Municipal Hazardous or Special Waste Program Plan

Revised August 2012

Draft for Consultation

Thinking beyond the box
Stewardship Ontario

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Municipal Hazardous or Special Waste Program Plan
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List of Acronyms

B2B	Business to business
BUD	Buy what you need, Use it all up, Dispose properly
CSA	Canadian Standards Association
DIY	Do-It-Yourself
ECA	Environmental Compliance Approval
IC&I	Industrial, Commercial & Institutional
IFO	Industry Funding Organization
MHSM	Municipal Hazardous or Special Material
MHSW	Municipal Hazardous or Special Waste
MOE	Ministry of the Environment
O. Reg	Ontario Regulation
P&E	Promotion and Education
R&D	Research and Development
SO	Stewardship Ontario
TDGA	Transportation of Dangerous Goods Act
WDA	Waste Diversion Act
WDO	Waste Diversion Ontario

Glossary

Accessibility
Means by which Ontarians can dispose of MHSW taking into account elements such as the number and location of collection sites and materials accepted.

Available for Collection
Estimated quantity potentially available for collection calculated using an available for collection factor to reflect the estimated life span of the original product and the quantity of waste remaining after use for a consumable product. Used as the denominator to calculate collection and recycling performance rates.

Brand Owner
Refer to Glossary of Key Terms in Rules for Stewards.

Collection Rate
Calculated as a percentage with the numerator representing the quantity of material collected and the denominator representing the quantity available for collection.

$$\text{Collection Rate \%} = \frac{\text{Amount Collected}}{\text{Available for Collection}} \times 100$$

Collection Target
Projected quantity of MHSW to be collected on an annual basis under the Program, expressed as a percentage of available for collection.

Collector
Entity providing services for collection of MHSW.

Consolidation
Bulking of MHSW as one component of transportation services.

Deficit Recovery Fee
Refer to Glossary of Key Terms in Rules for Stewards.

Depot
Facility where generators can drop off MHSW Materials which may have varying hours and periods of operation by season.

Diversion
Management of MHSW through reuse and/or recycling instead of disposal into landfills or incinerators.

Environmental Compliance Approval (ECA)
Control document issued by the Ontario Ministry of the Environment that sets out operating conditions for a waste management system or a waste disposal site. ECAs are required under the authority of s. 27 of the *Environmental Protection Act*.

Event
Collection service operated temporarily, typically a portion of one day, at which generators can drop-off MHSW.

First Importer
Refer to Glossary of Key Terms in Rules for Stewards.

Generator
Person or corporation to whom MHSM is Supplied for use in Ontario that makes the product(s) available for reuse, recycling or disposal. The categories of MHSM generators are residential, Small Quantity IC&I and all IC&I.

Incentive
Payment offered by Stewardship Ontario available to registered service providers, subject to providing a specified service and meeting a specified vendor standard, designed to stimulate marketplace activities and act as a market clearing mechanism.

IC&I
Industrial, commercial and institutional.

Industry Funding Organization (IFO)
Organization designated by regulation with responsibility for implementing the MHSW Program plan including collection of fees from Stewards to cover the costs of developing, implementing and operating the diversion program and to cover associated costs of WDO and MOE.

Labpack
Standard container commonly used to store and transport MHSW.

Lifespan
Estimated period of time during which MHSM is in use or in storage and not available for collection.

Life Cycle Management
Management of a product and/or its container following each use by a customer as part of a commercial relationship with the customer.

Municipal Hazardous or Special Materials (MHSM)
Refer to Glossary of Key Terms in Rules for Stewards.

MHSM Category
Subset of MHSM used as the basis for Steward reporting.

Municipal Hazardous or Special Waste (MHSW)
Refer to Glossary of Key Terms in Rules for Stewards.

MHSW Material
Subset of MHSW used as the basis for cost allocation because its properties, size and/or patterns of consumption or return result in different management costs.

MHSW Program Plan
Refer to Glossary of Key Terms in Rules for Stewards.

Minister
Minister of the Environment for the Province of Ontario.

Ontario Regulation 11/12
Refer to Glossary of Key Terms in Rules for Stewards.

Ontario Regulation 542/06
Refer to Glossary of Key Terms in Rules for Stewards.

Orphan Waste
MHSW that results from MHSM where the Steward is identifiable but is not an operating entity from which Stewardship Ontario can recover costs.

Processing
Manual or mechanical alteration of MHSW for the purpose of resource recovery.

Processor
Entity that is registered with Stewardship Ontario to receive and process MHSW on the basis that it has demonstrated capability to recover resources that meet one of the following:

- Delisting of material as hazardous waste; and/or
- Approved industry standards (e.g., ASTM, CSA); and/or
- Regulatory standards or code of practice.

Program Request Letter
Refer to Glossary of Key Terms in Rules for Stewards.

Quarterly Fee
Fee calculated in accordance with Section 4(2) of Regulation 542 as amended by Regulation 11/12.

Recycling Efficiency Rate
Calculated as a percentage with the numerator representing the quantity of materials recycled and the denominator representing the total amount of products or packaging materials collected in the waste diversion program minus reuse.

$$\text{Recycling Efficiency Rate \%} = \frac{\text{Recycled (material recycling)}}{\text{Collected - Reuse}} \times 100$$

Recycling Performance Rate
Calculated as a percentage with the numerator representing the quantity of materials recycled and the denominator representing the quantity of products or packaging materials available for collection.

$$\text{Recycling Performance Rate \%} = \frac{\text{Recycled (material recycling)}}{\text{Available for Collection}} \times 100$$

Reuse
Provision of MHSW to another user for its intended purpose.

Service Provider
Entity engaged by Stewardship Ontario to collect, transport, process and/or dispose of MHSW.

Small Quantity IC&I Generator means an industrial, commercial or institutional generator (as defined by Regulation 347) of MHSW arising from its use of MHSM that is not required to submit a Generator Registration Report with respect to that MHSW under subsection 18 (1) of Regulation 347, made under the *Environmental Protection Act,* and does not return more than 100 kg per month under the program;

Specialty Service Channel
Refers to MHSW collection locations owned by entities other than municipalities and retailers.

Stewards' Fees
Fees calculated by an IFO and paid by Stewards under an approved waste diversion program as set out in the program Rules for Stewards.

Steward
Brand owner, first importer, franchisor or manufacturer that Supply MHSM for use in Ontario that result in MHSW.

Steward Share Assessment
Refer to Glossary of Key Terms in Rules for Stewards.

Stewardship Ontario
Refer to Glossary of Key Terms in Rules for Stewards.

Supplied
Refer to Glossary of Key Terms in Rules for Stewards.

Transportation of Dangerous Goods (TDG) Regulated transportation requirements as defined in the *Transportation of Dangerous Goods Act* (TDGA).
Transporter Entity registered with Stewardship Ontario to transport MHSW.
Vendor Standard Minimum operating standard that an MHSW service provider must meet on a continuous basis in order to be registered with Stewardship Ontario and be eligible to provide collection, transportation and/or processing services.
Waste Diversion Ontario Refer to Glossary of Key Terms in Rules for Stewards.

Municipal Hazardous or Special Waste Program Plan
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1. Introduction

1.1 Background

On December 11, 2006, the Minister of the Environment filed Regulation 542/06 under the Waste Diversion Act (WDA) designating Municipal Hazardous or Special Waste (MHSW).

On December 12, 2006, in a Program Request Letter to the Waste Diversion Ontario (WDO) Board of Directors, the Minister of the Environment directed WDO to develop a diversion program for MHSW and stipulated that Stewardship Ontario act as the Industry Funding Organization (IFO) for the MHSW Program. Products included under Phase 1 of the program were:

- Antifreeze, and the containers in which it is contained
- Fertilizers, fungicides, herbicides, insecticides, or pesticides, and the containers in which they are contained
- Containers that have a capacity of 30 litres or less and that were manufactured and used for the purpose of containing lubricating oil
- Oil filters
- Paints and coatings, and the containers in which they are contained
- Pressurized containers
- Single use dry cell batteries
- Solvents, and the containers in which they are contained

The MHSW Program Plan for Phase 1 was submitted to the Minister of the Environment on December 6, 2007. On February 19, 2008, the Minister approved the Program Plan and the Program commenced on July 1, 2008.

On July 22, 2008, in a Program Request Letter to the WDO Board of Directors, the Minister provided direction on the development of the subsequent phases of the MHSW program and requested the development of an amended MHSW program to include all MHSW designated under Phase 2 and Phase 3, in addition to materials currently included in Phase 1.

The Consolidated MHSW Program Plan for Phases 1, 2 and 3 was submitted to the Minister of the Environment on July 31, 2009. On September 22, 2009, the Minister approved the Program Plan and the program commenced on July 1, 2010.

On July 21, 2010, the Minister of the Environment filed Regulation 298/10 which suspended the payment of fees on the products that result in Phase 2 and 3 MHSW. The suspension was made permanent by Regulation 396/10 on October 18, 2011.

On October 25, 2010, in a Program Request Letter to the WDO Board of Directors, the Minister of the Environment directed WDO to develop a revised MHSW program that continues to collect and manage Phase 1 wastes but that excludes Phase 2 and 3 wastes.

On February 9, 2012, the Minister of the Environment filed Regulation 11/12 which amended Regulation 542/06 by adding clauses setting out the manner in which deficit recovery fees and quarterly fees are to be calculated and recovered.

1.2 Revising the MHSW Program Plan

Stewardship Ontario has been operating the MHSW program for the nine Phase 1 MHSW materials since July 1, 2008. This revised MHSW Program Plan therefore reflects an operating program for which annual reports, containing program performance data and audited financial statements, have been available for the past four years. This revised MHSW Program Plan describes Stewardship Ontario's approach to the operation of the MHSW program.

As part of the process to develop a revised MHSW Program Plan, Stewardship Ontario consulted with stewards on revisions to the nine Phase 1 MHSW definitions early in 2011. In March 2011, Stewardship Ontario submitted revised definitions to WDO as a material change to the MHSW Program Plan requiring the Minister's approval. In a letter dated May 31, 2012, the Minister approved the definitions to take effect on October 1, 2012.

This document sets out a revised MHSW Program Plan that responds to the Minister's October 25, 2010 Program Request Letter and that aligns the MHSW Program Plan with Ontario Regulation (O. Reg.) 11/12 and the revised definitions approved by the Minister in May 2012.

A separate document, Summary of Consultations, sets out the comments received from stewards and other stakeholders during consultation on the draft Program Plan.

2. Municipal Hazardous or Special Waste

On May 31, 2012 the Minister approved definitions for the following materials:

- Antifreeze, and containers in which they are contained
- Fertilizers, and the containers in which they are contained
- Oil containers that have a capacity of 30 litres or less and that were manufactured for the purpose of containing lubricating oil
- Oil Filters – after they have been used for their intended purpose
- Paints and Coatings, and containers in which they are contained
- Pesticides, and the containers in which they are contained
- Pressurized containers
- Single-use dry cell batteries
- Solvents, and containers in which they are contained

These waste materials are to be managed through reduction, reuse, recycling and, where necessary, safe disposal.

2.1 Containers in Which it is Contained

The MHSW program is to manage the containers in which Antifreeze, Fertilizers, Paints and Coatings, Pesticides and Solvents are contained, including aerosol containers[1].

As the Blue Box system for collection of packaging has matured, municipalities have instructed residents to include:

- Empty containers made of high density polyethylene (HDPE), polypropylene (PP) or low density polyethylene (LDPE) plastic;
- Empty containers made of corrugated or boxboard;
- Empty aerosol containers; and
- Empty steel paint cans.

As a result of municipal promotion and education campaigns, residents routinely recycle empty Antifreeze, Fertilizers, Paints and Coatings, Pesticides and Solvents containers through their Blue Box system.

For the purposes of the MHSW program, "the containers in which they are contained"[2] are considered to be[3]:

- Containers used by residential and Small Quantity IC&I Generators to deliver MHSW, comprised of used Antifreeze or Solvents and residual Fertilizers, Paints and Coatings or Pesticides, to MHSW collection sites; and
- Containers emptied of Antifreeze by automobile service businesses in their role as a Do-it-for-me service provider.

It is therefore assumed that:

- Residents will continue to manage empty MHSW containers through the Blue Box system as has been their pattern for many years[4]; and
- Those containers used to deliver Antifreeze, Fertilizers, Paints and Coatings and Pesticides and Solvents to MHSW collection sites and containers emptied of Antifreeze by automobile service businesses in their role as a Do-if-for-me service provider will be managed under the MHSW program[5].

[1] Oil Containers and Pressurized Containers are designated MHSW materials.
[2] Source: Addendum to Program Request Letter dated October 25, 2010.
[3] The Minister's direction to manage "the containers in which they are contained" does not affect Single Use Dry Cell Batteries and Oil Filters.
[4] The net Blue Box system cost, 50% of which is the responsibility of Blue Box stewards, includes the cost to manage any empty MHSW containers placed by residents into the Blue Box system. The cost to manage the empty MHSW containers through the Blue Box system is allocated across MHSM containers supplied to the marketplace as reported by Blue Box stewards.
[5] The cost to manage MHSW containers delivered to MHSW collection sites is allocated across MHSM supplied to the marketplace as reported by MHSW stewards.

The Blue Box program incurs costs only for those MHSW containers managed in the Blue Box system. Similarly, the MHSW program incurs costs only for those containers managed in the MHSW system[6].

2.2 Antifreeze

Antifreeze means ethylene or propylene glycol used or intended for use as a vehicle engine coolant. Antifreeze, and the containers in which it is contained, is collected from residential and all IC&I Generators.

Antifreeze, referred to as coolant, is used exclusively in combustion engines as a heat transfer fluid. The main ingredient is ethylene glycol or propylene glycol.

Antifreeze is sold in concentrate form that is diluted with water to desired concentration by the user. Antifreeze is also sold premixed with water.

Antifreeze is sold in bulk and packaged. The dominant package size is a 3.78L format, but Antifreeze is also sold in 1L, 1.89L, 9.46L and 18.9L containers. Containers are made of HDPE plastic.

Packaged antifreeze can be purchased from retailers, service stations, gas stations, automotive shops, dealerships, etc. Bulk antifreeze is supplied to businesses servicing vehicles in containers greater than 30 litres or in tanker trucks

Antifreeze is installed and replaced in vehicles either by the vehicle owner (referred to as Do-it-yourself - DIY) or, more commonly, by an automobile service business (referred to as Do-it-for-me - DIFM).

2.3 Fertilizers

Fertilizers are packaged products regulated under the *Fertilizer's Act (Canada)*. Fertilizers, and the containers in which it is contained, are collected from residential and Small Quantity IC&I Generators. Fertilizers generated by users registered under Regulation 347 are not included in the MHSW program.

Fertilizers are typically sold in plastic containers for liquids (ranging from 250 grams to 5 kg) or cardboard boxes or plastic bags for dry or granular products (1 kg to 30 kg). Fertilizers are a seasonal product with sales primarily occurring in spring and summer.

[6] For example, assume 10 containers containing MHSM are supplied into the marketplace, 7 containers are emptied and placed into the Blue Box collection system and 3 containers still contain MHSW and are returned to MHSW collection sites. The cost to manage the 7 containers in the Blue Box system are allocated across the 10 containers reported as supplied into the marketplace under the Blue Box program while the cost to manage the 3 containers with MHSW are allocated across the MHSW reported as supplied into the marketplace under the MHSW program. Stewards pay for management of 7 containers through Blue Box fees and management of 3 containers through the MHSW program cost recovery system.

2.4 Oil Containers

Oil containers are containers that have a capacity of 30 litres or less and that were manufactured and used for the purpose of containing lubricating oil. Oil containers are collected from residential and all IC&I Generators.

Containers manufactured and used for the purpose of containing lubricating oil are primarily manufactured from HDPE plastic. Oil is typically sold in container sizes of 500 ml, 946 ml, 1L, 3.78L, 4L, 4.4L, 4.73L 5L, 10L, 18.9L, and 20L. Oil containers containing lubricating oil are emptied by the vehicle owner (DIY) or, more commonly, by an automobile service provider (DIFM).

2.5 Oil Filters

Oil filters are filters produced and/or arriving into the province, and which are for sale, directly or as part of a product, in Ontario. Oil filters are collected from residential and all IC&I Generators.

Oil filters are used in automotive engines and other equipment for the purpose of filtering contaminates from fluids. Oil filters are installed and replaced in vehicles either by the vehicle owner (DIY) or, more commonly, by an automobile service business (DIFM).

2.6 Paints and Coatings

Paints and coatings are latex, oil and solvent-based architectural coatings, including paints and stains, whether tinted or untinted. Paints and coatings, and the containers in which it is contained, are collected from residential and Small Quantity IC&I Generators. Paints and Coatings generated by users registered under Regulation 347 are not included in the MHSW program.

Paints and coatings are used for both protective and decorative purposes and can be water-based or solvent-based. Water-based paints are packaged in plastic containers (HDPE or polypropylene), steel containers and also in containers made of plastic with steel parts. Solvent-based paints are typically packaged in steel containers. There is a continued trend in the marketplace from solvent-based paints to water-based paints.

2.7 Pesticides

Pesticides are pesticides including fungicides, herbicides and insecticides registered under the *Pest Control Products Act (Canada)* bearing the “DOMESTIC” classification that are required to display on the label the symbol shown in Schedule III of the *Pest Control Products Regulation (Canada),* the signal words “danger” or “warning” and “poison” and represented by the precautionary symbols octagon or diamond and the skull and crossbones.

Pesticides, and the containers in which it is contained, are collected from residential and Small Quantity IC&I Generators. Pesticides generated by a user registered under Regulation 347 are not included in the MHSW program.

Pesticides are regulated under the Pest Control Products Act by the Pest Management Regulatory Agency (PMRA), a division of Health Canada. Pesticides are registered by the PMRA as "domestic", "commercial" (including "agricultural" and "industrial") or "restricted" and are required to display on the label the symbols shown in Schedule III of the Pest Control Products Regulation (Canada).

A majority of domestic pesticides are sold in liquid format in HDPE containers and aerosols ranging in size from 1 gram to 5 L. Some pesticides are sold in a dry format (powder, dust, solid, granular) in plastic film bags, pouches, boxes, etc. ranging in size from 50 g to 500 g. Some pesticide products, typically insecticides, are sold in an aerosol form ranging in size from 350 g to 500 g.

Beginning April 22, 2009, all cosmetic pesticides were banned for use and sale in the province of Ontario. While pesticides continue to be available, none are permitted for cosmetic purposes. Pest control products for use inside the home continue to be permitted for sale in the province, as are certain specified outdoor pesticides.

2.8 Pressurized Containers

Pressurized containers means all pressurized containers that are identified with the following Transport Canada markings:

- Seamless Cylinders and Tubes: TC-3AAM, TC-3AAXM, TC-3ALM, TC-3AM, TC-3ANM, TC-3ASM, TC-3AXM, TC-3EM, and TC-3HTM
- Welded Cylinders and Spheres: TC-4AAM-33, TC-4BM, TC-4BM17ET, TC-4BAM, TC-4BWM, TC-4DM, TC-4DAM, TC-4DSM and TC-4EM
- Non-refillable Containers: TC-39M
- Composite Cylinders: TC-3FCM and TC-3HWM
- Insulated Cylinders: TC-4LM
- Cylinders for Acetylene Service: TC-8WM and TC-8WAM.

Pressurized Containers are collected from residential and Small Quantity IC&I Generators. Small quantity IC&I wastes are generated from products typically used in either residential or IC&I applications, are indistinguishable from products used in residences, and result in MHSW that is commonly not diverted from final disposal. Pressurized Containers generated by a user registered under Regulation 347 are not included in the MHSW program.

Pressurized containers include non-refillable and refillable cylinders supplied with any type of pressurized gas.

Non-refillable cylinders include portable propane cylinders typically holding 400 to 600 grams of compressed gas for barbeques, heating appliances and portable welding torches.

Refillable containers include portable breathing air supply, carbon dioxide (used to attract and capture mosquitoes) and most commonly the refillable propane cylinders. While the 9 kg size is most common, other sizes include 13.5 kg and 18 kg (30 and 40 lbs).

Refillable cylinders are typically supplied as part of an industry-operated life cycle management program under which the container, whether sold, leased or rented, is to be returned for refilling. Refillable containers delivered to MHSW collection sites by residents or a business not registered as a generator under Regulation 347 have not been returned to the industry-operated life cycle management program under which they were originally supplied.

2.9 Single Use Dry Cell Batteries

Single use dry cell batteries are batteries that are one or more cells, including case, terminals and markings. The source of electrical energy is obtained by the direct conversion of chemical energy that is not designed to be charged by any other electrical source. Single use dry cell batteries are collected from residential and all IC&I Generators

Single use dry cell batteries are comprised of one or more cells where the source of electrical energy is direct conversion of chemical energy that are not designed to be charged by any other electrical source. Common examples include but are not limited to button cell batteries, AAA batteries, AA batteries, C batteries, D batteries and 9V batteries.

Single use dry cell batteries are supplied as replacement units, supplied with products for insertion by the consumer prior to use or supplied within or embedded in products.

2.10 Solvents

Solvents are liquid products that are intended to be used to dissolve or thin a compatible substance and:
1. are comprised of 10% or more of water-immiscible liquid hydrocarbons, including halogen-substituted liquid hydrocarbons; or
2. are flammable as described in part (c) of “municipal hazardous waste” in Ontario Reg. 542; or
3. all of the above.

Solvents, and the containers in which it is contained, are collected from residential and Small Quantity IC&I Generators. Solvents generated by a user registered under Regulation 347 are not included in the MHSW program.

Solvent products are in liquid form sold in HDPE containers and steel containers in sizes ranging from 1 litre to 20 litres.

2.11 Municipal Hazardous or Special Waste Available for Collection

The forms of MHSW described in Sections 2.2 to 2.10 when generated as waste are not necessarily the same as when supplied into the marketplace. MHSW is comprised of:

- MHSM that is intended to be used up by the consumer (e.g. paints, pesticides, fertilizers). Under ideal circumstances, these products would be fully utilized and no waste requiring management would remain. In many circumstances, however, a portion of the product is not used and becomes waste requiring management.
- MHSM that is altered during use through use of contents (e.g. pressurized containers), dilution, loss due to evaporation, contamination, and/or alternation due to mixing with other materials (e.g. antifreeze, oil filters, solvents). These products, in their altered form, become waste requiring management.
- MHSM that is intended to be discarded in its original form after its useful life (e.g., oil containers, batteries). These products are typically available for collection on a one-for-one basis.

For MHSM that is intended to be used by the consumer, one of the objectives of the MHSW program is to reduce the quantity of this material that becomes waste by educating consumers to purchase only the quantity required (the BUD message), to use the product as intended and to store unused product properly to extend its useful life. To determine the quantity of these MHSM that will become available for collection in a program year, a factor is applied to remove the portion typically used and to reflect an average period of use (if more than one year) to yield the quantity of MHSW that is expected to be available for collection.

For MHSM that is altered during use, a factor is applied to reflect the alterations that occur during use to yield the quantity of MHSW that is expected to be available for collection.

For MHSM that will be discarded in its original form, a factor is applied to reflect the average period of use (if more than one year) to yield the quantity of MHSW expected to be available for collection.

Appendix A provides the factors used in 2012 to calculate the quantity of MHSW available for collection.

2.12 Methodology to Calculate MHSW Available for Collection

This section describes the principles and methodology that are used to calculate the quantity of MHSW available for collection.

Stewardship Ontario's guiding principles for calculating MHSW available for collection are as follows:

- The quantity of MHSW available for collection will be calculated using the most reliable and current data source, which is the actual quantity of MHSM Supplied as reported by Stewards.
- The quantity of MHSW available for collection will be established in advance of a program year to inform the operations plan development so that all elements are included that would enable Stewardship Ontario to achieve collection targets.

Stewardship Ontario implements these principles by utilizing the following methodology to calculate tonnes of MHSW available for collection:

1. The quantity of MHSW available for collection will be calculated prior to setting the annual operating budget for the upcoming year.

2. The quantity of MHSM Supplied by Stewards (converted to a standardized unit of measure) for the most recent prior year that has been validated and is considered final will be used to calculate the quantity of MHSW available for collection. Therefore, available for collection for the year 201X is based on MHSM Supplied in the year 201X minus 2 (e.g. available for collection for 2013 is based on MHSW Supplied in 2011).

3. If prior year validation is not complete for a particular MHSM Category, the quantity of MHSM Supplied by Stewards will be adjusted using the best information available at the time. Such information may be obtained through industry consultations, independent research, or other methods determined to be reliable.

4. The quantity of MHSW available for collection will be calculated as an annual amount based on the total MHSM Supplied by Stewards in the prior year for each MHSW Material.

5. The quantity available for collection for each MHSW Material will be calculated by multiplying the quantity of MHSM supplied in the prior year by the available for collection factor.

Available for Collection

Available for Collection as tonnes	=	Quantity of MHSM Supplied by Stewards in the prior year as tonnes	X	Available for collection factor

6. The quantity available for collection for MHSW Materials for which stewards do not report the quantity of MHSM Supplied will not be calculated.

3. Program Design

3.1 MHSW Management

Stewardship Ontario manages the reverse supply chain for the nine special wastes. Material management activities fall within three categories of service, and the entities performing the service are referred to as service providers. The categories of service are:

- Collection,
- Transportation, and
- Processing

Only service providers that are approved by Stewardship Ontario are eligible to perform material management activities. All approved service providers must adhere to Vendor Standards, policies and procedures established by Stewardship Ontario.

Service providers wishing to register with Stewardship Ontario must follow the application procedure outlined on Stewardship Ontario's website, as amended from time to time. Business opportunities for service providers that are approved by Stewardship Ontario will be posted on Stewardship Ontario's website.

Vendor Standards, policies and procedures are reviewed on a regular basis and updated to reflect changes to market conditions, legal and regulatory requirements, business needs and best practices. In establishing Vendor Standards, policies and procedures, Stewardship Ontario will, to the extent reasonably possibly, seek to:

- Provide predictability,
- Foster openness and transparency,
- Adhere to the principles of continuous improvement, and
- Promote competition.

Stewardship Ontario is dedicated to continuous improvement of its reverse supply chain. Regular reviews of existing programs, processes and payment rates are undertaken to ensure cost effective program delivery and the achievement of collection and recycling targets. As a result, the actual methods, tactics and programs by which Stewardship Ontario undertakes its material management activities change over time as market conditions evolve. Commercial arrangements may include, but are not limited to, contracting for services following a request for qualifications or a request for proposals, contracting for services as a result of sole source negotiation, incentive programs and/or direct delivery of services.

Stewardship Ontario's responsibilities and duties include fostering a marketplace that maintains and encourages competition, achieves efficiencies and cost-effectiveness and ensures that all industry service providers have an equitable opportunity to participate in the provision of services. Without limiting the foregoing, vendor selection and supply chain management strategy will be implemented in accordance with these principles. Stewardship Ontario will, to

the extent reasonably possible, promote multiple service provider alternatives to mitigate against service disruption risk.

3.2 Accessibility

Achieving collection targets requires a network of collection sites across the province. Appendix B provides maps showing the collection network as of July 2012.

Stewardship Ontario's guiding principles for building its collection site network are as follows:

- Stewardship Ontario will continuously seek to improve Accessibility across the province through the development and refinement of its network of collection sites, taking into consideration the need for Accessibility in remote and sparsely populated areas (e.g. Northern Ontario) as well as medium and large urban centres.

- Generators are able to deliver MHSW to a collection site at no charge to the Generator.

- Collection sites will be both effective and efficient within their geographic and/or demographic context.

- The network of collection sites will have sufficient capacity to collect more than the annual collection target in tonnes for each MHSW Material.

Stewardship Ontario regularly reviews the performance of its collection network to identify best practices, growth opportunities, and ineffective or inefficient collection sites. Resources are allocated to establishing new collection sites where growth opportunities are identified. Such growth opportunities may include, but are not limited to:

- Geographic regions with disproportionately low numbers of collection sites for some or all MHSW Materials;
- High performing areas where current collection sites are nearing capacity; and
- High traffic public locations.

A collection site that is identified as being ineffective and/or inefficient within its geographic and/or demographic context may be closed to free up resources for new and/or existing collection sites.

Under the MHSW program, Stewardship Ontario is responsible for nine special wastes, which represent only a portion of the MHSW accepted by municipalities at their permanent depots and special events. While Stewardship Ontario will continue to work with municipalities to establish permanent depots, expand the hours of operation at existing depots and organize more special events, municipalities determine the type and scope of their MHSW services.

Stewardship Ontario will continue to explore opportunities to implement and expand collection services for each of the nine MHSW materials through return-to-retail and other non-municipal channels.

Table 3.1 sets out the number of locations providing collection services as of July 2012.

Table 3.1 – Collection Services Provided by Municipalities, Retailers and Others

Material Category	Collection Depots	Collection Events	Return to Retail	Specialty Service Channel
Antifreeze	87	301	531[1]	10,000
Fertilizers	87	301		
Oil Containers	87	301	531[1]	10,000
Oil Filters	87	301	531[1]	10,000
Paint & Coatings	87	301	307	
Pesticides	87	301		
Pressurized Containers				
Refillable	87	301		90[2]
Non-Refillable	87	301		90[2]
Single Use Dry Cell Batteries	87	301	2,461[3]	
Solvents	87	301		

Notes:
1) Refers to the number of automobile service centers that accept waste auto related products from residents. The 531 Do-It-Yourself locations are included in the 10,000 commercial locations under the Specialty Service Channel that are operating as part of the Automotive Incentive Program.
2) Ontario Provincial Parks
3) Includes return-to-retail sites and other commercial collection activities such as the Battery Incentive Program.

Table 3.2 sets out the number of new sites that will be added to each region in Stewardship Ontario's collection network each year to collect MHSW from residential Generators. Appendix C provides the Statistics Canada census divisions included in each of the regions.

Table 3.2 – Targets for New Sites and Events to Collect from Residential Generators

	As of July 2012[1]	2013	2014	2015	2016	2017
Central	1,479	75	75	75	75	75
East	853	50	50	50	50	50
North	560	25	25	25	25	25
West	795	50	50	50	50	50
TOTAL	3,687	200	200	200	200	200

Notes:
1) Refers only to those sites and events that collect from residential generators and does not include sites that exclusively collect from IC&I Generators.

3.3 Communications, Promotion and Education

The communications, promotion and education (P&E) activities designed to support the MHSW program are based on consumer research Stewardship Ontario undertook in fall 2010[7].

The consumer research identified that 95% of respondents claimed awareness of some or all of the items that constitute municipal hazardous or special waste. The research identified a number of common themes:

- What is household hazardous waste? – Tell me what it is...
- How do I dispose of it safely? Where do I take it? – Tell me what to do with it...
- What happens to it? Doesn't it all go to landfill anyway? – Tell me why I can trust you...

A vast majority (93%) felt that proper disposal of toxic waste is important to them and their families. For six-in-ten (61%) it was unacceptable to have hazardous waste discarded into landfills. The potential for engagement in the Orange Drop program appeared very high (total likely 94%, very likely 75%) provided that all elements are in place: education/awareness, convenient temporary storage container, convenient drop off areas, easy identification of hazardous products, and a connection with existing disposal opportunities.

Stewardship Ontario will undertake comprehensive research studies every two years to measure the awareness levels among Generators of MHSW Materials and their options for managing the waste through Stewardship Ontario's collection network. Interim tracking studies will be conducted as necessary. The findings from these studies will inform the development of annual operating plans and may result in changes to the P&E tactics to increase awareness levels among Generators of MHSW Materials and their collection options.

Stewardship Ontario's communications, promotion and education strategy aims to:

- Transition the Orange Drop program brand to a program for nine MHSW materials with two streams:
    - as a call to action for householders and relevant portions of the IC&I sector that generate the nine MHSW materials;
    - as a business to business (B2B) symbol for use by service providers;
- Reach waste generators of the nine MHSW materials to change behavior; and
- Achieve and grow collection against targets for the nine MHSW materials.

Communications activities will focus on increasing awareness, driving behaviour change and supporting MHSW Collectors such as depots, retailers and incentive partners to achieve targets.

The communications strategy will focus on increasing understanding, influencing attitudes and changing the behaviour with regard to MHSW materials in the Orange Drop program through the following elements.

[7] Qualitative and quantitative research was conducted by Pollara and was representative of the general population of Ontario.

Educational elements – Communicate the MHSW program

- Partner with Collectors of MHSW to promote their activities (e.g. municipal waste calendars, MHSW event collection days)
- Participate in community events and/or educational opportunities (e.g. lifestyle shows, Fall fairs, school presentations) to effectively reach residents as waste generators
- Compile a P&E tool kit that includes collateral designed to improve communications and support collection targets.

Awareness elements – Build the Orange Drop brand

- Maintain the Orange Drop web site to provide accessibility information on the nine MHSW materials
- Provide interactive and/or online resource materials (e.g. the Stewardship Ontario website for waste generators and service providers) to foster education and learning in support of collection targets
- Utilize opportunities to work co-operatively with Ontario Electronic Stewardship and Ontario Tire Stewardship to efficiently reach the residents and businesses as waste generators
- Build awareness of the Orange Drop program with all stakeholders.

Behaviour change elements - Support 3Rs and BUD message and establish Orange Drop as equivalent to the well-known Blue Box and Green Bin waste diversion systems

- Increase consumer awareness by employing tactics such as awareness campaigns, the use of social media platforms and consumer facing events to reach many audiences and multiple demographics of waste generators

In addition to this general communications strategy, material specific P&E will be utilized where appropriate, including but not limited to the following:

- Point of sale materials,
- Awareness campaigns,
- Social media,
- Branded displays,
- Promotional incentives such as coupons, and
- Media buys.

3.4 Research and Development

Research and development (R&D) activities will be implemented as required to address barriers where materials are underperforming in terms of collection and/or recycling targets.

R&D investments will be:

- Linked to targets for each material and to the progress required to meet those targets;
- Funded by the material(s) benefitting by the activities with no cross-subsidization; and
- Implemented through partnerships, wherever possible, with other organizations, such as private sector service providers, municipalities and government agencies.

The need for material specific R&D will be considered during development of each annual MHSW operation plan. Where required, the costs will be incorporated into material specific costs and recovered in stewards' fees.

4. Program Cost Elements

Stewardship Ontario incurs two types of costs to deliver the activities described in Section 3:

- Common costs which are common to all materials. Currently, 15% of common costs are allocated to all materials on an equal basis and 85% are allocated in proportion to the direct cost of managing each material. These allocations and methods may, from time to time, be updated as required to respond to changes in business conditions and best practice inputs. Common costs are generally fixed and, once set in an approved budget, can, for the most part[8], be controlled by Stewardship Ontario.
- Material specific costs which pertain directly to the collection, transportation, processing, P&E and R&D for each material. Collection, transportation and processing are variable and fluctuate with the quantity of MHSW managed. P&E and R&D costs, once set in an approved budget, can be controlled by Stewardship Ontario[9].

4.1 Common Costs

Common costs include the following components:

- Plan Development Costs
- Corporate Costs
    - Program Management
    - Material and Supplier Management
    - Steward Registration and Compliance Management
    - Shared P&E
- Regulatory Activities
    - WDO Monitoring

[8] Stewardship Ontario cannot control costs incurred by WDO related to the MHSW Program Plan which are invoiced to Stewardship Ontario.
[9] Annual reports containing audited financial statements are available on the Stewardship Ontario website.

- MOE Enforcement

Plan Development Costs

Costs associated with development of this revised MHSW Program Plan will be allocated to MHSW stewards.

Program Management

Stewardship Ontario manages delivery of the MHSW program including:

- Administration and governance (including staffing, legal, finance, board expenses, rent, I/T, insurance, office overhead). These costs are shared with the Blue Box program.
- Development of performance management systems to measure and monitor plan performance relative to objectives e.g. waste audits, performance scorecard. These costs are shared with the Blue Box program.
- Development and maintenance of integrated information systems to automate core functions such as finance, steward registration and reporting as well as materials tracking to allow for monitoring of material flow, final disposition and proper cost allocation. These costs are shared with the Blue Box program.
- Coordination of research and development activities.

Costs are fully recoverable in each program year with the exception of information system costs which are amortized over a five year period in accordance with established accounting rules.
Stewardship Ontario also undertakes the following activities to manage suppliers who provide services to Stewardship Ontario and for designing and executing key business processes to ensure the integrity of the materials management system:

- Field operations to oversee the collection, transportation, and processing of MHSW in accordance with vendor standards established by Stewardship Ontario.
- Processor audits to verify final disposition of materials and to verify claims for incentive and contractual payments.

Steward Registration and Compliance Management

Stewardship Ontario provides the following compliance services to enable stewards to register with Stewardship Ontario and comply with the Rules for Stewards to discharge their legal obligations under the WDA:

- Proactive customer service to facilitate the registration, reporting and payment process
- On-line registration and reporting
- Auditing of steward reports
- Administration of payments system
- Development and maintenance of compliance and enforcement procedures
- Enforcement activities

Shared P&E

Stewardship Ontario develops and implements a province-wide P&E campaign designed to motivate appropriate behaviour among generators of MHSW. These activities are described in Section 3.3.

WDO Monitoring and MOE Enforcement

WDO invoices Stewardship Ontario for its costs associated with overseeing implementation of the approved MHSW Program Plan, monitoring the efficiency and effectiveness of the MHSW program and ensuring that Stewardship Ontario meets its obligations under the Plan and program agreement.

Under the WDA, the MOE may charge reasonable fees to an IFO for enforcement activities. An annual enforcement budget for the revised MHSW Program Plan is established through a memorandum of agreement between Stewardship Ontario and the MOE. Stewardship Ontario forwards the non-compliant Steward's information to the MOE for enforcement action. MOE then invoices Stewardship Ontario for its costs associated with their activities to enforce the MHSW Rules for Stewards.

4.2 Material Specific Costs

Material specific costs include the following cost components:

- Collection
- Transportation
- Processing
- Material Specific P&E
- Material Specific R&D
- Material Specific Field Services, Audits, Lab-Packs
- Any other cost that can be directly attributed to a specific material

All material specific costs are tracked and allocated by material.

Collection

Collection of MHSW includes the activities and operations of receiving the material from residents and IC&I generators at a collection point or site. Specific tasks include but are not limited to:

- Preparation/promotion for collection
- Setup
- Receipt of material
- Classification/organization of material
- Reuse material management

- Storage in shipping containers
- Records maintenance
- Preparation for transport, including sorting and packing
- Reporting to Stewardship Ontario

Factors in payment for service are based on commercial terms between Stewardship Ontario and the Collector. These may include, but are not limited to:

- Approval status as a Collector with Stewardship Ontario
- Adherence to all Stewardship Ontario standards, guidelines and procedures
- Hours of public accessibility at collection sites
- Quantity of material collected
- Packing effectiveness

Not all collection sites are paid to perform collection activities.

Transportation

Transportation activities include but are not limited to:

- Transporting and unloading empty containers to be used to store MHSW at the collection sites
- Loading and transporting drums, shipping containers, roll-off containers, etc. containing MHSW from the collection site to a consolidation centre and/or processor
- Weighing containers
- Consolidation activities, including the unloading of trucks with containers of different materials, unpacking, repacking, storing, preparing for shipping, documenting and shipping of consolidated loads to end processors, recyclers or disposal facilities.
- Reporting to Stewardship Ontario

Factors in payment for service are based on commercial terms between Stewardship Ontario and the transporter. These may include, but are not limited to:

- Approval status as a transporter with Stewardship Ontario
- Adherence to all Stewardship Ontario standards, guidelines and procedures
- Quantity of material transported
- Distance or time travelled
- Provision of supplies

Processing

Processing, recycling and disposal activities include but are not limited to:

- Recycling
- Treatment of material
- Disposal of residual material following recycling/treatment
- Reporting, including quarterly reports, to Stewardship Ontario

Factors in payment for service are based on commercial terms between Stewardship Ontario and the processor. These may include, but are not limited to:

- Approval status as a transporter with Stewardship Ontario
- Adherence to all Stewardship Ontario standards, guidelines and procedures
- Material type
- Quantity recycled/disposed
- Commodity value

Material Specific P&E

Stewardship Ontario develops and implements material specific P&E activities as appropriate for each MHSW material. These activities are described in Section 3.3.

Material Specific R&D

Stewardship Ontario implements R&D activities as required to address barriers where materials are underperforming in terms of collection and/or recycling targets. These activities are described in Section 3.4.

Material Specific Field Services

To support material management, Stewardship Ontario undertakes audits of lab-packs and provides other material specific field services such as registration and approval of new Service Providers, collection site network development and vendor record auditing.

4.2.1 Costs Associated with Orphan Waste

Should Orphan Waste be delivered to MHSW collection sites, costs to manage these materials are allocated across all stewards of the MHSM Category. If the quantity of Orphan Waste is determined to be material, service providers will be notified that, as of a specified date, Stewardship Ontario will no longer accept responsibility for the Orphan Waste.

4.3 Total Program Costs

MHSW program costs are a total of common costs and material-specific costs.

Stewardship Ontario will prepare year to date program costs and performance to target and make this information available to MHSM stewards on a quarterly basis.

4.3.1 Managing Historic Deficits

Stewardship Ontario recovers quarterly program costs related to each MHSW Material. As such, material deficits are not accumulated for program years beginning in 2012. Pursuant to

O. Reg. 11/12 deficits incurred from July 1, 2008 through to December 31, 2011 are recovered by charging stewards a deficit recovery fee.

4.4 Fee Calculation

4.4.1 Principles

Stewardship Ontario's guiding principles for calculating Steward fees are as follows:

- The cost to manage each MHSW Material will be determined by a transparent cost allocation methodology.
- Common and shared costs will be assessed across all Stewards in a fair and transparent manner.
- Costs will be allocated based on data reported by all identified obligated Stewards subject to quality control processes.
- Fees will cover common and material-specific costs and will be allocated to Stewards based on the proportion of MHSM that Stewards supply into the Ontario market.
- Fees will be recovered consistent with Ontario Regulation 11/12.
- Costs associated with the management of MHSW collected under the MHSW program for which a Steward for the product cannot be identified, if not material, will be attributed to Stewards in a fair and reasonable manner.
- Stewardship Ontario will allocate costs within MHSM Categories where reasonable to reflect different costs to manage and to incentivize greater diversion of waste from disposal.

Stewardship Ontario implements these principles by utilizing the following approaches to calculating Steward fees:

1. Where costs are submitted by service providers for commingled materials[10], allocation of costs for each material is based on a cost allocation model informed by composition audits, cost allocation studies and other analyses to identify the relative cost share for each material. This cost allocation will be modified in future periods should data compiled during program operation identify more appropriate cost drivers.
2. The costs associated with managing containers used to deliver MHSW to MHSW collection sites are included in MHSM stewards' fees.
3. The costs associated with managing empty MHSW containers within the municipal Blue Box system are included in Blue Box stewards' fees.

[10] Commingled materials are two or more materials packed together.

4. Where Stewards are not required to report MHSM Supplied into the Ontario market under the Rules for Stewards[11], costs will be allocated to Stewards in proportion to the relative quantities of MHSW Materials collected (return share). Stewardship Ontario will calculate the return share for each Steward by dividing the weight of MHSW Material identified for each Steward that has been collected by the total weight of MHSW Material identified for all Stewards of that MHSM Category that has been collected, then multiplying the quotient by one hundred percent. The fees charged to each Steward identified will be calculated by multiplying the resulting return share for each Steward by the total cost incurred to manage the MHSW Material.

Return Share

$$\text{Return Share} = \frac{\text{Amount Collected (of each Steward's MHSM)}}{\text{Total Amount Collected (of } \textit{all} \text{ Stewards of the MHSM Category)}} \times 100$$

Fee Calculation

Fee = Return Share x Total Cost (for the MHSM Category)

5. Stewardship Ontario will manage Orphan Waste collected, allocating costs to the corresponding MHSM Category. If the cost to manage Orphan Wastes is material, Stewardship Ontario will not accept responsibility for collection or management of the Orphan Waste nor the related costs given that a commercial connection cannot be established between the costs incurred and Stewards under the MHSW Program Plan.

4.4.2 Continuous Improvement

4.4.2.1 Subsequent Year Data Sources

Fee calculations for future years of the MHSW Program Plan will use updated data from the following sources:

- Stewards' reports received;
- Contracts and other service agreements between Stewardship Ontario and service providers for the management of MHSW;
- Composition audits, cost allocation studies and other analyses to identify material management cost drivers resulting in revised cost allocation methodologies;
- Determination of R&D, capital investments and/or service agreements required to expand collection and recycling infrastructure for MHSW and to meet collection and recycling targets;

[11] In the event that data on the quantity collected are determined to be a better basis for cost allocation than the quantity supplied as reported by Stewards.

- Analysis of program effectiveness and efficiency in meeting performance targets for collection and recycling of MHSW; and
- Results of research and monitoring of P&E activities.

4.4.2.2 Modification of MHSM Categories

MHSM Categories will be reviewed on a yearly basis and may be aggregated or disaggregated if and as information becomes available that supports more accurate cost allocation through these actions.

4.4.2.3 Consideration of Differences within MHSW Materials

MHSW Materials will be reviewed to identify differences in collection and recycling performance, the relative cost to manage MHSW Materials or to meet other MHSW Program Plan policy objectives and may be aggregated or disaggregated if and as information becomes available that supports more cost effective program delivery and/or more accurate cost allocation through these actions.

5. Program Performance

Collection and recycling targets and other program performance metrics are established as a benchmark against which Stewardship Ontario can report annual program performance.

Collection and recycling targets expressed as percentages may be revised if MHSM Categories or MHSW Materials are aggregated or disaggregated.

5.1 Collection Targets Expressed as Percentages and Methodology for Calculating Collection Targets Expressed as Tonnes

Table 6.1 sets out collection targets expressed as percentages, as a continuation of the previous program plan and, where targets have been projected, taking into account current collection rates and trends in collection performance. As Years 4 and 5 are the eighth and ninth years of the MHSW program, slower growth in collection performance is expected, reflected in Tables 5.1 and 5.3.

Table 5.1 – Collection Targets Expressed as Percentages for 2013 (Year 1) to 2017 (Year 5)

Material Category	Year 1 2013 (% of A/C)	Year 2 2014 (% of A/C)	Year 3 2015 (% of A/C)	Year 4 2016 (% of A/C)	Year 5 2017 (% of A/C)
Antifreeze	40%	45%	50%	54%	57%
Fertilizers	Not available	Not available	Not available	Not available	Not available
Oil Containers	42%	47%	52%	57%	62%

Material Category	Year 1 2013 (% of A/C)	Year 2 2014 (% of A/C)	Year 3 2015 (% of A/C)	Year 4 2016 (% of A/C)	Year 5 2017 (% of A/C)
Oil Filters	75%	80%	85%	88%	90%
Paints and Coatings	57%	67%	77%	80%	82%
Pesticides	55%	56%	57%	57%	57%
Pressurized Containers					
Non-refillable	25%	35%	45%	50%	54%
Refillable	93%	97%	98%	98%	98%
Single Use Dry Cell Batteries	25%	30%	35%	35%	35%
Solvents	46%	46%	46%	46%	46%

Collection targets expressed as tonnes are calculated by multiplying the collection target percentage by the tonnes of MHSW available for collection.

Collection Target as Tonnes

$$\text{Collection target as tonnes} = \text{Collection target percentage} \times \text{Available for collection as tonnes}$$

The collection performance rate expressed as a percentage is calculated as follows:

Collection Performance Rate

$$\text{Collection Performance Rate \%} = \frac{\text{Amount Collected}}{\text{Available for Collection}} \times 100$$

5.2 Recycling Efficiency Rates

The following table sets out recycling efficiency rates.

Table 5.2 – Recycling Efficiency Percentage Rates

Material Category	Percentage Target
Antifreeze	100%
Fertilizers	Reuse or safe disposal
Oil Containers	100%
Oil Filters	100%
Paints and Coatings	70%

Material Category	Percentage Target
Pesticides	Reuse or safe disposal
Pressurized Containers	
Non-refillable	100%
Refillable	100%
Single Use Dry Cell Batteries	76%
Solvents	10%

Recycling efficiency rates will be revised as new technologies emerge that enable improved recycling rates.

The recycling efficiency rate expressed as a percentage is calculated as follows:

Recycling Efficiency Rate

$$\text{Recycling Efficiency Rate \%} = \frac{\text{Recycled (material recycling)}}{\text{Collected - Reuse}} \times 100$$

5.3 Recycling Performance Targets Expressed as Percentages and Methodology for Calculating Recycling Performance Targets Expressed as Tonnes

The recycling performance rate expressed as a percentage is calculated as follows:

Recycling Performance Target as a Percentage

$$\text{Recycling performance target as a percentage} = \text{Recycling efficiency rate} \times \text{Collection target as a percentage}$$

The following table sets out recycling performance targets expressed as percentages calculated by multiplying the percentages in Tables 5.1 and 5.2.

Table 5.3 – Recycling Performance Targets Expressed as Percentages for 2013 (Year 1) to 2017 (Year 5)

Material Category	Year 1 2013 (% of A/C)	Year 2 2014 (% of A/C)	Year 3 2015 (% of A/C)	Year 4 2016 (% of A/C)	Year 5 2017 (% of A/C)
Antifreeze	40%	45%	50%	54%	57%
Fertilizers	Reuse or safe disposal				
Oil Containers	42%	47%	52%	57%	62%
Oil Filters	75%	80%	85%	88%	90%
Paints and Coatings	40%	47%	54%	56%	57%

Material Category	Year 1 2013 (% of A/C)	Year 2 2014 (% of A/C)	Year 3 2015 (% of A/C)	Year 4 2016 (% of A/C)	Year 5 2017 (% of A/C)
Pesticides	Reuse or safe disposal				
Pressurized Containers					
Non-refillable	25%	35%	45%	50%	54%
Refillable	93%	97%	98%	98%	98%
Single Use Dry Cell Batteries	19%	23%	27%	27%	27%
Solvents	5%	5%	5%	5%	5%

Recycling performance targets expressed as tonnes are calculated by multiplying the recycling performance target percentage by the tonnes of MHSW available for collection.

Recycling Performance Target as Tonnes

$$\text{Recycling performance target as tonnes} = \text{Recycling performance target percentage} \times \text{Available for Collection as tonnes}$$

The recycling performance rate expressed as a percentage is calculated as follows:

Recycling Performance Rate

$$\text{Recycling Performance Rate \%} = \frac{\text{Amount Recycled (material recycling)}}{\text{Available for Collection}} \times 100$$

5.4 Performance Metrics

Stewardship Ontario has developed a performance measurement system to support program monitoring and comparison of performance with other diversion programs.

Stewardship Ontario's performance measurement framework is designed to report on the key outcomes required to meet its collection and recycling targets in an economically-sustainable manner:

- Maximize efficiency of collection and recycling programs,
- Nurture a fair and competitive marketplace,
- Achieve full compliance with all applicable legislation, and
- Earn and maintain the trust and confidence of stakeholders.

Stewardship Ontario will report the following metrics, by material, in its annual report:

- Financial performance:
  - Revenue
  - Costs
- Material management performance:

- Collection – actual rate and tonnage, and variance to targets
- Recycling – actual rate and tonnage, and variance to targets

Stewardship Ontario reports quarterly to Waste Diversion Ontario via an industry funding organization report template. Metrics reported include year-to-date performance in:

- Steward management
- Compliance/audit
- Service provider management
- Financial position
- Accessibility
- Program performance
- Education, outreach, and research & development

Stewardship Ontario reports program costs and collection performance, by material, to obligated stewards via the steward portal, following each operating quarter.

7. Stewardship Ontario Governance

8. Program Agreement
Schedule A Rules for Stewards

Appendix A – Assumptions for Calculating Quantity Available for Collection and Process for Continuous Improvement

The following table sets out the Available for Collection factors as of July 2012. Those containers used to deliver Antifreeze, Fertilizers, Paints and Coatings and Pesticides and Solvents to MHSW collection sites and containers emptied of Antifreeze by automobile service businesses in their role as a Do-if-for-me service provider are also included in the quantities Available for Collection expressed as tonnes using the factors below.

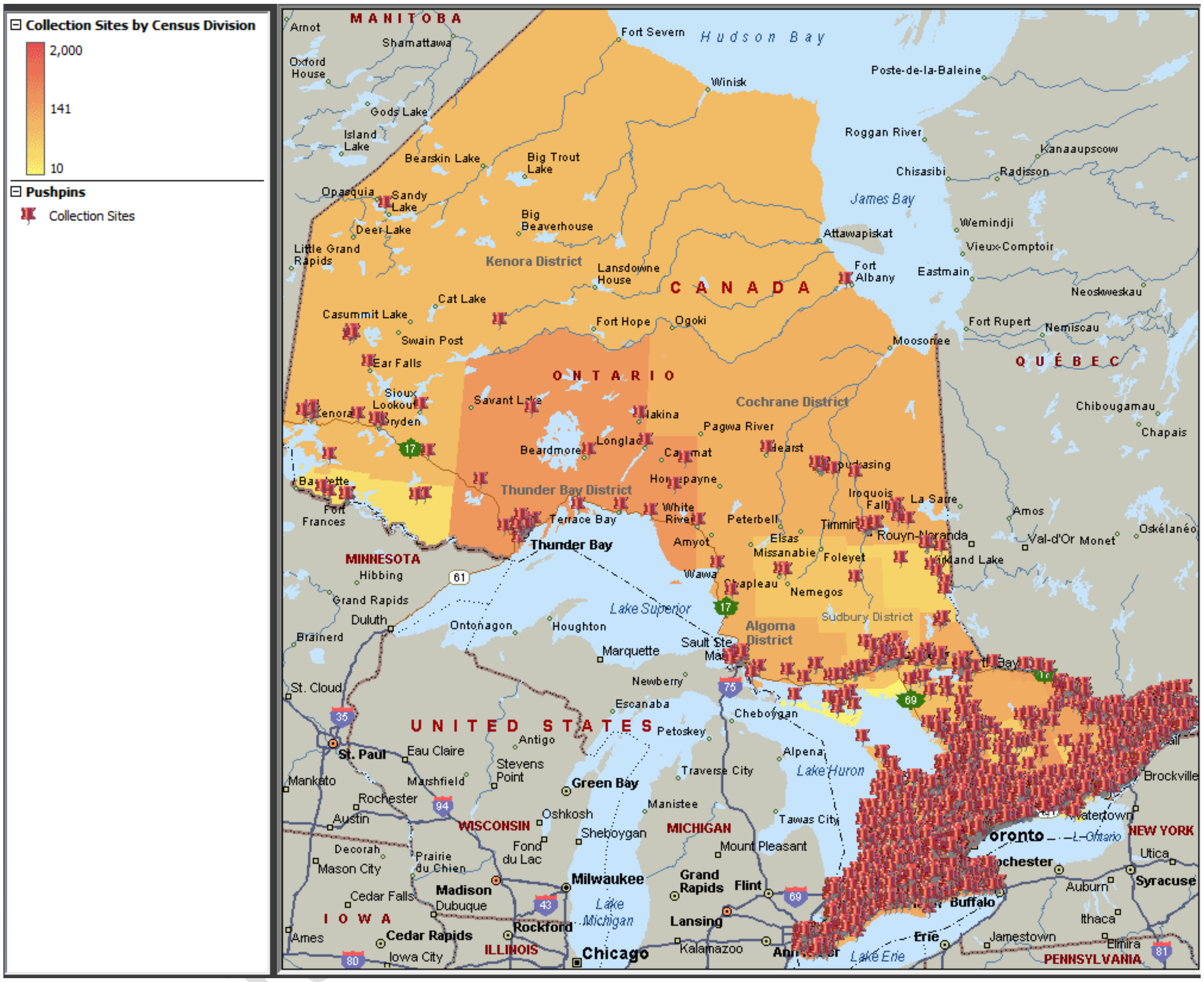
Material Category	2012
Antifreeze[1]	65%
Fertilizers[2]	2%
Oil Containers[3]	93%
Oil Filters[4]	153%
Paints and Coatings[5]	10%
Pesticides[6]	25%
Pressurized Containers	
Non-refillable[7]	49%
Refillable[8]	10%
Single Use Dry Cell Batteries[9]	101%
Solvents[10]	35%

1 - 50% of Antifreeze Supplied is diluted and 50% is concentrated. 50% of packaged Antifreeze is lost during service or use. 70% of bulk Antifreeze is lost during service or use. 72% of Antifreeze is supplied as packaged. Glycol has a weight of 1.15 kg / l.
2 - The quantity of Fertilizers available for collection is difficult to estimate as the product is intended to be used up by the resident. An estimate of the quantity available for collection has been made based on operating experience.
3 - About 34% of Oil Containers (by weight) are 20 litre pails and about 20% of that amount is repurposed by the agricultural sector and is not available for collection.
4 - 100% of Oil Filter units are available for collection. The weight of a used Oil Filter includes the weight of the Oil Filter and any residual oil or other contaminants. A used Oil Filter weighs an average of 53% more than the weight of a new Oil Filter.
5 - It is estimated that 10% of the original quantity of Paints and Coatings supplied is unused and becomes available for collection.
6 - The quantity of Pesticides available for collection is difficult to estimate as the product is intended to be used up by the resident. An estimate of the quantity available for collection has been made based on operating experience.
7 - 100% of non-refillable Pressurized Containers supplied are available for collection. A used non-refillable Pressurized Container weighs an average of 49% of the weight of a new non-refillable Pressurized Container due to the extraction of the contents during use.
8 - Industry estimates that over 90% of refillable Pressurized Containers are managed under industry's life cycle management programs, leaving 10% or less available for collection under the MHSW program.
9 - The quantity of Single Use Dry Cell Batteries available for collection is adapted from the *Directive 2006/66/EC of The European Parliament and of The Council*, whereby the quantity is based on a three year average of batteries supplied, recognizing that ultimately 100% of batteries are available for collection over time. The factor is calculated as: Average (Year 1 Supplied, Year 2 Supplied, Year 3 Supplied) / Year 3 Supplied
10 - It is estimated that 65% of the original quantity of Solvents supplied is consumed during use.

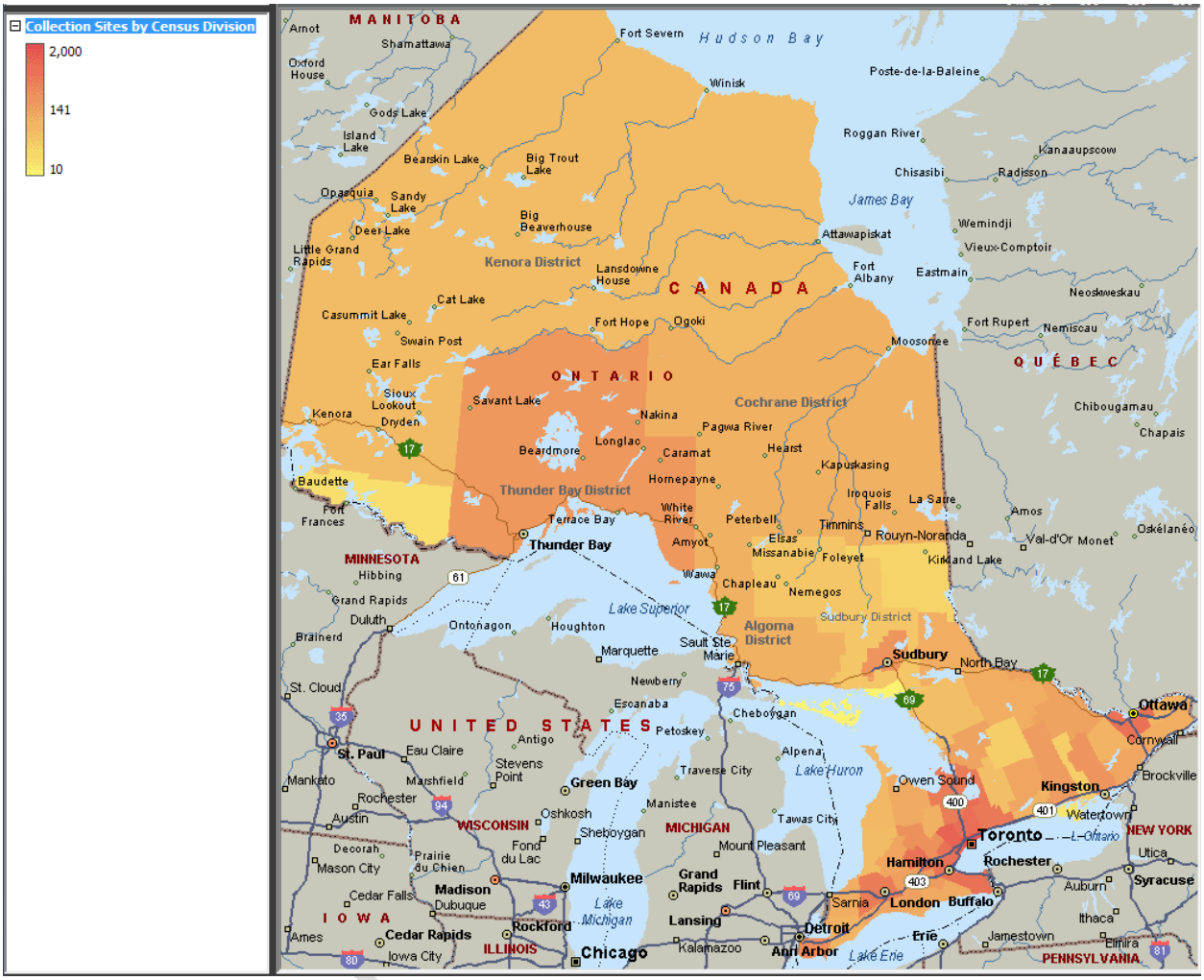
Stewardship Ontario conducts and reviews market research to validate assumptions and identify required adjustments to the available for collection factors. The revised available for collection factors are used to recalculate available for collection tonnes and collection target tonnes.

Appendix B – Collection Network as of July 2012

The following map shows the locations of collection sites for MHSW Materials operating under the MHSW program.



The following map presents gradient shading of Ontario's census divisions reflecting the number of collection sites for MHSW Materials operating under the MHSW program.



Appendix C – Ontario Consolidated Regions

The following table shows the Statistics Canada census subdivisions in each region of the province.

Central	Brant, Dufferin, Durham, Grey, Haliburton, Halton, Hamilton, Kawartha Lakes, Muskoka, Niagara, Peel, Simcoe, Toronto, York
East	Frontenac, Hastings, Lanark, Leeds and Grenville, Lennox and Addington, Northumberland, Ottawa, Perth, Peterborough, Prescott and Russell, Prince Edward, Renfrew, Stormont, Dundas and Glengarry
North	Algoma, Cochrane, Greater Sudbury / Grand Sudbury, Kenora, Manitoulin, Nipissing, Parry Sound, Rainy River, Sudbury, Thunder Bay, Timiskaming
West	Bruce, Chatham-Kent, Elgin, Essex, Haldimand-Norfolk, Huron, Lambton, Middlesex, Oxford, Waterloo, Wellington