

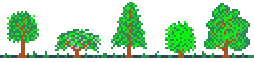


ENVIRONMENTAL REPORT



Engineering & Environmental Services
City of Moncton

April 2009



FOREWORD

The City of Moncton is a vibrant and culturally rich community with a mission to deliver quality services to its citizens and foster an environment for the community to prosper. Protecting the environment and health of the community has been identified as a strategic goal in the City's Strategic Plan, Vision 2010.

As stated in Vision 2010, "the City will protect our environment: our air quality, watercourses and land as these are important to the health of our citizens. As our community grows, we, as custodians of our environment, will take active steps to ensure sustainability in all that we undertake and minimize the impact we have on our environment".

There is a growing consensus that climate change is becoming an increasing threat to humanity and that nations around the world must take action to protect our global environment. The City of Moncton is committed to reducing its environmental footprint and encourages citizens do the same.

The City has shown its continuous commitment towards protecting the environment by undertaking various projects and initiatives dealing with water conservation, energy conservation, waste management, sustainable transportation, protection of green space and sustainable development principles. We are a member of the Partners for Climate Protection program and have committed to reducing our corporate and community greenhouse gas emissions.

To demonstrate our commitment, we are providing citizens with this Environmental Report which describes some of the initiatives that have been undertaken by the City and community members. The City has taken great strides to improve the overall health of our environment and this report demonstrates our continuing commitment to that goal. It is also a tribute to staff in municipal departments who have integrated good environmental practice into every aspect of their daily endeavours.

We trust this Report will give some indication of the environmental effort and monetary commitment the corporation of the City of Moncton has made to this important subject. We believe it contains sufficient detail to enable a reader to not only use this as an overview of environmental practices of the City of Moncton, but also act as a resource for those interested in pursuing similar initiatives.

Paul Pellerin, Chair
Environment Committee
Moncton City Council

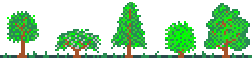
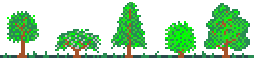


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REPORT ON ENVIRONMENTAL INITIATIVES

1.0 Environment Committee

Moncton City Council established an Environment Committee in June of 1998. Its mandate is:

- To recommend to City Council, policy initiatives with respect to environmental issues.
- To receive concerns and submissions from citizens respecting environmental matters.
- To encourage and support activities which enhance public awareness of the importance of a clean environment.
- Such other matters incidental to the discharge of the mandate of the Committee.

The City of Moncton's Environment Committee was involved in many of the environmental achievements listed in this report.

Thank you to all who served as Resource Persons in the preparation of this report.

2.0 Green Infrastructure

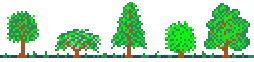
2.1 City Hall's Green Roof

In 2006 a Green Roof was installed at City Hall. A Green Roof is a layer of vegetation installed on a rooftop and it's an innovative way of incorporating the benefits of plants into the urban landscape. The design of a green roof may include the growing medium, a waterproof membrane, a root barrier and a drainage system. Green Roofs can have the following benefits:



- Reduce heating and cooling loads on a building;
- Reduce the heat island effect that is produced as cities replace natural land cover with pavement, buildings, and other infrastructure. Vegetation can help cool the air by evapotranspiration and by providing shade;
- Reduce storm water runoff;
- Filter pollutants and CO₂ from the air;
- Filter pollutants out of rainwater; and,
- Create ecological and aesthetic value.

Figure 2.1 City Hall's Green Roof



2.2 Trees



The City of Moncton recognizes trees as a valuable community asset. Trees help to moderate temperature, regulate our water system, reduce greenhouse gas emissions, improve the quality of the air we breathe and can help prevent soil erosion. Trees also offer shade in summer thereby reducing the energy requirements for cooling buildings, serve as windbreaks in the winter and provide habitat for wildlife.

2.2.1 *Tree Policy and Standards*

Moncton's Tree Policy, adopted by Council in 1998 (updated in June of 2006), deals with the protection and preservation of trees on City Property. It represents an important step in sustaining the natural beauty of our community and is designed to be a guide for our citizens.

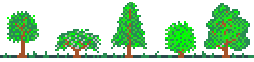
The Policy states that no person shall plant, remove or alter a tree on City property without first receiving written permission to do so from the Assistant General Manager, Recreation, Parks, Tourism & Culture (RPTC), or his designate. Work must be performed in accordance with the guidelines outlined in the City's Tree Protection Standards Manual which will be provided to everyone requesting a building permit from the Building Inspection Department.

When the removal of a healthy tree(s) on City property is absolutely necessary, the City will seek compensation through various methods including: a ratio of new trees to old trees being removed; financial compensation to the City to be used for new planting; or replanting those trees which can survive such activity. The value of the tree(s) being removed will be determined by the RPTC using the most recent copy of the Guide for Plant Appraisal issued by the International Society of Arboriculture.

2.2.2 *Tree Planting Program*

Moncton's Tree Planting Program is an on-going effort to replace and/or complement existing trees in our City.

Since the mid-1980s, as part of the City's beautification program, the Community Services Department offers mature 10-12 foot trees to be planted in front of Moncton residences and businesses. Trees valued at \$450 are offered for an application fee of \$30 on a first-come-first-served basis. Prior to installation, a City of Moncton arborist will visit each site and choose the best tree based on the size of the boulevard and the location of utilities as per the City of Moncton Tree Protection Standards.



Note: Application forms are available for residents at the following locations: Operations Centre located at 100 Worthington Ave., Recreation Parks Tourism and Culture Department located at 655 Main Street on the third Floor of City Hall, and on line at www.moncton.ca

2.2.3 Boy Scouts Annual Tree Planting

The Boy Scouts plant between 5,000 to 10,000 trees annually on abandoned site prepared fields within the watershed lands. The plan is to bring them back into forest production.

2.3 Forest Management

Forest management is an important program for the city of Moncton. Sustainable forest management is based on sound forest management principals and practices that include all values of the forest. The priority on all City owned land is based on protecting water quality through restoring forest stands to a healthy state. Restoration of streams, protecting water and soil, preserving wildlife and wildlife habitats, enhancing and protecting riparian zones as well as public education are all part of the current forest management plans.

Since 1992, we have employed a Forestry Manager to oversee all forested land owned by the municipality. The City currently owns approximately 15,000 acres of land, 12,000 forested and 3,000 are parks and urban forests. As described in the following subsections, several projects and initiatives have been undertaken since the 1990's.

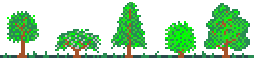
2.3.1 The Fundy Model Forest Program

The Fundy Model Forest (FMF) is one of 11 model forests in Canada. Canada's Model Forest Program (MFP) is about innovation through partnerships and knowledge sharing between model forests.

The City of Moncton became a partner in the Fundy Model Forest in 1992. The FMF is a partnership of 37 various organizations that are promoting sustainable forest management practices in the Acadian forest region with three primary goals:

- 1) ensure environmental sustainability;
- 2) derive full social and economic potential from the forest;
- 3) enhance and share knowledge of the forest ecosystem and techniques for managing it.

Through the FMF, changes in forestry practices are evaluated and discussed with the expertise in the partnership. This networking keeps the City of Moncton at the forefront of current information. For more information, please visit the Fundy Model Forest website at <http://www.fundymodelforest.net>



2.4 The Turtle Creek Watershed

The Turtle Creek Watershed is the tri-communities' primary water supply and it's located southwest of Moncton in Albert County. The 17,000 hectares (42,500 acres) watershed is outside municipal boundaries and therefore under the primary responsibility of the Provincial Department of Environment. Turtle Creek is a designated watershed and is protected under the New Brunswick Clean Water Act. Land use planning within the watershed is administered by the Greater Moncton District Planning Commission.

The City of Moncton has a reservoir caretaker and a forestry manager whose jobs include the protection of the watershed. These employees manage activities within the watersheds, including filing reports of any violations of the Clean Water Act with the Department of Environment and Local Government for enforcement.

2.4.1 Watershed Protection Stewardship Program

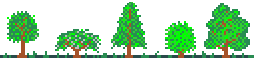
The City of Moncton developed a partnership agreement in 2000 with the three major landowners in the Turtle Creek Watershed Designation. The landowners include the City of Moncton, J.D. Irving and the S.N.B. Woodlot Owners Association. This partnership was formed to manage the forest jointly and develop 5 year management plans that involve water quality as the main focus of management decisions. This program demonstrates a proactive way of protecting and enhancing the health of the forest surrounding the potable drinking water supply.

The potential impact on water and soil is a major factor looked at prior to any forest management treatment being carried out. Through this initiative, problem areas can be detected through 32 water sampling stations within the designated watershed. The Moncton model demonstrates that positive results can be achieved through pro-active management of our natural resources when all government departments and landowners work together. It is through these partnerships that an increase in awareness of managing the forests for water quality and forest health in the future will be seen as key.

2.4.2 Turtle Creek Watershed Residents Committee

In 2000, the Turtle Creek Watershed Residents Committee consisting of local residents was formed to open the lines of communication with the City and the Province enabling discussions on issues of mutual concern, including preservation of the water quality. The committee meets one to four times a year to go over management plans developed by the three landowners. This initiative was successful as it keeps the people who live inside the watershed aware of plans and activities to be conducted within the designated area.

As a joint venture between the City of Moncton, the Watershed Residents Committee and the Province's Environmental Trust Fund, as of January 2004, 26 septic system upgrades on residential properties located within the watershed have been completed. This effort shows great stewardship towards the water resource in Turtle Creek.



2.5 City Parks

As part of our City's ongoing support for the protection of green space, the following parks are maintained by City staff and provide an area for citizens to connect with nature.

2.5.1 Irishtown Nature Park

This 2200-acre park consists of a mature mixed forest and a 250-acre body of water. The park is managed in partnership with the Friends of Irishtown Nature Park Committee. This park has several unique ecosystems and a rich abundance of plants, birds, damselflies, butterflies and mammal species. The park now boasts a spectacular system of trails. The goal is to enhance the park's natural attributes while preserving the area by creating as little disturbance as possible using conservative forest management practices.

In 2006, the RPTC Department along with the Friends of Irishtown Nature Park Committee undertook a Wildlife Habitat Assessment Study of the park to determine the population density and dispersion patterns of various species, and to establish sensitive or rare species and indicator species. The study will underline the importance of preserving the Nature Park. Wildlife communities and unique ecosystems in such as places as Irishtown Nature Park are important for the protection of rare species and habitats, for the education, and enjoyment and welfare of our community.

2.5.2 Centennial Park

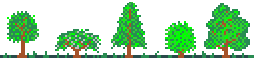
Centennial Park is situated in the centre of the City and boasts 230 acres of scenic parkland offering recreation all year long including hiking, swimming, playgrounds, the TreeGo adventure, snowshoeing, cross-country skiing, skating and more.

In 2008 a new highly energy efficient concession building and public washroom building will be built in the playground area. A new highly energy efficient activity building will also be built at the Centennial Park summer camp site, replacing a 40 year old wood building which has outlived its usefulness.

2.5.3 Mapleton Park

This civic park encompasses a 300-acre urban park featuring woodlands, wetlands, and floodplain. The park, located between Mapleton Road and Gorge Road in the City's northwest end is abundant with wildlife, waterfowl and indigenous vegetation.

In 2001 - 2002, the park saw the creation of a new education centre through the efforts of the Moncton West Riverview Rotary Club. The park is open on a year-round basis, with groomed trails for walking, a skating oval and countless opportunities to enjoy the flora and fauna in a beautiful natural setting.



2.5.4 Riverfront Park

The Riverfront Park is alongside the Petitcodiac River and has been restored with extensive landscaping in recent years and offers five kilometres of multi-use trails.

Phase 6 of the Riverfront trail system from Bore Park to Downing Street is scheduled for construction in 2009 and 2010.

2.5.5 Neighbourhood Parks

The City of Moncton's RPTC department maintains a variety of parks, ranging from multi-purpose community parks, playgrounds and small passive neighborhood green spaces. These spaces create a sense of community and place for citizens to take refuge. Please visit our website at www.moncton.ca for additional information on our community parks.

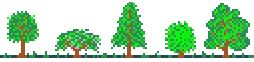
2.5.6 The City of Moncton Linear Park and Greenway Plan

The vision for the Linear Park and Greenway plan, commissioned in 1999, is to establish connections between people and the land, between the City's major public parks and recreation sites, natural areas and open spaces, and connecting our sister communities with the Riverfront Trail. The plan serves to protect and enhance wildlife habitats and corridors, stream corridors and waterfronts.

2005 to 2007 saw the completion of 4.5 km of linear trail from Harrisville Boulevard to Mill Road, along Cook's Brook and Humphrey's Brook. The total trail length is currently 22 km and an additional 1 km will be constructed in 2008. Linear green spaces, such as the one located along the Millennium Trail, adjacent to Humphrey's Brook, serve as excellent riparian buffer zones which are crucial for maintaining aquatic life such as trout Char and Atlantic Salmon. High sedimentation can increase water temperature and also affect fish from breathing and reduce the crucial oxygen required for egg incubation and the first weeks of life.

2.6 Jones Lake / Jonathan Creek System

2006 and 2007 saw significant new planting and thinning of existing plantings around Jones Lake and the related Jonathan Creek ponds. The City worked with input from the NB Department of Environment and local residents to manage these activities. Currently, improvements to the Fire Station Pond along St. George Boulevard are being studied and discussed with the Province. This work will be conducted in 2009, upon receiving approval from the Province, and from Council to proceed.



3.0 Water – Quality and Conservation

The City promotes wise use of water and encourages citizens to look at the municipal water supply as a limited resource and not to be wasteful. The following initiatives are in place so that residents are provided with safe drinking water and are more accountable for their water use.

3.1 Water Treatment Plant

The City of Moncton is committed to providing safe drinking water to its citizens. The Tri-community’s (Moncton, Dieppe and Riverview) primary water supply comes from Turtle Creek, a surface water supply located in Albert County southwest of Moncton. The Turtle Creek Reservoir is a designated watershed and is protected under the New Brunswick Clean Water Act.

In April 1998, the City awarded the drinking water partnership to Veolia Water Canada Inc. under a 20-year operating agreement. Established as Greater Moncton Water Limited (GMWL), the Veolia Water-led entity financed, designed, built and now operates the water treatment facility, which opened in October 1999.

The facility produces approximately 50,000 cubic meters per day of quality drinking water and serves approximately 100,000 people in the tri-community area. The water is filtered to remove sediment, colour, iron, manganese and potentially harmful bacteria. The steps to purify the water are coagulation, clarification, filtration, corrosion control and final disinfection. The backwash water from washing the clarifiers and the filters is sent to the solids handling facilities, which consist of two large storage lagoons. The solids settle to the bottom and the clarified water eventually flows back out to Turtle Creek.

The finished water quality is guaranteed to meet or exceed the Canadian Drinking Water Quality Guidelines. In addition to weekly regulatory compliance testing, the tri-community “Scada” (Supervisory Control and Data Acquisition) System continuously monitors water quality at nine (9) sites throughout the system.

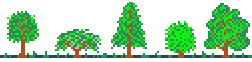


Figure 3.1 Turtle Creek Reservoir and Water Treatment Facility

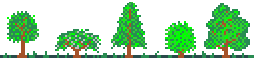
3.2 Water System Rehabilitation Program

The City of Moncton has implemented Asset Management to deal with the issue of aging and failing infrastructure. Back in 2000 the City made a commitment to water quality including increased funding to replace and rehabilitate its aging watermains. This investment is starting to pay dividends in terms of reduced watermain breaks and service leaks and a higher level of service to our customers.

Between 2000-2007, The City of Moncton cleaned and lined 28 km of cast iron pipe using in-situ epoxy lining. In 2008, having exhausted most of the ideal candidates for epoxy lining, another trenchless technology called cured in place pipe (C.I.P.P.) for cleaning and structural lining of watermains is being studied for future use. The trenchless technologies are not meant to replace the traditional watermain renewals, but rather are an extra tool that can prolong the life of our infrastructure. The environmental benefits of trenchless technology exist in the reduction of greenhouse gases from the reduction of excavation and hauling and the reuse of existing pipes.

3.3 Automated Water Meter Reading System

The City first installed an Automated Meter Reading (AMR) system during 1994-1997. During 2006-2007, the system was updated to a Fixed Network Radio Frequency (RF) reading system (Hexagram STAR Remote Meter Reading System). The new system consists of Meter Transmission Units (MTUs) installed in each home and a series of



solar/battery-powered Data Collection Units (DCUs) located throughout the City. The DCUs receive four readings per day from each MTU and then transmits those readings to a central computer at City Hall for analysis and billing. This advanced system thereby eliminates manual readers removing any transportation requirements.

The City's new fixed AMR network is capable of multiple reads per day which helps identify leakage through nighttime flow monitoring. The AMR's high/low consumption reporting capability generates a list of exception reports, noting addresses where water consumption is above or below the norm. This triggers examination of the nighttime flow and if warranted a staff person contacts the resident to inform them that they have a leak. If the customer cannot detect or solve the leak, the City meter technician will visit and inspect the residence to locate the culprit.

The City of Moncton is the first in Canada to have completed a full installation of the RF Fixed Network System. This project has had a significant positive impact on the environment by decreasing the amount of water that is consumed by customers and decreasing the amount of water that is wasted through leaks and breaks. Educating customers on their water use is part of the City's strategy.

In late 2007, the City of Moncton used the AMR data to conduct its first official AWWA/IWA water audit and balance. By comparing water production to metered consumption, the City is able to calculate water loss and work toward further reductions.

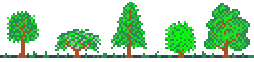
3.4 The Lawn Watering By-Law (By-Law # P-102)

The City of Moncton was one of the first municipalities in Atlantic Canada with a by-law addressing lawn watering restrictions as a way of promoting water conservation. The by-law includes the following statements:

- No person shall water lawns, gardens or plants between the hours of 8:00 am and 6:00 pm or while it is raining, or for more than two hours per day;
- No person shall water lawns on even calendar dates at civic addresses ending with the numbers 1, 3, 5, 7 and 9 or on odd calendar dates at civic addresses ending with the numbers 0, 2, 4, 6 and 8.

3.5 Water Saving Techniques in Greenspaces

Over the past few years, Moncton has implemented a variety of water saving techniques for our greenspaces. Using plant material in the landscape that is native and/or well adapted to Moncton's climate and soil conditions, and using modified topsoil high in organic matter increases the moisture holding capacity of topsoil for trees and lawns thereby reducing need for irrigation and a drain on the municipal water supply.



3.6 Water Efficient Irrigation Systems

In-ground and pop-up irrigation systems for turf and floral displays make the most efficient use of our water supply. Once installed these systems are driven by automated timers equipped with rain sensors causing shut down in the event of a significant natural rainfall. Our Floral Clock, City Hall, Victoria and Bore Parks as well as the CN Sportsplex and Hal Betts Sportsplex feature this water-saving technology. The water use strategy, which dictates watering on odd or even days according to civic address, is also followed to ensure corporate responsibility.

Turf grass maintained with the proper amount of moisture forms a healthier and safer playing surface. Proper moisture leads to deeper well rooted plants requiring less routine maintenance such as chemical weed control, topdressing, over-seeding and fertilizer.

3.7 Water Conservation Education and Awareness

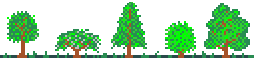
As part of our water conservation awareness program, the City has water conservation kits for sale at City Hall. The kit includes a low flow shower head, a kitchen swivel aerator, bathroom aerators and a toilet tank bank.

In 2004, City staff delivered 31 presentations in 11 schools as part of an outreach program on water related topics. The presentation included information on the water cycle, the City's water treatment facility and distribution system and tips on how to conserve water (ex: turn off water when brushing teeth, take a short shower instead of a bath, install low flow shower heads, etc). In continuity to this awareness initiative, a short video discussing water conservation is presented to elementary school kids yearly as they visit City Hall as part of the City Hall Schools program (City Hall Schools Program: elementary schools visit City Hall to learn about the roles and functions of City departments).

4.0 Storm Water Management

4.1 Cross-Connection Elimination Program

The design of current municipal sewer systems requires that a separate sanitary sewer lateral and a separate storm sewer lateral be provided for every property. In some rare instances, the sanitary lateral may inadvertently be connected to the storm sewer main in the street. Conversely, the storm sewer lateral may inadvertently be connected to the sanitary sewer main in the street. Either of these accidental misconnection is known as a cross-connection. When a storm sewer lateral is connected to a sanitary sewer main, the sewage treatment plant is burdened by the additional input of stormwater runoff. When a sanitary sewer lateral is connected to a storm sewer main, the aquatic resource is jeopardised by the input of sewage to a sensitive environment.



In an effort to protect the quality and integrity of our aquatic resources, the City of Moncton maintains an on-going program of cross-connection education, detection and elimination. When the City of Moncton detects a possible cross-connection, an investigation is launched tracing the contamination to its upstream source. Dye tests are performed to confirm the source of the contamination. The property owner will be notified and the City will provide technical assistance in resolving the program. A \$500 grant is provided to assist the property owner with resolving the problem.

4.2 Stormwater Quality Management Devices

In 2008, the City implemented a By-Law (By-Law #P-202.3) which requires high density residential (fifteen parking spaces or more), commercial or industrial developments to provide for an on-site stormwater quality management device. A stormwater quality management device is designed to capture and retain a range of contaminants such as oil and grease and suspended solids from stormwater runoff generated from impervious surfaces such as parking lots. The device must be capable of meeting the current stormwater quality objectives contained within the Design Criteria Manual for Municipal Services.

4.3 Zero-Increase Development

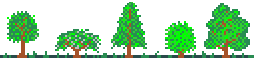
When development occurs in an otherwise natural area, the characteristic of stormwater runoff from that area is greatly altered. When natural vegetation and absorptive areas are replaced with rooftops and parking lots both the rate and the volume of stormwater runoff delivered to our aquatic resources is greatly increased. This can be problematic to streams because they are being subjected to greater erosive forces as a result of development.

In an effort to promote the zero increase strategy within new developments, the City of Moncton has restricted the increase in stormwater runoff resulting from development on lands North of Wheeler Boulevard (refer to section 9.3), to its existing natural level. That is, there must be zero-increase in the natural stormwater runoff resulting from development removing and altering natural features.

Introducing development controls such as zero-increase development is one of the many ways that the City of Moncton protects the quality and integrity of our aquatic resources.

4.4 Stormwater Detention Basins

A zero-increase limitation on stormwater runoff may be achieved through the construction of a stormwater detention basin. A stormwater detention basin allows stormwater runoff from the development to enter into the basin faster than it can flow out of the basin. The normally dry basin gradually fills with stormwater runoff during a rainfall event, temporarily detains it, then releases it at a controlled rate. The controlled



rate of stormwater discharge may not exceed the natural rate of stormwater discharge prior to development.

The City of Moncton and one of its residential Developers are currently completing our first stormwater detention basin at the outlet of the Savannah Heights subdivision. The basin was shaped, graded, seeded and fenced in 2007. Further work in 2008 will be to naturalise the basin by providing a selection of natural vegetation so that the basin will blend in to a park-like environment.

Working with Developers to provide stormwater detention basins is another way the City of Moncton protects the quality and integrity of our aquatic resources.

4.5 Constructed Wetlands

An engineered wetland was constructed in Centennial Park in 2001. The wetland acts as filter for the Western Brook sewer and to keep pollutants from entering Centennial Pond. The goal of this project was to improve the overall water quality of the heavily used recreational pond at Centennial Park.

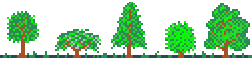
There are two wetland sections containing over 17 species of wetland plants, shrubs and deciduous trees. The wetlands act as a series of settling ponds and take the contaminant load off of Centennial Pond. Contaminants have time to settle out in the wetlands and be absorbed by the wetland plants.

Engineered wetlands are relatively new to the Region and Academia have shown an interest in using the Centennial Park Wetlands for research work to assess impacts the wetlands will have on the water quality, fauna and flora.

4.6 Stormwater Inlet and Outlet Improvements

A number of improvements have been developed in the design and construction of stormwater inlets and outlets in recent years. The objective of a stormwater outlet is to reduce the velocity of piped stormwater flow before it is discharged to a stream. This minimises the potential for erosion of the stream. The velocity of stormwater being discharged may be reduced by introducing flared outlets with scour protection and allowing the stormwater to flow over a rough rock lined channel before it reaches the stream.

The City of Moncton has already upgraded a number of existing storm sewer outlets and will upgrade an additional three in 2008. The City also requires Developers to provide improved outlet grates at locations where piped storm sewer systems discharge into a stream. Continuous upgrading of existing storm sewer outlets helps protect the quality and integrity of our aquatic resources.



5.0 Sustainable Transportation

5.1 Codiac Transit



Using public transit is an effective way of reducing greenhouse gas emissions from transportation. Every full bus means up to 40 fewer cars on the road, cleaner air and less traffic. Codiac transit has added more buses and connections to residential routes. All buses are equipped with bicycle racks from spring to fall.

With motor vehicles contributing to greenhouse gas (GHG) emissions and, consequently, global warming, the Codiac Transit Commission continues to undertake several initiatives to protect the environment.

Visit Codiac Transit's web site for more information on routes and schedules:

<http://www.codiactransit-moncton.com>

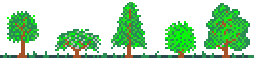
Don't forget that bus passes are eligible for federal tax rebates! For more information, visit Canada Revenue Agency's website at <http://www.cra-arc.gc.ca/whatsnew/items/transit-e.html>.

5.2 Fleet Management System

The City uses a fleet management system to maintain up-to-date information about each city vehicle. One of the many uses for the system, which is a benefit to the environment, is the capacity of the system to automatically schedule preventive maintenance for all City equipment and vehicles. The system allows preventive maintenance to become due based on, meter usage (km's/hour) or fuel consumption, and/or elapsed time. This permits the City's Fleet Supervisor to ensure that municipal vehicles are operating as efficiently as possible thus reducing fuel consumption and lowering the amount of greenhouse gases being emitted into the atmosphere. Also, retread tires, which use significantly less petroleum in their production, are being used. Each tire can be recycled up to three times or more.

5.3 Traffic Signal Optimization Program

The City of Moncton conducts annual traffic and pedestrian counts, gathered by summer students, at major intersections with traffic lights. Data gathered is analyzed by computer models and calculates timing scenarios to optimize the effectiveness of each intersection. Optimal timing for each intersection increases traffic flow and therefore reduces vehicle fuel consumption and emissions produced by idling vehicles.



To assist in the optimization of traffic signals, various corridors which have been identified as major links throughout the community have been synchronized. Synchronization is designed to provide bandwidth (time) for drivers to move through a corridor with multiple traffic signalized intersections. It allows intersections in a specific corridor to communicate with each other through a Master Controller and provides staff the ability to monitor the system from their work station. The ultimate benefits of having intersections coordinated are reduction in fuel consumption and reduction of greenhouse gas emissions.

The City of Moncton continues to improve its' traffic signal operations and has introduced new synchronized corridors. With these improvements to the roadway infrastructure and traffic signals, the total reduction in greenhouse gases (CO₂) from fuel emissions have been estimated at 700 tonnes per year.

In 2008, the City reevaluated all traffic signalized intersections with respect to their operation and will be improving their programming to meet present traffic demands. Air emissions (CO₂, NO_x and VOCs) resulting from vehicle idling is one of the items considered when evaluating intersections.

5.4 The Active Transportation Plan

The Environment Committee initiated a committee on Active Transportation (AT) to address future health, active living and transportation needs in the City.

Active Transportation is defined as any human powered and environmentally friendly mode of getting around. This includes walking, cycling, rollerblading and public transit. Active transportation is also the fastest growing approach to remediation of traffic congestion in North America. A properly implement Active Transportation plan has the potential to transform the City of Moncton from an automobile reliant community to a place where motorists, public transit users, walkers, cyclists and others share a common vision for an approach to future transportation desires and needs.

Since the introduction of the plan in 2003, the committee has work diligently on implementing strategies recommended in the plan. The following are some of the initiatives that have been introduced within the community:

- New policies were introduced within the Municipal plan to insure that the initiatives set in the Active Transportation plan are followed. This insures that any new roadway or development projects must incorporate active transportation, such as bicycle lanes, trails, bicycle rack, etc.
- New bicycle lanes have been installed on Hildegard Drive, Gorge Road, McLaughlin Road, St. George Blvd. and Vaughan Harvey Blvd.



- The City has developed a bicycle rack program for the community. The program has been very successful. New racks have been installed in schools, private developments, downtown and other parks.
- The introduction of bicycle rack on all Transit Buses.
- The Trail System has been expanded.

5.5 Greener Vehicle Fleet Initiative

The City of Moncton is proud to have launched its Greener Fleet initiative in 2007. Our six Smart cars are being put to use for municipal purposes, such as parking enforcement, park maintenance and other functions.

Smart car specs:

2.5 metres long and 1.5 metres wide
23.81 km per litre of fuel (67.23 miles per gallon)
Average annual fuel cost: \$560 per year
CO₂ emissions: 90 g per km
Fuel capacity: 22 litres
Maximum speed: 135 km/hour

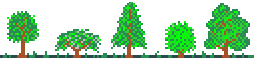


5.6 Anti-Idling Initiative

Unnecessary vehicle idling wastes fuel and generates needless harmful emissions. According to Natural Resources Canada, if every driver of a light duty vehicle in Canada avoided idling for just 5 minutes every day, we could prevent 1.6 M tonnes of CO₂ from entering the atmosphere each year.

The City of Moncton implemented its Vehicle and Equipment Anti-Idling Policy in March 2006. This Policy applies to the entire fleet of vehicles and equipment used by the City. Although there are some exceptions, the Policy requires that vehicles never be left idling when unattended and that vehicle be shut off whenever idling time is expected to exceed one minute. In March 2008, it was further clarified that City employees shall not use drive-through services while driving City vehicles.

Although the Policy is only applicable to City vehicles, all drivers are encouraged to reduce their personal vehicle idling time in order to reduce greenhouse gas emissions, air pollution, noise pollution and promote energy conservation.



5.7 Commuter Challenge

The City continues to participate in the Commuter Challenge, a nationwide challenge that encourages businesses and organizations to opt for a more environmentally friendly way to get to work. In 2007, our staff saved a total of 620 kg (1,363 lbs) of CO₂ emissions in one week, and many employees continued using active transportation after the Challenge. For more information, visit the [Commuter Challenge website](http://www.commuterchallenge.ca) at <http://www.commuterchallenge.ca>

6.0 Waste Management

6.1 Mandatory Waste Separation

In September 2006, in order to increase the amount of waste diverted from the landfill, the City of Moncton adopted a By-Law making waste separation mandatory (By-Law P-406). The by-law applies to all residential single unit dwellings or buildings containing up to 5 dwelling units. Wet waste must be placed in green transparent plastic bags and dry waste must be placed in blue transparent plastic bags. Residential waste collection and disposal services are provided by the City.



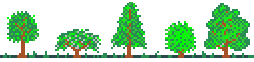
Any person who violates any provision of the By-Law is guilty of an offence, and liable on conviction to a minimum fine of one hundred (\$100) dollars, and a maximum fine of one thousand and seventy (\$1,070) dollars.

Presently, more than 51% of the residential waste collected is recycled or composted. The program boasts a 99.9 per cent participation rate.

In August 2006, the City of Moncton undertook the challenge to separate its waste at City Hall and the Operations Centre. We continue to incorporate smaller sections and areas as we move forward with this initiative.

6.2 Use of Reclaimed Asphalt

Since 1993, the City of Moncton has been using Reclaimed Asphalt Pavement (RAP) for walking trails. In 1996, we began using it for road shoulders and low volume parking lots. RAP is obtained from road resurfacing jobs and construction work. The benefits of using RAP include reducing the amount of waste produced as well as reducing the amount of natural material (crushed stone) being utilized.



6.3 Materials Recycling - Water for People

Since 1996 the City's Utilities Division have been recycling its infrastructure materials from repairs. Copper, brass, and iron are recovered from activities and recycled through a local company. Monies received are collected and used to help build and sustain water and sewer systems in developing countries, through Water For People, the divisions adopted charity.

6.4 Christmas-Tree Recycling Program



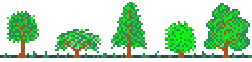
The City of Moncton has been providing central and curbside collection of Christmas trees for the past few years. With this program, approximately 92% of the trees are diverted from the landfill as they are collected, mulched and added to the City's composting operations.

6.5 Biosolids Management – Greater Moncton Sewage Commission

The Greater Moncton Sewage Plant commenced operation in 1994. The Greater Moncton Sewage Commission (GMSC) was created from a provincial Order-in-Council and brings together Moncton, Riverview and Dieppe, as well as the province in a cohesive Commission.

The GMSC actively promotes municipal biosolids management practices that provide for the beneficial use of biosolids while protecting public health. If not treated and used, biosolids are generally disposed of at a landfill. With the increasing importance of reducing waste, recycling and reusing by-products resulting from human activity, we must take a responsible role at returning properly treated biosolids to the land in an environmentally sound manner. The by-products generated during the wastewater treatment process, primarily organic in nature, are stabilized with lime and referred to as "biosolids". Lime stabilization renders these by-products suitable for various use, in accordance with provincial guidelines and consistent with common practices elsewhere. Beneficial reuses of lime stabilized biosolids from the treatment facility include:

- Mine site rehabilitation;
- Landfill cover;
- Soil additive in agriculture;
- Tree farming;
- Sod farming;
- Composting;
- Topsoil manufacturing



GMSC's environmental leadership is recognized at an international level. In 2007, GMSC hosted a World Environmental Conference on Wastewater Biosolids Sustainability.

Note: For additional information, please visit GMSC's Web site at www.gmsc.nb.ca.

7.0 Energy Efficiency

7.1 Green Building Policy

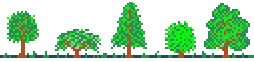
The City of Moncton's Green Building Policy was adopted by City Council in April 2009. The purpose of the Policy is to ensure that the construction of new municipal buildings and major building retrofits are conducted in a manner to maximize energy efficiency, water efficiency, provide the highest quality of indoor working environment and minimize the building's burden on the natural environmental.

The policy states that all newly constructed municipal buildings with a footprint greater than 500 m² must be designed, constructed and certified by the Canadian Green Building Council (CaGBC) as meeting the LEED certified rating at minimum. Design and construction of buildings smaller than 500 m² should follow the LEED criteria as a template when possible.

LEED, which is an acronym for Leadership in Energy and Environmental Design, is a green building rating system for designing, constructing, operating and certifying green buildings. It is a credit-based system and includes four levels of certification (Certified, Silver, Gold and Platinum) based on the number of credits achieved. Credits are separated over six design areas: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality and design process.

7.2 Retrofitting of City Buildings

In 1999, the City of Moncton entered into a 10-year agreement with a local firm to retrofit its buildings to be more energy-efficient. The project saw 16 civic buildings upgraded with state-of-the-art technology in the area of lighting, heating, ventilation and air conditioning (HVAC), as well as controls and building monitoring systems at a total cost of \$1.6 million. The project is an energy performance contract in partnership with Enerplan/Rose, where the company designs and finances the upgrades and the City of Moncton repays the company through guaranteed savings in energy consumptions. It is estimated that the City of Moncton will save over 3,000,000 kWh of energy on an annual basis or \$250,000 per year. In addition to the dollar savings, staff has undertaken an extensive program of awareness, education and training. This project will be completed in 2008 as savings have been realized sooner than projected.



7.3 Geothermal Heating and Cooling System at Magnetic Hill Zoo

In the fall of 2007, the Recreation, Parks, Tourism & Culture (RPTC) Department installed a geothermal heat pump for the Reptile House at the Magnetic Hill Zoo. This replaced the previous ‘water to air’ unit, which drew the water from the City’s water system.

The heat pump installed by RPTC staff utilizes ground source technology and a closed-loop system to heat and cool, making it an efficient unit for all seasons. With this form of technology, antifreeze is re-circulated through pipes in vertical dry wells and then through the heating/cooling unit, with the heat being transferred through the walls of the piping. The glycol in the pipes is pumped through a special (tube in tube) heat exchanger and is either chilled by the evaporating refrigerant (in the heating mode) or heated by condensing refrigerant (in the cooling mode).

With a vertical closed-loop system, the pipes are installed into deep holes in the ground, which lessens the effects of surface temperatures, therefore elevating performance.

The previous open-loop system utilized the water only once and then discarded it. Water usage comparisons for the winter months (November to March) over the last couple of winters showed savings of about 97%, with cubic meters averaging a drop from 8,250 to 300 for the 5 month period. This equates to monetary savings of approximately \$10,000 per year in Water & Sewer Utility billing.

In the near future, we intend to look more closely at the hot water heating in the building and determine what electrical savings we can achieve with further modifications.

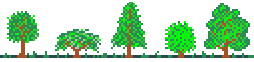
7.4 Energy Consumption – Moncton City Hall

City Hall staff are encouraged to turn the lights off in their offices when not in use as well as turn off their computers, photocopiers, etc. at the end of the day. This small but significant effort helps reduce our energy consumption and reduces the amount of greenhouse gases being emitted in our atmosphere.

7.5 LED Traffic Lights

The City of Moncton’s Traffic Signal Conversion to LED Technology Program is an energy management program aimed at reducing energy consumption, energy cost, and greenhouse gas (CO₂) emissions. The Program consisted of upgrading traffic light installations by replacing incandescent wattage bulbs to low emitting diode (LED) lamps to reduce energy consumption.

With the financial assistance from the province of New Brunswick’s Environmental Trust Fund (ETF), the City completed Phase 3 of the Program as of March 2006. All of



Moncton's traffic lights have now been converted to the LED technology, and the holiday lights are now also being converted. With these new LED lights, savings in electrical energy consumption are estimated to be approximately 82 per cent when compared to the energy usage of the previous traffic lights.

The completion of this Program resulted in an annual energy reduction of 715,000 kWh/hr, an annual CO₂ reduction of 536 metric tons and annual energy cost savings of more than \$87,000. The payback period for the city to recuperate the expenditures from the cost of the energy savings was approximately 27 months with the financial assistance from the Environmental Trust Fund.

Any new signal installations are ordered with LED's.

7.6 Street Lighting

In 2000, the City of Moncton and NB Power worked together in introducing a new type of streetlight that reduces light pollution. This *Flat Glass Fixture* type of streetlight was engineered to better direct lighting to the ground. NB Power has purchased several of these types of streetlights and is now testing their effectiveness. They have become the standard type of street light installed along streets in Moncton and over time, all streetlights will be changed to this new type.

The City of Moncton has also implemented a program to replace decorative street lighting with new fixtures with refractors that direct light toward the ground. The fixtures use light more efficiently by reducing stray light and makes visibility easier by reducing glare. The program replaces 25 fixtures per year and there are approximately 75 more units to replace.

NB Power is currently testing an LED fixture type of streetlight on Mapleton Road. This type of streetlight was engineered to reduce energy consumption, enhance the quality of light and reduce maintenance. However, there are higher costs associated with the initial purchase of these LED lights making the return on these lights cost prohibitive.

8.0 Brownfields Remediation and Redevelopment

8.1 Reclamation - Landfill Sites

The City of Moncton has remediated landfill sites within the City to provide areas for recreational activities and establish bird and wildlife habitats.

The largest of these sites is the 85-acre (35 hectare) landfill located east of the Moncton-Riverview causeway on the north side of the Petitcodiac River. The site was once characterized as a smelly, dusty, noisy and unsightly dump with exposed garbage. It has been replaced with a covering of greenery rich in bird habitat with frequent sightings of



several species of wildlife. The users of the walking trail now enjoy these tranquil surroundings.

The second largest site is the 45-acre (18-hectare) landfill located to the east of Bridge Street between Waterloo Street and the Petitcodiac River. The site is now known as the City of Moncton Sportsplex and is home to multiple sports fields, canteen facilities and walking trails.

Other integrated areas that show little indication of being former landfill sites are the University de Moncton athletic grounds north of Hall's Creek, the Fergus Street soccer field and Riverfront Park and Settlers' Green.

Hal Betts Sportsplex: 2007 started construction of three ballfields over an old landfill site on the riverfront. The project included reclaiming previously unused area, converting a soccer field to a ballfield, and reconstructing one existing ballfield. Construction of those will be completed in June 2008.

Fall of 2008 will see start of construction of three additional fields, reconstructed from three existing fields, also over landfill area. The second of three will be completed by June 2009. Storm water runoff from the Hal Betts site will be channelled into the reconstructed wetland project adjacent to the Gunningsville bridge.

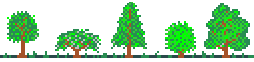
9.0 Sustainable Community Planning

9.1 Integrated Community Sustainability Plan

The City of Moncton is currently developing an Integrated Community Sustainability Plan (ICSP). The plan, which will be developed through public consultation, will identify a vision and include environmental, social and economic goals and targets for the corporation and the community. It will also identify short, medium and long term strategies for reaching the identified goals and targets.

The City's ICSP has four primary objectives:

1. To develop a long term vision of what Moncton would be like as a sustainable community;
2. To consolidate the existing sustainability goals and targets within current programs and policies;
3. To identify short, medium and long term sustainability goals and targets for Moncton;
4. To develop action, implementation and monitoring plans to help achieve sustainability goals and targets.



9.2 The City's Strategic Plan – Vision 2010

The City of Moncton's strategic plan identifies sustainability as a key principle and the environment and health of the community as a strategic goal with the following priorities:



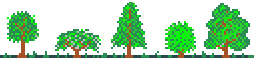
- **Land:** Identify, protect and preserve strategic parkland and greenspace / redevelop brownfields / ensure adequate emergency response / identify and preserve strategic land conservation areas / reduce use of pesticides (e.g. using PM) / manage our urban forest /, promote the construction and development of environmentally-friendly buildings (e.g. LEEDS criteria) / Promote efficient use of energy (e.g. LED lighting)
- **Air:** Adopt effective transportation and traffic systems / encourage active transportation and reduce dependence on the automobile / increase use of transit/ adopt and promote practices that reduce greenhouse gas emissions
- **Watercourses:** Actively protect lakes, rivers, streams, groundwater, marshes and wetlands and all waterways / create conservation areas.
- **Water and wastewater:** Protect and ensure an adequate supply of our drinking water / maintain and renew important infrastructure delivering potable water / manage sewage treatment and infrastructure.

The Corporate Strategic Plan can be viewed at the following link:
<http://www.moncton.ca/search/english/CITYHALL/Strategic%20Planning%20FINAL.pdf>

9.3 Downtown Moncton Development Vision

This initiative, undertaken in 2006, was managed by the City of Moncton in conjunction with Downtown Moncton Centre-Ville Inc. The goal was to develop a sustainable development vision for the Downtown area which will be used to guide development and investment in the Downtown. The goals and aspirations of the community and main stakeholders were collected during a 3-day symposium, open houses, meetings, research and individual sessions. Out of those sessions came the following ten guiding principles which were used to develop the Vision: Identity and culture, heritage, environment, movement, connectivity, partnering, role and function, quality matters, process and metro context.

The Vision includes the following statement under the environment guiding principle: “Downtown Moncton will be a green environment that both respects and celebrates its natural assets, particularly the Riverfront. It will continually seek to enhance its “green” infrastructure”. Supporting the long-term environment and economic viability of the



Downtown, planting trees and strengthening the pedestrian environment have been identified as priorities.

The deliverables of this study include a background report (baseline), a development Vision and an implementation strategy. The reports can be viewed on the City's website: <http://www.moncton.ca/search/english/CITYHALL/downtown/downtown.htm>

9.4 Development Vision: For Lands North of Wheeler Boulevard

In March of 2004 the City of Moncton called for proposals to prepare a Development Vision for the 1,500 acres parcel of land North of Wheeler Boulevard bounded by McLaughlin Road, Highway #2 and Mapleton Road. The land North of Wheeler Boulevard has the attributes to be a model of sustainable development and Smart Growth principles as it is undeveloped, the natural environment is intact and part of the Halls Creek Watershed, the site is located between the University of Moncton and the Moncton Power Centre, it's within 10 minute bicycle trip to the downtown and new francophone middle and high schools are under construction in the area.

The goal was to design a community that protects and conserves the natural environment, promotes the wise use of energy and resources, encourages walking and cycling and includes a mix of housing. The thoughts and ideas of stakeholders and the environmental community were collected during a two day charette and the following Vision statement was created: "Moncton North will be developed as a series of urban villages that are integrated with the natural environment and include a mix of land uses that are designed to create a vibrant community".

The full report can be viewed on the City's website at <http://www.moncton.ca/search/english/CITYHALL/publications/developmentvision/visio nintro.pdf>

10.0 Other Initiatives - Environmental Protection

10.1 Decreasing Pesticide Use

City parks staff have been continuously involved in innovative programs to decrease the use of horticultural chemicals while at the same time increasing their knowledge of total plant health care and integrated pest management practices.

2007 saw no use of broad-spectrum herbicides for weed control in turf, mulched bed areas, floral displays and walkways. Parks maintenance staff continually evaluate methods and products to achieve reduced risk weed control. The first step in any integrated pest management program is the planning and construction process. We will continue to out-source the healthiest, most biologically diverse plants proven hardy to Moncton's climate and soil conditions. These plants, including street trees, must be



properly planted in an adequate depth of soil to insure long-term health and disease resistance. In May 2005, in order to ensure new lawns and vegetation would be healthier and more weed, insect, and drought resistant, the City of Moncton amended the Zoning By-Law increasing the required topsoil depth to a minimum of six inches after compaction.

“Prevention is the true foundation of an integrated pest management program.”

Dr. Gilkeson



In November 2004, the City of Moncton adopted a Voluntary Pesticide Reduction Strategy. The strategy focuses, to this day, on educating the public on ways to reduce/eliminate pesticide use. The main tool in achieving this goal is to develop, over time, a healthy turf which will be weed and insect resistant. For more information on

how to reduce the use of pesticides please visit our website at www.moncton.ca/pesticides.

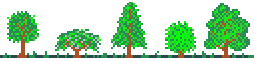
N.B. - The New Brunswick Department of Local Government & Environment issues, annually, a list of individuals who wish to be notified prior to pesticide application in their area. This list is compiled on a voluntary basis and forwarded to all licensed applicators. Anyone wishing further information on the list or any regulations should contact the Department of Environment and Local Government.

10.2 Local Construction Practices

The City of Moncton requires anyone doing work on behalf of the City to conform to all legislation including Environmental Acts and/or guidelines, e.g. the erecting of a silt fence to protect watercourses from construction work. Our municipality also requires dust contaminants to be controlled on a construction site by keeping the dust problem to a minimum and requires paving companies to clean their tools with an environmentally friendly solvent in lieu of diesel fuel or any other harsh product. City workers also respect the Tree Protection Policy during construction and try to reduce equipment idling time on construction sites.

10.3 Erosion and Sediment Control at Construction Sites

The City has developed Erosion and Sediment Control Guidelines to be used at construction sites. This initiative was to ensure that environmental protection measures are incorporated into City construction projects and are implemented in a timely and effective manner. An erosion and sediment control plan should be an integral part of the site development plan and should prescribe all the necessary steps, including scheduling, to assure proper erosion and sediment control during all phases of construction.



The Erosion and Sediment Control Guidelines can be found on the City's website at <http://www.moncton.ca/Assets/Government+English/Department+English/Engineering+and+Environmental+Services/Guidelines+Erosion+and+sediment+control.pdf>

10.4 Road Salt Reduction Program

Since the 2000-2001 winter season, the City of Moncton has outfitted all of its salt trucks with salt pre-wetting systems. The pre-wetting system enables the salt truck operator to add a liquid brine solution to the salt before it is applied to the road surface. The wetted salt particles adhere more readily to the road surface reducing the amount of salt required. By having all salt trucks using this system, the City was able to reduce its salt rate consumption by approximately 23%.

In 2008 a pilot project for anti-icing was started. Anti-icing is a practise of spreading a 23 percent salt water solution to a road surface just prior to a winter storm. The purpose of applying this solution is to prevent the bonding of snow or ice to the roadway. If the snow or ice does not bond it can be easily ploughed off thus reducing the need for de-icing. De-icing is the more common practise of melting the snow after a storm. Anti-icing will reduce the amount of salt required to bare up the roadway during the period of de-icing.

10.5 No Smoking Outdoor at City of Moncton Facilities

In November 2006 in an attempt to further protect our citizens and visitors from the harmful effects of second-hand smoke, the City of Moncton adopted a policy for all municipal facilities. The Policy states that:

“Outdoor smoking at all City of Moncton facilities is prohibited with the exception of parking lots. Those individuals smoking in parking lots must remain a minimum of 10 m (33 feet) from all doors, entryways, and walkways to City facilities.”

10.6 Air Quality Monitoring Station

The agreement between the City of Moncton and the Provincial Department of Environment for the installation of an air quality monitoring station was finalized in 1998. The air quality monitoring station is located at the Highfield Street water pumping station. The site was selected to provide readings representative of the central City suburbs. The air quality is monitored for acid rain, ozone, carbon monoxide (CO), hydrogen sulphide (H₂S), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and particulate matter (PM). The data collected is used by Environment Canada to provide information, twice daily, on expected levels of smog over a period of 48 hours. In addition to the daily smog forecast, special Smog Health Advisory Bulletins are issued when conditions dictate.



Air quality is monitored at more than 60 locations throughout New Brunswick. The Report on Air Quality Results in New Brunswick for the year 2005 can be downloaded at the following link: <http://www.gnb.ca/0009/0355/0017/index-e.asp>

11.0 Environmental Awareness & Program Participation

11.1 The Partners for Climate Protection Program

The City of Moncton joined the Partners for Climate Protection (PCP) program administered by the Federation of Canadian Municipalities (FCM) in 2001. The PCP program is a framework used to guide municipal governments in reducing greenhouse gas (GHG) emissions. The benefits to the municipality and the community are the reduction in energy expenditures, the reduction of air pollution and overall improvements in the quality of life. The framework contains the following five milestones:

- Milestone 1: Completing a GHG inventory
- Milestone 2: Setting a GHG emissions reduction target
- Milestone 3: Creating a Local Action Plan
- Milestone 4: Implementing the Local Action Plan
- Milestone 5: Monitoring Progress

In 2009, the City completed Milestone 1, the Corporate GHG inventory. The Corporate inventory will help the City identify areas of strength and weakness and identify opportunities for energy consumption reduction

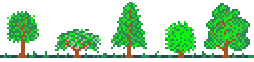
11.2 Earth Day

The City of Moncton actively participates in Earth Day activities each year.

Here are some of the initiatives undertaken on Earth Day 2008:

EcoAction Teams: The City of Moncton launched its partnership with Earth Day Canada to implement their EcoAction Teams program. This program features an online calculator that helps you find ways to help the environment and save money. The calculator measures your savings in GHG emissions, litres of water, kilograms of waste, litres of fuel, kilowatt hours of electricity and more. You can participate as an individual or create a team and compare your results to other teams, as well as provincial and Canadian results. Visit www.ecoactionteams.ca





to participate. You will find a link to the Calculator on the main page.

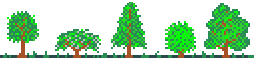
School presentations: The City of Moncton, in collaboration with the Westmorland-Albert Solid Waste Corporation and the Forest Glen School Green Team, visited 12 schools to raise awareness on the wet/dry waste separation program, water conservation and energy conservation.

Display at City Hall: A display was setup at City Hall, featuring material from Westmorland Albert Solid Waste Corporation, recycling tips and updates, handouts for Earth Day Programs, as well as posters and fact sheets on a wide variety of environmental topics.

For Earth Day 2007, 20 schools participated in the Environmental Report Card for Greater Moncton. This initiative was undertaken to establish a baseline in terms of what the schools were doing and to conduct reviews in the following years to see improvements. The following results were obtained:

- 100% carry out annual school ground clean ups on Earth Day and for Beautification week
- 50% carry out energy conservation projects- turn off lights, computers, water taps etc.
- 95% carry out recycling and waste reduction projects
- 20% carry out environmental learning programs relating to air, water and wildlife with field trips and nature walks as part of program
- 80% carry out plantings at the schools whether it be plants, trees or flowers
- 50% of schools have bike/walking days with several students riding bikes daily
- 20% of schools carry out charity clothing drives
- 20% of schools carry out Earth Day assemblies – younger grades one school did an Earth Day Play, another provided birthday cake for students
- 95% reuse arts and crafts supplies for school projects
- 20% of schools carry out waterways/brook clean up
- 95% donate lost and found articles to Moncton Headstart
- 90% of schools have food drives at Christmas and Easter
- 20% of schools encourage litterless lunch
- One school has socks, mitts and hats donated by the seniors for the children – great idea
- 20% of schools donate to the WWF, Local Zoo and Trans Canada Trail older grades

As shown in the above list, a tremendous amount of work being carried out by our local schools and they have been recognized locally by the City of Moncton.



11.3 Earth Hour



Every year, the City of Moncton supports Earth Hour, an endeavour in which people and businesses in cities around the world turn their lights off for one hour to highlight the need for action against climate change. This initiative originated in Sydney, on March 31, 2007 and has now become a global movement.

As part of the Earth Hour initiative, the City turns off the non essential lights at several of its facilities and encourages citizens and local businesses to also turn off their lights.

In 2008, NB Power recorded a drop in energy of 8 Megawatts for the Province of New Brunswick, which is equivalent to shutting of approximately 150,000 light bulbs.

11.4 Communities in Bloom

Communities in Bloom is a non-profit organization committed to fostering civic pride, environmental awareness and municipal beautification. Each year communities are recognized for their accomplishments bases on eight key criteria: Tidiness, Environmental Awareness, Community Involvement, Natural and Cultural Heritage Conservation, Urban Forestry, Landscape Areas, Floral Displays and Turf and Ground Cover Areas.



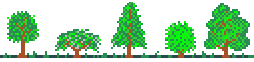
Moncton's participation in the Communities in Bloom competition illustrates our community spirit. Moncton has been competing for the last nine years in the 100,000 plus population category, in partnership with neighboring communities Metro Moncton has improved its position each year of participation. In 2007 we hosted the National Symposium on Parks and Grounds which also is the awards wrap up for the annual program. The Communities In Bloom slogan, "People, Plants, and Pride", truly captures the essence of the competition and its value to competing communities.

11.5 Outdoor Educational School Programs

Science based programs are organized directly with the school district. Our mission is to support the existing school curriculum and promote a strong environmental ethic while learning in nature's classroom.

The City offers seasonal tours and science classes at the Irishtown Nature Park. This picturesque





reservoir provides an opportunity for a strong science-based program where hands on and exploratory work will naturally compliment classroom learning. The programs relate to School District #2 science curriculum and help children make connections between what they read in the classroom and what they see, hear and touch in the outdoors. This partnership will help develop a more positive attitude towards the environment and encourage students to be responsible and appreciate the great outdoors. It will help children foster a sense of stewardship and create an appreciation for their natural environment.

A series of outdoor environmental lessons focusing on plant and animal life and their relationships with the environment are being piloted. Programs are offered throughout the year based on the four seasons. Two new winter programs done on snow shoes is tracks/signs and animal homes, and the New Brunswick fur bearers program where a class set of pelts gives children a hands on look at animals of our forests.

11.6 Envirothon Training and Competition

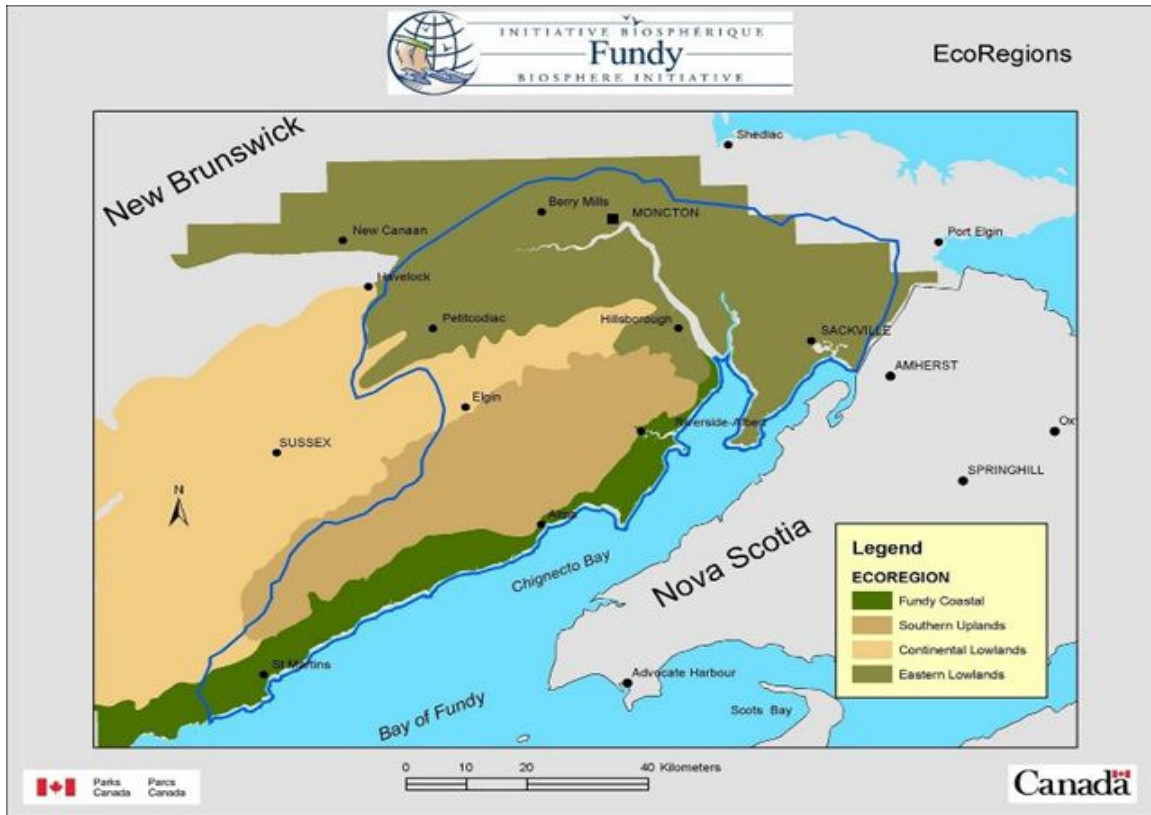
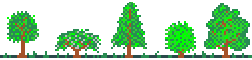
This is an environmental education program and competition for high school students. Students can learn different aspects of the forest, habitats, soils, water conservation, new energy projects, management practices, research and more through in-class curriculum and hands on field experience. The provincial competition is in May and this year we are teaching at Riverview High with the theme being “Recreation and the impact it has on the environment”. The City participates in this project as a resource where many disciplines involving the forest can be covered through direct in class education and out in the field demonstrations.

11.7 The Fundy Biosphere Initiative

A Biosphere Reserve is a terrestrial, coastal and/or marine area that is internationally recognized within UNESCO’s (United Nations Educational, Scientific and Cultural Organization) Man and Biosphere Program. The upper Bay of Fundy has been designated as a Biosphere Reserve and has become one of 15 ecosystems in Canada that have obtained this special designation. The 432,000 hectares area is unique in its geological formations, terrestrial and marine ecosystems and cultural heritage.

The Fundy Biosphere project was initiated by the University of Moncton in cooperation with several Provincial and Federal agencies to protect an area along the coast and raise awareness on conservation issues. The Fundy Biosphere Reserve has been awarded \$30,000 from the Environmental Trust Fund (ETF) to support the establishment of scientific and educational programs. The City of Moncton is a partner in this project and will continue to be part of the program and assist in the development of future plans.

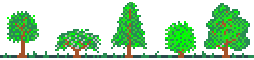
For more information on this project, visit the Fundy Biosphere website at <http://www.fundy-biosphere.ca>



12.0 Green tips

Here are a few ideas on how you can do your part by reducing your environmental footprint:

1. Walk, bike, or take the bus
2. Maintain your vehicle
 - Keep tires inflated and aligned
 - Read your owner's manual and use the recommended type of fuel
 - Keep the gas tank full in the winter
3. Avoid idling vehicles for more than one minute
4. Conserve Energy
 - Use fluorescent bulbs
 - Turn off lights and computer when not in use
 - Wash clothes in cold water
 - Lower your thermostats
 - Choose energy efficient appliances



- Have an energy audit done on your home and retrofit your home to make it energy efficient (provincial and federal funding programs are available)

5. Conserve Water

- Repair leaks
- Install a low-flush toilet (6 litres) and water efficient fixtures such as a low flow shower head
- Do not leave water running unnecessarily (ex: when brushing teeth or shaving)
- Run the dishwasher and clothes washing machine only with full loads
- Take a short shower instead of a bath
- Use a rain barrel to collect rainwater from your downspouts. Collected rainwater can be used for garden watering instead of water from the tap.

6. Reduce, Reuse and Recycle

7. Compost at home

8. Plant a tree

9. Use water efficient landscaping

10. Buy locally

13.0 Conclusion

In closing, please note that the Report will be updated with new environmental initiatives as they occur. We expect this will serve as a guide to Moncton's on-going commitment to good environmental practices. Please do not hesitate to contact us for additional information on any of the initiatives highlighted throughout.

For additional information, please contact:

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