

FIRST NATIONS

Environmental Public Health Program



Canada

Environmental Public Health Overview

- Conditions in the environment, both natural and human-built, can affect a person's ability to achieve and maintain good health.
- An Environmental Public Health Program prevents or identifies environmental public health risks that could impact the health of community residents.
- It also includes recommending corrective action to reduce these risks.
- In support of Health Canada's mission to help the people of Canada maintain and improve their health, the First Nations Environmental Public Health Program provides services to First Nations communities south of 60 degrees.



Role of Environmental Health Officers

- EHOs provide advice, guidance, education, public health inspections and recommendations to First Nations and their leadership to help them manage public health risks associated with the environment.
- They gather data required to analyze what steps can be taken to promote public health in First Nations communities.
- Some EHOs are employed by Health Canada and some by First Nations or Tribal Councils.
- All EHOs working in First Nations communities must have a Certificate in Public Health Inspection (Canada).



Ontario Organization

Sioux Lookout

- Senior EHO - Sioux Lookout
- 4 EHOs: all in Sioux Lookout
- 31 First Nations

Thunder Bay West

- Senior EHO - Thunder Bay
- 4 EHOs: Kenora, Fort Frances, Thunder Bay (2)
- 39 First Nations

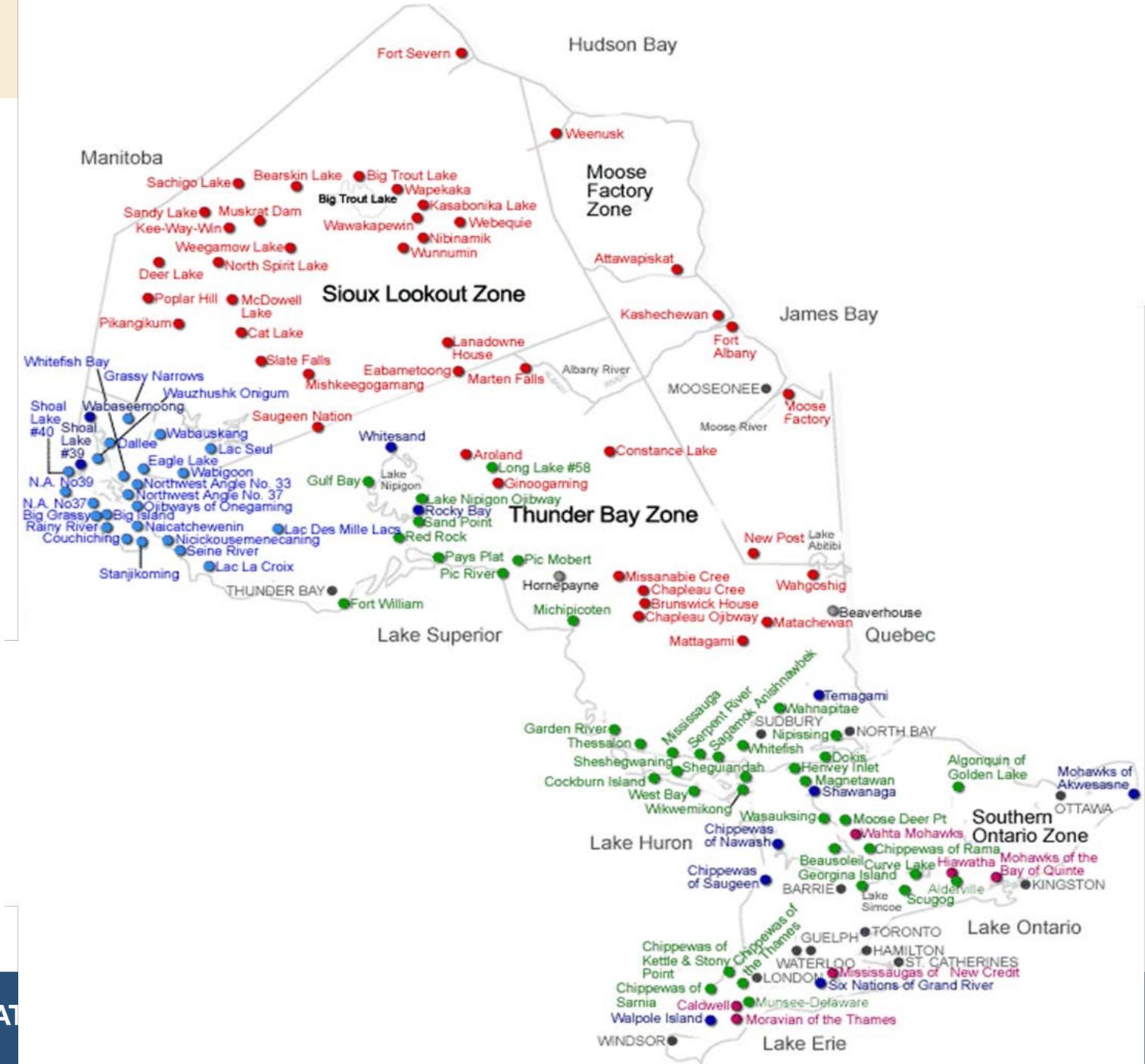
Thunder Bay East

- Senior EHO – Sudbury
- 5 EHOs: Sault Ste Marie, Sudbury(2), Timmins(2)
- 39 First Nations

Southern Ontario

- REHM - Brantford
- Senior EHO - Brantford
- 5 EHOs: London, Brantford, Washago, Toronto, Ottawa
- 1 transferred EHO serving Akwesasne
- 25 First Nations





Authorities

- FNIHB provides or funds environmental public health programs services to First Nations based on discretionary government policy and considerations in the absence of any statutory authority.

Policies are consistent with:

- The 1979 Indian Health Policy
- The *Department of Health Act*
- The federal jurisdiction over “Indians, and Lands reserved for the Indians” under s. 91(24) of the *Constitution Act, 1867*.



Authorities

- The Program is funded or delivered pursuant to parameters set out in the *National Framework for the Environmental Public Health Program in First Nations Communities South of 60°*, and it is at the request and/or with the agreement of First Nations Authorities.
- The Department owes a duty of care when activities are undertaken and can be held liable in negligence if services are not performed diligently.



Environmental Public Health Programming

- The following slide lists our eight core programs that may be delivered depending on community needs.
- Each core program has aspects of inspection, training and public education as per community workplans.



Core Programs

Drinking
Water

Food Safety

Health and
Housing

Wastewater

Solid Waste
Disposal

Facilities
Inspection

Communicable
Disease
Control

Emergency
Preparedness
and Response



Solid Waste Disposal

Solid waste, or garbage, presents a **public health hazard** if it is not managed properly.

- For example, tires, appliances, furniture, and abandoned cars may pose health and safety risks.
- Waste disposal sites can attract disease-spreading pests and can leach pollutants that contaminate the air, soil and water, including drinking water supplies.



Solid Waste Disposal

The Environmental Public Health Program works with the community and other agencies

to help limit public health risks posed by solid waste disposal.



Solid Waste Disposal Activities

1) Environmental Public Health Assessment:

- Provide public health inspections of disposal sites and transfer stations.
 - Inspections may evaluate the method of solid waste collection, site operation, containment of waste, types of waste being disposed, pest control, soil conditions, groundwater conditions, and leachate analysis.
- Review plans for new or upgraded solid waste disposal sites or practices (e.g., transfer stations) from a public health perspective.
- Provide advice, guidance and recommendations to Chiefs, Councils, builders, owners, site operators and First Nations residents about public health issues related to solid waste disposal.
- Review plans and provide recommendations to Chiefs, Councils and site operators for safe decommissioning of disposal sites.

Solid Waste Disposal Activities

2) Public education:

- Provide public education with respect to public health aspects of solid waste disposal.
- Provide information / referrals related to recycling programs, disposal of hazardous waste (e.g., batteries, paints), and safe collection and storage of waste, upon request.



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Solid Waste Disposal Activities

1) Environmental Public Health Assessment: **Inspection Sample**



Solid Waste Facility Inspection Form

*First Nation:	*Community:	*Facility Name:
Operator:	Address:	Phone Number:
Land Location/GPS: Zone: _____ Longitude: Degrees ___ Minutes ___ Seconds ___ Latitude: Degrees ___ Minutes ___ Seconds ___ Altitude : ___		
*Facility's Operating Status: Pending <input type="checkbox"/> Active <input type="checkbox"/> Temporary/Special Event <input type="checkbox"/> Inactive <input type="checkbox"/>		Ownership: Band <input type="checkbox"/> Gov't <input type="checkbox"/> Leased <input type="checkbox"/> Private <input type="checkbox"/>
*EHO:	Accompanied by:	*File Status: Active <input type="checkbox"/> Closed <input type="checkbox"/>
*Type (select one): Collection Only <input type="checkbox"/> Compost Facility <input type="checkbox"/> Dump Site <input type="checkbox"/> Engineered Landfill <input type="checkbox"/> Hazardous Waste Depot <input type="checkbox"/> Recycling <input type="checkbox"/> Transfer Station <input type="checkbox"/>		
Size: _____	Construction Year: _____	
Water Supply: Public <input type="checkbox"/> Semi Public - Well <input type="checkbox"/> Semi Public - Cistern <input type="checkbox"/> Individual - Well <input type="checkbox"/> Individual - Cistern <input type="checkbox"/>	Wastewater Disposal: Community <input type="checkbox"/> Onsite <input type="checkbox"/>	
Inspection Type (select one): Request <input type="checkbox"/> Request-Follow Up <input type="checkbox"/> Routine <input type="checkbox"/> Routine-Follow Up <input type="checkbox"/>		*Inspection Date (yyyy/mm/dd):
If request, *Why Requested? (select all that apply): Mould <input type="checkbox"/> Pests <input type="checkbox"/> Design/Construction Issues <input type="checkbox"/> Indoor Air Quality - Other <input type="checkbox"/> Sewage Malfunction <input type="checkbox"/> Water Infiltration <input type="checkbox"/> Drinking Water Issues <input type="checkbox"/> Emergency <input type="checkbox"/> Suspected/Confirmed Foodborne Illness <input type="checkbox"/> Suspected/Confirmed Waterborne Illness <input type="checkbox"/> Suspected/Confirmed <u>Vectorborne</u> Illness <input type="checkbox"/> Other <input type="checkbox"/> *Provide details:		
*Existing Onsite Sewage Disposal System Inspected?: Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> *If yes, complete the existing onsite sewage checklist form.		

Solid Waste Facility Checklist

S – Satisfactory; U – Unsatisfactory; N/AP – Not Applicable; N/AS – Not Assessed; C- Corrected During Inspection

	S	U	N/AP	N/AS	C	*Details/Comments (if U and C are selected) If more space is required, write your comments on blank paper and note the category title or #.
Exterior Structure/Conditions						
*1. Facility Location						
Site Operation and Disposal						
*2. Segregation						
*3. Collection Service						
*4. Operation and Maintenance						
*5. Operator Training/Qualification						
Sanitation						
*6. Pest Control						
General Safety Issues						
*7. Security/Signage						
*8. First Aid Readiness						
Policies and Procedures						
*9. Policies and Procedures						
*10. Emergency Response Plan						

Inspection Stats and Scheduling

*Mandatory - Information MUST be filled in.

Version 1.0: April 2, 2012

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Health
Canada Santé
Canada

Your health and
safety... our priority.

Votre santé et votre
sécurité... notre priorité.

Guidelines for the Review of Solid Waste Project Proposals in First Nations Communities South of 60°

Prepared by:

Environmental Public Health Division

First Nations and Inuit Health Branch

Health Canada June 2014

Pub.: 140091

Canada

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1.1 Purpose of the Guidelines

The *Guidelines for the Review of Solid Waste Project Proposals in First Nations Communities South of 60°N* (“the Guidelines”) provide a step-by-step guide for Health Canada’s First Nations and Inuit Health Branch (FNIHB) project reviewers when reviewing proposals for solid waste projects in First Nations communities from a public health perspective. Project reviewers include both Environmental Health Officers (EHOs) and Public Health Engineers (PHEs).

The Guidelines describe Health Canada’s high-level review objectives, provide an overview of the review process, and define how Health Canada reviewers should use these guidelines in practice.

Note: The approach to proposal review described by the Guidelines is not exhaustive; it discusses only the most critical and potential health risks involved in solid waste management. See Appendix D for a list of relevant provincial guidelines and standards.

2.0 Roles and Responsibilities

2.1 Health Canada

As defined in the *Department of Health Act*, 1996, Health Canada's general mandate includes coordinating efforts to preserve and improve public health. The role of EHOs and PHEs in carrying out this mandate during the review process is outlined in three parts:

Part 1: Determine if the proposed solid waste management system identifies and addresses the main health risk factors related to:

- Surface water and groundwater quality
- Air quality
- Facility safety and animal control.

Part 2: Based on experience with similar installations, determine if the proposed system can realistically meet the designer's performance claims.

Part 3: Determine if the designer's performance claims meet existing provincial requirements for solid waste management.

2.2 Environmental Health Officer

The EHO is responsible for coordinating the review process on behalf of FNIHB. The EHO brings on-the-ground experience to the review process, including familiarity with the site, local conditions, and the community. As required, the EHO may engage a PHE to participate in the review process.

2.3 Public Health Engineer

At the request of an EHO, the PHE conducts the technical review of specific aspects of a given project from a public health perspective, following the review process outlined below.

Health Canada generally receives reports reflecting the planning or design of one of the following solid waste management facilities:

- Sanitary landfill site
- Transfer station
- Incinerator
- Composting facility

In addition, Health Canada may be asked to review reports that plan for the decommissioning of a pre-existing solid waste site.

3.1 Stages of Review

Reviews may take place during the feasibility and/or design stages of a project's development.

Note: For a project proposal to be reviewed by Health Canada, a complete study or design report must be submitted to the regional EHO. The review cannot be based on contract specification documents; such documents will not be accepted.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element:	Site Investigation and Selection
Relevant Projects:	Sanitary landfill sites, waste transfer stations, incinerators, composting facilities
Review Focus:	The site selected for a solid waste management facility affects the type and level of associated health concerns. For instance, the design of an incineration plant should identify downwind residents who will be most affected by the facility's air emissions. The design of a waste transfer station, sanitary landfill, or composting facility should identify nearby drinking water sources that could be contaminated by leachate or water runoff. While sanitary landfill sites are normally planned for 5 to 10 years of initial use, land should be reserved for 20 years of use

Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Leachate Control**

Relevant Projects: Sanitary landfill sites, waste transfer stations, composting facilities

Review Focus: **As rainwater moves through solid waste it can collect nitrogen, bacteria, and other potentially hazardous substances. It is important to design a liner system and a leachate collection system to reduce the risk of leachate leaving the solid waste site and contaminating nearby groundwater and/or surface water sources.**
The design should also include both physical protection from rainfall and snowfall and a drainage control system.

Solid Waste Management – Potential Risk Identification Elements of Review

1.

Element: Source Water Protection

Relevant Projects: Sanitary landfill sites, waste transfer stations, composting facilities

Review Focus: Leachate can travel through soil and contaminate nearby groundwater and surface water sources. By maintaining sufficient vertical and horizontal separation between the solid waste site and nearby water sources, leachate can be contained to minimize the public health risk and pollution of source waters.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Operational Practices**

Relevant Projects: Sanitary landfill sites, waste transfer stations, incinerators, composting facilities

Review Focus: Because improper maintenance or operation of a solid waste management site can cause contaminants to be released into the environment, the designer should provide operation and maintenance manuals and training to those who will be running it.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Waste Reduction**

Relevant Projects: Sanitary landfill sites, waste transfer stations, incinerators

Review Focus: **Diverting organic material and recyclables from disposal in a landfill site can increase the life of it and reduce the amount of potentially hazardous residue generated from incineration.** The designer should provide for recycling and composting materials to be collected, stored, and eventually disposed of in proper facilities

Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Pest Control**

Relevant Projects: Sanitary landfill sites, waste transfer stations, incinerators, composting facilities

Review Focus: **Rodents and other animals can spread contaminants in solid waste at the point it is generated and at the disposal facility. The designer should propose strategies to minimize and control the impact of nuisance animals,** including providing for compost and garbage collection bins with tightly-closing lids. To this end, the design of sanitary landfill sites and transfer stations should provide for daily cover.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element:	Air Emissions Control
Relevant Projects:	Sanitary landfill sites, waste transfer stations, incinerators
Review Focus:	<p>Incinerators can emit dioxins, furans, heavy metals and other harmful substances as by-products of combustion. Decomposing waste in a landfill can generate methane, which risks exploding in enclosed spaces. For each type of solid waste site, the designer should include monitoring and control systems for contaminants emitted to the air.</p>

Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Residue Management**

Relevant Projects: Incinerators

Review Focus: Residue (bottom ash and fly ash) created during incineration may contain dioxins, furans, and heavy metals that are hazardous to human health. The designer should provide for residue to be tested to figure out if it is hazardous waste, as defined by provincial regulations. The designer should include a disposal plan for hazardous and non-hazardous residue.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Security Measures**

Relevant Projects: Sanitary landfill sites, waste transfer stations, incinerators, composting facilities, decommissioning solid waste sites

Review Focus: Solid waste sites should be secured to prevent unauthorized access. Unsecured sites are at risk of unauthorized dumping, improper use of equipment or vandalism, any of which could cause contaminants to be released into the environment. Facility design should include security measures such as fencing, locks, and signage.



Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Hazardous Waste Management**

Relevant Projects: Sanitary landfill sites, waste transfer stations

Review Focus: Hazardous wastes are especially threatening to human health and the environment; they should not be landfilled alongside general waste. The designer should provide plans for hazardous waste collection, storage, and eventual disposal.

Solid Waste Management – Potential Risk Identification

Elements of Review

Element: **Post-Closure Care**

Relevant Projects: Decommissioning solid waste sites

Review Focus: A decommissioned sanitary landfill site still has the potential to contaminate nearby surface water and groundwater sources. After a sanitary landfill is closed, routine site inspections, landfill gas monitoring, and source water monitoring should take place to assess the continuing impact of the landfill on the surrounding environment.



Solid Waste Management

The Waste Stream...

- Solid waste can be hazardous or non-hazardous and is generated by many sources including residential, commercial, institutional and industrial.
- Used packaging, food scraps, old computers and newspapers generated by business and household activities are all examples of municipal solid waste. Residential waste is generated by households.



Solid Waste Management

The Waste Stream...

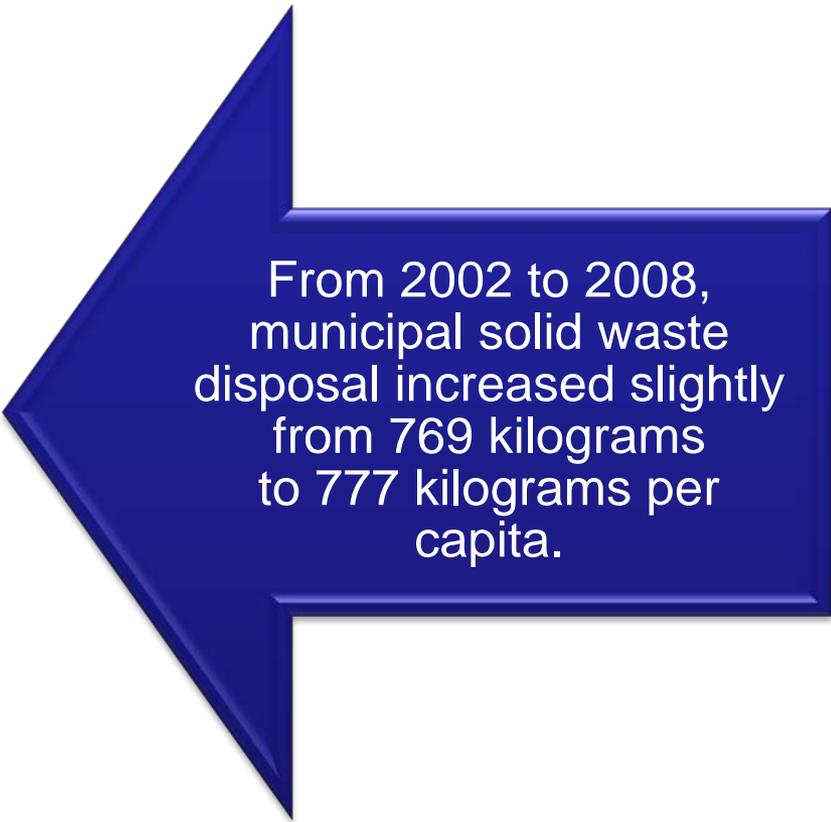
- Municipal solid waste can be managed through disposal in landfills or incinerators or can be diverted from disposal through recycling or composting.
- Waste diversion can reduce the demand for energy and new resources by re-using materials that have already been produced (for example, aluminum, glass, plastics and paper).
 - As a result, it can also reduce greenhouse gas emissions.

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>

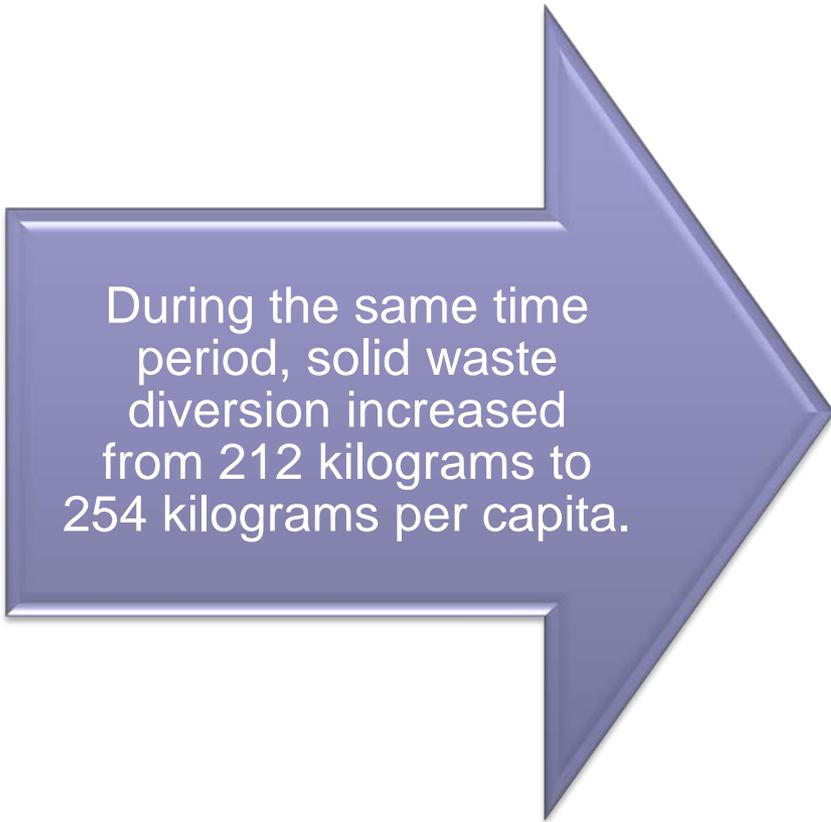


Solid Waste Management

The Waste Stream...



From 2002 to 2008, municipal solid waste disposal increased slightly from 769 kilograms to 777 kilograms per capita.



During the same time period, solid waste diversion increased from 212 kilograms to 254 kilograms per capita.

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>

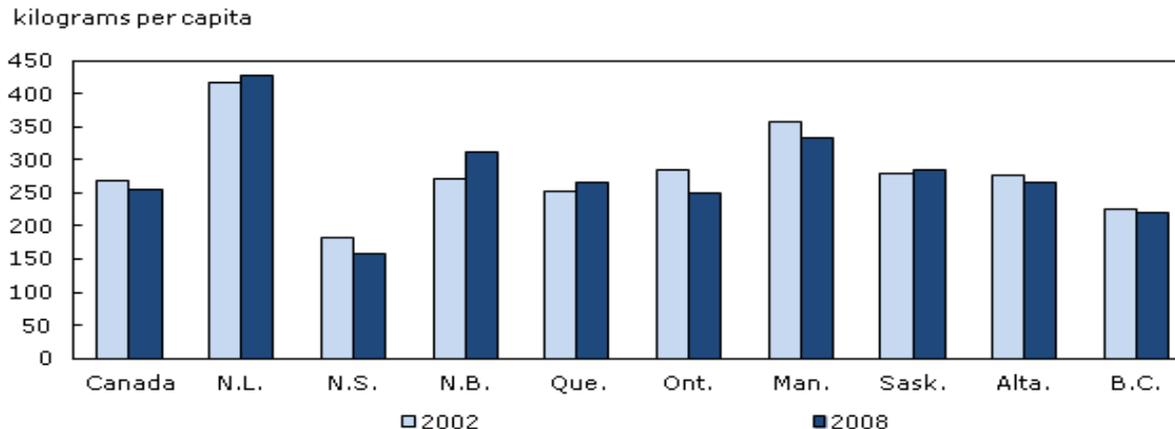
Solid Waste Management

The Waste Stream...

Chart 3.2

Per capita disposal of residential solid waste, Canada and provinces, 2002 and 2008

[Next](#) | [Previous](#)



Note(s): Quebec - The waste disposal data prior to 2006 were derived from a survey administered by RECYC-QUÉBEC. Residential non-hazardous waste disposal includes solid waste produced by all residences and includes waste that is picked up by the municipality (either using its own staff or through contracting firms), and waste from residential sources that is self-hauled to depots, transfer stations and disposal facilities.

Source(s): Statistics Canada, CANSIM tables 051-0001 and 153-0041 (accessed September 28, 2011).

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>



- In 2008
 - Canadians sent **25,871,310** tonnes of solid waste for disposal
 - **777** kilograms per capita
 - a 7% increase over 2002



Human Activity and the Environment - Waste management in Canada 2012 — Updated

Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>

Landfills

- Landfills are the primary means for the disposal of waste materials in Canada.
- The main environmental concerns related to landfills are leachate and landfill gas.



Landfills - leachate

- As liquid moves through the landfill, a variety of toxic and polluting components in large or trace amounts form leachate, which can potentially contaminate ground and surface water.
- Sanitary landfills control the types/quantities of incoming waste and use liners and leachate collection and treatment systems to prevent water and soil contamination.



Landfills - gas

- Landfill gas is formed as organic material decomposes in landfills.
- This gas is composed mainly of methane, a greenhouse gas (GHG) 21 times more potent than carbon dioxide (CO₂) in terms of its global warming potential.
- It also includes CO₂, small amounts of nitrogen and oxygen, and trace amounts of a wide range of other gases. Concerns about landfill gas include fires, explosions, vegetation damage and unpleasant odours.



Incineration

- Incineration includes a range of practices, from low-tech open burning to controlled combustion processes using mass burn systems and other types of modern incinerators using pollution control devices that burn waste at temperatures between 900 and 1,100°C.
- Less than 5% of municipal solid waste disposal goes to incineration in Canada.



Incineration

- One of the benefits of incineration is the reduction of the amount of waste for disposal. However, incineration creates gaseous waste and ash and can contribute to air pollution.



Incineration – air pollution

- Dioxins and furans, which are persistent organic pollutants, are potential contaminants from incineration.
- Toxic, bioaccumulative chemicals can result from incomplete combustion due to inadequate technology or improper incinerator operation.
- Mercury is another potential bioaccumulative contaminant that can be emitted when items containing mercury are placed into the incinerator.
 - Limiting the amount of mercury in waste as well as the use of specialized air pollution control equipment reduces releases of mercury.



Backyard (Open) Burning

dioxins ~ furans

- **Burning garbage** (in barrels, open pits, outdoor furnaces, woodstoves, or fireplaces)
- **Poses risks to those exposed directly to the smoke.**
 - Particularly those with sensitive respiratory conditions, as well as children and elderly



Scrap Tires

- 3 large scrap tire markets
 - Tire-derived fuel
 - Civil engineered applications
 - Ground rubber applications/rubberized asphalt
- US EPA markets exist for 80.4% of scrap tires



Solid Waste Management Programs within First Nation Communities

Successes

- Recycling programs, hazardous waste disposal, innovative initiatives
- Partnerships with corporations, regional/provincial districts, municipal landfills, other First Nations
 - Sharing of resources
 - Innovative initiatives
 - Broader access to technical support, training courses, and equipment
- Expansion of waste management options
- Establishment of effective waste prevention and recycling programs

Challenges

- Remoteness
- Limited funding
- Priorities (balancing needs of housing, education, health care, education, water system infrastructure against solid waste management)
- Jurisdiction
- Staffing/Capacity
- Weather/Climate
- Training



Education and Training Opportunities?



Natural Attenuation Landfill Training

Table of Contents
for Participants' Manual

- Agenda
- Modules 1-5 Slides (Tabs 1-5)
 1. Landfills and Contamination
 2. Landfill Design
 3. Landfill Operations and Maintenance
 4. Setting Goals for Your Landfill
 5. Landfill Site Visit
- Activities (Tab 6)
- Handouts (Tab 7)
- Glossary (Tab 8)
- Evaluation Forms (Tab 9)

Environment Canada - Pollution and Was... x Home | Waste Reduction Week-La Semain... x Northern Ontario First Nations Environme... x

www.wrwcanda.com

Getting Started Canadian Food Inspe... Healthy Canadians -R...

English Français
Need Help? Site Map

WASTE REDUCTION WEEK

about wrw get involved register ease my load recycle my cell general resources contact

WELCOME TO WASTE REDUCTION WEEK

Calling all Canadians to join the waste reduction movement!

Get involved

Groups and individuals from across Canada are celebrating Waste Reduction Week in Canada by rethinking, reducing, reusing and recycling. Go to the area that applies to you for resources and tools to start your own waste reduction action.

Schools Business Government Individuals & Non-profits

Share your actions

Register Your Event Proclaim Waste Reduction Week

Waste Reduction Week in Canada

Too Good to Waste Réduire c'est agir
October 20-26, 2014

Recycle My Cell Challenge

Students, get involved!

Waste Reduction Week in Canada



Solid Waste Diversion

WHAT IS WASTE DIVERSION?

Waste diversion directs garbage away from landfills or incinerators through reuse, recycling, composting or gas production through anaerobic digestion. Waste diversion is a key component of effective and sustainable waste management.

Waste management is the process of collecting, processing and disposing of waste.

Getting to 50% and Beyond: *Waste Diversion Success Stories* from Canadian Municipalities

Source: http://www.fcm.ca/Documents/tools/GMF/Getting_to_50_percent_en.pdf



WHY DIVERT WASTE FROM LANDFILLS?

Economic benefits

- » Fewer landfill sites are needed, saving the cost of creating new landfills or transporting waste to more distant landfills.
- » Diversion creates jobs: recycling 14,000 tonnes of waste creates nine jobs and composting it creates seven jobs, but landfilling it creates just one job.
- » Revenue can be generated from selling compost to the community.

Environmental benefits

- » Recycling uses less energy than disposal in a landfill and manufacturing with recycled materials is more energy-efficient than with virgin materials.
- » The greenhouse gases and toxins generated by landfills and incineration are reduced.
- » More land is available for agricultural and other uses.
- » Reuse and recycling conserve resources.

Social benefits

- » Reduced landfill usage improves quality of life in adjacent communities and reduces the need for new landfill sites.
- » Less reliance on landfills and incinerators reduces pollutants and improves health.
- » Waste diversion encourages environmentally sustainable behaviour.

Getting to 50% and Beyond: *Waste Diversion Success Stories* from Canadian Municipalities

Source:
http://www.fcm.ca/Documents/tools/GMF/Getting_to_50_percent_en.pdf



Solid Waste Diversion



In 2008, 254 kilograms of solid waste were diverted for each Canadian, a 20% increase from 2002

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>



TONNES OF WASTE GENERATED IN CANADA FROM RESIDENTIAL AND NON-RESIDENTIAL SOURCES (2006)



Getting to 50% and Beyond: *Waste Diversion Success Stories* from Canadian Municipalities

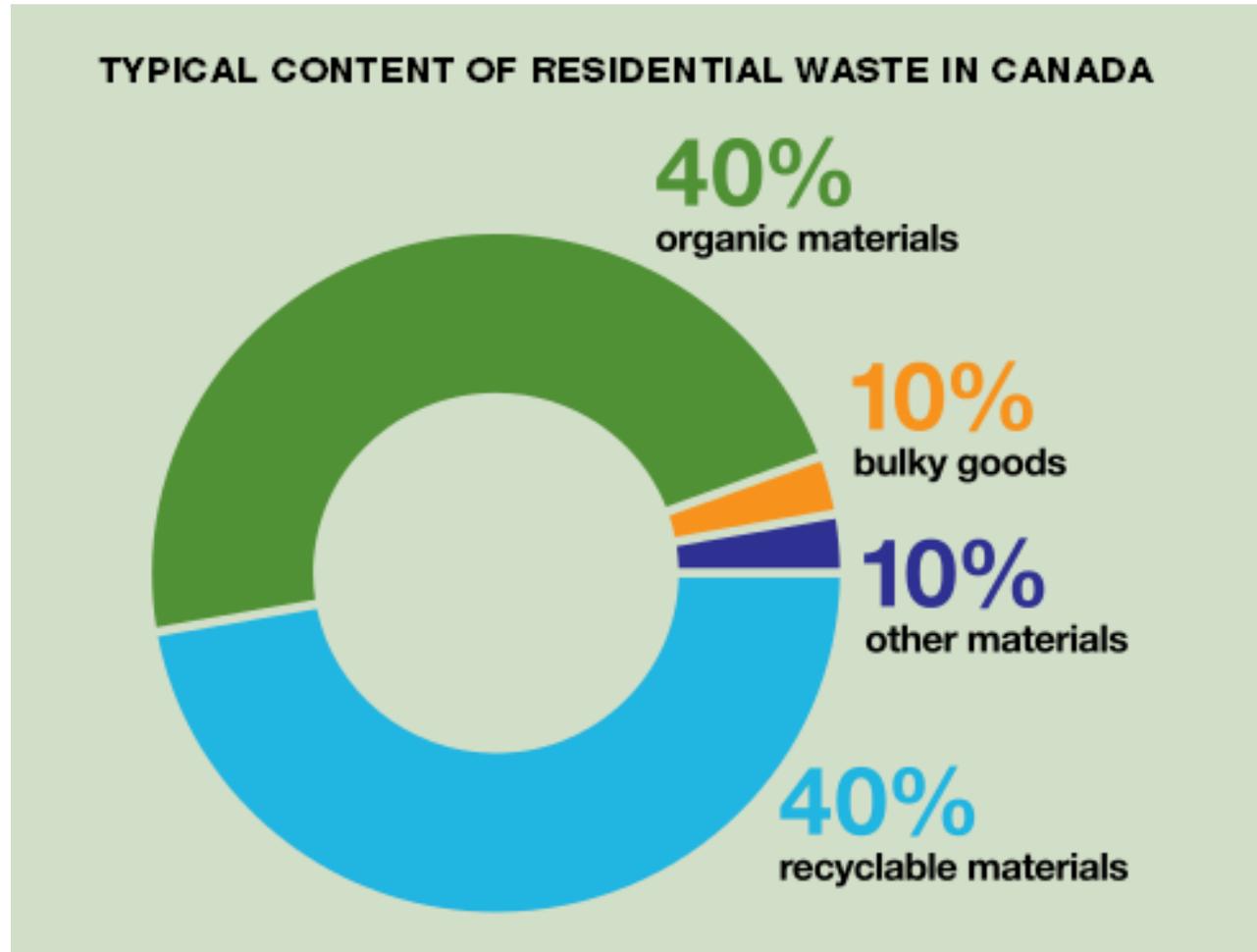
Source:

http://www.fcm.ca/Documents/tools/GMF/Getting_to_50_percent_en.pdf

AMOUNT OF CANADIAN WASTE DIVERTED FROM DISPOSAL COMPARED TO AMOUNT SENT TO LANDFILL OR INCINERATORS (2006)



Residential Waste Canada (2006)



Getting to 50% and Beyond: *Waste Diversion Success Stories* from Canadian Municipalities Source: http://www.fcm.ca/Documents/tools/GMF/Getting_to_50_percent_en.pdf

Solid Waste Diversion

Recycling and Composting

Recycling is the process whereby materials such as glass, metal, plastic or paper are diverted from the waste stream and remanufactured into new products or used as raw material substitutes.

Composting is a process in which organic material is broken down into simpler substances by microorganisms such as bacteria and fungi. The end product is a stable humus-like product called compost that can be used for landscaping, gardening or other purposes. Examples of organic waste that can be composted include food scraps, yard waste, agricultural crop residues, paper products, sewage sludge and wood.

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>



Composting



A COMPOST RECIPE TO FEED YOUR SOIL.



KEEP MOIST: As wet as a wrung out sponge.

AERATE: Air helps to speed up decomposition. Aeration should be done throughout the entire composting process.

KEEP COVERED: Use a compost lid, cardboard or canvas over top of your pile.

www.youtube.com/watch?v=AJuiNtXXB58

Do families within
your community
compost?

Seabird Island Band Ecostation



http://www.youtube.com/watch?v=R0ROc0JLR_I



Vermicomposting

http://www.youtube.com/watch?v=V8miLevRI_o

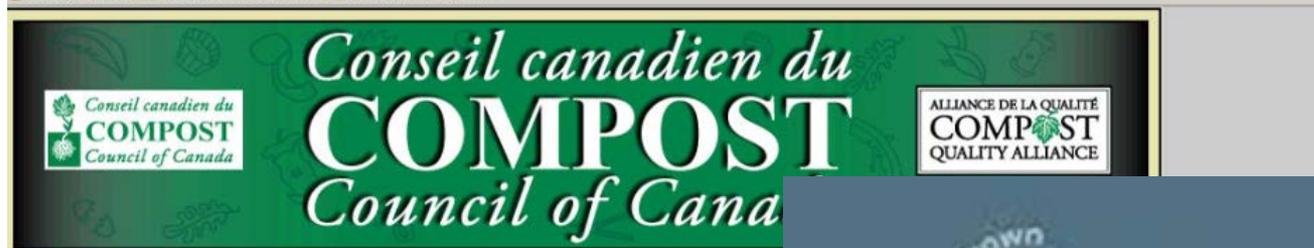
<http://www.youtube.com/watch?v=AjHxt7kfPWM>





What type of waste diversion programs do you have within your community?





The Compost Council of Canada is a national non-profit, member-driven organization with a charter to and advance organics residuals recycling and compost use. It serves as the central resource and network for the compost industry in Canada and, through its members, contributes to the environmental sustainability of communities in which they operate.

National Compost Conference
 September 22-24, 2014
 Halifax, Nova Scotia

Register Now!

www.compost.org
 1-877-571-GROW(4769)

PRESENTATIONS | TOURS | TRAINING | EXHIBITS!



24th Annual National Compost Conference

Technical Document on Municipal Solid Waste Organics Processing

Plant a Row • Grow a Row

on
 Wed October 1, 2014
 12 Noon (Central Time)

For information on registering



Solid Waste Diversion

Hazardous Waste



- Hazardous waste is that which cannot be handled by the normal waste and recycling programs, usually because it is environmentally harmful or because it poses a health hazard to collection and processing staff.
- Hazardous waste materials may exhibit characteristics such as flammability, corrosiveness or toxicity and require special treatment before disposal or recycling.

Solid Waste Diversion

Household Hazardous Waste

May include:

- compact fluorescent lights (CFLs) and fluorescent tubes, both of which contain mercury;
- batteries that contain acids and heavy metals such as cadmium and lithium;
- electronics such as cell phones and televisions (Ewaste – may contain copper, aluminum and gold, as well as metals, such as lead, mercury and cadmium);
- paints and solvents;
- and medication.



Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>

Solid Waste Diversion

Household Hazardous Waste

- These materials should be taken to hazardous waste depots, drop-off centres or returned to suppliers or retailers for safe treatment and disposal.
- Of the 58% of households that had batteries to dispose of in 2009



- 42% discarded them in the garbage
- Households also frequently had medication, paint or solvents that they wished to dispose of, but the majority returned these materials safely to suppliers or waste depots and drop-off centres.

Human Activity and the Environment - Waste management in Canada 2012 — Updated
Source: <http://www.statcan.gc.ca/pub/16-201-x/2012000/part-partie3-eng.htm>

Household Hazardous Wastes: What's the Danger?

Things to watch for:

- 1) Old batteries
- 2) Old Lightbulbs
- 3) Old Paint
- 4) Cleaning Supplies
- 5) Old Medications

Harm to the Environment -

Chemicals and unwanted medicines can contaminate lakes and rivers, or public drinking water supplies if simply flushed down the toilet or poured down the drain.

Fire Hazards - Some products such as gasoline, thinners, lighter fluid or glues and adhesives can catch fire.

Toxicity to Humans - Many chemicals including lawn and garden or cleaning chemicals, can be toxic if inhaled or ingested

Explosion Hazards - Pool chemicals and bleaches can react violently with other materials to explode or produce toxic gases.

Information taken from: <http://www.baltimorecountymd.gov/Agencies/environment/groundwater/mgt/hazwaste.html>

Ontario

A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites

www.ene.gov.on.ca

Air Pollution Control, Design and Operation Guidelines for Municipal Waste Thermal Treatment Facilities

www.ene.gov.on.ca

Ontario Compost Quality Standards

www.ene.gov.on.ca

Guideline for the Production of Compost in Ontario

www.ene.gov.on.ca



Thank you!





