Report on the Environment 2003



THE CITY OF St. Albert

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Message to the Citizens of St. Albert

Why should we report on the environment? If the City of St. Albert is to achieve sustainability, then the corporation of the City of St. Albert and the citizens of the City of St. Albert must be in a position to accurately measure environmental performance, and regular reporting on the state of the environment is the best way to track corporate performance.

This is the City of St. Albert's first annual report on the environment. We have taken some significant steps toward establishing a reporting system that will allow St. Albertan's to have a clear understanding about what this corporation is doing to protect the environment of St. Albert.

Hopefully, in the years ahead, readers will be in a position to judge whether our efforts to maintain and enhance the environmental conditions have been effective. Such critical analysis is an important step on the path to achieving our corporate goal in becoming a leader in environmental stewardship among cities in Alberta and Canada. One of the major developments of the fiscal year was the development and adoption of the first draft of a corporate environmental policy that will lead to the establishment of specific objectives to address key environmental aspects of City operations. In the next year, the City's senior management will devote considerable attention to how it will handle the policies identified in the "Road to Environmental Excellence".

But we also recognize that there are few, if any, quick fix solutions to environmental issues that the City faces or will face in the near future. The measures we will be considering for implementation will seek to increase or maintain the City of St. Albert's standing as a leading corporation among other municipalities. Through implementation of these measures, we hope to increase public awareness and understanding to make the job of those on the front line of City operations easier by virtue of giving them the environmental knowledge and support they need.

In the last year, the City of St. Albert has had some significant accomplishments:

- We have adapted a system for information dissemination and the delegation of environmental responsibilities among members of City Council by establishing the Environmental Advisory Committee.
- Council adopted a set of corporate environmental policies and will delegate the implementation of the policies to the Senior Leadership Team of the City.
- City Council authorized the Senior Leadership Team to proceed with the development of a pilot environmental management system conforming to a set of international standards. The City's Transit Department has been selected to lead the way in this initiative.

Some key initiatives undertaken this year include:

- Commencement of a city-wide Stormwater Management Master Plan
- Parks & Open Spaces Master Plan
- Red Willow Park Master Plan
- Stormwater Quality Monitoring Program
- Commencement of a 'Hydrocarbon / Grit Interceptor' program with a major installation on St. Anne Street, opposite City Hall
- Commencement of planning for a new permanent snow storage site
- Long-range planning for sanitary sewerage and water storage and distribution needs

Many environmental challenges remain for the City of St. Albert in the years ahead, but we are confident that, with our plan and dedication of our management and staff, we can meet these challenges fully as we pursue our mission of environmental excellence among Alberta municipalities.



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This is the City of St. Albert's first Report on not of the Environment and, with its publication, the City joins a select group of municipalities committed to environmental reporting.

The City of St. Albert is committed to developing and maintaining a leadership role in environmental stewardship. However, to do this properly, we need to be able to set a baseline from which we can measure our progress. St. Albert residents can use the Report on not of the Environment to review the environmental activities and achievements of the City and to measure its performance.

This report has been written with three questions in mind:

1 What is the City of St. Albert's environmental status?
2 What is the City doing about its environmental issues?
3 How is progress measured?

Environmental Indicators
Tools for the Identifying the Environmental Issues

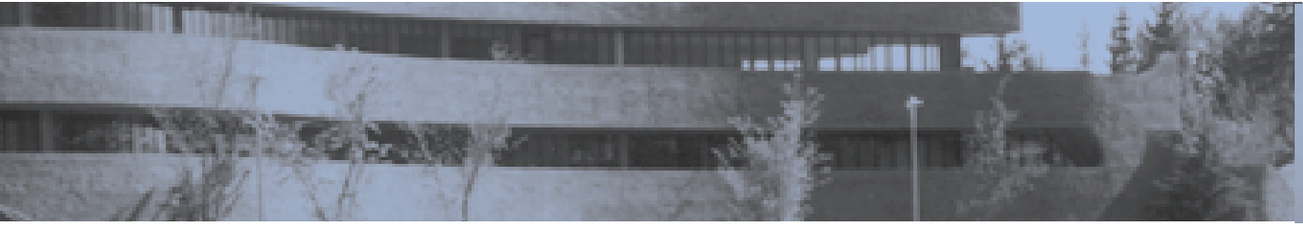
As a municipality, the City of St. Albert is harmonizing its reporting approach with the Provincial Government and Environment Canada. This Report on the Environment is distinguished by its use of environmental indicators of stress, conditions or societal response, as baseline against which future progress can be measured.
Until our Environmental Management System is in place, we have chosen to provide a snapshot of our environmental conditions by using the following general assessments:

1 Is the City of St. Albert making progress in relation a broad goal or target?
2 Does the City of St. Albert need improvement to its performance?
3 It is hard to say whether we are moving in a favourable direction.

Wherever possible, the report deals with activities in a more quantifiable manner. Where applicable, graphic presentations are used to track the City's environmental performance and current status. Experience in coordinating corporate/municipal environmental reporting is not yet extensive in Canada. However, the general field of environmental reporting is evolving quickly, and greater harmonization between sectors is a goal that we hope to facilitate with this and future editions of the annual Report on the Environment.

Did You Know?

According to a national roundtable on the environment and economy, fewer than one in a hundred municipalities are committed to releasing an annual Report on the Environment or Sustainable Development.



The City of St. Albert's Corporate Environmental Strategy

The City's first environmental policy will define its long-term environmental direction. This policy will provide strategic direction and a framework for managing environmental issues in a way that reinforces the City's goal to strive for environmental excellence.

We have identified a number of environmental issues that arise from current City operations or past activities, seven of which are considered high priority: comprehensive waste management, contaminated sites management, stormwater and retention pond water quality, Sturgeon River water quality, open spaces and natural areas, outdoor air quality and energy conservation.

The path to environmental excellence requires that the City of St. Albert is in compliance with all environmental regulations and laws.

Our first goal will be to ensure that an Environmental Management Systems (EMS) is in place to address issues.

An EMS will provide a framework for management and staff to deal with environmental issues and problems. The main functions of an EMS are to ensure that:

1 Environmental risks are identified and managed
2 Laws, regulations and permit requirements are understood and adhered to
3 Organization responsibilities are defined and carried out
4 Environmental control, quality assurance and verification systems are in place

Our Transit Department has been selected to lead the way in the development of an EMS.

AIR QUALITY - How are we doing?

Needs improvement

Local air quality is primarily influenced by automobile use. Provincial and national data shows there is an opportunity for greater use of public and alternative forms of transportation.

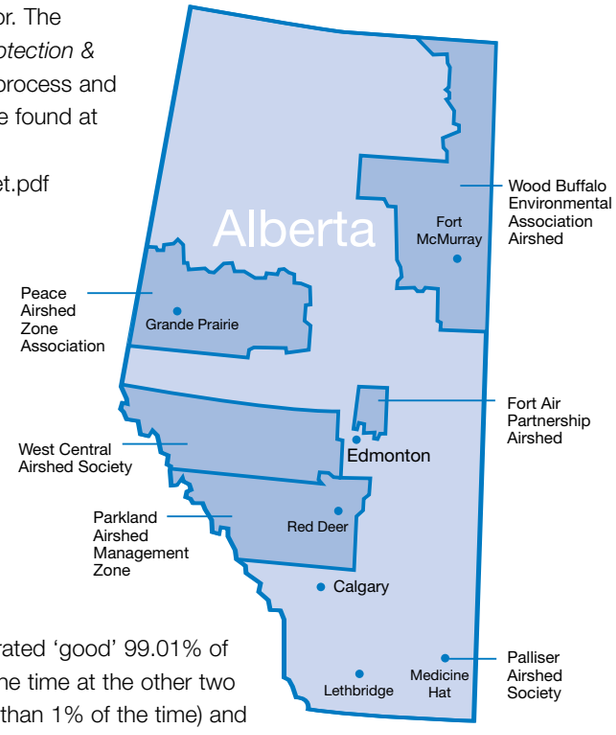
Like any responsible corporation, the City of St. Albert is identifying ways to minimize impacts on air quality. We must examine local, regional and national atmospheric issues to understand the state of our atmosphere. Some of these impacts are of immediate concern, while others are not likely to affect our ecosystem until some time in the next century. Some of the factors shaping our local airshed are under the direct management of the City of St. Albert such as local industry development and traffic use while others are beyond our immediate control.

St. Albert's Air Quality

Alberta Environment measures air quality through a system called the Index of Quality of the Air (IQUA) – an indicator developed to provide the public with a meaningful measure of outdoor air quality. The rating system simply places air quality measurements into four categories – Good, Fair, Poor or Very Poor. The categories are related to *Alberta Environmental Protection & Enhancement Act* guidelines. Details of the IQUA process and the respective pollutants that are monitored can be found at Albert Environment's Website:
http://www3.gov.ab.ca/env/air/airqual/AQIfactsheet.pdf

The province is divided into 5 airsheds monitored by Alberta Environment. St. Albert resides within the West Central airshed.

There are no air quality monitoring stations in St. Albert. However, there are three stations located in Edmonton. The air quality monitoring station closest to St. Albert (located in Edmonton at 13335 – 127 St.) can be monitored on a real-time basis at
http://www.telusgeomatics.com/tgpub/ag_air/default.asp



Between 1992 and 2002, Edmonton's IQUA was rated 'good' 99.01% of the time at one location, 97.53% and 96.58% of the time at the other two locations. Air quality is seldom 'Poor' (usually less than 1% of the time) and the frequency of 'Very Poor' index levels is extremely low.

Did You Know?

- St. Albert has on average 2.25 cars per household
- The average Canadian household has 1.7 cars
- City buses are in operation for over 72, 000 hours per year and travel a combined total distance of 1.9 million kilometers in one year. This is equivalent to circling the earth 50 times!

Overview

Air quality is an important factor in everyday heath and well-being. After studying air quality in 11 cities, Health Canada has suggested that 5000 premature deaths per year could be attributed to countrywide air pollution. St. Albert's general lack of significant heavy industry and its prevailing winds, has in general spared us from poor air quality associated with health-related problems. The primary source of pollution in St. Albert is the passenger vehicle. As the city grows, this problem can be expected to worsen.

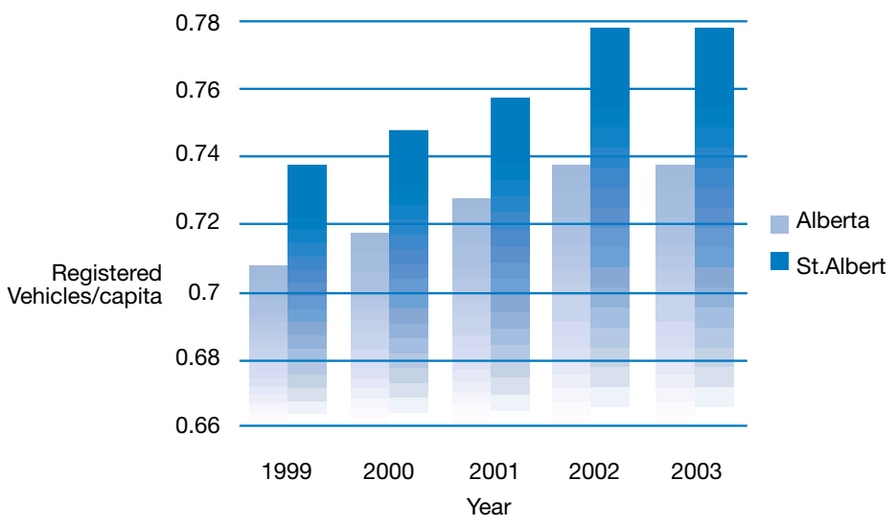
Impact of Automobiles

The burning of fossil fuels, particularly for the purposes of heating buildings and automobile use, is the most significant human activity adversely affecting air quality. Vehicle emissions are a primary contributor to urban air quality and subsequent impact on climate change associated with Green House Gases.

While the number of vehicles per household and the number of public transportation trips are not direct measurements of vehicular impact on the environment, there is a relationship between the health of the environment, and the health of its inhabitants, its vehicular use, and scarce land and resources used to create and maintain the roads.

Vehicles/Capita - Alberta & St. Albert

Source:Stats Canada;Alberta Transportation

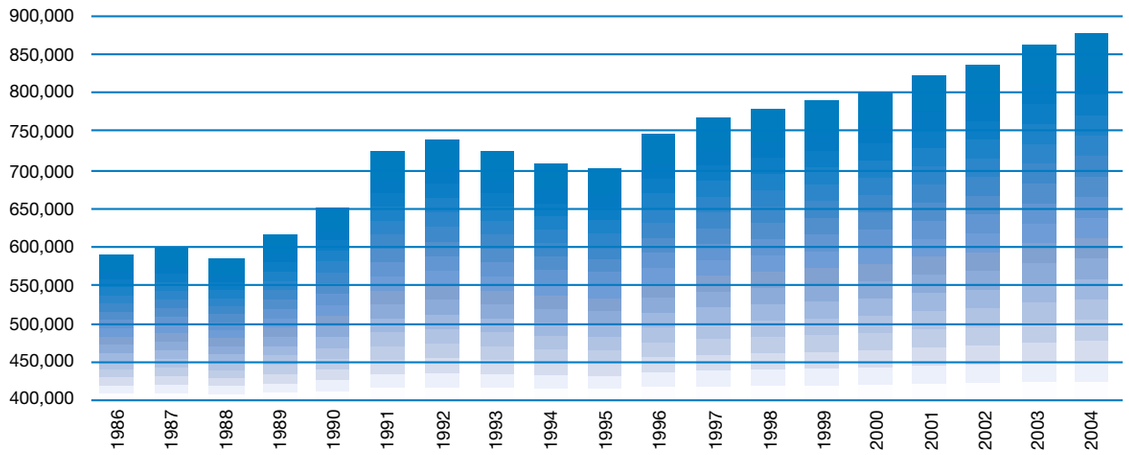


Public Transport

Currently, St. Albert operates 39 buses of which 11 are articulated, 15 are low floor and 13 are standard buses. More than two-thirds of the total bus fleet is wheelchair accessible. (Commuter ridership refers to bus trips travelling outside St. Albert. Local ridership [trips within St. Albert] equate to approximately 10% of commuter ridership)

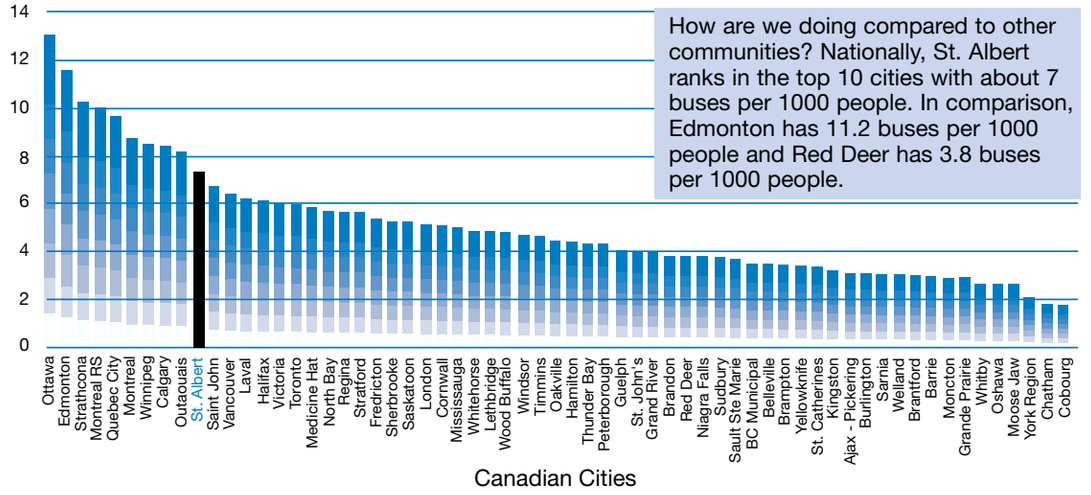
Total Commuter Ridership

St. Albert Transit 1986-2004



Buses per 10,000 people (Canada)

Source: CUTA Canadian Transit Fact Book 2001



How are we doing compared to other communities? Nationally, St. Albert ranks in the top 10 cities with about 7 buses per 1000 people. In comparison, Edmonton has 11.2 buses per 1000 people and Red Deer has 3.8 buses per 1000 people.

Our Transit Department continues to explore alternatives for improved fuel consumption, fuel types, improved exhaust emission systems and upgraded bus models in an effort to reduce emissions impacts and fuel consumption. Diesel fuel currently used by transit buses is a sulphur-free commodity.



Other Air Quality Improvement Initiatives

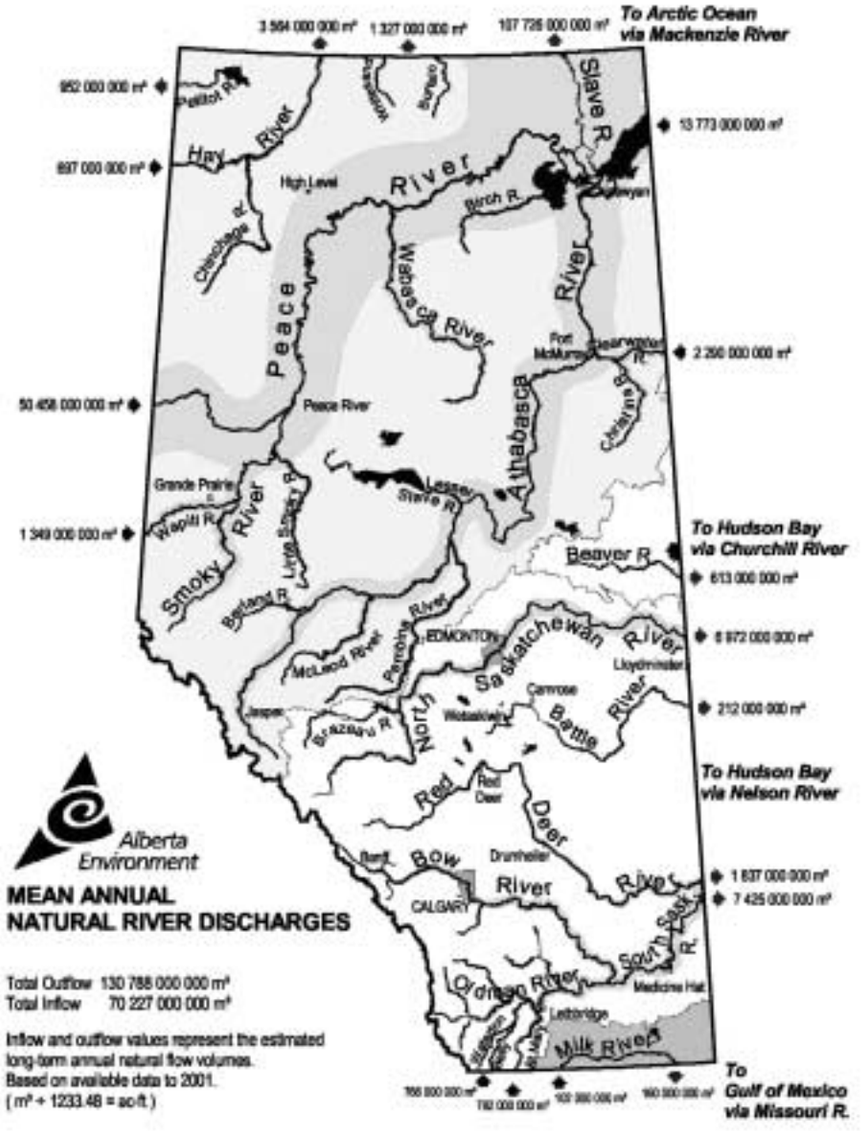
1 The City's annual spring street sweeping program collects sand and gravel that was deposited on streets over the winter. The program helps reduce dust and minimize the amount of sand and gravel that would be flushed into the storm sewers of the Sturgeon River.

The City's timing and monitoring of its sweeping programs maximizes the amount of recovered materials and technology has minimized dust entering the air during sweeping.

2 The City has eliminated its use of ozone depleting substances such as chlorofluorocarbons and halon from fire extinguishing equipment.

Water

We think of Canada and Alberta as having an abundance of readily available water, particularly surface water from our lakes and rivers. However, this is not the case. Growing populations are placing greater demands on available space and resources, which in turn, has placed enormous pressure on our limited water resources.



Did You Know?

- Because of where we live, 85 % of Canadians can only access 1/3 of the country's total water supply.
- Within Alberta, only about 13% of the total available water is accessible to about 85% of our population.

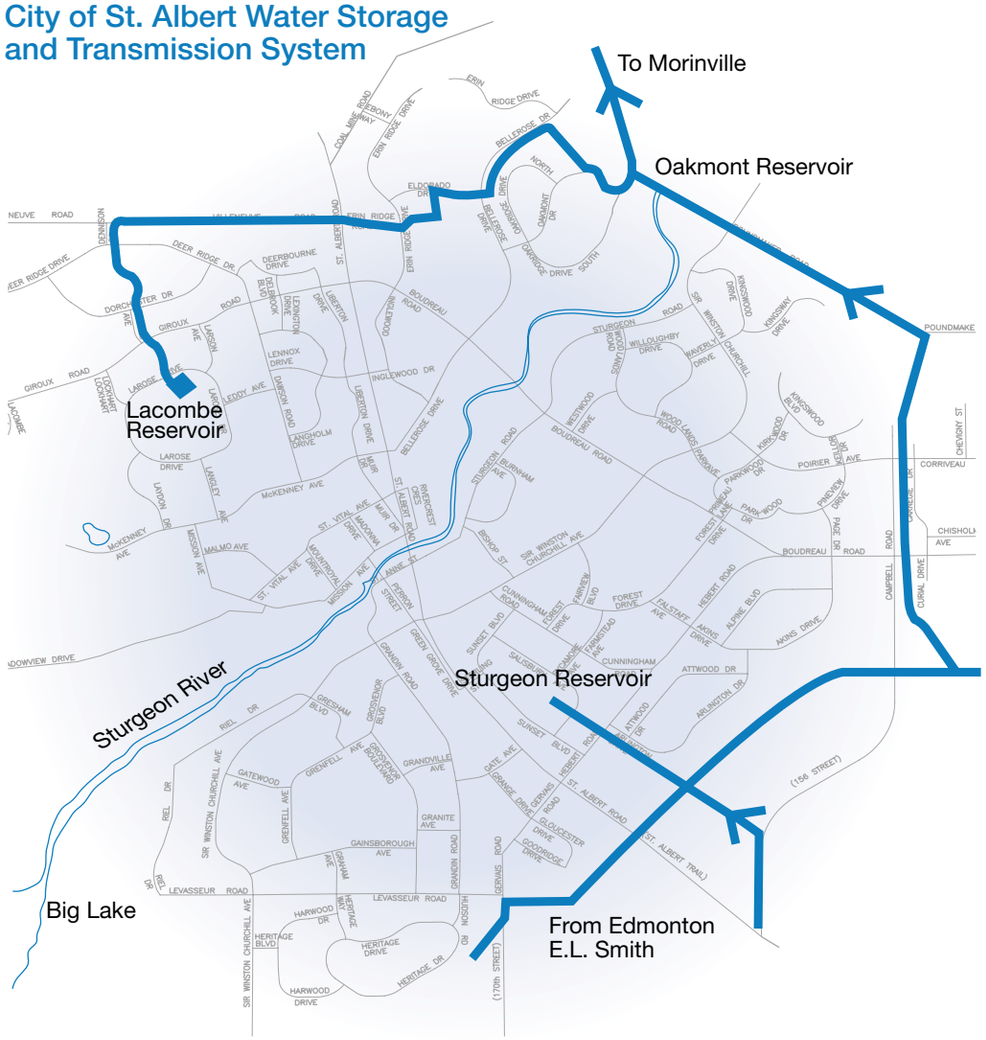


Drinking Water Quality -How are we doing?

MAKING PROGRESS

The City maintains a high quality of drinking water that consistently meets or exceeds all heath-related water standards. By constantly monitoring, maintaining and upgrading our water delivery system and by ensuring staff is well trained, St. Albert's drinking water quality is maintained at a consistently high level.

City of St. Albert Water Storage and Transmission System



St. Albert obtains its water from the North Saskatchewan River via EPCOR's E.L. Smith water treatment plant. Water is distributed through a network of pipes and reservoirs that serves six regional commissions, four cities and 36 towns and communities. St. Albert's treated water is stored in three reservoirs located in Sturgeon, Lacombe Park and Oakmont.

At the E.L Smith water treatment plant, EPCOR adds chlorine and ammonia to the water to complete the removal of harmful bacteria and to aid in controlling taste and odour.
The water is filtered or purified, then it passes a series of light bulbs that put out intense blue Ultraviolet light. The light sterilizes any remaining organisms in the water. Edmonton has one of the largest UV disinfection systems in North America and the resulting treated water is one of the highest quality standards in the world.

EPCOR regularly monitors water quality and files a formal monthly report with Alberta Environment, which is posted on EPCOR's website:
http://www.epcor.ca/default.htm

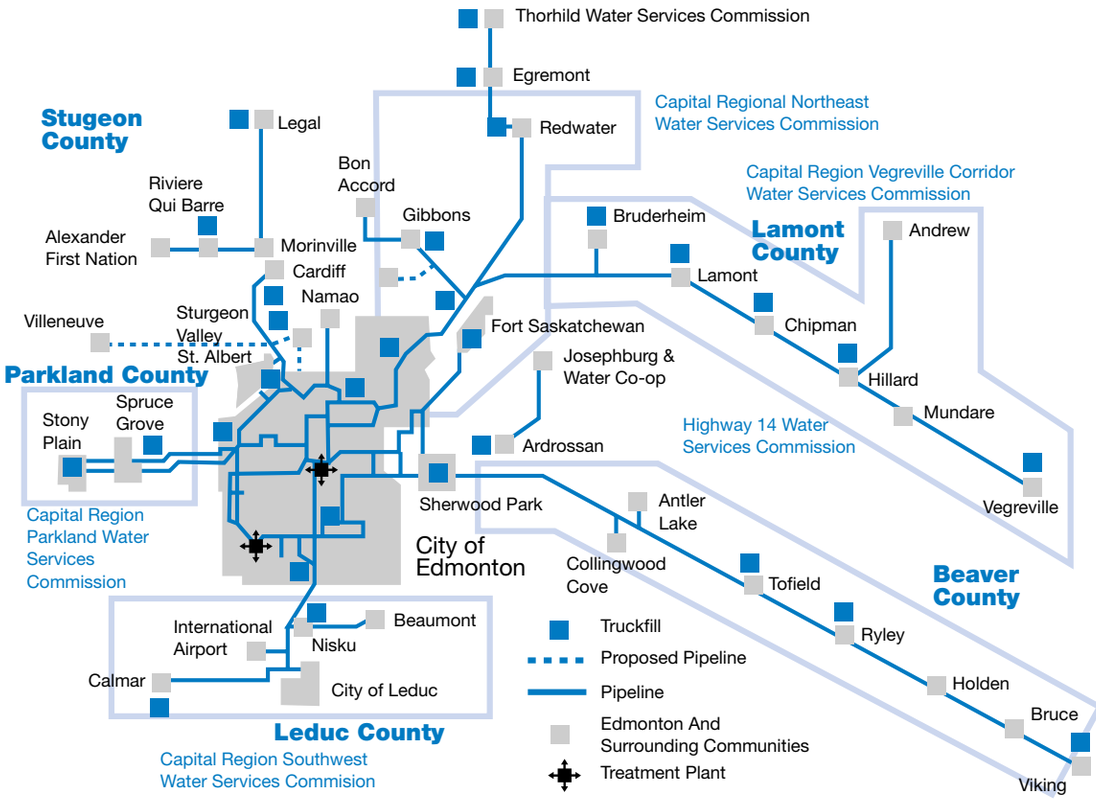
In addition to carefully controlled water quality monitoring by EPCOR, sampling and testing of St. Albert's water is an integral part of the provincial licensing process. It is this licence, which allows St. Albert to operate its water storage and distribution system. St. Albert's water has consistently met Alberta provincial standards and Health Canada guidelines for water quality.

St. Albert's overall water storage and distribution system is monitored 24-7 by our SCADA, Supervisory Control & Data Acquisition system that provides system status, water quantity and quality data reports to our operational staff.

Did You Know?

The City operates and maintains water mains that would almost stretch from Edmonton to Calgary - over 300 kilometres.

Regional water supply system

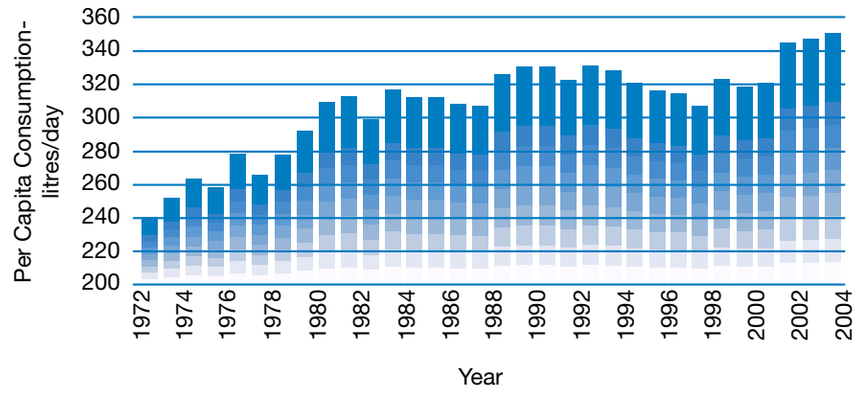


St. Albert is also a member of the Regional Water Emergency Response Planning Team, a group that develops and maintains a regional response plan for dealing with water supply emergencies that might impact regional water customers. The collaborative efforts of this team have resulted in a plan to deal with water emergencies ranging from water shortage, quality, system failures and other emergencies.

Water Consumption

Water is an important and limited resource. Its wise use is essential to a healthy environment. As the city's population has increased, so has the amount of water each person uses each day - our daily per capita water consumption. In 1972, each person used an average of about 240 litres per day. Today, our average daily water consumption is about 340 litres per capita – (FIG W4 Water Consumption – St. Albert).

Per Capita Water Consumption





This increase could be a combination of lifestyle uses such as more car washes, more home swimming pools, and an increase in city-operated facilities that consume water such as swimming pools and the water park.

Did You Know?

The City of St. Albert consumed 6.8 trillion litres of water in 2003 – enough water to fill 3000 Olympic sized swimming pools.

What is Xeriscaping?
Literally, the word Xeriscaping comes from a combination of two other words: "xeri" derived from the Greek word "xeros" for dry; and "scape", meaning a kind of view or scene. While xeri scape translates to mean "dry scene," in practice Xeriscaping means simply landscaping with slow growing, drought tolerant plants to conserve water and reduce yard trimmings.

Did You Know?

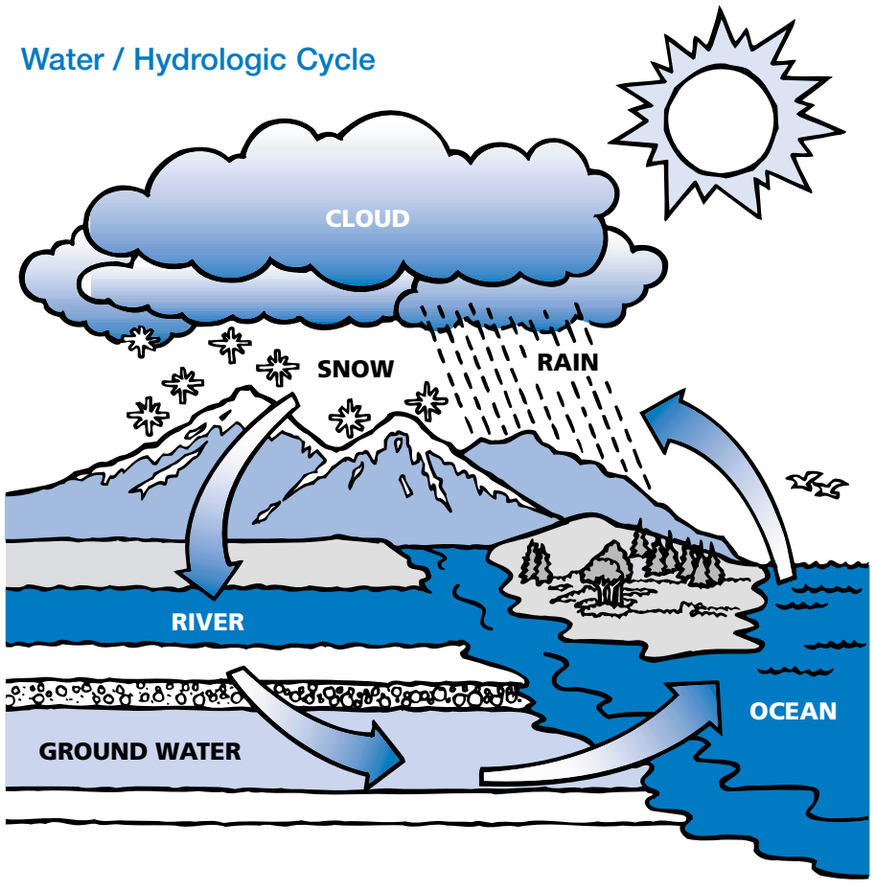
- Your lawn needs a maximum of one hour watering a week to stay healthy.
- Undetected leaks can waste thousands of litres of water – a faulty toilet could cost as much as $1,000 per year.

Water Use - How are we doing?

NEEDS IMPROVEMENT

Variations in weather influence water consumption. A steady increase in water use indicates a change in lifestyle and a need for more careful use of this limited resource.

Water / Hydrologic Cycle



As a limited resource, water should be treated in a responsible manner. Water conservation benefits everyone by reducing infrastructure, treatment and delivery costs and lowering consumer and industry costs. Water conservation ultimately benefits the environment as a whole. Responsible yard watering, car washing practices and Xeriscaping are some ways to conserve water.

Water Quality and the Aquatic Environment How are we doing?

HARD TO SAY

Although initial data are comparable with other similar communities, until additional data is available, it is hard to say if our surface water quality is acceptable or otherwise.

While the City of St. Albert works to reduce the impact of its local operations on the aquatic environment there is a growing demand for a regional approach to ensuring preservation of the aquatic environment.

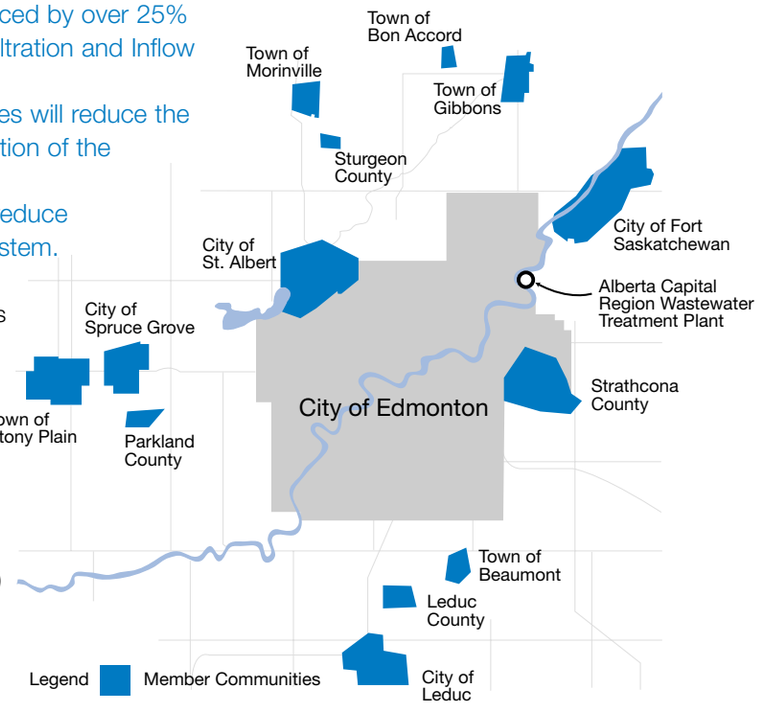
To meet this demand, we must balance reliable stormwater management with measures to protect aquatic resources. The City's efforts to protect the Sturgeon River fall within three overlapping areas: managing wastewater, stormwater flows, and stormwater quality. Some aspects of development and operations of the stormwater management system have an impact on the aquatic systems. The following sections discuss the measures the City has undertaken to mitigate potential impacts.

Wastewater - How are we doing?

MAKING PROGRESS

1 Excess flows have been reduced by over 25% since the introduction of the Infiltration and Inflow program in 1974.
2 Sewerage lift stations upgrades will reduce the potential for sewage contamination of the Sturgeon River.
3 Sewer trunk installations will reduce overloading of the sewerage system.

The sanitary sewer system protects public health and the environment by collecting and treating wastewater from residences, schools hospitals, businesses and industries.
The City of St. Albert is part of the Alberta Capital Regional Wastewater Commission (ACRWC) – http://www.acrwc.ab.ca/ that collects wastewater from thirteen communities within the greater Edmonton metropolitan area for treatment at their facilities located



Did You Know?

• St. Albert currently operates and maintains approximately 300 kilometres of sewers and eight sewage lift stations

• St. Albert has approximately 185 kilometres of pipes and channels, 10 stormwater ponds (wet and dry) and approximately 30 outfalls to the Sturgeon River.

at Ft. Saskatchewan.
Lift stations are being upgraded by renovating or installing new generators for backup power to help prevent surcharges and overflows to the river. Trunk sewers are being upgraded to accommodate future city growth and to reduce surcharging and overflows.

Since 1974, the city has been implementing its Infiltration and Inflow (INI) program, which is aimed at reducing the amount of surface and ground water that leaks into the sanitary sewers. Reduced inflow means a reduction in the volume of wastewater for both conveyance and treatment and hence a savings in cost and energy.

Stormwater Management

Drainage systems were originally designed to minimize flooding by diverting rain and snowmelt away from property and developed areas. To further protect the environment, drainage has evolved into stormwater management, which not only addresses runoff quantity, but also runoff quality. The stormwater management system is a combination of surface and subsurface features including, storm ponds (wet and dry), depressed holding areas, catch basins, engineered wetlands, hydrocarbon / grit interceptors and an underground network of pipes, open channels and outfalls that discharge to the Sturgeon River.

New environmental regulations have created the need for more sophisticated and effective means of not only handling peak flows from developed areas but also addressing water quality caused by surface detritus such as road grit, oil leaks from automobiles and animal feces.

We have four hydrocarbon grit interceptors that have been strategically placed to protect the water quality of the Sturgeon River. We plan to continue construction of hydrocarbon grit interceptors to service our major river outfalls.

Stormwater Management - How are we doing?

NEEDS IMPROVEMENT

Some improvements have been made, however, there are needs for more improvements. Hydrocarbon grit interceptors appear to be having some positive impact on silt deposition in the Sturgeon River. However, this program needs expansion before any significant improvements in river conditions can be expected.

The City of St. Albert is part of a national education and awareness program – the Yellow Fish Program – that is coordinated with schools and other groups. Program participants mark catch basins to emphasize the relationship between what we flush into the storm drainage system and the receiving water bodies. This year, St. Albert reintroduced this program and plans to expand and continue the program annually.



Our stormwater management pond water quality-monitoring program helps to tell us how well the ponds are working. Data provides valuable information that could help us improve future designs to protect the Sturgeon River. The water quality of our stormwater management ponds is comparable with that of other similar urban communities. However, in the interest of public health and safety, water-based recreational activities are not permitted.

The city's Stormwater Management Master Plan, scheduled for completion in early 2004, will identify ways to minimize erosion and sediment deposition in the Sturgeon River (through best management practices) and will identify opportunities to enhance and protect the river valley.

Did You Know?

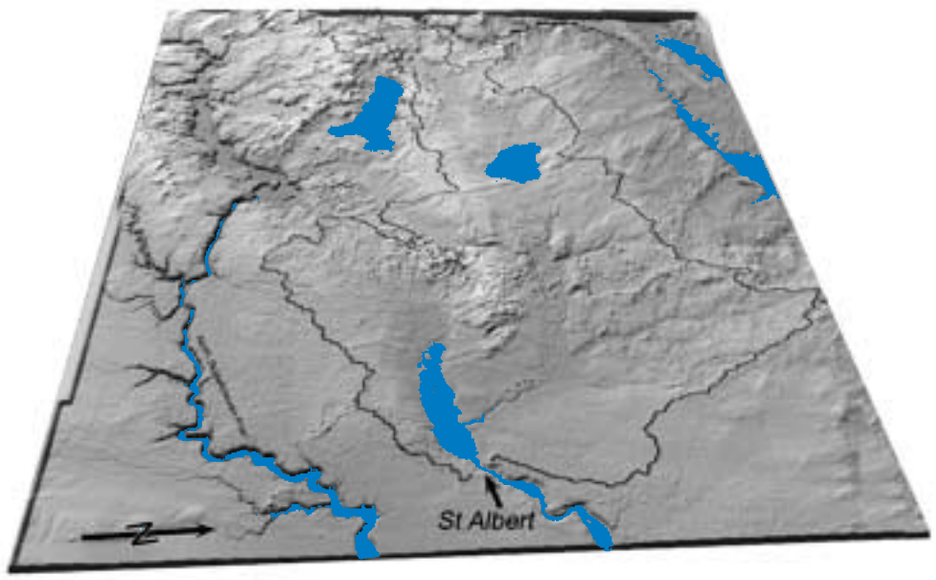
One drop of oil can contaminate 1,000 litres of water.

Road Salt

Like many Canadian communities, St. Albert uses road salts such as Calcium Chloride and Sodium Chloride to assist with its winter management of city streets. Environment Canada has published a proposed Code of Practice for the Environmental Management of Road Salts. The code recommends road salt management plans that take into consideration all activities that might result in the release of road salts to the environment, such as storage, application of salts on roads and the disposal of snow containing salts.

Road salts can be toxic to fish and plants. St. Albert has a well-managed road salt application program. In response to the federal government's draft code, we prepared a revised Road Salt Management Application program. We have also commenced a study to identify the location of a permanent engineered snow storage site that will enable us to have long-term control over the release of snow collected from our streets to the Sturgeon River.

Sturgeon River Basin



Sturgeon River -How are we doing?

NEEDS IMPROVEMENT

While some improvement has been made in local terms such as the Yellow Fish Program and the Annual Sturgeon River Clean Up Program, the Sturgeon River's long-term sustainability depends upon the development of a basin water management plan.

Included within the Sturgeon River basin are the municipalities of Stony Plain, Spruce Grove, St. Albert, parts of the counties of Lac Ste. Anne, Parkland, Sturgeon and Westlock as well as the northwest fringe areas of the City of Edmonton. The Sturgeon River is the main drainage course for the basin. It drains a large number of lakes north and west of Stony Plain, principally Isle Lake and Lac Ste. Anne in the western portion of the basin and Big Lake, immediately upstream of St. Albert.

The headwaters of the Sturgeon River originate in the vicinity of Hoople Lake, located adjacent to the Pembina River, west of Isle Lake

Big Lake is a shallow water body 1 – 1.5 meters deep that acts as a flood buffer to areas downstream of St. Albert. It is an important bird migration and nesting area (235 recorded bird species) and is designated as a Special Place 2000. It is a spawning area for the basin and provides a fishing recreation base, an abundant wildlife refuge and diverse plant ecology.

During the winter and summer, the Sturgeon River through St. Albert experiences low flows. This, coupled with sediment build-up has caused migrating winter fish, looking for deeper pools for over-wintering, to encounter barriers to their passage. In some cases, fish attracted to oxygen-rich water at storm outfalls have become trapped in the shallow water and by adjacent sediment. The City's hydrocarbon grit interceptor program will help reduce barriers to fish migration by reducing the amount of sediment entering the river.



Did You Know?

- The Sturgeon River is approximately 260 kilometres long.
- The drainage area of the Sturgeon River basin is approximately 3,500 square kilometres.
- Big Lake covers over 1200 hectares.
- Big Lake is the largest, closest, accessible water body to the Edmonton metropolitan area.

Watershed Management

The provincial government recognizes water as an important resource and that it impacts all aspects of our lives. The *Water Act* provides legislative tools for managing water through approved water management plans. The complimentary *Framework for Water Management Planning* provides guidelines for the development of water management plans and the recently published *Water for Life* is Alberta's plan to address the province's current water challenges and proactively deal with water-related issues we may face in the future.

St. Albert has been forward-looking in its recognition of the importance of water and the need for plans to manage the (water) resource and protect the environment. Its recent Stormwater Management Master Plan and the ongoing Big Lake Basin Study are two of the initiatives in which the City is playing a major role towards this goal. Recommendations from these studies will assist in the development of policies for the long-term protection of the Sturgeon River.



The Sturgeon River basin is one of the sub-basins of the North Saskatchewan River. St. Albert is a member of the North Saskatchewan Watershed Alliance (NSWA - http://www.nswa.ab.ca/), a group looking at ways to maintain and improve river water quality, within the North Saskatchewan River basin, our source of drinking water.

Many activities from urban and rural development, oil and gas industry activities, gravel extraction to farming practices, challenge the Sturgeon River to sustain wildlife refuge, a healthy aquatic ecosystem and remain a recreational jewel. Only a well-balanced and carefully managed plan will provide the tools to accomplish these goals.

Sturgeon River Watershed



Land Use - How are we doing?

HARD TO SAY

- We currently enjoy an environment with a large number of open spaces and parks. We also have relatively small industrial and commercial areas.

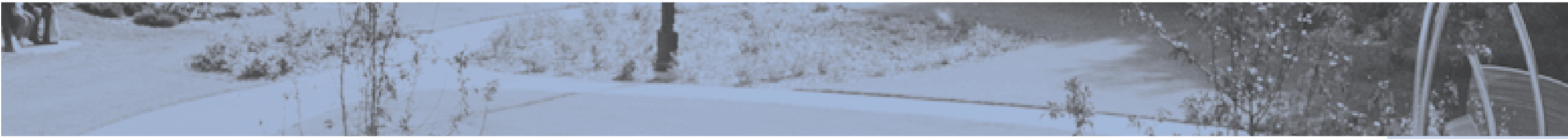
- As we grow, there will be increasing pressure to use land for development. We will be challenged to retain our environment with a large percentage of open spaces.

Responsible land development and management and the way in which we develop, protect and enhance our land are vital to our present and future quality of life.

The City's landscape is significantly shaped by the decisions we make about land use, the protection of natural areas and the creation of open spaces. St. Albert's size and population have changed considerably over a relatively short period of time and the impacts of its growth have in turn been influenced by such issues as contaminated sites, open spaces and natural areas, urban forestry and pest management and pesticide use.



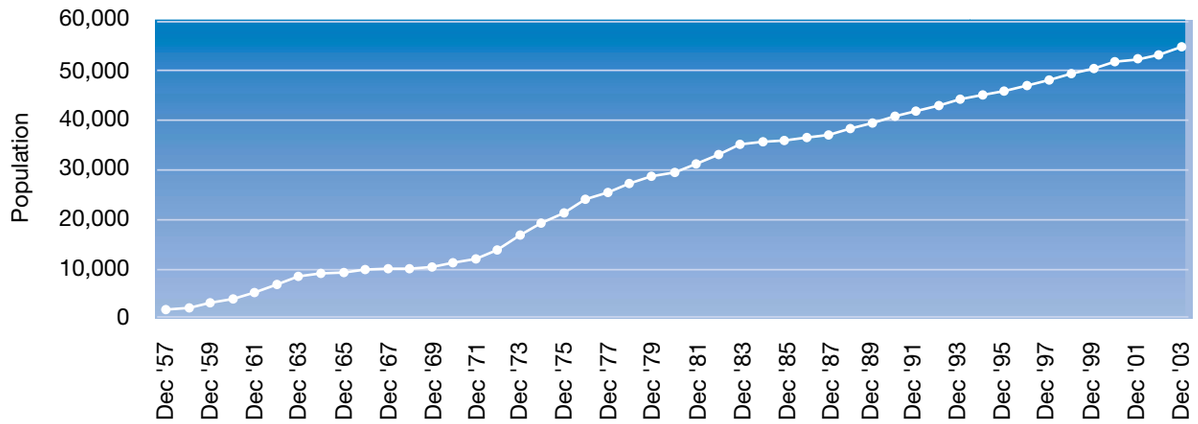




Population Growth and Urban Development

St. Albert's population has increased by approximately 23% over the past ten years. St. Albert's annual average growth rate for the past decade of 1.35% is indicative of strong growth and a vibrant community. Since 1904, the city's boundaries have steadily increased 15 times from 229 hectares to its current size of 3564 hectares.

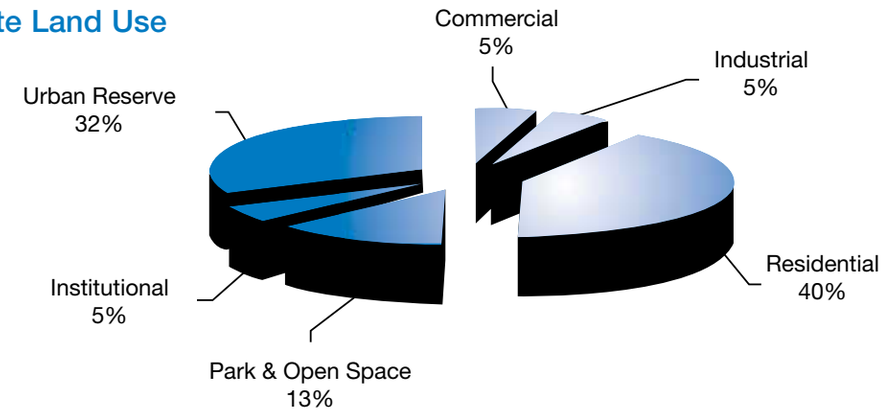
Population Growth
City of St. Albert



To meet population growth, support service industries and infrastructure needs, the city has developed a long-range growth plan that includes the annexation of an additional 1320 hectares of land to meet its growth needs for the next 25 years.

In 2003, residential land accounted for 40% of the land use in St. Albert. Recreational land, which includes parks and open space areas, urban reserve and recreational infrastructure, accounted for 13%, and commercial, industrial and institutional combined for 15% of the total land use. The remaining 32% of land was devoted to utility corridors and farmland.

Approximate Land Use
St. Albert 2003



Contaminated Sites - How are we doing?

MAKING PROGRESS

- Through its site remediation program, the city had made steady progress in dealing with site contamination.

- Continued improvement can be achieved through the implementation of a Geographic Information System (GIS) tracking system and other forensic research tools, which could provide more accurate tracking of contaminated sites.

Increased concern about the impact of site contamination on public health and the environment has resulted in revised provincial and federal legislation. The City of St. Albert works with Alberta Environment, the Capital Regional Health Authority and developers to ensure that land development, is in fact, suitable for the intended use with respect to soil and groundwater contamination.

Developers are required to submit environmental history, disclosure statements and environmental assessment reports. City-owned contaminated sites are dealt with through our own site remediation program, which follows a process similar to that for privately owned land.

The City's Fire Services department maintains a database that tracks sites with environmental issues, such as those that have underground storage tanks, certain types of industrial activities and histories of fires or spills. This information aids in response to incidents and research for future development and identifies sites that may require more careful monitoring.
The City has improved its operational procedures and techniques such as forensic research, bylaw enforcement, permitting and tracking of dangerous goods transportation, the formation of a fire prevention branch and the detailed monitoring and recording of underground storage tank data specifically during the past 10 years. Improved legislation and awareness has resulted in more detailed and accurate inspections and monitoring that leads to a safer environment.

Through continued commitment to a citywide GIS, St. Albert will be able to respond to environmental incidents and site contamination issues in a more timely, informed and efficient manner.

Did You Know?

St. Albert's Ecological Footprint
The ecological footprint is a way of expressing our impact on the environment. Categories of human consumption are translated into areas of productive land required to provide resources and recycle waste products. The ecological footprint is a measure of how sustainable our life-styles are.

The average American uses 10.9 hectares to support his or her current lifestyle. In comparison, the average Canadian lives on a footprint 25 % smaller (8.1 hectares), and the average Italian on a footprint 60 % smaller (4.4 hectares)

- St. Albert's ecological footprint is estimated to be around 11.0 hectares/ capita. This is over six times the global carrying capacity of 1.8 hectares/ person.
- If the entire world had the same ecological footprint as St. Albert, six planets would be required to meet our consumption demands.
- Our ecological footprint can only be reduced by using alternative means of transportation, reducing waste, energy and water consumption and purchasing our goods locally to reduce transportation.



Did You Know?

• St. Albert has about 38 people per hectare of open space.

• We have approximately two trees per person planted in parks, boulevards and open spaces.

Open Spaces & Natural Areas How are we doing?

MAKING PROGRESS

• Master plans for Parks and Open Spaces and Red Willow Park include recommendations and identify ways our parks and open spaces can be protected.

• Continued public education and awareness and staff training programs are required to ensure successful implementation.

St. Albert has one of the highest per capita tree and open space ratios in North America. We pride ourselves on our open spaces and natural areas, which contribute to the health of the environment and enhance the overall quality of life in an urban community.

We build, plan for and protect open spaces in a variety of ways such as parks, roadway boulevards and public open spaces. The City of St. Albert acquires parkland from landowners during the subdivision process by requiring a minimum of 10% of the developable land be dedicated as parks and schools. Additionally, undevelopable land, such as ravines and wetlands, called environmental reserves, are also acquired at the time of subdivision and are often protected as natural environmental parks. (Parks may also be acquired through purchase or private donation.)

Natural areas are relatively undisturbed areas of land and/or water, which have their own natural plant or animal community or portions of a natural ecological and geographic system. These include forests, rivers, stream corridors, habitat linkages and floodplains.

Environmentally significant areas are a type of natural area that has rare or unique features. Environmentally significant areas may include a part or all of a natural environment park, which is a park with the primary role of protecting a natural area. These parks are meant to conserve areas of environmental significance, provide opportunities for environmental education, interpretation and recreation, and conserve and enhance the character, appearance and health of the city.

All open spaces, and those being considered for development, that can produce natural connections to other open spaces should be protected to preserve wildlife corridor connectivity. All areas should be enhanced to optimize their environmental benefits and, where appropriate, allow access for community enjoyment.

To assist in achieving a balanced, healthy environment, the City has developed a master plan for the Red Willow Park and for its parks and open spaces.

Urban Forestry

Preserving St. Albert's forests is another means of protecting the natural environment and improving air quality. The urban forest includes trees and ground cover found in parks, the river valley, streets and trees on private lands. Our Parks department currently manages an estimated 70,000 - 80,000 trees on city lands not including an undetermined number of trees in natural environment parks, river valley, and private property. It is this rich diversity of trees that provides us with ecology capable of sustaining such vibrant and diverse wildlife.

Balancing protection of the environment with property protection is essential. To achieve this, the city is currently evaluating its equipment, deadfall and ground cover management practices and resource sharing. To protect trees from damage and removal in existing and developing areas, the City is currently developing a tree bylaw. Public awareness and promotion of the importance of protection of our treed environment is addressed annually through the City's Arbor Day celebrations.



Did You Know?

By keeping your lawnmower blade at a height of seven centimetres (three inches – the length of a deck of cards) weed growth will be significantly discouraged and your lawn will remain more drought tolerant.

Pest Management and Pesticide Use

PESTICIDES - How are we doing?

MAKING PROGRESS

Because of the variables involved in pesticide use, (weather and pest infestations) it is difficult to accurately measure success of the City's pest management program. However:

1. We meet all regulatory requirements in pesticide application.

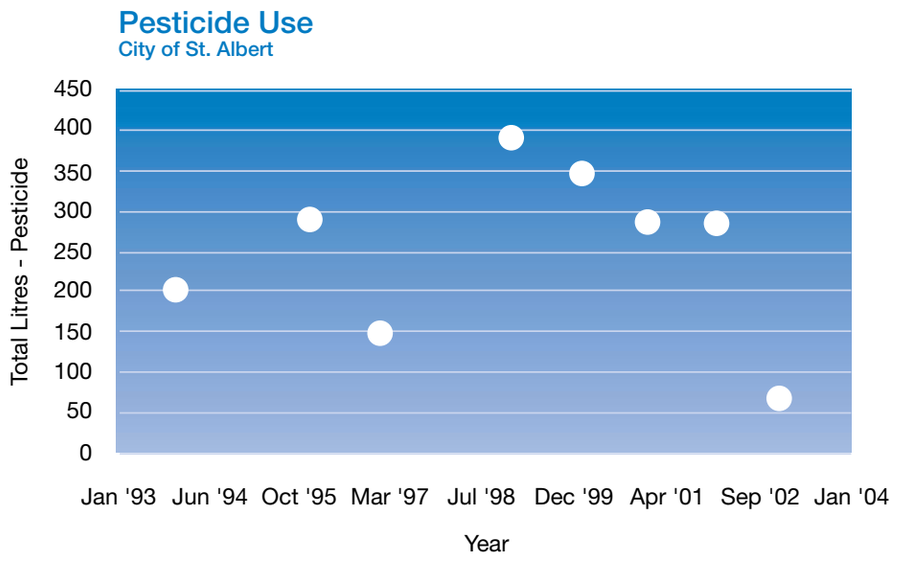
2. We have achieved a steady decline in pesticide use and continue to minimize exposure to pesticides.

St. Albert uses a variety of methods to control pests, noxious weeds and plant diseases, including mowing, hand weeding (generally by volunteer groups), biological agents, pruning and pesticides.

The city strives to address pest control by minimizing the use of pesticides. Pruning, mowing, hand weeding and biological agents are preferred over pesticides. Generally, the city's last line of defense is the use of pesticides.

There are many factors affecting the use of pesticides, including climate. However, over the past decade the overall city use of pesticide per hectare has declined.

Some of the more recent infestations with which the city has been faced include the Ash bark-boring beetle, the Elm bark-boring beetle, Cottony Psyllid and Satin Moth. Ongoing insect and disease problems that appear to be escalating include Black Knot of Cherry, Ash plant bug, Yellowhead Spruce sawfly.



Waste and Resource Management

Waste Management - How are we doing?

MAKING PROGRESS

The city continues to improve its waste management practices by reducing the amount of waste going to landfills, increased materials recycling and ongoing yard waste composting.

The city has taken steps to minimize the amount of household waste going to landfill. St. Albert's waste materials are transported to the city of Edmonton for landfill disposal. Recycled materials are recovered on a revenue-generating basis that contributes to and supports the city's recycling and waste collection costs.

Since 1998, the amount of recycled materials per capita has remained fairly steady, indicating success and the embracing of a materials recycling lifestyle by residents.

The annual per capita waste disposed to landfills has steadily decreased, (1998 – 216 tonnes /capita; 2002 – 200 tonnes/capita). This has been largely a result of our materials recycling facilities, pay as you throw and public awareness programs that advise public of available options for handling household waste materials.

Approximately 4000 tonnes/year of yard waste are composted. The city's composting facility provides opportunity for yard waste to be recycled and re-used as compost material provided free to city residents in limited amounts. Our successful Take it or Leave it program of recycling useable goods amongst city residents is another example of the City's recycling lifestyle.



Links to further information on waste and recycling can be found at Alberta Environment's waste website at: http://www3.gov.ab.ca/env/waste/index.html

Energy – How are we doing?

MAKING PROGRESS

1. Energy reduction programs have been started for street lighting, traffic lights and building power consumption.
2. Energy audit programs and eventual energy reduction programs are scheduled for next year.

St. Albert resides in a province with an abundance of natural energy resources. Despite increasing energy prices, the cost of energy for consumers is relatively inexpensive compared to may other industrialized nations.

While benefiting from low energy costs, Albertan's have not, until recently, been focused on energy efficiency or alternative energy sources. The majority of our power comes from burning fossil fuels such as coal, oil and wood, which in turn generate carbon dioxide and other greenhouse gases (GHG).

Some options to combat the production of GHG's include:

- Conserving and using fuel more efficiently
- Switching to less GHG-intensive or GHG-free fuels
- Developing and implementing new technologies that lower GHG emissions

Some initiatives undertaken by the City to date include:

- Replacement of street lights with lower wattage bulbs
- Replacement of traffic lights with low wattage LED's
- Installation of solar powered lighting (For example solar-powered crosswalks at selected school locations)
- Energy audits of selected city facilities

Longer-term plans include additional energy audits of city facilities, consideration of alternative fuels for public transport and the identification of opportunities for alternative energy applications.

Ways to improve performance

Energy consumption reduction is achievable through public awareness and partnership with business and government. We can make a difference both to our bottom-line costs and to the overall environmental impact by committing to conscious participation.

Citizens

- Purchase more energy efficient appliances, make homes more efficient, and reduce heating in winter and air-conditioning in summer.
- Participate in the Energuide program.

Business

- Invest in eco-efficiency initiatives and cleaner sources of energy, such as natural gas co-generation or wind power.

Government

- Make greener sources of energy available to consumers and businesses.
- Educate homeowners on how to use less energy.
- Lobby for better public transportation systems and create incentives for people to use them rather than relying on private automobiles (also relevant to air emissions).
- Tighten construction codes so that new houses and office buildings can be heated and cooled more efficiently.
- Support solar access and energy efficiency in planning policy and controls.
- Sign up to purchase Green Power.
- Develop education programs for the community and schools to encourage minimizing electricity and car use.



Other Environmental Aspects

Weather & Climate

As humans, we are acutely aware of the influence of weather on ourselves, however we are not able to influence weather.

An understanding of climate and weather is essential to the City of St. Albert operations and their timing of infrastructure construction, repair and maintenance. Most climate change experts support the concept that the average global temperature is rising through global warming. St. Albert, through its Office of the Environment, keeps abreast of new ways to reduce energy consumption and greenhouse gas emissions through provincial organizations such as Climate Change Central and the Strategic Air Alliance.



Did You Know?

We have over 70 service clubs, sports organizations and recreation groups. The City owns and operates: four arenas; 27 baseball diamonds; 40+ kilometres of trails; 24 tennis courts; two swimming pools; a water park and skateboard park; 22 soccer pitches; 17 outdoor rinks.

Noise
Excessive noise impacts quality of life. Our primary sources of potential noise pollution include construction, industrial activities and transportation.

The city's growth rate has placed tremendous burden on the transportation system and the ensuing increased traffic volumes have led to increasing background traffic noise. Where possible, particularly in new development areas, sound attenuation barriers / berms have been installed.

The city's noise bylaw specifically addresses construction noise and limits the noise intensity and the times during which construction noise is permitted.

Recreation & Social Resources

The number of recreation and social facilities available to the public are an indicator of the strength and health of a community.

This indicator is limited to municipality owned and operated facilities. Local sports organizations such as soccer and rugby are not included, nor are the many private facilities available. Some of the private facilities offer access to the public but not on an unlimited basis.

St. Albert has a strong arts and heritage base that promotes the arts and preservation of heritage sites in and around the city. These endeavors add to the visual, as well as cultural vibrancy of the city's environment.

Awareness and Education
The indicators in the area of environmental education (in a public setting) are mostly qualitative. Each school has a degree of freedom to provide time to cover environmental processes in individual courses, depending upon the interests and knowledge of individual teachers. It is possible for individual teachers to enrich the knowledge and awareness of students but there is no systematic measurement of this process.

Two public or community-based environmental awareness programs that have been met with enthusiastic public response include the Sturgeon River Clean Up program and the Yellow Fish program .



Vector Borne Diseases
We have become more aware of West Nile Virus during the past couple of years. The number of cases of infection has increased, as has the total number of areas reporting cases of infection across Canada and the Unites States. St. Albert falls within one of nine province-wide regions (the Edmonton Region) that are undertaking mosquito-monitoring programs. Data collected from these monitoring programs will be compiled nationally to help develop ways to control mosquitoes. We are also working with other municipalities, Capital Health and the provincial government on a mosquito abatement program for 2004.

Methods of how to reduce the risk of infection from WNV are widely published on national, provincial and local websites, as are details on mosquito monitoring and control programs. (Details of Capital Health's position on West Nile Virus can be found at http://www.capitalhealth.ca/Health+Services/Health+Topics/Body+Location+Systems/Infections/West+Nile+Virus/West+Nile+Virus.htm)

Environmental Incidents
Environmental incidents can be described as occurrences where there is a specific impact on the environment or where this is significant potential for environmental impact resulting from an incident.

Examples of environmental incidents might include the unauthorized release of hazardous materials to the environment (gas release), the unauthorized or accidental discharge or spill of chemicals or other hazardous materials or pollutants (to land or water) or where standards set by provincial or federal legislation are not adhered to.

Examples of acts that might apply to operations or planning processes where environmental considerations are required, include the Alberta Environmental Protection & Enhancement Act (AEPEA), Canadian Environmental Protection Act (CEPA), (federal) Fisheries Act, Water Act, Canadian Environmental Assessment Act (CEAA), Transportation of Dangerous Goods Act, Navigable Waters Protection Act, Pest Control Products Act and the Conservation and Reclamation Regulation.

The city cooperates with Alberta Environment and other regulatory agencies in reporting, responding to and mitigating spills. Spills should be reported to Alberta Environment's 24-hour emergency hotline at 1-800-222-6514.

THE ROAD TO ENVIRONMENTAL EXCELLENCE

The City of St. Albert Statement of Corporate Environmental Policy

This environmental policy establishes an overall sense of direction and sets the parameters of action for the City of St. Albert. It sets the overreaching goal as to the level of environmental performance required of the corporation, against which all subsequent actions will be judged.

The City of St. Albert is committed to the maintenance of a clean, healthy environment.

The City will provide its employees, citizens and businesses with safe, reliable and responsible services in an environmentally-sensitive and fiscally responsible manner. We, the City's Council, believe that sound environmental policy contributes to resource sustainability and benefits our employees, citizens and businesses by contributing to the overall well-being and economic health of the City. The above general objectives will be achieved by adhering to the principles enumerated below. The City recognizes that this policy and these principles cannot be implemented in a vacuum but must be implemented in the context of the overall operation of the City, necessitating a recognition of and consideration for fiscal and technical restraints and the conflicting demands on the City's limited resources.

Compliance

The City of St. Albert will comply fully with the letter and spirit of environmental laws and regulations, and strive to secure fundamental reforms that will improve their environmental effectiveness and reduce the cost of compliance.

The City may wish to set performance standards which exceed those imposed by other regulators.

Prevention

The City of St. Albert will employ management systems and procedures specifically designed to prevent activities and/or conditions that may negatively impact the environment. The City of St. Albert will minimize risk and protect its employees and the community by employing safe technologies and operating procedures, as well as being prepared for emergencies.

Training and Education

The City of St. Albert is committed to the provision of appropriate environmental training and education of its employees to be environmentally responsible.

The City of St. Albert will provide information to its citizens and businesses so they can effectively participate in improving the environmental quality of the City.

Pollution Prevention

The City of St. Albert will employ management systems and procedures specifically designed to prevent activities and/or conditions that pose a threat to human health or the environment.

The City will strive to:

1. prevent release to the atmosphere, land or water;
2. prevent pollution before it is produced;
3. reduce the amount of waste at its facilities; and
4. support pollution preventive initiatives taken by its suppliers and the citizens and businesses of the City.

The City will strive to use energy efficiently throughout its operations and support a more effective use of resources.

The City will strive to have residual pollution from past operations cleaned up in a cost-effective manner.

Communication

The City of St. Albert is committed to communicating its environmental policy, goals and objectives to the citizens and businesses of the City of St. Albert by issuing an Annual State of the Environment Report.

The City will maintain ongoing communication to ensure that the views of our employees, citizens and businesses are considered in the setting of objectives and targets.

Continuous Improvement

The City of St. Albert will continuously seek opportunities to improve its adherence to this Corporate Environmental Policy and will report progress to its stakeholders.

The City of St. Albert is committed to further its environmental objectives.

Management Review

The City of St. Albert is committed to monitoring its environmental performance.

THE CITY OF St. Albert

July 21, 2003

Richard Plain, Mayor

Bill Holtby, City Manager