

Sudbury Area First Nation Recycling Program Implementation Evaluation

May 2012

Final

Prepared for
First Nations Technical Services Corporation
111 Peter Street, Suite 606
Toronto, Ontario

Prepared by



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Table of Contents

1	Introduction	1
2	Current Situation in Ontario	1
2.1	Ontario Blue Box Program	2
2.2	Municipal Hazardous Special Waste	3
2.3	Waste Electrical and Electronic Equipment Program	5
2.4	Used Tire Program	7
3	First Nations Community Waste Management Profiles	8
3.1	Community Waste Management System Overview	8
3.2	Garbage Collection and Disposal	11
3.3	Recycling Programs	13
3.4	Material Recycling Facilities in Area	14
4	Waste Generation and Set Out Information	24
4.1	M’Chigeeng and Whitefish River FN Waste Audits.....	25
4.2	Waste Set Out Results.....	26
4.3	Waste Audit Results	27
5	Recycling Realities and Opportunities	31
5.1	Why Recycling Matters	31
5.2	Recycling Misperceptions	31
5.3	Supporting Policies and Programs	35
6	Case Studies.....	42
6.1	Innovative Collection Strategies	42
6.2	Exploring Partnerships	49
7	Maximizing Funding.....	52
7.1	INAC Funding.....	52
7.2	Waste Diversion Ontario (WDO) Municipal Datacall.....	54

Tables and Figures

Tables

Table 1: Sudbury Area First Nations Waste Management Operations	10
Table 2: Recycling Program Characteristics	13
Table 3: M'Chigeeng Waste Audit Results	30
Table 4: Weighted Comparison of Rural Curbside vs Depot Costs and Recycling Rates	32
Table 5: Datacall Results for Rural Curbside Recycling (16 communities).....	33
Table 6: Datacall Results for Rural Depot Recycling (14 communities)	34

Figures

Figure 1: Sudbury Area First Nation Communities.....	9
Figure 2: Location of Material Recycling Facilities in the Area	15
Figure 3: M'Chigeeng Total Waste Stream Composition	28
Figure 4: Potentially Recyclable Materials in the Waste Stream	29
Figure 5: Contamination in the Garbage and Recycling Streams.....	29
Figure 6: INAC Funding for Waste Management Operations	53
Figure 7: Datacall Best Practice Questions.....	55

1 Introduction

The Province of Ontario has succeeded in bringing recycling to majority of residential households throughout the province, with a few exceptions. Those exceptions include communities characterized by small populations (less than 5,000 populations), remote locations (Northern Ontario) with limited resources and access to markets. This portrays the situation experienced by the 21 First Nations in the Sudbury Area.

While not required to provide a recycling program for their residents as each community falls outside provincial regulatory jurisdiction, more than half of the 21 First Nation communities participating in this study, offer recycling programs to their band members.

The challenges facing the Sudbury area First Nations communities in implementing and maintaining a recycling program are common for Northern communities - lack of staff and financial resources and economies of scale to implement affordable recycling programs.

To provide guidance to these communities, the Ontario First Nations Technical Services Corporation (OFNTSC) secured funding from the Continuous Improvement Fund (CIF) to conduct an evaluation of the existing waste management systems of the 21 First Nation communities and to complete waste audit in two of the First Nations communities with the goal of identifying opportunities to implement recycling programs or enhance existing recycling programs in a cost effective and financially sustainable manner.

This report provides a summary of the evaluation and waste audits and highlights innovative recycling programs being implemented by small northern communities that are cost effective and require minimal resource and infrastructure investment. Individual appendices have been developed for the three participating Tribal Councils (including the unaffiliated communities) in which each community is profiled with individual recommendations developed for each.

2 Current Situation in Ontario

Ontario First Nation communities from legislation enacted during the past decade that provides partial or full funding for the collection and management of designated end-of-life products and packaging, as discussed below.

On June 27, 2002, the Province of Ontario passed the Waste Diversion Act (WDA), with the aim of promoting the reduction, reuse and recycling of waste generated in Ontario. The WDA empowered the Ministry of the Environment to establish extended producer responsibility (EPR) programs and other waste diversion initiatives. Beginning in 2003, the Minister of the Environment used his authority to request the development of numerous extended producer responsibility (EPR) programs that has helped to make Ontario a leader in requiring industry to take responsibility for management of end-of-life products and packaging.

2.1 Ontario Blue Box Program

Launched in the early 1980's, the Ontario Blue Box program is one of the oldest curbside recycling programs in North America, as well as the most comprehensive. Until 2004, Ontario municipalities were wholly responsible for providing and funding all aspects of their recycling programs.

With the approval of the Blue Box Program Plan by the Minister of the Environment in December 2003, one of North America's first comprehensive extended producer responsibility (EPR) was launched. The Blue Box Program Plan commenced in February 2004, to assist municipalities with costs associated with providing recycling programs to residents (including collection, processing and educational programs). Producers (stewards) of packaging and paper goods that can be recycled in the blue box are required to pay 50% of Ontario municipalities net blue box program costs.



In 2004, Stewardship Ontario became the Industry Funding Organization (IFO) established to collect funds from the stewards, manage and administer the funds back to the municipalities. Stewardship Ontario gathers detailed province-wide collection and cost data in order to assess producer fees and since industry is obligated to pay half of the program costs, performance and cost data are closely tracked by affected parties.

For their part, municipalities must complete and submit a Datacall survey every year in order to receive funding from Stewardship Ontario. The funding received is calculated based on a complicated formula that compares the municipality's blue box program costs and expenditures with other municipalities and best practice scenarios. Most municipalities receive between 30% and 40% of their program costs reimbursed. Funding is provided through the Waste Diversion Office (WDO). Completion of the Datacall is further explored in Section 7.2.

Over the years, the Datacall has become more lengthy and demanding of information and requirements. Municipalities are encouraged to pursue best practices to increase the amount of funding received; for example, municipalities that develop a Waste Recycling Strategy can increase (or maintain) the portion of their annual funding. Other best practice measures include establishing a blue box diversion target, performance monitoring, multi-municipal partnerships, etc.

If you are operating a recycling program that collects paper and containers from residents then you can receive funding from the government by registering with Waste Diversion Ontario (WDO) for annual Municipal Datacall. Each year you will be required to complete the datcall in

the spring and report the prior year's tonnes, operating costs, and revenues associated with the residential recycling program.

A number of participating First Nation communities have completed Municipal Datacalls including:

- Atikameksheng Anishnawnbek First Nation
- Wahnapiatae First Nation
- Wikwemikong Unceded Indian Reserve
- Sagamok Anishnawnbek First Nation
- Serpent River First Nation

Two additional communities submit WDO datacalls through another community:

- Shawanaga First Nation
- Batchewana First Nation

To register for the Municipal Datacall:

Contact WDO: Ron Lance

Tel. (416) 226-5113 x 294

Email: ronlance@wdo.ca Email

2.2 Municipal Hazardous Special Waste

The Municipal Hazardous and Special Waste (MHSW) Program Plan was initiated by the Minister of the Environment with a letter sent to the WDO requiring development of a MHSW plan in December 2006. With Stewardship Ontario established as the IFO, The first phase of the MHSW Program Plan was implemented in July 2008. Shortly after the launch of Phase I of the MHSW program, the Minister directed WDO to amend the program and develop Phase 2 and Phase 3 of the program. Each phase of the program targets additional Household Special Wastes as listed in the table below.



Phase 2 of the program was implemented in July 2010. The program was amended to expand the list of HSW materials captured in the program and to establish 100% EPR funding. Phase 1 of the MHSW Program limited the financial obligation of stewards to post-collection costs only. However, problems encountered during the launch of the program and the eco fees forced the Provincial government to withdraw this funding structure (i.e. Eco fees) but to continue to

provide the service. At the same time, the Minister of the Environment requested a revision of the MHSW plan.

While Stewardship Ontario continues to operate the MHSW program (also referred to as the Orange Drop program) in its entirety at the request of the government during this transition period, it is no longer responsible to provide the funding to municipalities for the Phase 2 materials listed below. During this interim, the Ontario Provincial Government is covering the Phase 2 portion of the MHSW funding to municipalities.

MHSW collection is accomplished through a variety of methods, including a drop off at municipal permanent depots, mobile depots, retail locations, pharmacies and special collection events. Under the amended Program Plan, stewards must cover the collection, processing, recycling and disposal costs for collected materials.

Materials covered by the final consolidated MHSW Program Plan referred to above as the amended plan include:

Phase 1 Materials

- paints and coatings, and containers in which they are contained;
- solvent, and containers in which they are contained;
- oil filters, after they have been used for their intended purpose;
- containers that have a capacity of 30 litres or less and that were manufactured and used for the purpose of containing lubricating oil;
- single use dry cell batteries;
- antifreeze, and containers in which they are contained;
- pressurized containers such as propane tanks and cylinders; and
- fertilizers, fungicides, herbicides, insecticides, or pesticides and containers in which they are contained.

Phase 2 Materials

- aerosol containers;
- batteries (other than single use dry cell);
- portable fire extinguishers;
- fluorescent light bulbs and tubes;
- pharmaceuticals;
- sharps, including syringes;
- switches that contain mercury;
- thermostats, thermometers, barometers, or other measuring devices containing mercury;
- corrosives (includes irritants);
- flammables (includes solvents);
- leachate toxics;
- reactives; and
- toxics.

Funding to municipalities for their participation in MHSW programs is accommodated through operating agreements between the municipality and Stewardship Ontario.

The Ministry of the Environment recently introduced revisions to the Waste Diversion Act impacting all EPR programs. Through regulation, the Minister of the Environment is requiring Stewardship Ontario to pay for its MHSW and Blue Box programs based on actual costs rather than projected per-unit estimates. The regulation will now allow Stewardship Ontario to collect operating costs from industry to ensure that Stewardship Ontario can fully recover program delivery costs and avoid creating surpluses or deficits, potentially impacting program sustainability.

Furthermore, the Ministry of the Environment has directed Waste Diversion Ontario undertake a series of separate reviews on the development and implementation of financial incentives that are paid to service providers by Stewardship Ontario for the MHSW program to be completed by March 23, 2012. The review involves consulting municipalities and other stakeholders.

First Nation Communities that have participated in collection events include:

- Nipissing First Nation
- Whitefish River First Nation

To register for the MHSW program:
Contact: Tamara Burns
Tel. (416) 323-0101 x185
Email: tburns@stewardshipontario.ca

2.3 Waste Electrical and Electronic Equipment Program

Ontario's Waste Electrical and Electronic Equipment Program (WEEE) is a multi phase program that targets used electronic and electrical goods. The first phase of the WEEE Plan was approved by the Minister of the Environment in July 2008 and commenced in April 2009 while the second phase was approved in August 2009 and commenced in April 2010. Ontario Electronic Stewardship (OES) is the managing and funding organization (also referred to as the industry funding organization - IFO).



As with the MHSW program, the WEEE program requires brand owners, first importers, franchisors, and assemblers to pay fees for electrical and electronic equipment (EEE) supplied to

Ontario. The fees cover the costs to operate the WEEE program. The program covers 100% of the collection, recycling and promotion of waste electronic equipment.

Products collected under the different Phases of the program include:

Phase 1 products

- Desktop computers
- Portable computers
- Computer peripherals
- Monitors
- Televisions
- Printing devices

Phase 2 products

- Computer peripherals including modems
- Floor standing printing devices including printers, photocopiers, multi-function devices
- Scanners, typewriters
- Telephones and answering machines
- Cellular phones and pagers
- PDAs
- Audio and video players and recorders (eg. MP3, cassette, digital)
- Cameras (web, digital, analog)
- Equalizers/(pre)amplifiers
- Radios
- Receivers
- Speakers
- Turntables
- Video players/projectors, digital frames
- Video recorders
- Personal hand held computers

Municipalities must register with OES as Registered Collectors to benefit from the program. Registered Collectors agree to accept Phase 1 and 2 WEEE products from residents at no charge.

The Ministry of the Environment has directed Waste Diversion Ontario undertake a series of separate reviews on the development and implementation of financial incentives that are paid to service providers by Stewardship Ontario for the Ontario Electronic Stewardship under the WEEE program, to be completed by April 30, 2012. The review involves consulting municipalities and other stakeholders.

First Nation Communities that have participated in collection events include:

- Wahnapiatae First Nation
- Whitefish River First Nation
- Atikameksheng Anishnawbek First Nation

To register for the WEEE program
Contact: Pierre Prim , Director, Business Operations
Tel: 416-380-4545 ext. 204
Email: pprim@ontarioelectronicstewardship.ca

2.4 Used Tire Program

The WDO received notice from the Minister of the Environment to develop a used tire program in 2008. Launched in September 2009, the Used Tires Program allows consumers to have old tires recycled by dropping them off at registered collectors across Ontario Plan. The program is managed and funded through the Ontario Tire Stewardship (OTS). Tire brand owners and first importers are registered as tire stewards and required to pay fees for every tire they supply into the Ontario market, which are used to fund all aspects of the Program. The fees vary depending on the size of the tire.



OTS provides financial incentives for registered organizations that collect, transport, and process the used tires and/or manufacture recycled products in accordance with the Program Plan. As with the WEEE program, collection, transportation and management of the collected tires is fully funded by OTS. The program covers 100% of the costs.

The Used Tire program accepts eight types of tires as follows:

- On-Road Passenger & Light Truck Tires
- On-Road Medium Truck Tires
- Off-Road Tires Agricultural Drive and Logger Skidder
- Off-Road Tires Small and Large Industrial Tires
- Off-Road Tires Small OTR
- Off-Road Tires Medium OTR
- Off-Road Tires Large OTR
- Off-Road Tires Giant OTR

Municipalities must register with OTS as Registered Collectors to benefit from the program. Registered Collectors agree to accept up to four tires from residents at no charge, to use a registered Hauler and to participate in OTS's used tire reporting and manifesting system.

The Ministry of the Environment has directed Waste Diversion Ontario undertake a series of separate reviews on the development and implementation of financial incentives that are paid to service providers by Ontario Tire Stewardship under the Used Tires program, to be submitted by June 1, 2012. The review involves consulting municipalities and other stakeholders.

First Nation communities that have registered with OTS as Registered Collectors include:

- Nipissing FN
- Wahnapiatae FN

To register for the Used Tire program:

Contact: OTS Registration Center

Tel. 1-888-OTS-2202

register on the OTS website at <https://www.ontariots.ca/?q=user/register>

3 First Nations Community Waste Management Profiles

There are 21 First Nations communities participating in this recycling evaluation study. Most of the 21 communities are situated around the northern shore of Lake Huron with seven communities situated between Sault Ste. Marie (bordering to the west) and Sudbury (bordering to the east). A further six of the First Nation communities are situated on Manitoulin Island, two located north of Sudbury with the remaining six communities located south of Sudbury. Figure 1 shows the location of the 21 participating communities.

While many of the participating First Nation communities have experienced a stable population over the years, almost one third of the communities have reported an increase in population.

Each of the 21 First Nations communities participating in this project is profiled separately in Appendix A.

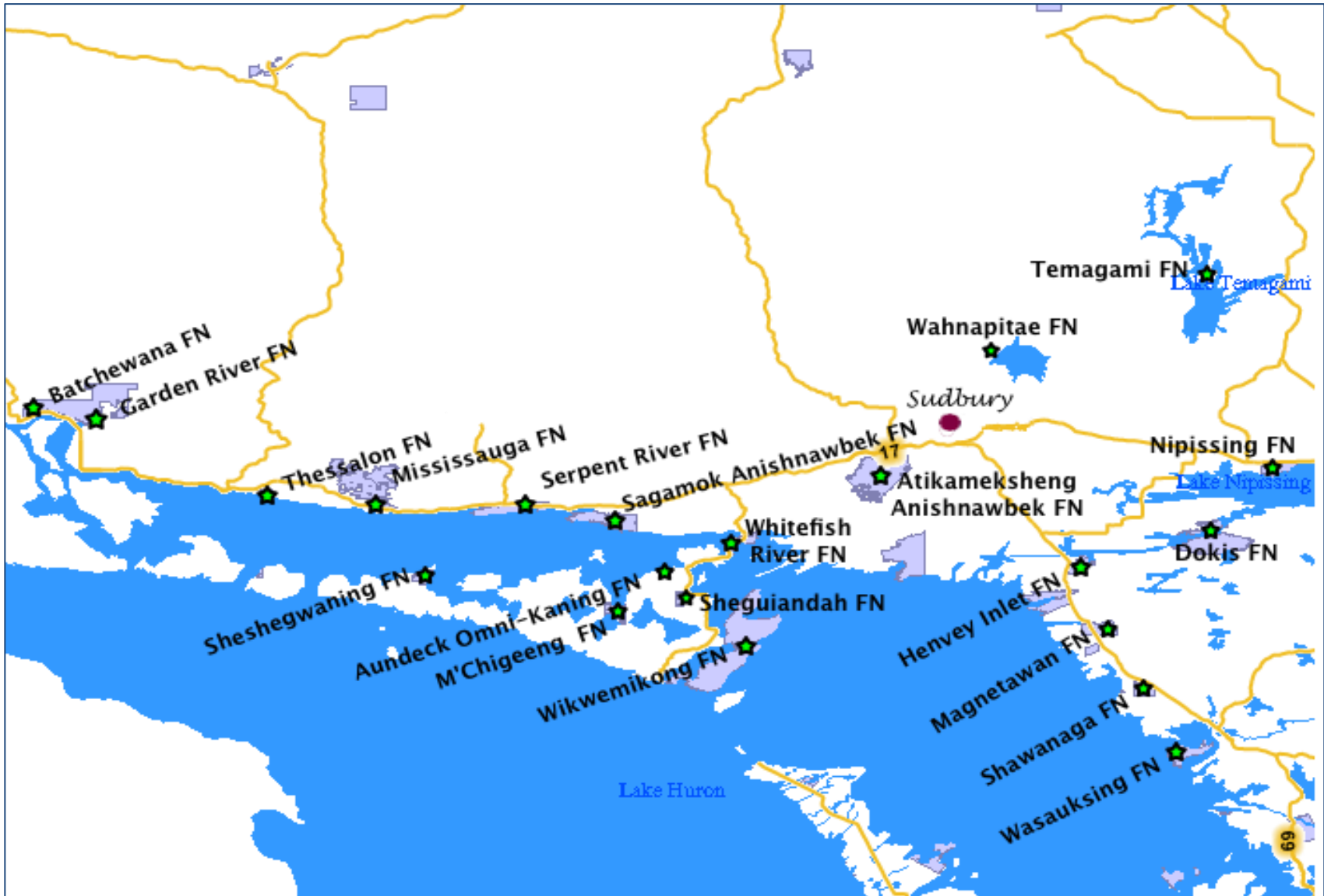
3.1 Community Waste Management System Overview

Table 1 summarizes the waste management activities of the 21 communities. The majority of the communities, with four exceptions, offer curbside waste collection, with no limits on the amount of garbage that can be set out for collection. The four not offering curbside collection require residents to take their garbage to the local community landfill or transfer station.

The remaining five recycling programs involve curbside collection in which public works staff or contracted workers collection recyclables at the property of the residents and commercial establishments. As with the depot system, the materials are sorted into different streams processing and marketing to a material recycling facility.

Over half of the participating communities (11 of 21) offer recycling programs to residents and commercial establishments. Most of these recycling programs (6 of 11) are provided through depots whereby residents and, for the most part, commercial establishments take their

Figure 1: Sudbury Area First Nation Communities



recyclables to a centralized location containing bins. The recyclables are sorted into different streams as identified by the bins. A contractor collects the bins on a regular basis and transports the recyclables for depending on the specifications of the material recycling facility and transported for processing and marketing.

The remaining five communities provide weekly curbside recycling at the property for residents and, for the most part, commercial establishments. As with the depots, residents are asked to sort their recyclables into different streams depending on the requirements of the material recycling facility (MRF). The recyclable materials are collected at the property line and transported to the MRF for processing and marketing.

Increasingly the First Nations communities need to close their local landfill and transport their garbage outside to a neighbouring landfill. Ten of the landfills are currently closed with an additional three landfill expected to close within the next year. Eight landfills remain open.

Table 1: Sudbury Area First Nations Waste Management Operations

	Population	# of Households	Waste collection	Recycling program	Landfill Situation
Waabnoong Bemjiwang Association of First Nations					
Dokis	200	98	landfill	No	open
Henvey Inlet	180	65	curbside	No	closed
Magnetawan	75	36	curbside	No	closed
Wahnapiatae	102	59	curbside	Yes - curbside	open
Nipissing	1365	750	curbside	No	open
United Chiefs and Councils of Manitoulin:					
M'Chigeeng_	994	400	curbside	Yes - curbside	closed
Aundeck Omni-Kaning	365	140	curbside	Yes	closing
Sheguiandah	173	69	curbside	Yes - depot	closed
Sheshegwaning	121	66	curbside	No	open
Whitefish River	426	179	curbside	Yes - depot	open
North Shore Tribal Council:					
Atikameksheng Anishnawbek	346	117	curbside	Yes - curbside	closing
Sagamok Anishnawbek	1479	403	curbside	Yes - depot	open
Serpent River	340	160	curbside	Yes - depot	closed
Mississauga	371	167	curbside	No	closed
Thessalon	125	54	landfill	No	open
Garden River	1128	450	curbside	No	open
Batchewana	648	274	curbside	Yes – curbside (Rankin)	closed

	Population	# of Households	Waste collection	Recycling program	Landfill Situation
Large or Unaffiliated First Nations:					
Wkwemikong	3108	1147	curbside	Yes - depot	open
Temagami	250	90	transfer station	No	closed
Shawanaga	193	70	curbside	Yes - curbside	closed
Wasauksing	379	170	landfill	Yes - depot	closing

3.2 Garbage Collection and Disposal

The majority of communities (17 of 21) provide curbside garbage collection with most providing weekly garbage collection. A handful of communities (2) provide twice weekly collection and one provides twice-weekly collection in the summer. The community of Sagamok has imposed a two bag limit on curbside set out and will be introducing a bag/tag (PAYT) system to enable residents to place additional bags of garbage for collection, if needed. Four communities charge residents an annual waste management fee ranging from \$52 /yr per household in M'Chigeeng to \$144 /yr per household in Whitefish River.

While many of the communities provide garbage collection service to commercial establishments located within the reserve, few charge for the service. Within the community of M'Chigeeng, the private contractor charges \$2.50 per bag of garbage collected among its commercial customers and Sagamok and Wkwemikong charge an annual flat fee.

More than half (11 of 21) of the participating communities have open landfills on their reserve of which two are slated to close within the next year. The remaining 9 communities have closed their landfill and must transfer their garbage to a neighbouring landfill. Many of these communities are facing increasing tipping fees at the landfill, which must be paid through general funds or residential fees.

	Frequency of Collection	Who provides Collection	Charge for Garbage	Collection Provided to commercial	Landfill Status Years Remaining	Alternate Disposal Site
Waabnoong Bemjiwang Association of First Nations						
Dokis	none self-haul	N/A	no	no self-haul	open unknown	N/A
Henvey Inlet	twice weekly	Private contractor	no	yes	closed	Key River Killarney
Magnetawan	2x in summer, once in winter	Private contractor	no	yes	closed	Bying Inlet
Wahnapiatae	weekly	Sustainable Development	no	yes	open 15 years	N/A
Nipissing	weekly	Public works	no	yes	open many	N/A

Sudbury Area First Nations Recycling Program Implementation Evaluation

	Frequency of Collection	Who provides Collection	Charge for Garbage	Collection Provided to commercial	Landfill Status Years Remaining	Alternate Disposal Site
United Chiefs and Councils of Manitoulin:						
M'Chigeeng_	weekly	Private contractor	\$52/yr garbage & recycling	Yes \$2.50 per bag garbage	closed	Espanola
Aundeck Omni-Kaning	weekly	Public works	no	yes	open < 6 months	N/A
Sheguiandah	weekly	Public works	no	unknown	closed	Nemii Township
Sheshegwaning	weekly	Public works	no	yes	open 20 years	N/A
Whitefish River	weekly	Public works	\$12/mth	no	open unknown	N/A
North Shore Tribal Council:						
Atikameksheng Anishnawbek	weekly	Public works	no	yes	open < 1 year	N/A
Sagamok Anishnawbek	weekly	Private contractor	Working on PAYT	Yes Monthly fee	open 25 years	N/A
Serpent River	weekly	Public works	\$85/yr	no – private collection	closed	Banish
Mississauga	weekly	Public works	no	no	closed	Blind River
Thessalon	none self-haul	N/A	no	no	open 5 years	N/A
Garden River	weekly	Private contractor	no	unknown	open unknown	N/A
Batchewana	weekly	Private contractor	no	unknown	closed	unknown
Large or Unaffiliated First Nations:						
Wikwemikong	twice weekly	Private contractor	~\$56/yr	Yes ~\$56/yr	open unknown	N/A
Temagami	none self-haul	N/A	no	N/A	closed	Municipality Temagami
Shawanaga	twice weekly	Private contractor	no	yes	closed	Archipelago landfill
Wasauksing	none self-haul	N/A	no	no	closing 2012 -being replaced	N/A

3.3 Recycling Programs

Slightly over half of the communities (11 of 21) provide recycling services to residents and commercial establishments. Six of the communities use a centralized depot system, which require band members to bring their recyclables to a centralized location. The remaining five communities provide property line collection in which the recyclables are placed at the edge of the property on a designated day and collected. With one exception, all communities use local private contractors to collect and transport the recyclables directly to the MRF or to a neighbouring community’s recycling bins. See the table below for further information.

The number of streams that residents are asked to separate their materials depends on the requirements of the material recycling facility (MRF), ranging from single stream (Sudbury MRF) to multi-streams (Blind River MRF).

Two communities (Sheguiandah and Shawanaga) have partnered with neighbouring communities to use their recycling depots to divert their recyclable materials.

Slightly over half of the communities submit annual Municipal Datacall information to Waste Diversion Ontario (WDO) to receive funding back from industry.

Table 2: Recycling Program Characteristics

	Type of Recycling Program	# of Streams	Collection Frequency	Who Provides Collection	Who provides Transport	MRF Destination	Submit Municipal Datacall
Wahnapiatae	curbside	1 stream	weekly	Sustainable Development	Sustainable Development	Sudbury	yes
M’Chigeeng_	curbside	1 stream	weekly	Private contractor	Private contractor	M’Chigeeng & Blind River	no
Sheguiandah	depot	4 streams	n.a.	n.a.	Private contractor	Take to neighbouring depot	no
Whitefish River	depot	5 streams	n.a.	n.a.	Private contractor	Blind River	no
Atikameksheng Anishnawbek	curbside	1 stream	weekly	Private contractor	Private contractor	Sudbury	yes
Sagamok Anishnawbek	depot	4 streams	n.a.	n.a.	Private contractor	Blind River	yes
Serpent River	depot	4 streams	n.a.	n.a.	Private contractor	Blind River	yes
Batchewana	curbside (Rankin)	2 streams	weekly	Private contractor	Private contractor	Sault Ste. Marie	yes
Wikwemikong	depot	5 streams	n.a.	n.a.	Private contractor	Sudbury	yes
Shawanaga	curbside	2 streams	weekly	Private contractor	Private contractor	Take to neighbouring	no

	Type of Recycling Program	# of Streams	Collection Frequency	Who Provides Collection	Who provides Transport	MRF Destination	Submit Municipal Datacall
						depot	
Wasauksing	depot	2 stream	n.a	n.a	Private contractor	Bracebridge	no

3.4 Material Recycling Facilities in Area

Within the study area, there are a number of small, medium and large materials recycling facilities (MRFs) available to process recyclable materials. Each of the MRFs is profiled below.

Public Sector Material Recycling Facilities

Location	Owner	# of Streams	Processing Fee
Sturgeon Falls *	West Nipissing, Municipal Environmental Services	Multi-stream	See description below
Sudbury	Greater Sudbury, City of	Single stream	~\$90-100/tonne see description below
Strong*	Township of Strong	Multi-stream	To be determined

* small processing facility with limited processing capabilities

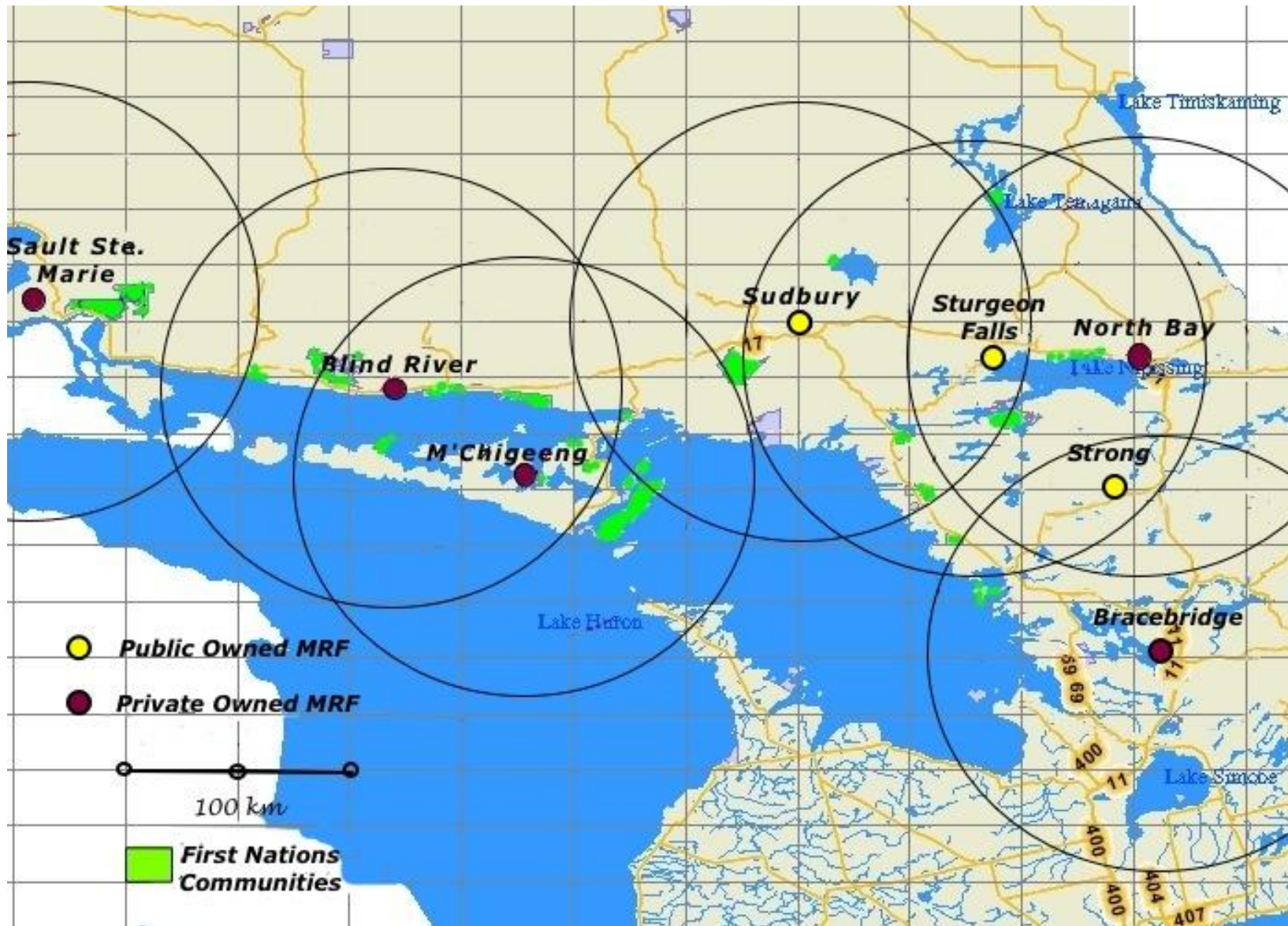
Private Sector Material Recycling Facilities

Location	Owner	# of Streams	Processing Fee
Blind River	Municipal Waste and Recycling Consultants	Multi-stream	See description below
Sault Ste. Marie	Green Circle Environmental	2 stream	\$100/tonne see description below
Bracebridge	Progressive Waste (formally BFI)	2 stream	See description below
North Bay	R&D Recycling	2 stream	\$75/tonne see description below
M'Chigeeng *	Corbiere Enterprises	2 stream	To be determined

* small processing facility with limited processing capabilities

Fortunately, many of the participating First Nations communities have relatively close access to various material recycling facilities (MRFs) in the area. In an Ontario northern setting, having a community situated less than 100 km from a recycling facility is considered a benefit. Figure 2, shows the communities within a 100 km radius from the MRFs. Many of the participating communities have access to two MRFs within a 100 km radius.

Figure 2: Location of Material Recycling Facilities in the Area



**Sudbury MRF, Sudbury
(full processing capabilities)**

Sudbury materials recycling facility (MRF) commenced operations in 1991. Owned by the City of Sudbury, the Sudbury MRF is operated by Canada Fibres Ltd through a contract ending 2016. In April 2006, the MRF was converted to single stream operations. Not only is the Sudbury MRF the largest MRF in Northern Ontario, it remains the first and only single stream facility in Northern Ontario. The MRF has a 199 tonne capacity per day limit and processed 20,000 tonnes in 2010.

Features:

- Number of Material Streams - single
- Weigh Scale – yes
- Capacity – yes
- Bag Breaking capability - no
- Processing Fee – The City Charges the contractor tipping fee + \$10/tonne administration fee. The current processing fee is around \$90 - \$100/tonne – depends on the contract
- Contract Requirements – Interested party must send a letter to the City of Sudbury on First Nation letterhead to receive a package of information about setting up a processing contract with the City. The City will establish an agreement directly with the First Nation community, after being accepted and signed by the Band Council.

Contact:

The Sudbury Call Centre
Tel: 705 671-2489



Photos from Canada Fibres website at <http://www.canadafibresltd.com/sudbury.aspx>

**Green Circle Environmental MRF, Sault Ste. Marie
(full processing capabilities)**

Green Circle Environmental is a privately owned and operated company that provides a wide range of services including: industrial and commercial collection, residential recycling collection and processing, Material Recovery Facility (MRF - Blue Box Materials), transfer station and other special services.

The material recycling facility, located in Sault Ste. Marie is owned and operated by Green Circle Environmental. The MRF processes the two streams (fibres and containers). The materials must be sorted into the two streams and arrive loose (not in bags). The MRF has a daily processing limit of 300 tonnes per day. Green Circle keeps 100% of the revenue.

Features:

- Number of Material Streams – two stream
- Weigh Scale – yes
- Capacity – yes
- Bag Breaking capability - no
- Processing Fee – The processing fee is \$100/tonne. Green Circle also rents 40 cubic yard bins for \$200/month per bin and will collect, transport and process the bin on an on-call basis for \$100/lift. Contamination residue during processing will be charged back at \$150/tonne.
- Contract Requirements – Interested party must contact Green Circle to discuss contract arrangements.

Contact:

Bill Osborne, Sales Manager
Telephone: 705-945-7554
Email: Greencircle.bosborne@shawnbiz.ca



Photos: Inside the Green Circle MRF

**Progressive Waste Solutions (BFI Canada) MRF, Bracebridge
(full processing capabilities)**

The Bracebridge material recycling facility is owned and operated by Progressive Waste Solution (formally BFI). The MRF handles two streams of recyclables – containers and fibres. The MRF services a large land area including all of the District of Muskoka, the Parry Sound Area, Georgian Bay area, Haliburton District, Haliburton District and the Almaguin Highlands. The MRF can handle up to 875 tonnes per day (including transfer and MRF). Processed 26,000 tonnes per year at MRF.

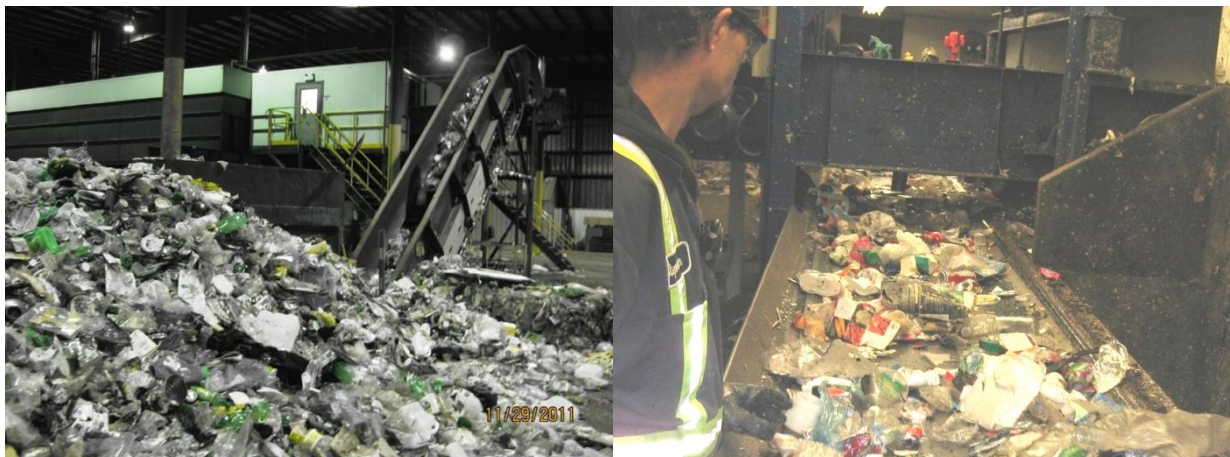
Features:

- Number of Material Streams – two stream
- Weigh Scale – yes
- Capacity – yes
- Bag Breaking capability – yes
- Processing Fee – PWS will rent 36 cubic yard roll off containers – one for each stream (2 in total) for \$100-\$150 per month each and will collect the bins on an on-call basis. Transport cost for one bin is approximately minimum haul \$500 per bin or for both bins is approximately minimum \$700. The extent to which the transport costs include the processing costs depends on the quality of the two streams. The first processing fee is waived in order to determine the quality of the material. If the fibre stream contains minimal (<5%) contamination and enough OCC then there will be no processing fee charged. If the container stream contains minimal (<5%) contamination and enough HDPE and aluminum containers then there will be no processing fee charged.
- The MRF manager recommends keeping the recycling program basic to start by collecting only ONP, OCC, paper, OBB, HDEP, PET alum and steel cans with glass optional
- Contract Requirements – contact the Manager to take a tour and discuss contract PWS prefers a 1-3 year contract

Contact:

Paul Wills, Division Manager

Tel: 705-645-4453 ext. 5671 Email: pwills@wsii.ca



**Municipal Waste and Recycling Consultants MRF, Blind River
(full processing capabilities)**

Owned and operated by the private sector company, Municipal Waste and Recycling Consultants, the Blind River MRF. The company currently provides recycling services for 23 municipalities, 4 First Nations and 3 industrial plants. The program requires that residents sort their recyclables into four streams – paper, cardboard/boxboard, containers, and glass in order to expedite sorting at the MRF.

Features:

- Number of Material Streams – multi stream
- Weigh Scale – yes
- Capacity – yes
- Bag Breaking capability - yes
- Processing Fee – The company has not established a tipping fee as it has always collected, transported and processed the recyclable materials as a set fee. Typically the company will set up bins (1-2 for OCC/OBB, 1-2 for commingled containers, 1 for glass and one for paper) and charge a monthly fee ranging from \$650 to \$1,500 (depending on transport distance) to collect each bin on a regular basis and process the materials
- Contract Requirements – contact to discuss

Contact:

Wayne St. Michele

Tel: 705-356-4118

Email: blindriver@bell.net



Photos: Inside
the Blind River
MRF

**West Nipissing Environmental Management Services MRF, Sturgeon Falls
(limited processing capabilities)**

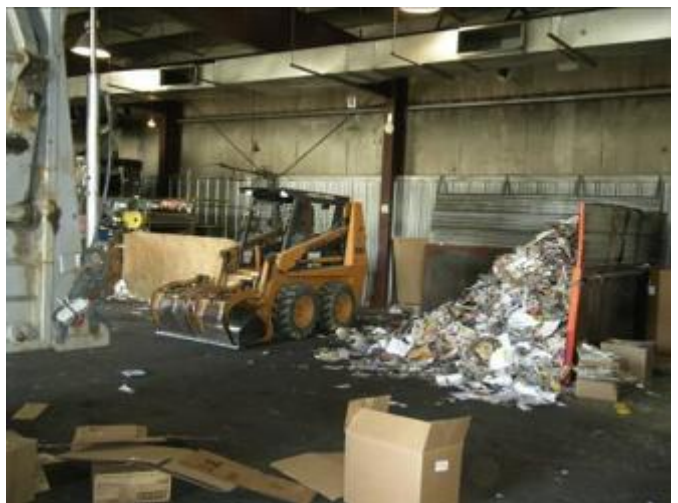
The Sturgeon Fall MRF is a small municipally owned and operated facility located at the waste disposal site in Sturgeon Falls. The MRF operates as both a point of transfer for the comingled containers and as a processing operation for the fibre material. Containers are sent to a private MRF in North Bay for processing. The two full time staff and one part time staff sorting fibre materials, baling fibre, loading trucks and trailers. The Municipality receives 100% revenue for the sale of all processed fibre material.

Features

- Number of Material Streams – two streams
- Weigh Scale – no
- Capacity – yes
- Bag Breaking capability - no
- Processing Fee – As with many of the smaller MRFs, this organization has not established a tipping fee. It currently has a complicated arrangement with the private MRF to process the co-mingled containers and has never established a processing fee to process mixed fibres at its own facility. Staff are eager to help and have established a good working relationship with Nipissing FN communities to help process their recyclables collected during the summer.
- Contract Requirements – contact to discuss

Contact:

Denis Lafrenière, Solid Waste Manager
705 753-2250 ext. 6913



Photos from Recycling Program & Facilities Evaluation CIF 230, August 2010

**R&D Recycling, North Bay
(full processing capabilities)**

R&D Recycling is a privately owned and operated material recycling facility located in North Bay. With several commercial and ten municipal clients, the facility provides two stream recycling processing services. The company experienced a recent set back when it's MRF burned to the ground in February of 2012. The owner has broken ground for a new MRF, which is scheduled to open in June of 2012. In the meantime, processing continues at a rented location.

Features

- Number of Material Streams – two streams
- Weigh Scale – yes
- Capacity – yes
- Bag Breaking capability - no
- Processing Fee – The processing fee is \$75/tonne. In addition, R&D will rent 40 cubic yard sea containers for each material stream (fibres and containers) for \$250/month each. After five years, the community owns the container. R&D will collect, transfer and process the materials on an on call basis between \$350 - \$550 per lift, depending on location.
- Contract Requirements – contact to discuss

Contact:

Jean-Luc Labonte, President
705 498-8513

**Corbiere Enterprises MRF, M'Chigeeng FN
(limited processing capabilities)**

Courbiere Enterprises is located within the M'Chigeeng FN territory and operates a small facility that has limited recycling processing capability. The facility was opened in response to a landfill closure predicament facing the M'Chigeeng FN communities in 2009. The company provides curbside recycling collection services to the M'Chigeeng community and using a down stroke baler processes the cardboard and aluminum cans. In the future, the company president hopes to expand its processing capabilities to include steel cans and mixed plastics. The remaining material is sent to the Blind River MRF (owned by Municipal Waste Management Consultants) for processing.

Features

- Number of Material Streams – two or single stream
- Weigh Scale – no
- Capacity – yes
- Bag Breaking capability - yes
- Processing Fee – As with many of the smaller MRFs, this organization has not established a tipping fee.
- Contract Requirements – contact to discuss

Contact:

Rodney Corbiere, Corbiere Enterprises
Tel: 705 377-5824



Photos: Corbiere Enterprises

**Strong MRF, Township of Strong
(limited processing capabilities)**

The Township of Strong, population 1,300, decided to invest in equipment enabling it to process the recyclables collected through a depot system at its local landfill. After applying for several grants, the Township received funding covering 2/3rds the capital cost of the facility and equipment including:

- A covered building (Cover-all) 65 x 110 ft long
- A baler which can be used on a wide range of recyclables including cardboard (OCC)/boxboard (OBB), aluminum cans, steel cans, newsprint (ONP)/mixed household paper, HDPE plastic bottles and PETE plastic bottles. The Township retains a company to arrange pick up, transportation and marketing of the baled materials.

The back of the building has two side entrances, which enable residents to drive through the building, deposit their recyclables into one of three bins (cardboard (OCC)/boxboard (OBB), plastics/cans, and newsprint (ONP)/mixed household paper) and drive out. The Township has hired attendants that help the people sort the material. By overseeing the sorting of the recyclable materials into designated bins, the Township ensures good quality of streams with minimal contamination. Last year the Township made \$29,000 in revenue.

Features:

- Number of Material Streams – multi- streams
- Weigh Scale – no
- Capacity – yes
- Bag Breaking capability - no
- Processing Fee –The Township has never needed to establish a tipping fee and would need to determine what it would be
- Contract Requirements – Interested communities need to make a presentation to the Strong Township Council and provide an estimate of quantities of recyclables that would be delivered for processing

Contacts:

Linda Maurer, Clerk/Treasurer Township of Strong
Tel: 705 384-5819
Email: clerk@strongtownship.com



Photos: Inside the Strong Township Processing Facility

4 Waste Generation and Set Out Information

An important element of developing and operating a waste management and waste diversion program involves properly understanding the community's waste stream composition and generation rates. Access to this information helps in the design of waste diversion and education programs and policies that effectively meet the needs and characteristics of the community.

The most effective way to gain insight into the community's waste stream requires the execution of a waste set out evaluation and a waste audit.

Set Out Evaluation - The set out evaluation provides information on the volume of garbage, recyclables and other materials placed at the curb for collection and disposal by the average household. The approach is simple, requiring a person to record the number of bags and/or containers set out at the curb for collection by each participating household and the fullness of each. The information is then converted to an average number of full bags of garbage and/or

recyclables or other materials set out per household on a weekly basis. The set out evaluation provides useful baseline information from which to evaluate the success of waste diversion policies and programs.

Waste Audits – A waste audit involves collecting a sample of the residential waste and recyclables set out for collection and sorting the materials into designated materials categories. The results of the sort provide information about the generation and composition of the average household waste stream. The key components of a waste audit involve:

- Planning the waste audit;
- Selecting the number of households to participate in the waste audit and ensuring that they are representative of the socio-economic make-up of the community;
- Collecting the material from the selected households on the scheduled collection day;
- Providing communications to the selected households prior to the waste audit;
- Sorting and weighing the collection materials and ensuring appropriate safety equipment and measures are followed; and
- Accurately recording, evaluating and reporting the results.

4.1 M'Chigeeng and Whitefish River FN Waste Audits

To date, very little effort has been made to understand the generation and composition of the Ontario's First Nation's waste stream. To remedy this information void, a basic waste audit was conducted in two First Nation communities in February 2012.

The waste audit consulting company, AET, was retained to conduct a waste audit and set out evaluation in the First Nations communities of M'Chigeeng and Whitefish River. The characteristics of the waste audit were as follows:

- Two basic waste audits to be conducted at the end of February in the communities of:
 - Whitefish River (population: 351) - curbside collection of garbage but no curbside collection of recyclables (depot collection)
 - M'Chigeeng (population: 994) - curbside collection of garbage and recyclables
- Waste audits and set out evaluation conducted on one week's worth of garbage and recyclables (where applicable) for 30 households in each community
- Materials sorted, weighed and recorded into 18 categories (see below)

<p>1. PAPER</p> <ul style="list-style-type: none"> 1) Recyclable Paper (e.g. household paper, envelopes, newspaper) 2) Recyclable Paper (Fibre) Containers (e.g. boxboard) 3) OCC (Corrugated Cardboard) 4) Non-Recyclable Paper (e.g. wax coated cardboard, ice cream containers, tetrapak containers) <p>2. PLASTICS</p> <ul style="list-style-type: none"> 5) PET and HDPE Bottles (e.g. pop bottles, water bottles, detergent bottles) 6) Other Recyclable Plastic (e.g. tubs and lids) 7) Recyclable Films (e.g. plastic bags) 8) Other Non-Recyclable Plastic (e.g. polystyrene, mixed plastics) <p>3. METALS</p> <ul style="list-style-type: none"> 9) Recyclable Aluminum and Steel Containers (e.g. pop cans, food cans) 10) Other Non-Recyclable Metal (e.g. coat hangers, non-food cans) 	<p>4. GLASS</p> <ul style="list-style-type: none"> 11) Recyclable Glass Bottles & Jars (e.g. food jars, glass drink bottles) 12) Other Non-Recyclable Glass (e.g. light bulbs, drinking glasses, glass panes) <p>5. HAZARDOUS WASTE</p> <ul style="list-style-type: none"> 13) HSW (e.g. paints, antifreeze, batteries, cleaners, solvents, pharmaceuticals) <p>6. ORGANICS</p> <ul style="list-style-type: none"> 14) Food Waste <p>7. OTHER MATERIALS</p> <ul style="list-style-type: none"> 15) Construction & Renovation (e.g. drywall, wood waste, bricks, shingles) 16) Electronics & Electrical (e.g. televisions, cell phones, computers, printers, tools) 17) Diapers 18) Other Waste (e.g. pet waste, sanitary waste, tissues and napkins, toys, etc.)
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4.2 Waste Set Out Results

The set out survey conducted as part of the waste audits recorded the participation rate of the sampled households in each community, the number of garbage bags placed out for collection and their fullness and the number of blue boxes placed out for recycling and their fullness (in the case of M'Chigeeng).

While almost all households in both First Nation communities set out garbage for garbage collection, achieving almost 100% participation rate, only 37% of households in M'Chigeeng set out blue boxes for recycling, achieving 37% participation rate in recycling. Among those households with blue box set outs, the average household placed out 1.5 boxes.

On average, the participating households in both communities set out almost 2.5 bags of garbage (M'Chigeeng averaged 2.47 set outs and Whitefish River averaged 2.4 set outs) of which about two thirds of the bags were recorded as full.

The results of the set out survey for both communities are provided in the table below as presented in the Waste Audit Report prepared for OFNTSC by AET (April 2012).

Total Sample Period	M'Chigeeng		Whitefish River
	Recycling	Garbage	Garbage
Total weight of material collected and audited (kg)	32.62	316.15	318.92
Total number of households sampled	30	30	30
Total number of households with a set-out	11.00	27.00	30.00
Participation Rate	36.67%	90.00%	100.00%
Total number of items set out	16	74	72
Average number of items/household	0.53	2.47	2.40
Total number of full bag/box/cart equivalents	16.25	62.75	68.00
Average number of full container equivalents/household	0.54	2.09	2.27
Average number of full container equivalents/set-out	1.48	2.32	2.27
Average weight of material/hh/wk (kg)	1.09	10.54	10.63

Waste Set Out in Dokis First Nation

Dokis First Nation also conducted a set out study to determine the amount of garbage taken for disposal every week from May 2011 to September 2011. Since the community increases in population during the summer time with seasonal cottagers and visitors, only the set out information from May to the beginning of July was used to determine weekly disposal rates among the community's permanent households. On average, households generated 3.5 bags of garbage during the period from May to the beginning of July.

The discrepancy between the Dokis set out survey and the waste audit set out survey may be explained by the fact that Dokis staff did not record the fullness of the garbage bags. Residents in Dokis may be placing more semi-full garbage bags to the curb for collection than the other two communities. More likely, however, Dokis does not have a recycling program in place and this is accounting for the extra one bag of garbage set out, which is full of potential recyclables.

4.3 Waste Audit Results

Whitefish River FN Waste Audit Results

Due to unforeseen complications, only the garbage stream was collected in Whitefish River and consequently, only the waste audit was conducted on the garbage stream. No information was collected on the recycling stream deposited at the recycling depot. It is assumed from comparison to M'Chigeeng's waste audit results that Whitefish River residents are participating in their recycling program, to a similar extent.

The waste audit conducted on the garbage stream resulted in 553 kg per household per year of garbage generated, of which 20% comprised of potentially recyclable materials.

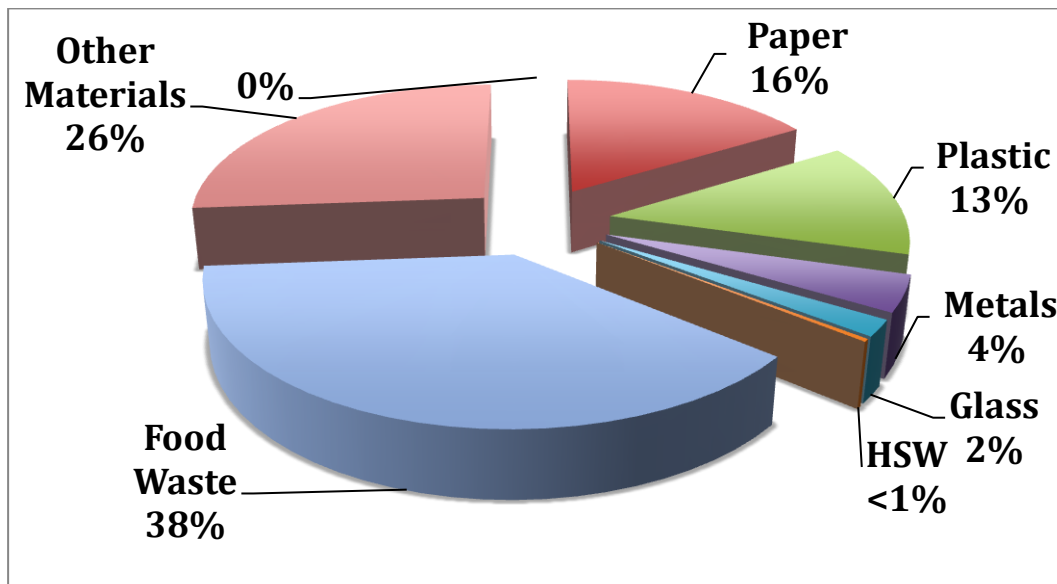
The results for the garbage stream are comparable to those of the M'Chigeeng waste audit. Since a thorough waste audit was completed on M'Chigeeng's garbage and recycling stream, this

study will use the M'Chigeeng waste audit information to extrapolate to the other first nation participating communities.

M'Chigeeng FN Waste Audit Results

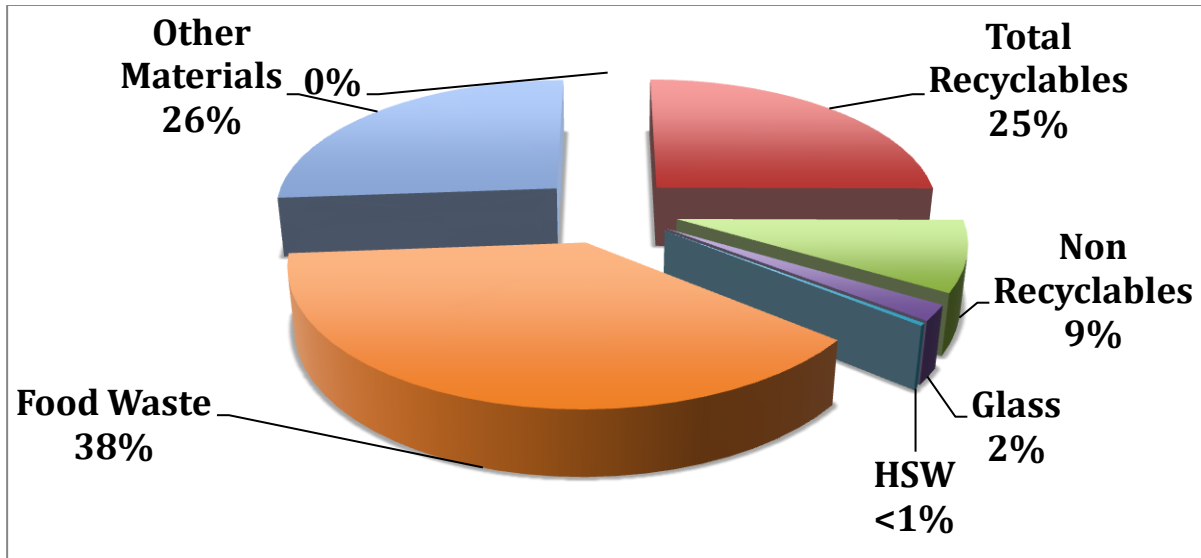
A successful waste audit was completed on the garbage and recyclables collected from one week's worth of material collected from 30 households in the M'Chigeeng community. The waste audit resulted in a total generation rate of 605 kg per household per year. The average household generates 548 kg/hhld/year of garbage and diverts 57 kg/hhld/year of recyclables. See Figure 3 for a breakdown of the total waste stream.

Figure 3: M'Chigeeng Total Waste Stream Composition



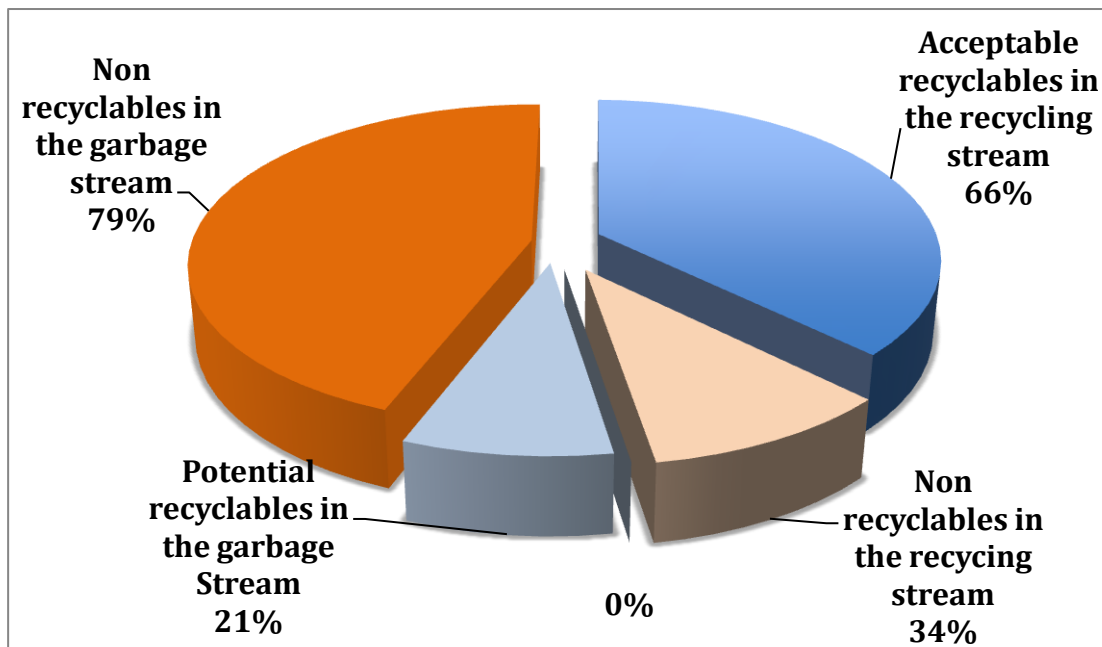
Within the total waste stream, 25% of the materials are considered recyclable as shown in Figure 4 (although glass containers can be recycled, there is currently no market for the material; and therefore, is not treated as a potentially recyclable material in this study).

Figure 4: Potentially Recyclable Materials in the Waste Stream



Not all potentially recyclables materials, however, are being recycled. The waste audit showed that garbage stream consisted of 21% potential recyclable materials and the recycling stream consisted of 33% non-recyclable materials (also called contaminants). See Figure 5.

Figure 5: Contamination in the Garbage and Recycling Streams



The complete waste audit results are provided in Table 3.

Table 3: M'Chigeeng Waste Audit Results

Material Category	Acceptable: Recyclable=R	Garbage	Recycling	Total Waste Generation	
		kg/hhld/yr	kg/hhld/yr	kg/hhld/yr	% composition
1. PAPER					
1 Recyclable Paper	R	56.40	17.92	74.33	12.3%
2 Recyclable Paper (Fibre) Containers	R	4.99	0.47	5.46	0.9%
3 OCC (Corrugated Cardboard)	R	4.84	3.88	8.72	1.4%
4 Non-Recyclable Paper		9.38	0.47	9.85	1.6%
Total Recyclable Paper		66.23	22.27	88.50	14.6%
Total Non-Recyclable Paper		9.38	0.47	9.85	1.6%
Total Paper		75.61	22.74	98.35	16.3%
2. PLASTICS					
1 PET and HDPE Bottles	R	10.09	5.34	15.43	2.6%
2 Other Recyclable Plastic	R	9.00	1.14	10.14	1.7%
3 Recyclable Films	R	12.62	3.43	16.05	2.7%
4 Other Non-Recyclable Plastic		33.68	4.11	37.79	6.3%
Total Recyclable Plastics		31.70	9.91	41.62	6.9%
Total Non-Recyclable Plastics		33.68	4.11	37.79	6.3%
Total Plastics		65.38	14.02	79.40	13.1%
3. METALS					
1 Recyclable Aluminum and Steel Containers	R	17.96	3.59	21.55	3.6%
2 Other Non-Recyclable Metal		3.40	0.24	3.64	0.6%
Total Recyclable Metals		17.96	3.59	21.55	3.6%
Total Non Recyclable Metals		3.40	0.24	3.64	0.6%
Total Metals		21.35	3.83	25.19	4.2%
4. GLASS					
1 Recyclable Glass Bottles & Jars	R	8.55	1.30	9.85	1.6%
2 Other Non-Recyclable Glass		1.59	0.00	1.59	0.3%
Total Recyclable Glass		8.55	1.30	9.85	1.6%
Total Non Recyclable Glass		1.59	0.00	1.59	0.3%
Total Glass		10.14	1.30	11.44	1.9%
5. HAZARDOUS WASTE					
1 HSW		0.78	1.14	1.92	0.3%
Total HSW		0.78	1.14	1.92	0.3%
6. ORGANICS					
1 Food Waste		221.81	8.11	229.93	38.0%
Total Organics		221.81	8.11	229.93	38.0%
7. OTHER MATERIALS					
1 Construction & Renovation		1.96	0.00	1.96	0.3%
2 Other Electronics & Electrical		2.63	0.36	3.00	0.5%
3 Diapers		33.28	0.00	33.28	5.5%
4 Other Waste		115.04	5.03	120.07	19.9%
Total Other Materials		152.91	5.39	158.31	26.2%
Total All materials		547.99	56.54	604.53	100.0%

5 Recycling Realities and Opportunities

5.1 Why Recycling Matters

Recycling programs have become an important feature of a community's sustainability planning process by helping to reduce the community's environmental footprint and promote social benefits. Recycling saves trees, protects habitat, helps reduce greenhouse gases, reduces the need for landfills, and curbs pollution. The average homeowner can reduce garbage by as much as 30 or 40 per cent by recycling.

Furthermore, the US Institute for Local Self Reliance has estimated that for every 10,000 tonnes of waste material handled, landfilling generates 1 job where as recycling generates 10 recycling related jobs.¹

Recycling also makes environmental and economic sense especially when looking at it from four key elements: (1) upstream subsidies for virgin resource extractive industries, (2) downstream subsidies for landfills and incinerators, (3) the true long-term societal and environmental costs of resource extraction and (4) the local economic benefits of reuse and recycling.

5.2 Recycling Misperceptions

Nothing in life is free – except smiles – including recycling. Recycling costs money. This is often the first misperception that needs to be resolved before establishing a recycling program because many residents believe that recycling makes a community a lot of money and, therefore, a recycling program should be free. Those involved in setting up and maintaining a recycling program know that it can be a costly venture if not managed in a cost effective manner. At the same time, however, recycling should be less expensive than a garbage collection and disposal program, if all the true capital and operating costs (long term maintenance, monitoring, and siting costs) associated with a landfill or disposal system are taken into account.

The community of Mississauga First Nations is currently facing the new realities of garbage disposal now that it has closed its landfill and must dispose its garbage at another municipality's landfill. Over the next three to five years, the community anticipates paying \$40 to \$50 per tonne tipping fee, with a projected annual cost of \$18,000 to \$22,000 (\$108-\$132/hhld/yr). These costs do not include collection, storage, and transportation costs. Other communities face similar tipping fee hikes, for example, over the year Temagami FN expects to pay \$10,000 (\$111/hhld/yr) in annual landfill fees and Henvey Inlet expects to pay \$4,000 annually (\$45/hhld/yr) in landfill fees.

¹ **The Economic Benefits of Recycling. 1993.** prepared by Brenda Platt and David Morris for the Institute for Local Self- Reliance (ILSR)

The other misperception is that a depot recycling program in which residents bring recyclables to a centralized collection point is cheaper to operate than a curbside or property line recycling program in which recyclables are collected in front of a resident’s property on a designated day. Depending on the management and schedule of the collection program, a property line (referred to as curbside) system can be as cost effective as a depot system and almost always ensures higher participation and capture rates. Tables 4, 5 and 6 illustrate this observation.

An evaluation of 16 communities with curbside recycling programs in the Sudbury area showed that the weighted average cost to provide curbside recycling collection was \$36/hhld based on 2010 according to the WDO datacall GAP results. On the other hand, an evaluation of 14 communities with depot recycling programs in the Sudbury area showed that the weighted average cost to provide recycling depot collection is \$73/hhld based on 2010 according to the WDO datacall GAP results.

The non-weighted recycling rates were similar for both curbside recycling programs and depot recycling programs. Due to a lack of available data, a weighted average could not be determined for the recycling rates. The non-weighted average is considered unreliable since it does not take into consideration the influence of the communities by their size and treats all communities as equal in size and diversion characteristics.

Table 4: Weighted Comparison of Rural Curbside vs Depot Costs and Recycling Rates

Curbside Collection

Program Name	Calculated Blue Box Tonnes Marketed	Residential Recycling Diverted kg/hhld	Residential Recyclables Diverted %	Net Cost Per Tonne	\$/hhld
Weighted Average				\$355.54	\$35.54
Non-weighted Average	180.15	101.37	21%	\$850.88	\$66.69

Depot Collection

Program Name	Calculated Blue Box Tonnes Marketed	Residential Recycling Diverted kg/hhld	Residential Recyclables Diverted %	Net Cost Per Tonne	\$/hhld
Weighted Average				\$949.46	\$72.91
Non-weighted Average	122.02	125.57	19%	\$979.03	\$83.71

Table 5: Datacall Results for Rural Curbside Recycling (16 communities)

Program Name	Calculated Blue Box Tonnes Marketed	Residential Recycling Diverted kg/hhld	Residential Recyclables Diverted %	Net Cost Per Tonne	\$/hhld
Rural Collection - North					
Wahnapiatae First Nation	3.38	84.40	15%	\$5,669.39	\$478.49
Baldwin, Township	16.44	46.70	10%	\$769.63	\$35.94
Blind River, Town	352.72	125.43	22%	\$130.36	\$16.35
Central Manitoulin, Township	271.37	174.85	28%	\$215.11	\$37.61
Espanola, Town	248.92	103.28	12%	\$253.23	\$26.15
Killarney, Municipality	34.59	37.07	31%	\$1,426.19	\$52.87
Magnetawan, Municipality	152.11	77.81	32%	\$488.82	\$38.03
Nairn & Hyman, Township	16.82	55.14	13%	\$741.81	\$40.91
Northeastern Manitoulin & Islands, Town	346.83	167.96	34%	\$334.85	\$56.24
Prince, Township	85.04	192.41	31%	\$522.76	\$100.58
Sables-Spanish Rivers, Township	127.20	73.15	13%	\$521.06	\$38.11
Sault North Waste Management Council	31.77	7.01	2%	\$1,051.02	\$7.37
Spanish, Town	59.79	142.02	27%	\$83.66	\$11.88
St.Charles, Municipality	57.08	61.91	13%	\$845.89	\$52.37
Tri-Neighbours	192.95	147.07	21%	\$173.44	\$25.51
West Nipissing, Municipality	885.37	125.67	22%	\$386.79	\$48.61
Non weighted Average	180.15	101.37	20.4%	\$850.88	\$66.69
Weighted Average				\$355.54	\$35.54

Table 6: Datacall Results for Rural Depot Recycling (14 communities)

Program Name	Calculated Blue Box Tonnes Marketed	Residential Recycling Diverted kg/hhld	Residential Recyclables Diverted %	Net Cost Per Tonne	\$/hhld
Rural Depot - North					
Sagamok Anishnawbek First Nation	64.14	175.73	8.55%	\$1,059.95	\$186.27
Serpent River First Nations	76.92	615.38	24.50%	\$357.75	\$220.15
Wikwemikong Unceded Indian Reserve	70.73	103.11	8.06%	\$651.60	\$67.18
Carling, Township	91.93	54.79	22.19%	\$1,798.58	\$98.54
Huron Shores, Municipality	125.26	93.62	27.38%	\$203.21	\$19.02
Johnson, Township	55.31	130.75	19.93%	\$136.61	\$17.86
Mcdougall, Municipality	139.16	75.71	17.33%	\$1,014.18	\$76.79
Mckellar, Township	55.87	36.59	10.38%	\$2,028.65	\$74.23
Seguin, Township	409.57	86.32	17.52%	\$493.86	\$42.63
St. Joseph, Township	83.39	87.87	18.44%	\$315.00	\$27.68
Strong, Township	163.11	149.64	25.65%	\$634.92	\$95.01
Tarbutt & Tarbutt Additional, Township	132.92	51.60	16.08%	\$231.31	\$11.94
The Archipelago, Township	163.06	49.85	34.07%	\$3,447.44	\$171.85
Whitestone, Municipality	76.89	47.05	15.96%	\$1,333.43	\$62.74
Non weighted Average	\$122.02	\$125.57	19.00%	\$979.03	\$83.71
Weighted Average				\$949.46	\$72.91

Some of the more cost-effective programs are profiled below with their programs and policies promoting waste diversion described throughout the report.

Community	# of households (including seasonal)	Recycling Diversion Kg/hhld	% diversion	\$/tonne	\$/hhld
Central Manitoulin, Township	1,552	174.85	28%	\$215.11	\$37.61
Town of Spanish	421	142.02	27%	\$83.66	\$11.88
Tri-R Neighbours (Burks Falls, Armour Township and Ryerson Township)	1,312	147.07	21%	\$173.44	\$25.51

5.3 Supporting Policies and Programs

Bi-weekly Recycling

A number of northern communities have chosen to provide bi-weekly recycling collection in order to save collection costs. The trade off is often a lower capture rate for the recyclables materials due to the additional storage space required to store the materials for an extra week. A blue bag system will help to overcome the lack of storage capacity of the blue boxes.

- **Municipality of Killarney** (population 454) – Located on the north shore of Georgian Bay, the town of Killarney offers bi-weekly curbside recycling to residents.
- **Municipality of West Nipissing** (population 13,400) – Located along the north shore of Lake Nipissing, the municipality which includes the Town of Sturgeon Falls, offers bi-weekly curbside recycling to residents.
- **Central Manitoulin Township** (population 1,944) – Located on Manitoulin Island the township offers bi-weekly recycling curbside collection to all permanent and seasonal residents year round.
- **Town of Spanish (population 740)** - The Town of Spanish has contracted Municipal Waste and Recycling Consultants of Blind River to provide weekly curbside recycling collection. Recycling collection is on a by-weekly basis.

Bi-weekly Garbage Collection (in the Winter)

A number of communities provide bi-weekly garbage collection service during the winter months, switching to weekly garbage collection in the summer months, as a means of saving money and allowing collection staff to alternate the garbage collection and recycling collection.

- **Temiskaming Shores Township** (population 10,600) - Located in the Temiskaming District, this community provides curbside garbage collection on a varied schedule. During the summer months garbage collection is weekly with a two (2) bag residential limit; during the winter season (first week of December to the last week of March) collection is bi-weekly with a four (4) bag residential limit. The City also provides a depot style recycling program.
- **Town of Mattawa** (population 2,100) - The Town of Mattawa is situated on the northern part of the Ottawa River, about 100 km east of North Bay. This small rural community bi-weekly garbage collection services in the winter (from November to May) and weekly garbage collection services in the summer. Curbside recycling is provided on a bi-weekly basis all year.

- **The Township of Laurentian Valley** (population 9,000) - Situated in the Ottawa Valley area (near the communities of Pembroke and Petawawa), the township offers a wide range of waste diversion services including garbage, recycling and green bin collection. The Township alternates bi-weekly curbside garbage collection and recycling services all year round. Beginning in April 2009, the Township introduced a three bag limit on the amount of garbage that could be set out at the curb on collection day.

Mandatory Recycling By-Laws

In order to make recycling a mandatory requirement, a community must first establish a waste management by-law that deals with the basic garbage and recycling responsibilities of residents, commercial establishments and contractors. As part of the waste management by-law a community can tackle the issue of mandatory participation in the community's recycling program.

There are a number of ways to promote recycling. Many communities have mandatory recycling by-laws and, if necessary, supporting the by-laws with fines for non-compliance. The key to mandatory recycling is the communication of the by-law requirement to all residents and enforcement of the by-law.² Residents need to be given plenty of warning that they are in contravention of the by-law by providing them with notices that they are not participating.

Observations by Killarney collection staff highlight the importance of recycling to reduce garbage. According to staff, those residents that participate in the recycling program on a regular basis generate on average 1-2 bags of garbage per week; however, those residents that do not participate in the recycling program generate on average 3-5 bags of garbage per week.³

A number of communities have taken the following approach:

- **Township of Minden Hills** (population 6,000)- The Council of the Township of Minden Hills passed a Mandatory Recycling By-law in August 2007, which was deemed necessary to ensure the longevity of the present landfill site and to encourage all users to separate recycled material prior to arriving at any of the Municipal sites.
- **Central Manitoulin Township** (population 1,944) – Located on Manitoulin Island the township has adopted a waste and recycling by-law (no 2001-21) that makes recycling mandatory. The by-law states, "The segregation of recyclable items shall be mandatory. Waste that is not properly segregated will not be collected."

² Enforcement relies on the collection crew noticing recyclables in the garbage and leaving the bag(s) at the curb with a tag attached that notifies the resident about the mandatory recycling by-law and the reason for rejecting the bag(s) of garbage.

³ Reported in Recycling Program Review Municipality of Killarney. CIF # 225. July 2010.

Clear Bags

Implementing a clear bag garbage program means that residential garbage is no longer collected in solid black or green bags. All garbage has to be placed in clear, transparent or translucent bags when set out at the curb for collection. For privacy issues, most communities allow residents to use one smaller opaque bag (e.g. grocery bag) placed in the clear bag for personal waste.

The benefit associated with clear bags for garbage is that garbage collectors can leave the bags behind if they contain visible recyclable material. The clear bag program works best if it is supported by a by-law banning recyclables in the garbage stream.

Over the past five years, clear bag programs have become increasingly popular with smaller Ontario communities, but none compares with Nova Scotia, which has embraced clear bag programs. Over 22 municipalities in Nova Scotia have adopted a clear bag system. The clear bag program is attributed to increasing waste diversion between 20 to 40% on average in the participating municipalities.

- **Central Manitoulin Township** (population 1,944) – Located on Manitoulin Island the township requires that household and commercial garbage, collected by the township, must be placed in clear or translucent garbage bags. A smaller opaque bag such as a grocery bag or kitchen catcher may be placed in the clear bag for personal items. The township decided to adopt the use of clear garbage bags in order to increase recycling rates by rejecting any garbage bag containing recyclables in it.
- **Town of Mattawa (population 2,100)**- The Town of Mattawa is situated on the northern part of the Ottawa River, about 100 km east of North Bay. Garbage is only collected in clear bags and there is a weekly two bag limit on garbage.
- **Wahnipitae First Nation (population 102)** – Located 50 km of Sudbury, the community of Wahnipitae has been actively promoting waste diversion and plans to introduce a clear bag program by 2015.

Bag Limits

A community may choose to limit the number of garbage bags that may be placed at the curb or property line for collection as a way to increase participation in a recycling program and as a way to make the householder more conscious of the amount and type of waste they generate on a weekly basis and encourage them to become more personally responsible for their generation of waste.

Communities that establish a bag limit program at four or more bags rarely experience a noticeable reduction in waste sent to landfill or an increase in materials diverted through recycling or composting programs. The key is to set the limit below the average set out in order

to encourage residents to re-think their waste generation and disposal habits or to participate to a greater extent in waste diversion activities. For example, if the average householders sets out four bags of garbage then a community could set the bag limit at 3 bags or lower. To reduce potential backlash, a community may choose to phase in the bag limit reductions, starting with a three bag limit and over time reducing it to two bags and so forth.

Bag limits are introduced as a precursor to a PAYT program, because they enable the residents to make a gradual transition from having no limits on waste generation to eventually paying for their waste. Most communities introduce PAYT programs when setting bag limits.

- **Sagamok Anishnawbek First Nation** (population 1,479) – The community has imposed a two bag limit on residents allowing two bags of garbage to be set out for weekly collection. Sagamok is in the process of developing a PAYT system, which will enable residents to buy tags for extra garbage (see PAYT description below), which it hopes to implement this spring.
- **Temiskaming Shores** (population 10,600) – Located in the Temiskaming District, this community provides curbside garbage collection on a varied schedule. During the summer months garbage collection is weekly with a two (2) bag residential limit; during the winter season (first week of December to the last week of March) collection is bi-weekly with a four (4) bag residential limit. The City also provides a depot recycling program.

To augment the bag limit, in the past, the community has provided a Spring Clean Up program occurring at the end of the May long weekend in which residents were permitted to additional garbage at the curb for collection. The program has been replaced this year with a new amnesty program, which permits residents to take excess garbage to the local landfill for one designated week in May, July and October.

Pay-as-you-Throw (PAYT)

Pay-as-you-Throw (PAYT) programs require generators of garbage to pay for each garbage set out beyond a designated number of “free” set outs. A partial PAYT program permits one or more bags of garbage to be placed for collection and anything above the limit requires the generator to purchase a tag and affix the tag to the bag for collection. Full PAYT programs require the generator to purchase tags for every garbage bag set out for collection.

PAYT programs are considered one of the most effective policies for promoting recycling and waste diversion. PAYT programs have a positive impact on residential waste generation and diversion behaviours because they place a direct financial cost waste generation behaviour.

Typically the increase in recycling and waste diversion efforts are directly related to the number of “free” bags that are permitted to be placed for collection before incurring a charge. With most PAYT programs, there is a direct correlation between the lower the number of "free" bags and the increase in garbage diverted from landfill and recyclables recovered.

In order to be successful, a PAYT program must be supported, at minimum, by a recycling program. Other supporting efforts include a ban and/or collection of grassclipping and leaf and yard waste.

- **Curve Lake First Nation** (population 1,060) – All households at Curve Lake First Nations receive 105 tags per household per year and must pay \$2.00 per tag afterwards. Commercial establishments do not receive “free” tags and are required to purchase and affix a \$2.00 tag for every bag of garbage set out for collection.
- **Nairn & Hyman Township** (population 400) – In July 2007, Nairn & Hyman Township (50 km west of Sudbury), imposed a 3 bag limit on residential garbage. If you have additional bags, you must buy a \$2.00 tag for each bag at the municipal office.
- **Village of Burks Falls** (population 900)- Burks Falls is one of three communities (Armour Township, Burks Falls, Ryerson Township) comprising the TRI R Neighbour, which introduced a PAYT program requiring householders to pay for garbage tags (\$1/tag) once they have used up the 50 tags provided at the beginning of the year.

Promotion and Education

Effective Promotion and Education (P&E) is the backbone of an effective recycling program. The impacts of effective Promotion and Education (P&E) strategies propagate throughout a community’s waste diversion programs. The 2007 KPMG study *Blue Box Program Enhancement and Best Practices Assessment Report* prepared for WDO’s Municipal – Industry Programs Committee identified “appropriately planned, designed and funded promotion and education programs” as one of eight “fundamental best practices” of recycling.

Many efforts have been made to better understand the characteristics of successful P&E strategies; for example, in the winter of 2007, the Association of Municipal Recycling Coordinators (AMRC)⁴ conducted a series of focus groups across the province to field test P&E best practices. During the focus groups, participants were asked to identify positive P&E messages to promote waste diversion. A number of positive incentive examples were offered such as:

- Tell people what the benefits are,
- Show the community the good they are doing,
- Show the community’s progress
- Show people (especially children) what is being made from recycled material.

A communication plan needs to employ several strategies including communications planning, monitoring and evaluation; greater use of a mix of media in deploying P&E programs; and ensuring sustained communications as an integral part of effective P&E.

⁴ Part of a Promotion and Education best practices report prepared for Stewardship Ontario

Once a communication strategy has been implemented, it is important not to forget about reinforcing the message again and again. Residents will respond to the first round of communications and messages but over time, they will forget the message and will need to be told it again.

- **Wahnapiatae FN (population 102)** – uses a variety of printed information to instruct residents on what materials to place in the recycling bin and explain why recycling is important. The reasons are written on its one page Recycling Guide as:
 - 1) You are diverting waste from our landfill and extending its life.
 - 2) You are ensuring materials such as aluminum and paper that have many lives can be used and reused to their fullest.
 - 3) You are helping to save energy!

In addition, residents are provided a sticker to place on their garbage can to remind them what materials should be placed in the blue box and not in the garbage. At the same time, staff will place stickers on items that have been placed in the blue box that cannot be recycled.

- **Atikameksheng Anishnawbek FN (population 346)** – The community distributes recycling fliers to residents and relies on neighbours to spread the word.

In the past, promotion and education programs have relied heavily on one-way communication approaches to communicate recycling and waste diversion information to residents. Common forms of communication include calendars, printed information, newspaper ads and websites. While these forms of communication are an integral part of a successful communication strategy, they should be supported with two-way engagement to gain further support and involvement in the recycling program. This approach is also referred to social marketing.

The idea of social marketing gained prominence in the waste diversion field during the late 1990s and early 2000s. The community-based social marketing strategy works to foster commitment by engaging individuals using a variety of techniques. The five tools associated with social marketing include:

- **Commitment** – Asking individuals to commit to an action ensures that the individual will assume greater responsibility in maintaining that commitment. For example, asking individuals to commit to bringing their own bags to the grocery store or signing a pledge to reduce food waste in the home.
- **Prompts** – Using signs and signals to remind people to act in a desired manner. For example placing signs on a refrigerator reminding a person to use the green bin.
- **Communication and Outreach** – Creating effective messages and engaging individuals through outreach. For example, designing vivid, humorous messages and making communications easy for residents to remember and where possible, using one-on-one contact to deliver the message.

- **Incentives** – Using rewards or disincentives to motivate action. For example, adopting user fees to increase motivation to recycle, compost and source reduction or providing random rewards for residents participating in the recycling program.

Some of the participating communities have begun to use community-based social marketing tools:

- **Wahnapiatae FN (population 102)** - The community of Wahnapiatae has recognized the importance of communications in promoting waste diversion within its community. A key component of Wahnapiatae’s strategy is dedicated to using social marketing tools to engage and educate its residents. The use of social marketing tools are outlined in its Waste Diversion Strategy (2011) under the heading communication strategy as follows:
 - Monthly – Recycling calendar placed in community newsletter
 - Monthly – Waste Diversion Sign/ Gauged to be updated with monthly data
 - Quarterly – Recycling Champion Awards published in community newsletter and awards presented
 - Annual – recycling lunch and learn presentation
 - Annual – community open house, annual update of waste diversion strategy
- **Sheguiandah FN (population 173)** – To help educate residents about recycling and get them engaged in improving the environment, the community holds an annual spring clean up followed by a bbq. Residents recycle the materials that they find and are shown that recycling matters.

There are many resources available to Ontario communities to develop waste minimization and diversion promotion and education materials. Stewardship Ontario has invested a Recycler Training program with features courses to support and promote Promotion and Education programs in Ontario municipalities. Stewardship Ontario has published a report titled “Blue Box Program P&E Review” to showcase best practices and findings in P&E. This report can be retrieved at www.stewardshipontario.ca/bluebox/pdf/.../praxis_final_report.pdf.

Several reports have been developed with support from Stewardship Ontario’s Continuous Improvement Fund which address various aspects of promotion and communication, including:

- Identifying Best Practices in Municipal Blue Box Promotion and Education,
- Hamilton Waste Watch Communication and Education Project,

Through its Knowledge Network, Stewardship Ontario offer a P&E training program and P&E materials for use by Ontario municipalities and its all free. The website offers a three part P&E on-line training tool aimed at helping municipalities develop, sell and implement effective communication plans through the Knowledge Network at <http://216.119.79.78/rkn/home.asp>.

Charging for Commercial Collection Services

Communities provide curbside garbage collection services to small local businesses because it provides a necessary service and offers the municipality an opportunity to assume greater control over their waste generation and recycling activities. Communities that provide curbside waste collection services to local commercial establishment experience the following benefits:

- Establish greater control over waste generation behaviour among the small business sector by implementing a PAYT program that requires the businesses to pay for the amount of garbage collected;
- Establish greater control over waste diversion activities and opportunities among the small business sector; by mandating that local businesses must participate in the recycling program in order to receive waste collection services.

While many of the First Nations Communities provide garbage and recycling collection services to their local businesses, most do not charge them for the service, with a few of exceptions.

- **M'Chigeeng First Nation** (population 994) – Although M'Chigeeng has not introduced a PAYT garbage program for its residents, it has for its commercial establishments. Each commercial establishment receiving collection services from the Band must pay \$2.50 per bag of garbage. There are no limits to the number of bags that will be collected as long as each is paid.
- **Village of Burks Falls** (population 900)- Burks Falls introduced a PAYT program requiring commercial establishments receiving municipal garbage collection to pay for garbage tags (\$1/tag) once they have used up the 100 tags provided at the beginning of the year.
- **Magnetawan First Nation** (population 75) – The community of Magnetawan FN charges each commercial establishment \$350 annually for garbage collection services.

6 Case Studies

6.1 Innovative Collection Strategies

Town of Mattawa and Township of Papineau-Cameron:

The Town of Mattawa and the Township of Papineau-Cameron are situated on the northern part of the Ottawa River, about 100 km east of North Bay. These small rural communities (combined population 3,000 with 1,200 single family households) provide bi-weekly curbside recycling services to residents using the services of a local entrepreneur, P. Lafreniere Contracting. The company collects a wide range of recyclables using a two stream, containers and fibres, system.

Due to the size of the communities serviced, the contractor could not justify investing in a recycling truck which was further complicated by the need to drive three hours (return) in order to deliver the recyclable materials for processing five times every two weeks. In response, the owner of the company devised a simple, cost effective collection system featuring a custom made recycling trailer, which is pulled by a standard pick-up truck. The recycling trailer was designed and built by P. Lafrenier and is essentially a box built on a 24 ft. trailer base. The trailer dimensions are 24 feet long by 10 feet wide and 6 feet 10 inches high with several openings at one side of the trailer and a platform to enable the collection crew to step up and sort the containers and fibres into the designated openings. The trailer features three separate areas for:

- household mixed paper and newspaper (ONP) in one area;
- cardboard (OCC) and boxboard (OBB) in a second area; and
- containers in a third area.

While one person drives the pick up truck, another person collects and sorts the materials.

The contractor is capable of collecting from 400 homes before the trailer needs to be emptied. In order to expedite removal of the recyclable materials, the back of the trailer opens and the side containing the containers opens. The floor of the trailer is strong enough to enable the contractor to operate a bobcat to remove the fibres from inside the trailer, or alternatively, the contractor moves the materials out of the trailer using a shovel. The trailer also features wire bins which can be used for additional materials and can be easily tipped to remove the contents from the trailer.

Efforts to obtain costs to construct the enclosed recycling trailer used to collect recyclables in Mattawa were unsuccessful. The contact did not return messages. However, a flat bed trailer with a floor size of 16 feet by 4 feet retails for approximately \$6,000 (see the illustration below). The estimated cost to provide to construct the storage unit is \$2,000 - \$4,000. Amortized over 8 years at 6% is approximately \$1,600 per year.



Source: Miska Trailers at http://www.miskatrailers.com/product_details.asp?cid=30&pid=35

The photos below show the recycling trailer used in the Town of Mattawa and the Township of Papineau-Cameron.



Photos: Recycling trailer used in Mattawa and Papineau-Cameron

Wahnapiatae First Nation

The community of Wahnapiatae has embraced recycling and waste diversion with several recent initiatives including the recent development of a Waste Diversion Strategy and the implementation of a weekly curbside recycling program in June 2010. In 2010, community hired two Waste Diversion Technicians and purchased a custom made \$10,000 bear trailer (which opens at the sides and back and tips) that is hitched on to the back of a pick up truck to store the

recyclables collected every Tuesday. The trailer services all 59 households before being emptied. During bad weather a tarp is placed over the top of the trailer. At the end of each collection, the crew drives the trailer to the Sudbury recycling facility.



Prince Township

The utility trailer used by Prince Township is 36 feet long by 7 feet wide and cost \$3,400-\$4000 new (2004) and was purchased at Martin's trailers in Sault Ste. Marie. It is constructed of aluminum and is also use for other purposes. Messages left to obtain 2010 prices were not returned; therefore a price of \$5,000 was used. Amortized over 8 years at 6% is approximately \$800 per year.

Carts can be used with the trailer holding 26 carts. The average cost to purchase a cart is about \$100 per cart. Alternatively, the communities may be able to use modified water treatment chemical barrels, free of charge. The trailer can service about 200 households before needing to be emptied.





Burks Falls

While the two smaller Townships do not provide curbside garbage or recycling services, the community of Burks Falls does offer curbside garbage and recycling services. The Town staff collect curbside recyclables using a pick up truck and a modified 12ft long staff built recycling trailer. Two staff provide weekly recycling services to approximately 500 households, working 7-8 hours on Thursday. The trailer can service about 250 households before needing to be emptied. The materials are sorted into compartments on the trailer for plastics, paper, cardboard and cans/glass. The collection staff collect about 1.5 loads during the winter and 2 loads during the summer (due to extra water bottles).



An additional truck is employed to collect from 50 commercial establishments in the town using a dump trailer attached to a pick up truck. The dump trailer was purchased in 2011 for \$5,500.



6.2 Exploring Partnerships

In addition, some communities have shown interest in pursuing partnering opportunities in order to benefit from the economies of sharing financial and staff resources and a cost effective and efficient recycling program.

Communities can form partnership in building awareness for waste management and diversion issues by establishing P&E programs targeting single family households and collaborative P&E with schools, organizations, community services, etc. Communities can share P&E costs and resources to promote waste diversion. Stewardship Ontario and the Association for Municipal Recycling Coordinators (AMRC) provide a wide range of resources, which can be accessed as a cost saving measure.

A handful of northern communities have benefited from forming partnerships in order share the costs associated with storage, transportation and processing (maybe even collection). Examples of partnerships among northern communities include:

- TRI R Committee (Armour Township, Burks Falls, Ryerson Township),
- Shawanaga First Nation and Archipelago Islands,
- Cochrane Temiskaming Waste Management Board.

TRI R Neighbours (Armour Township, Burks Falls, Ryerson Township)

In the early 1990's, the TRI R Neighbours formed a Committee of three communities (Armour Township, Burks Falls, Ryerson Township) in order to establish a partnership and take full control

of their waste management and waste diversion needs. Rather than relying on outside companies and continuously fluctuating fees, material specification and market uncertainties, the three communities decided to construct and operate their own recycling processing centre and market their own recyclable materials.

When the recycling centre was introduced, the Committee reorganized the entrance of the landfill, requiring that all users pass by the recycling centre first. The Committee has an attendant who greets the residents and asks them about the number of garbage bags and recycling they have with them. The attendant can provide assistance, if required, to help residents sort out their recyclables. This system has received great support from the landfill users who endorse the Committee's view that "using a landfill is a right and not a privilege".

All of the recyclable material is kept indoors in the recycling depot. The recyclables are stored in large – 5ft x 5ft – steel containers made by local contractors. The recycling bins enable users to sort by different streams (OCC/OBB, ONP, glass (clear and colour), cans, HDPE plastic jugs/bottles, PETE plastic jugs/bottles). The recyclables are then transferred to a larger building next door, which is used to process and bale the materials. The processing facility is separate from the recycling depot, which is located adjacent to it.

The TRI R committee has a small skid steerer and fork lift to pick up the metal containers and deliver the contents to one of two bailers or a can densifier. From there, staff hand balm the recyclables into the balers, which produce cubic meter (3ft x 3ft x 3ft) bale of product or in the case of the can densifier a 0.3 cubic meter block. The balers are smaller down stroke balers that cost about \$10,000 to \$20,000. Over time, the building has been expanded to enable bales of recyclables to be stored inside. TRI R has two balers, a can densifier, a weigh scale to weight the baled material and a magnetic separator to separate the steel and aluminum cans.

The TRI R Committee has hired an administrator who is responsible for finding markets for the recyclable material. Since the end markets want a full truck load, the material must be stored inside until enough is produced and then the committee hires a truck to take the material to market (including scrap metal). In time, the Committee hopes to buy two bigger balers (one for fibres and other for containers).

The Committee sells the recyclable materials themselves and in 2010 the sale of recyclables generated \$32,000 in revenue, which essentially covered the wages of the attendants, but not other program costs.



Photos: TRI R Committee Recycling and Processing Centre

Shawanaga First Nation and Archipelago Islands

With its landfill recently closed, the Shawanaga First Nations turned to its neighbour, Archipelago Township to establish a partnership in handling its garbage and recycling situation. Since the Archipelago Township's landfill is situated on Shawanaga's traditional territory, the first nation community has negotiated that it can use the landfill and the recycling depot free of charge.

Cochrane Temiskaming Waste Management Board

The Cochrane-Temiskaming Waste Management Board (CTWMB) is an independent establishment comprised of sixteen (16) municipalities, with a total household population of almost 20,000 and covering an area of 320 kilometres from one end to the other. The CTWMB is organized around Southern Node and a Northern Node, with the Southern Node administered by the City of Temiskaming Shores and the Northern Node administered by the Town of Kapuskasing.

All community members are provided depot recycling service in which 2 or 3 cubic yard haul all bins are provided at each community for a four stream sort (mixed paper, cardboard/boxboard, plastics 1 & 2, steel/aluminum cans). Glass is not collected.

Within the Southern Node, collection is provided for 15 communities located between the Municipality of Temagami and the Municipality of Charlton-Dack. CTWMB staff use hydraulic trucks to collect the recyclables from the haul all bins. Collected material is delivered to the CTWMB Municipal Recycling Facility (MRF) located in Temiskaming Shores where it is sorted, baled and eventually shipped to market. The MRF was constructed in 1996 costing \$500,000 for the building and equipment.

Member communities are responsible for purchasing haul all bins and any blue boxes provided to residents. The CTWMB assumes all other costs to administer, collect, transport and process the recyclable materials. The costs are averaged out by the number of households serviced and charged back to each community on a household basis. In 2011, the cost averaged \$21/hhld. Because the capital and operating costs are shared by 16 communities and distributed equally on a per household basis, even the smallest communities such as the Township of Opasakika with a household population of 132 can have access to a cost effective recycling program.

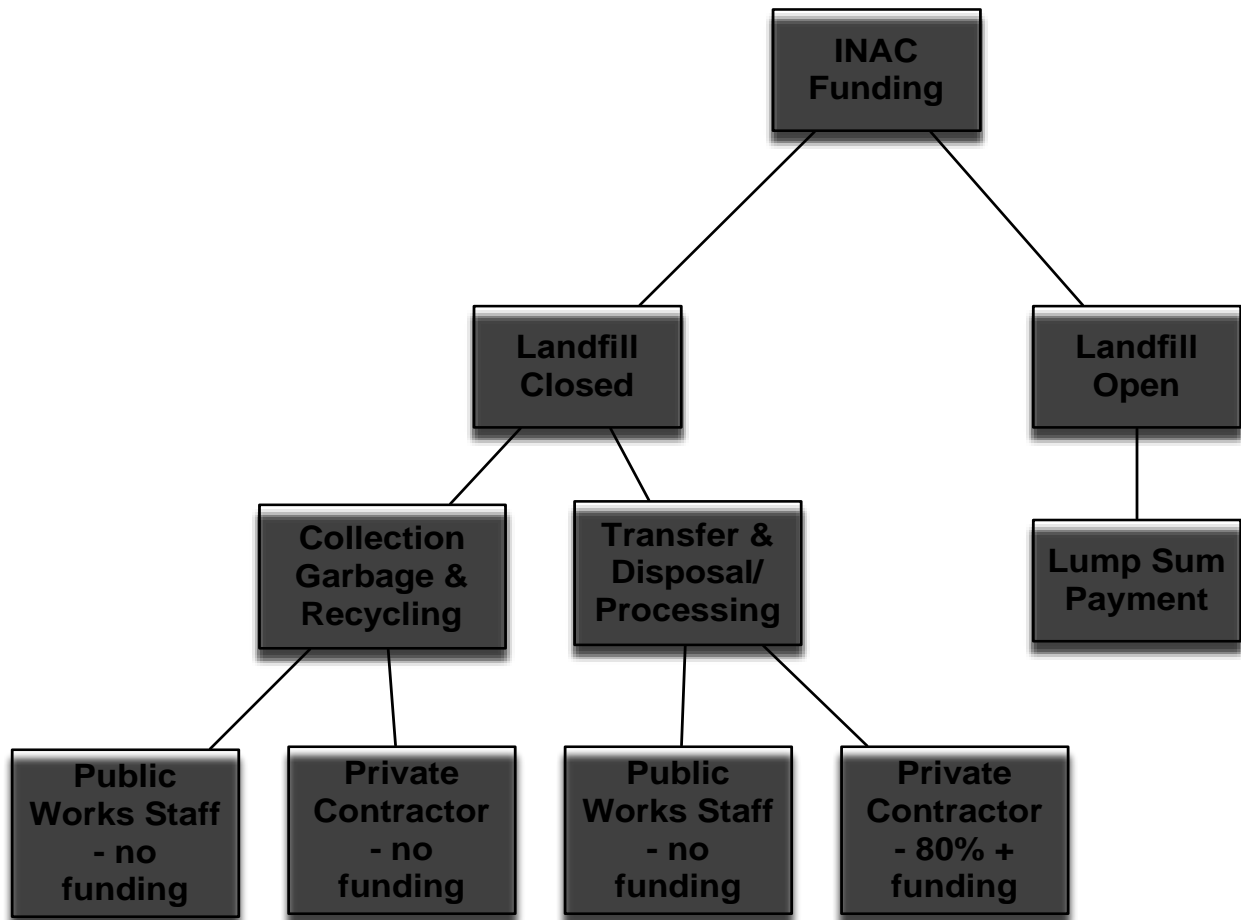
7 Maximizing Funding

7.1 INAC (or AANDC) Funding

First Nation communities receive some funding from Indian and Northern Affairs Canada (INAC) - now called Aboriginal Affairs and Northern Development Canada (AANDC) - as to cover a portion of waste management operations. Depending on whether your community has an open or closed landfill on the land, the funding provided by INAC varies considerably. Figure 6 provides a flow diagram to help maximize funding from INAC for waste management, including garbage and recycling services.

Note: for the purposes of this report, the name/acronym INAC will continue to be used.

Figure 6: INAC Funding for Waste Management Operations



Currently, INAC provides a lump sum of approximately \$12,000 to First Nation communities with an operating landfill. This lump sum covers all aspects of waste management and rarely covers the true costs of operating, monitoring and maintaining a landfill, much less pay for other programs, such as recycling.

Once the landfill has closed, the community has access to funding if it uses private sector contractors to transport/haul and dispose the garbage at an outside landfill. Additional funding is available for transport/hauling and processing of recyclables by a private sector contractor. Public sector staff used to perform these services will result in no INAC funding. In addition, INAC does not fund contracted curbside collection services, or any curbside collection costs as this time.

At present, INAC will pay around 80% of the contracted transport/haul and disposal/processing fees for garbage and recycling. A few exceptions occur, as in the case of M’Chigeeng FN, which receives 90% of its waste management contract costs (less curbside collection costs) paid by

INAC. In this case, the inclusive contract includes garbage and recyclables collection, transport, disposal and processing in the one cost; however, INAC requires that the garbage and recycling collection costs be separated out so that it can provide 90% funding of the garbage and recycling transport and disposal/processing costs. The M'Chigeeng Council has implemented a mandatory fee of \$52/hhld per year to help cover the remaining waste management system costs.

7.2 Waste Diversion Ontario (WDO) Municipal Datacall

In 2002, Government of Ontario passed the Waste Diversion Act, giving authority to the Minister of the Environment to establish extended producer responsibility (EPR) programs. As described in Section 2, the first EPR program launched was Ontario's Blue Box Program in 2004 requiring producers of blue box packaging and paper products (stewards) to help fund recycling programs. Under this program, industry became obligated to pay 50% of Ontario residential recycling program's net costs.

Communities in Ontario operating a recycling program that collects paper and containers from residents can receive funding from the government by registering with Waste Diversion Ontario (WDO) and completing its annual Municipal Datacall. Each year communities are required to complete the datcall in the spring and report the prior year's tonnes, operating costs, and revenues associated with the residential recycling program. Payment depends on complicated formula that takes best practices, program efficiencies and location into account. Ontario programs typically receive 30-40% of net operating costs. Northern Ontario programs tend to receive about 30% of net operating costs.




Within Ontario, any First Nation community with a recycling program is eligible to receive WDO funding. Currently, 15 First Nations throughout Ontario receive annual operations funding. Within this study group, of 11 FN communities with recycling programs, only 5 communities submitted 2010 datacall (Atikameksheng Anishnawnbek FN, Wahnapiatae FN, Wikwemikong Unceded Indian Reserve, Sagamok Anishnawnbek FN, and Serpent River FN). Two additional communities submitted through another community – Shawanaga FN and Batchewana FN.

Over the past several years, the datacall requirements have changed with greater emphasis being placed on recycling best practices. In 2012, one quarter (25%) of funding provided is based on best practices including whether your community has developed:

- A Waste Recycling Strategy,
- Performance measures (diversion targets, monitoring and improvement plans),
- Multi-municipal planning (partnership),
- Training, and
- Promotion and Education.
- Diversion policies

A sample of best practice questions queried in the Datacall is provided in Figure 7 below.

Figure 7: Datacall Best Practice Questions

BEST PRACTICES QUESTIONS
Note: Responses to questions in bold will be used for purposes of best practice funding in 2012. Rem: calculate best practice funding.
1. Development and implementation of an up-to-date blue box recycling plan as part of a Waste Diver
a) Does the municipality have a blue box recycling plan that has been prepared or revised between the years of 2006 to 2010? 
b) Title of recycling or waste management plan
c) By-law / Council resolution or board report reference number / link to public document of this plan
d) By-law / Council resolution / board report reference date
e) Does the plan define and establish Blue Box Program goals and objectives that are in line with the overall waste diversion system plan or the overall integrated waste management system?
f) Does the plan set Blue Box diversion targets? 
g) What is the Blue Box diversion target for 2010?
h) Does the plan require performance monitoring  against Blue Box diversion targets?
i) Date of most recent Blue Box recycling plan where performance monitoring is tracked
j) Is there a review process (e.g. quarterly, annual reviews) to monitor and evaluate performance against the Blue Box Program goals and objectives stated in the Waste Diversion System Plan or the Integrated Waste Management Plan?
k) Was a monitoring report presented to Council/Committee/board in 2010?
l) Please provide the by-law resolution, committee or board report, or council resolution number of the document or link to public document of this monitoring report
m) Has your municipality approached other municipalities about jointly providing recycling (collection, processing, depot/transfer, marketing, and/or promotion and education) services?