



Municipal Waste Recycling Strategy

prepared for

THE MUNICIPALITIES OF HALIBURTON COUNTY

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Cambium Environmental Inc.

P.O. Box 325, Unit 2, 2085 Whittington Drive, Peterborough, Ontario, K9J 6X4

Telephone: (705) 742.7900 (866) 217.7900

Facsimile: (705) 742.7907

www.cambium-env.com

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1.0 INTRODUCTION

This municipal waste recycling strategy (MWRS) was initiated by the municipalities of Haliburton County to develop a plan to increase the efficiency and effectiveness of the recycling program and maximize the amount of blue box material diverted from disposal. This MWRS was developed with funding support from the Continuous Improvement Fund (CIF) and using the CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy* (Trow, 2010).

It is recommended that this plan be updated at a minimum of every 5 years. The municipalities of Haliburton County are undertaking the development of a MWRS to meet the following:

- Maximize Best Practices funding.
- Identify and demonstrate continuous improvements toward Best Practices.
- Clarify long term Blue Box diversion goals for the municipal program.
- Identify cost effective solutions to maximize Blue Box diversion.

The following four (4) municipalities within Haliburton County have initiated this MWRS:

- The Municipality of Dysart et al.
- The Township of Minden Hills.
- The Township of Algonquin Highlands.
- The Municipality of Highlands East.

The municipalities of Haliburton County are responsible for managing their residential solid waste and operate a full range of waste management services including:

- Weekly garbage and recycling curbside collection (in Cardiff within the Municipality of Highlands East only).
- Waste disposal sites, several of which operate recycling depots.
- Household hazardous waste days several times per year at various waste disposal sites.
- Free electronic equipment drop-off at some of the landfill sites – registered in the Ontario Electronic Stewardship Program.
- Free tire disposal at some of the landfill sites – registered in the Ontario Tire Stewardship Program.

The municipalities in Haliburton County face a number of waste management challenges, which this MWRS will help address. One challenge in particular is that these municipalities have a high seasonal population and

educating the seasonal residents about the blue box program is difficult. Another challenge is the high transportation costs for the haulage of blue box material.

2.0 OVERVIEW OF THE PLANNING PROCESS

This MWRS was prepared by Cambium Environmental Inc. (Cambium) and municipal staff from the four (4) municipalities in Haliburton County.

The development of the MWRS included the following steps:

- Planning process, overview, and information review.
- Assess current trends, practices, systems, and future needs.
- Review and evaluation of recycling options, systems design, monitoring, and reporting.
- Completion of the MWRS.

To ensure the public and local stakeholders were able to participate in the preparation of this MWRS, Public Notices were published in all of the local publications inviting the public to review the MWRS in draft format and provide feedback. For more details on the public consultation process, see Section 4.0.

3.0 STUDY AREA

The study area for this MWRS includes the municipalities of Haliburton County (Figure 1). Some details on each of the participating municipalities are provided below.

Municipality of Dysart et al

The Municipality of Dysart et al is located in a central-east portion of the County, north of the Municipality of Highlands East and southeast of the Township of Algonquin Highlands (Figure 1). Within the municipality, there is the Village of Haliburton as well as the Hamlets of Donald, Eagle Lake, Fort Irwin, Harcourt, and West Guilford. The official name of this municipality is the Corporation of the United Townships of Dysart, Dudley, Harcourt, Guilford, Harburn, Bruton, Havelock, Eyre, and Clyde; however, it is known as the Municipality of Dysart et al.

Township of Algonquin Highlands

The Township of Algonquin Highlands is the northernmost municipality within Haliburton County (Figure 1). Within the municipality, there is the Village of Dorset as well as the Hamlets of Boskung, Buttermilk Falls, Halls Lake, Little Hawk Lake, Maple Lake, Ox Narrows, and Oxtongue Lake. In 2001, the Corporation of the Township of Algonquin Highlands was formed through the amalgamation of the municipalities of Stanhope and of Sherborne et al, the latter of which included McClintock, Livingstone, Lawrence, and Nightingale.

Township of Minden Hills

The Township of Minden Hills is located in the southwest corner of Haliburton County (Figure 1). Within the municipality, there is the Village of Minden as well as the Hamlets of Blairhampton, Brady Lake, Buller, Carnarvon, Deep Bay, Dutch Line, Gelert, Hindon Hill, Howland, Ingoldsby, Irondale, Kilcoo Harbour, Lochlin, Lutterworth, Miners Bay, Moore Falls, and Pine Springs. The Corporation of the Township of Minden Hills was formed through the amalgamation of the municipalities of Snowdon, Lutterworth, Anson, Hindon, and Minden.

Municipality of Highlands East

The Municipality of Highlands East is located in the southeast corner of the County (Figure 1). Situated on the eastern side of Haliburton County, the Municipality covers 758 square kilometres with over 70 lakes and the hamlets of Cardiff, Highland Grove, Wilberforce, Tory Hill, and Gooderham are the settlement areas. In 2001, the Corporation of the Municipality of Highlands East was formed through the amalgamation of the municipalities of Bicroft, Cardiff, Glamorgan, and Monmouth.

This Waste Recycling Plan will address the following sectors:

- Residential single-family.

4.0 PUBLIC CONSULTATION PROCESS

The public consultation process followed in the development of this MWRS consisted of the following activities:

- A meeting with municipal staff from each of the four (4) municipalities involved to discuss the current status and planned changes for the blue box programs.
- Public Notice in the following newspapers on one (1) occasion during the week of November 22, 2010 stating that the MWRS in draft format was posted on each of the four (4) municipal webpages for public review and comment:
 - The Haliburton Echo.
 - The Minden Times.
 - Bancroft This Week.

The public comment period was November 23 to December 3, 2010. The public comment period was subsequently extended to December 10, 2010 to allow more time for the public to review the MWRS in draft format and provide comments. Copies of both of the Public Notices are included in Appendix A.

5.0 STATED PROBLEM

Management of municipal solid waste, including the diversion of blue box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal blue box recycling endeavours can vary greatly and depends on a municipality's size, geographic location, and population.

The blue box program is consistent across all four (4) municipalities. More details on the Haliburton County blue box program are provided in the Haliburton County Recycling Guide included in Appendix B. All four (4) municipalities have mandatory recycling and clear bag by-laws in place.

The key drivers that led to the development of this MWRS include:

- Maximize Best Practices funding.
- Increase the efficiency and effectiveness of the recycling program, which includes increasing public awareness and participation in the blue box program and minimizing operating costs due to a limited tax base.
- Maximize the amount of blue box material diverted from disposal, thereby prolonging the life of the existing landfill sites.

6.0 GOALS AND OBJECTIVES

The MWRS has identified a number of goals and objectives for the municipalities of Haliburton County. These are presented for each individual municipality in Table 1.

Table 1 Waste Recycling Goals and Objectives – Municipality of Dysart et al

Goals	Objectives
To maximize diversion of residential/municipal solid waste through the blue box/recycling program	<i>By the end of 2012, aim to increase the diversion rate by 2% per year.</i>
To improve the cost-effectiveness of recycling in our community	<i>By the end of 2012, maintain a 0% increase in recycling costs.</i>
To increase participation in the recycling program	<i>By the end of 2012, raise participation in the recycling program by 2% per year.</i>

Table 2 Waste Recycling Goals and Objectives – Township of Minden Hills

Goals	Objectives
To maximize diversion of residential/municipal solid waste through the blue box/recycling program	By the end of 2012, aim to increase the diversion rate by 5%.
To improve the cost-effectiveness of recycling in our community	By the end of 2012, maintain a 0% increase in recycling costs.

Table 3 Waste Recycling Goals and Objectives – Township of Algonquin Highlands

Goals	Objectives
To maximize diversion of residential/municipal solid waste through the blue box/recycling program	By the end of 2012, aim to increase the diversion rate by 2% per year.
To improve the cost-effectiveness of recycling in our community	By the end of 2012, reduce recycling costs by 10%.

Table 4 Waste Recycling Goals and Objectives – Municipality of Highlands East

Goals	Objectives
To maximize diversion of residential/municipal solid waste through the blue box/recycling program	By the end of 2012, aim to increase the diversion rate by 4%.
To maximize capture rates of blue box materials through existing and future programs	By the end of 2012, establish a baseline capture rate by conducting a waste audit.
To improve the cost-effectiveness of recycling in our community	By the end of 2012, maintain a 0% increase in recycling costs.
To increase participation in the recycling program	By the end of 2012, establish a baseline participation rate by conducting a waste audit.

7.0 CURRENT SOLID WASTE TRENDS, PRACTICES, AND SYSTEM AND FUTURE NEEDS

7.1 COMMUNITY CHARACTERISTICS

In 2009, the municipalities of Haliburton County had an aggregate population of 16,745 with a total household count of 22,429. Of these, 22,361 are single-family households and 68 are multi-family households. Of the total household count, 15,225 of them are seasonal dwellings, which are generally occupied during the months of May through September.

7.2 CURRENT WASTE GENERATION AND DIVERSION

Currently, the municipalities in Haliburton County generate approximately 12,630 tonnes of residential solid waste per year (2009 WDO Datacalls (Municipality of Dysart et al, 2009), (Township of Minden Hills, 2009), (Township

of Algonquin Highlands, 2009), and (Municipality of Highlands East, 2009)). Of this, 3,020 tonnes, or 23.9 percent, is diverted through the blue box program. Currently, the most common material recycled is papers, while the least is metals. This indicates that there is more paper available in the waste stream than metal and does not reflect on the capture rate of the materials.

Table 5 summarizes the current waste generation and blue box diversion rates.

Table 5 Residential Solid Waste Generated and Diverted Through Blue Box (tonnes)

Residential Waste Stream/Blue Box Material	Municipality of Dysart et al	Township of Minden Hills	Township of Algonquin Highlands	Municipality of Highlands East	Total for Partnership	Percent of Total Waste
Total Waste Generated	5,960	3,406	1,379	1,885	12,630	-
Papers (ONP, OMG, OCC, OBB, and fine papers)	838	1,166	306	291	2,602	20.6%
Metals (aluminum, steel, mixed metal)	32	18	23	22	96	0.8%
Plastics (containers, film, tubs lids)	91	38	49	47	225	1.8%
Glass	52	13	17	16	98	0.8%
Total Blue Box Material Currently Diverted	1,013	1,236	395	377	3,020	23.9%

Notes: 1. All material weights are in tonnes.

2. The values in the above table are from the 2009 WDO Municipal Datacalls for the four (4) municipalities.

As Table 6 indicates, the aggregate diversion rate for municipalities of Haliburton County is **23.9%**, which is **above average** for the Waste Diversion Ontario (WDO) municipal grouping. As shown in Table 6, the Township of Minden Hills and the Township of Algonquin Highlands have individual diversion rates that are above average for their municipal groupings, while the Municipality of Dysart et al and the Municipality of Highlands East have individual diversion rates that are below average for their municipal groupings.

Table 6 Average Blue Box Diversion Rate (2009)

Municipality	Diversion Rate	Municipal Grouping	Municipal Grouping Average Diversion Rate
Municipality of Dysart et al	17.0%	Rural Depot – South	21.28%
Township of Minden Hills	36.3%	Rural Depot – South	21.28%
Township of Algonquin Highlands	28.6%	Rural Depot – South	21.28%
Municipality of Highlands East	20.0%	Rural Collection – South	21.37%
Total for Partnership	23.9%		21.3%

7.3 POTENTIAL WASTE DIVERSION

To estimate current waste composition of the municipalities of Haliburton County, since no local waste audit data are available, waste audit data were used from the Town of Blue Mountains, as per the CIF Guidebook. The Town of Blue Mountains was used because it best matches Haliburton County (i.e. in the Rural - South category).

A total of approximately 4,686 tonnes of blue box materials are available for diversion, of which approximately 1,666 tonnes are still currently in the waste stream. Estimates of blue box material available for diversion are listed in the table below.

Table 7 Current and Potential Diversion

Material	Total Available in Waste Stream ¹ (tonnes/year)	Currently Recycled ² (tonnes/year)	Potential Increase ³ (tonnes/year)
Papers (ONP, OMG, OCC, OBB, and fine papers)	2,652	2,602	51
Metals (aluminum, steel, mixed metal)	265	96	170
Plastics (containers, film, tubs lids)	707	225	482
Glass	1,061	98	963
Total	4,686	3,020	1,666

Notes: 1. The total available in the waste stream tonnages were calculated from the percentages of each material from the Town of Blue Mountains waste audit multiplied by the total waste generated tonnage multiplied by the target capture rate of 70%.

2. The currently recycled tonnages are as reported in the 2009 WDO Municipal Datacalls for the four (4) municipalities.

3. The potential increase is the currently recycled tonnage subtracted from the total waste available in the waste stream tonnage.

Capturing 70% of blue box material (i.e. an additional 1,666 tonnes per year) in Haliburton County's waste stream could raise its diversion rate by approximately 13% to 37% (i.e. from the current 24%).

7.4 EXISTING PROGRAMS AND SERVICES

Currently, the municipalities of Haliburton County have the following policies and programs in place to manage residential solid waste:

- All four (4) municipalities have a mandatory recycling by-law in place.
- All four (4) municipalities have a mandatory clear bag policy in place whereby all waste disposed at any of the landfill sites within the County is required to be placed in a clear garbage bag to encourage recycling.
- The Township of Minden Hills has a bag limit of three (3) bags per household per week in place.

Disposal and recycling services are paid for primarily through municipal taxes. For the Township of Minden Hills, the Township of Algonquin Highlands, and the Municipality of Highlands East, depot collection services of blue box materials are provided by Garbutt Disposal and/or Muskoka Containerized Services (MCS), now owned by

Waste Services Inc. (WSI). Once recyclable materials have been collected, they are transferred to the MCS facility in Bracebridge, Ontario.

For the Municipality of Dysart et al, depot collection services of blue box material are provided by Mid Ontario Disposal. Once recyclable materials have been collected, they are transferred by Mid Ontario Disposal to the Mid Ontario Disposal facility in Orillia, Ontario.

Upcoming important collection-related milestones that may affect how collection services are administered include:

- Municipality of Dysart et al: The Garbutt Disposal contract for collection of cardboard material ends on February 14, 2011.
- Municipality of Dysart et al: The Mid Ontario Disposal contract for depot transfer and processing of recyclables ends on February 14, 2011.

WDO groups municipalities in cost bands based on similar geography, population, and proximity to end-markets for recyclables. The Municipality of Dysart et al, the Township of Minden Hills, and Township of Algonquin Highlands belong to the Rural Depot – South municipal grouping. The Municipality of Highlands East belongs to the Rural Collection – South municipal grouping. The groupings were established to recognize that rural municipalities and northern remote locations do not have the same amount of competition available to them when tenders are sought for recycling collection and processing of recyclable material that large urban centres have.

In 2009, the total net annual recycling costs for the municipalities of Haliburton County was \$844,141. This amounts to \$279 per tonne, or \$50 per capita. As Table 8 shows, net annual recycling costs for the municipalities of Haliburton County are below average for their WDO municipal groupings.

Table 8 Net Recycling Cost (per tonne per year)

Municipality	Net Recycling Cost (2009)	Municipal Grouping	Municipal Grouping Average Net Recycling Cost¹
Municipality of Dysart et al	\$311 per tonne	Rural Depot – South	\$565.08
Township of Minden Hills	\$173 per tonne	Rural Depot – South	\$565.08
Township of Algonquin Highlands	\$473 per tonne	Rural Depot – South	\$565.08
Municipality of Highlands East	\$341 per tonne	Rural Collection – South	\$517.26
Total for Partnership	\$279 per tonne		\$553.13

Notes: 1. Source: WDO 2009 Final Blue Box Data.

7.5 ANTICIPATED FUTURE WASTE MANAGEMENT NEEDS

Solid waste generation rates in Haliburton County are expected to increase over the next 15 years (the planning period for this project). Table 9 depicts the expected growth rates for solid waste generation and blue box material recovery, based on projected population growth rates which are based on historical population data from Statistics Canada (2006 Community Profiles).

Table 9 Anticipated Future Solid Waste Generation Rates and Available Blue Box Material

	2010	2015	2020	2025
Population ¹	16,745	18,687	20,084	21,667
Total Waste (tonnes) ²	12,630	14,095	15,149	16,343
Blue Box Material Available (tonnes) ³	4,686	5,229	5,620	6,063

Notes: 1. The population was determined from the 2006 population of each municipality and appropriately increased as per the change in population (%) from Statistics Canada (2006 Community Profiles).

2. The Total Waste was determined from the projected population multiplied by the solid waste generated per capita of 754 kg/person/year, which was determined from the data from the 2009 WDO Datacall.

3. The Blue Box Material Available was the projected population multiplied by the blue box material available per capita of 280 kg/person/year, which was determined from the data from the 2009 WDO Datacall and the Town of Blue Mountains waste audit data.

8.0 PLANNED RECYCLING SYSTEM

8.1 OVERVIEW OF PLANNED INITIATIVES

The municipalities of Haliburton County reviewed a number of options for consideration in its MWRS. The options were then scored based on a number of criteria, which included:

- **% Waste Diverted** – This refers to how much waste an option may potentially help to divert. Some options may divert more waste than others, while other options may not directly divert waste but instead support other programs or initiatives that do.
- **Proven Results** – Some options are considered tried and true, while others may be newer and less proven.
- **Reliable Market/End Use** – Markets should be available for materials collected by municipalities for recycling. This criterion considers if a market is available for the recyclable materials in question or if a suitable end use exists.
- **Economically Feasible** – This refers to whether an option is economically feasible for the municipality considering it. Municipalities will need to weigh the cost of the option against their ability to afford it and the resulting benefit.
- **Accessible to the Public** – This considers if the option will be easy or difficult for the public to access or use. This will depend in large part on how the option interfaces with the target audience.

- **Ease of Implementation** – Some options are less costly and easier logistically and politically to implement than others. This criterion considers the level of cost and effort involved in implementing the option (Trow, 2010).

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

Once scored, the top ranking waste recycling options were organized into Priority Initiatives (total score of 80 or greater out of 100) and Future Initiatives (total score of 70 to 79 out of 100).

8.1.1 PRIORITY INITIATIVES

Public Education and Training Program

Public education and promotion programs are crucial for ensuring the success of local recycling programs. Well-designed and implemented education and promotion programs can have impacts throughout the municipal recycling program, including participation, collection, processing, and marketing of materials. Furthermore, having a promotion and education plan contributes toward the amount of WDO funding a municipality receives as identified in the Best Practices section of the WDO municipal datacall. For example, the benefits of public education and promotion programs include:

- Greater participation levels and community involvement.
- Higher diversion rates.
- Less contamination in recovered materials, potentially leading to higher revenues.
- Lower residue rates at recycling facilities.

Training of Key Program Staff

A well-trained staff can lead to greater cost and time efficiencies and improved customer service. Knowledgeable staff (including both front line staff and policy makers) have a greater understanding of their municipal programs and can perform their responsibilities more effectively. There are a number of low-cost training options available.

Multi-Municipal Collection and Processing of Recyclables

Small and medium-sized municipalities often face considerable cost and capital challenges when looking to collect and process recyclables from its residents. However, working collaboratively with other municipalities to provide these services can increase economies of scale and allow for the sharing of resources.

Standardized Service Levels and Collaborative Haulage Contracting

Collaborative haulage contracts for blue box materials can take advantage of increased purchasing power through municipal partnerships and ensures that the partner municipalities provide common levels of services to its residents. Standardizing collection programs among municipal partners increases the amount of materials being diverted from disposal, allows for common education and promotion materials, increases collector efficiencies, and can potentially reduce overall costs.

8.1.2 IMPLEMENTATION PLAN FOR PRIORITY INITIATIVES

To better publicize the recycling program and capture more blue box materials, an extensive promotion and education program will be considered. This should include some component to help reach the seasonal population. Some specific ideas could include providing promotional material to local cottage owners associations to help reach the seasonal population, including an information kit to give to owners of cottages who rent their cottages out so that it is simple and convenient for those renting the cottages to participate in the blue box program. This public education program will also include a public survey with possible topics including:

- The types of waste diversion behaviours currently undertaken in each household.
- Perceived barriers to participation in waste diversion programs.
- Willingness to participate in waste recycling programs.
- How residents receive information or learn about local waste recycling programs.
- The tools residents need to increase their participation in recycling programs.

In addition to the public survey, the municipalities of Haliburton County have identified a waste audit as a means of characterizing the existing waste stream and measuring the total waste generated (by type and weight). This could be used to set bag limits and determine capture rates of blue box material for the existing system and future programs as well as determining the participation rate of the blue box program.

Key program staff will be provided with access to low-cost training opportunities provided by WDO. The training received can be used to satisfy Best Practices criteria for staff training for completion of the annual WDO Datacall which bodes favourably for funding received. Training specifically for landfill attendants will be implemented to ensure all attendants are educated on the mandatory recycling bylaw and enforcement and any specific issues related to the recycling depots can be discussed.

It is recommended that discussions are had between the four (4) municipalities in Haliburton County regarding the collection and processing as well as a collaborative haulage agreement of blue box materials to determine if any sharing of resources can be established. Three (3) of the four (4) municipalities currently use the same service provider, so there may be an opportunity to reduce costs based on the economies of scale.

The implementation steps relative to these priority initiatives are included in Table 10. Implementation steps which will be completed in 2011 were identified as priorities for the municipalities of Haliburton County. The remaining implementation steps will be discussed and associated timelines will be set once the priority implementation steps have been completed.

Table 10 Implementation Plan for Priority Initiatives

Initiative	Steps	To be implemented in 2011
Public Education and Training Program	Public survey and waste audit	✓
	Develop communication/public engagement plan	
	Price communication pieces	
	Develop communication pieces	
	Distribute communication material	
Training of Key Program Staff	Train landfill attendants	✓
	Create communication material for landfill and depots	
Multi-Municipal Collection and Processing of Recyclables	Assess available depot options	
	Review and negotiate haulage and processing contracts	✓
Standardized Service Levels and Collaborative Haulage Contracting	Assess and standardize acceptable material	

8.1.3 FUTURE INITIATIVES

Review of Bag Limits

Overview: Bag limits restrict the number of bags of garbage a resident can dispose of per collection. This encourages residents to divert more recyclable material in order to not exceed the bag limit.

Implementation: Consideration should be given to completing regular waste audits to determine how many bags per week households typically bring to the depots each week as well as determine the waste composition and capture rates. Once a baseline waste audit is completed, then consideration should be given to implementing a bag limit to encourage further waste reduction and waste diversion.

Enhancements of Recycling Depots

Overview: Where curbside collection programs are not feasible, recycling depots provide an inexpensive means for municipalities to divert recyclable materials from disposal. Enhancements to recycling depots may include (but are not limited to):

- Providing satellite depots to improve public access and convenience.

- Enhancing the conditions at the landfill depot (e.g. landscaping, general cleanliness, maintenance).
- Incorporating friendly, easy-to-read signage.
- Providing additional part-time staff to address seasonal fluctuations and visiting traffic.

Implementation: Consideration should be given to conducting a review of each recycling depot to determine any deficiencies and areas for improvement. This could be related to the accessibility of the site (i.e. hours of operation, travel time to/from site), accessibility of the bins (i.e. traffic flow, signage, ease of depositing material in the bins, purchase/lease of additional bins), installation of satellite depots, etc.

Assess Tools and Methods to Maximize Diversion

Overview: Waste recycling programs fail or succeed based on their ability to overcome public barriers to participation. Additional research on the appropriate tools and methods can help determine how best to maximize opportunities to divert blue box materials from the waste stream and reduce waste going to disposal.

Implementation: This information can be collected through telephone surveys and focus groups. Methods and tools identified through the survey can be tested for performance using focus groups or through a pilot project. The public survey portion of this initiative will be completed within the public education and training priority initiative identified above.

Following Generally Accepted Principles for Effective Procurement and Contract Management

Overview: A considerable number of municipalities in Ontario contract out the collection and processing of recyclables. To ensure that municipalities obtain good value for money, municipalities should follow generally accepted principles (GAP) for effective procurement of contract management. Key aspects of GAP include planning the procurement well in advance, issuing clear RFPs, obtaining competitive bids, and including performance-based incentives.

Implementation: Guidance templates for developing tenders are available through the *Contracts Database and Tender Tool* on the CIF website. It is recommended that this information be reviewed prior to any municipal tenders with respect to recycling contracts.

8.1.4 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. Table 11 identifies contingencies for possible planning delays.

Table 11 Waste Recycling Strategy Contingencies

Risk	Contingency
Insufficient funding	Delay lower-priority initiatives, raise/implement user fees
Public opposition to planned recycling initiatives	Improve public communications, engage community/stakeholders to discuss initiatives/recycling plan
Lack of available staff	Prioritize municipal goals and initiatives

9.0 MONITORING AND REPORTING

The monitoring and reporting of recycling program for the municipalities of Haliburton County is considered a Blue Box program fundamental best practice and will be a key component of this MWRS. 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:

- The baseline recycling diversion rate is 23.9% and it represents the 2009 aggregate recycling rate for all four (4) municipalities in Haliburton County.
- Recycling tonnages will be analysed annually and compared to the previous year's performance taking into account recycling program changes, new provincial legislation, and any new municipal program changes that could impact program recovery targets.

Once the results are measured, they will be reported to Council and the public. The approach for monitoring the waste recycling program for the municipalities of Haliburton County's is outlined in Table 12.

Table 12 Recycling System Monitoring

Monitoring Topic	Monitoring Tool	Frequency
Diversion rates achieved (by type and by weight)	Formula: (Blue Box materials + other diversion) ÷ Total waste generated *100%	Annually
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually
Customer satisfaction	Customer survey (i.e. telephone, online); tracking calls/complaints received to the municipal office	Every 2 years
Review of MWRS	A periodic review of the MWRS to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement	Every 5 years

10.0 CONCLUSION

The four (4) municipalities of Haliburton County currently have a high aggregate recycling diversion rate of 23.9% and low cost (\$279/tonne) when compared to the average diversion rate (21.3%) and cost (\$553.13/tonne) for the municipal grouping.

A staged process to increase the capture of blue box material and reduce cost per tonne is recommended.

Firstly, the municipalities have the following waste diversion goals:

- Municipality of Dysart et al: By the end of 2012, aim to increase the diversion rate of blue box materials by 2% per year.
- Township of Minden Hills: By the end of 2012, aim to increase the diversion rate of blue box materials by 5%.
- Township of Algonquin Highlands: By the end of 2012, aim to divert a total of 30% of blue box materials.
- Municipality of Highlands East: By the end of 2012, aim to increase the diversion rate of blue box materials by 4%.

The above goals for the diversion of municipal solid waste through the blue box program are recommended by the implementation of simple measures (i.e. priority initiatives). The following low-cost priority initiatives are recommended to increase the capture rate: increase public education, training of key program staff including contracted collection staff, multi-municipal collection and processing of recyclables, and standardized service levels and collaborative haulage contracting.

The following future initiatives are recommended for consideration to further increase the effectiveness of the blue box program: review of bag limits, enhancements of recycling depots, assess tools and methods to maximize diversion, and following GAP for effective procurement and contract management.

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- Municipality of Dysart et al. (2009). *Waste Diversion Ontario Municipal Datacall*.
- Municipality of Highlands East. (2009). *Waste Diversion Ontario Municipal Datacall*.
- Township of Algonquin Highlands. (2009). *Waste Diversion Ontario Municipal Datacall*.
- Township of Minden Hills. (2009). *Waste Diversion Ontario Municipal Datacall*.
- Trow. (2010). *Guidebook for Creating a Municipal Waste Recycling Strategy*.

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QUALIFICATIONS AND LIMITATIONS

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In performing work on behalf of a client, Cambium Environmental relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium Environmental determines the precise nature of the work to be performed. Cambium Environmental undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

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Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium Environmental's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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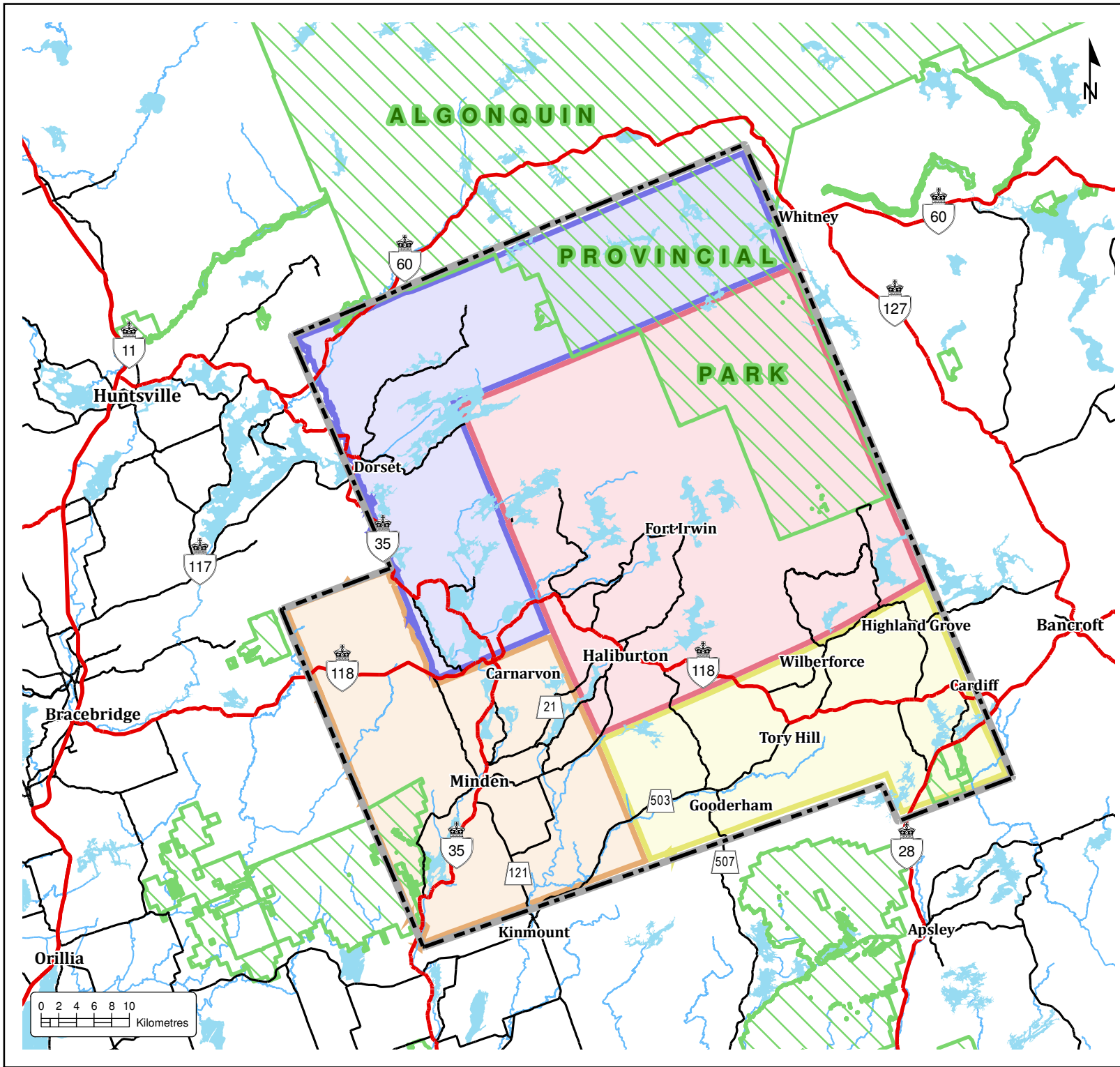


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Appended Figures

WASTE RECYCLING STRATEGY

HALIBURTON COUNTY, ONTARIO



Legend

-  County Boundary - Study Area
-  Highway
-  Major Road
-  River
-  Water Body
-  Provincial Park
- Municipalities**
-  Municipality of Highlands East
-  Township of Algonquin Highlands
-  Township of Minden Hills
-  Municipality of Dysart Et Al

Source: © Queen's Printer of Ontario, 2010
 (this does not constitute an endorsement by
 the MNR or the Ontario Government)



P. O. Box 325, 2085 Whittington Drive
 Peterborough, Ontario, K9J 6X4
 Tel: 1 (705) 742.7900
 Fax: 1 (705) 742.7907
 www.cambium-env.com

REGIONAL LOCATION PLAN

Project No.:	1761-001	Date:	October 2010
Scale:	1:600,000	Projection:	NAD83- UTM zone 17N
Created by:	GMH	Checked by:	CMT
Figure:	1		



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Appendix A
Public Notice

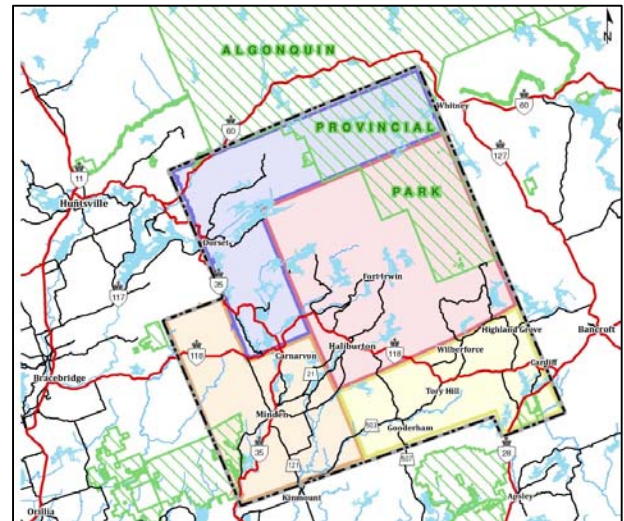
**- PUBLIC CONSULTATION PERIOD EXTENDED -
FOR THE MUNICIPALITIES OF HALIBURTON COUNTY
MUNICIPAL WASTE RECYCLING STRATEGY**



The municipalities of Haliburton County are completing a Municipal Waste Recycling Strategy (MWRS), which is an essential tool in the achievement of Best Practices in the management of recycled materials.

The development of the MWRS will include several stages, from policy to implementation, monitoring, and improvement. The stages cover:

- Where are we now? (i.e. policy, administration details)
- Where do we want to go? (i.e. waste forecasts, diversion targets)
- How do we get there? (i.e. system design, infrastructure requirements)
- How do we track and measure our progress? (i.e. evaluation, reporting)



The municipalities of Haliburton County invite interested parties to submit comments or inquiries with respect to the MWRS. Comments will be accepted until **December 10, 2010**.

Information regarding the MWRS is available at the municipal websites listed below. Comments and inquiries may be directed to the following:

Municipality of Dysart et al:

Ms. Tammy McKelvey
(705) 457-1740 ext. 24
tmckelvey@dysartetal.ca
For info: <http://www.dysartetal.ca>

Township of Algonquin Highlands:

Mr. Brian Whetstone
(705) 489-2379
bwhetstone@algonquinhighlands.ca
For info: <http://www.algonquinhighlands.ca/>

Township of Minden Hills:

Mr. Peter Brown
(705) 286-1260 ext. 216
pbrown@minderhills.ca
For info: <http://www.minderhills.ca>

Municipality of Highlands East:

Mr. Glen Covert
(613) 339-2442
gcovert@highlandseast.ca
For info: <http://www.highlandseast.ca/>

Dated at the Municipality of Dysart et al on the 30th day of November, 2010

**Ms. Tammy McKelvey, CAO/Clerk
Municipality of Dysart et al
P.O. Box 389
Haliburton, Ontario
K0M 1S0
Phone: (705) 457-1740
Fax: (705) 457-1964
Email: tmckelvey@dysartetal.ca**





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**Appendix B
Haliburton County Recycling Guide**

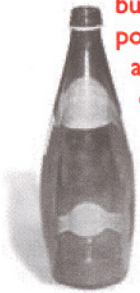


Containers

Glass Bottles & Jars

All clear and coloured glass food and beverage containers.
Please rinse.

NO drinking glasses, ceramics or china (plates, bowls, mugs, etc.), crystal, window glass, light bulbs, mirrors, pottery, Pyrex, pots and pans, cosmetic containers.



Plastic Containers & Lids

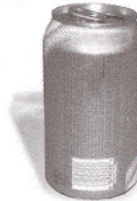
Clean plastic pop and water bottles, yogurt, margarine and ice cream containers, windshield washer jugs, dish soap and shampoo bottles, plastic milk jugs, ketchup bottles, peanut butter jars, laundry detergent, fabric softener and bleach bottles, P.E.T. plastic egg cartons, clear fruit and veggie containers, vitamin bottles, etc., with the numbers 1 to 7 on the bottom. *Flatten pop and water bottles and replace caps.*

NO toys, CDs, plastic barrels, vinyl siding, vinyl shower curtains, blister packs, food/stretch wrap, mini-blinds, cosmetic containers, toothpaste tubes, plastic cutlery, garden furniture, or any item that does not have numbers 1 to 7 on the bottom.

Metal Cans & Foil

All tin and aluminum food and beverage cans, clean aluminum foil, pie plates and take-out food trays. *Please rinse and remove lids on tin cans, place inside can & pinch closed. Do not put aluminum cans inside tin ones.*

NO aerosol cans, BBQ propane cylinders (turn in on Household Hazardous Waste day), coat hangers, pots and pans, kitchen utensils, paper-backed foil (e.g. lids from take-out food), or foil laminates (e.g. foil gift wrap, potato chip bags).



Polystyrene (Styrofoam)

Styrofoam meat and bakery trays, egg cartons, coffee cups, fast food containers, etc.
Please rinse.

NO blue or pink Styrofoam insulation, packing Styrofoam, Styrofoam peanuts or beads.



Plastic Bags

Plastic milk, bread, shopping and dry cleaning bags, wrap from toilet paper and paper towels, etc. *Place inside one bag and tie the handles.*

NO bubble wrap, boat wrap, tarps or other large sheets of plastic film.

Fibres

Newspapers, Magazines & Books

Newspapers, magazines, catalogs, advertising inserts, phone books, soft cover books, and glossy flyers. *Do not package in plastic bags.*

NO waxed or foil-coated paper.



Boxboard & Mixed Paper

Household and office paper, junk mail, envelopes, writing paper, computer paper, wrapping paper, greeting cards; cereal, detergent, tissue and shoe boxes, paper towel and toilet paper tubes, fibre egg cartons, paper grocery and shopping bags, plastic lined dog and cat food bags, etc. *Staples are okay.*

NO tissues, paper towel, waxed or foil-coated paper, frozen juice cans unless metal ends have been separated (place metal in Containers bin).



Corrugated Cardboard

Pizza boxes (please! No pizza!), cardboard boxes, clean and flattened. *Staples are okay.*
NO waxed corrugated boxes or soiled pizza boxes.

Tetra-Pak Boxes

Juice, milk, soup and other 'Tetra Pak' type boxes. *Please rinse.*

NO straws.

"Gable-Top" Cartons

Polycoat (waxed) milk, juice, sugar & liquid egg cartons, etc. *Please rinse and remove plastic lids.*



Recycling Questions?

Ask your Landfill Attendant or contact your local municipal office.

We appreciate it when you take the time to **rinse out your bottles, jars and other containers** before putting them in your recycling box. This will reduce smell and insect problems for you and make life more pleasant for our sorters.

Please do not package newspapers or other "fibres" in plastic bags.

Remember — recycling is mandatory in Haliburton County.

Township of Algonquin Highlands
705-489-2379
www.algonquinhighlands.ca



Municipality of Dysart et al
705-457-1740
www.dysartet.al.ca



Municipality of Highlands East
613-339-2442
www.highlandseast.ca



Township of Minden Hills
705-286-1260
www.mindenhill.ca





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**Appendix C
Waste Recycling Option Scores**
