paper
Tissue Paper	Thin Packing Paper
Magazines	Glossy Magazines and Newspapers
Photo Paper	Glossy Paper
Paper Plates	Plates
Wax Paper	Paper for Wrapping or Packaging
Napkins	Paper Napkins
Paper Cups	Paper or Polycoat Cups

Metal	General Descriptions
Aluminum F & B Cans	Aluminum Food and Beverage cans, Pop Cans
Aluminum Foil / Wrappers	Food Wrappers and Packaging
Aluminum	Aluminum Parts and Products
Steel	Steel Parts and Products
Steel Fixture Hangers	Hardware for store displays
Metal Clothes Hangers	Clothes Hangers

Plastic	General Descriptions
#1 PETE	Polyethylene terephthalate, Water Bottles, Soft Drink Bottles
#2 HDPE	High density polyethylene containers, Chemical containers or jugs
#2 HDPE Bags	High density polyethylene bags or film, strong "crispy" bags
#4 LDPE	Low density polyethylene bags and film, garbage bags, shopping bags
#5 PP	Poly propylene, yogurt containers, straws
#6 PS	Poly styrene, Styrofoam, packaging materials, take-out food containers, packing popcorn
#7 Other	Products labeled #7 products
Stretch Wrap	Shipping stretch wrap, food grade stretch wrap
Plastic Strapping	Plastic Shipping Straps
Bubble Wrap	Shipping pads, bubble packaging
Polyfoam	Foam protective packaging materials
Shipping Bags	Strong or thin shipping bags, UPS bags
Polycarbons	Lens shavings
Plastic Signage Board	Advertising signs, variety of plastic coatings
Foam Signage Board	Advertising signs, variety of foam or plastic signs

Textiles	General Descriptions
Tack Cloth	Display Materials
Misc Textiles	Rags
Personal Clothing	Used shirts, Uniforms, Hats

Wood	General Descriptions

Wood Shavings	Scrap Construction Shavings and Debris
Scrap Wood	Construction Materials

Glass	General Descriptions
Clear Glass	Clear Beverage Bottles and Jars

Organics	General Descriptions
Behind Counter Waste	Scrap Food Waste, Coffee Grounds
Animal Waste	Animal Droppings and Matter
Post Consumer Waste	Post Consumer Scrap Food Waste