



Environment Department – Year in Review

Prepared by: Environment Department

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Introduction

The Environment Department provides Council, the corporation and the community with support, programs and strategic advice related to the natural environment. This includes assisting the corporation in identifying and following environmental legal requirements in day to day operations, as well as working with the community to develop plans and targets around key environmental sustainability issues that are important to them.

The Environment Department recently moved from City's Corporate and Strategic Services Division to the Infrastructure Division. Along with the move, the Environment Department gained the Spruce Up St. Albert Programs from Recreation and Parks as well as the Waste and Diversion Programs from the Utilities Department.

The new structure reinforces the City's commitment to the natural environment and brings major environmental programs under one department. The Environment Department is now comprised of 14 staff including the recently approved Sturgeon River and Natural Areas position.



CORE SERVICES

Environment provides the following core services:

- **Corporate Environment Services** – provides support to the corporation through identifying environmental legal requirements, environmental risks and opportunities, and the use of [Environmental Management Systems](#) (ISO 14001) and administration policies and procedures.
- **Community Environment Services** – provides environmental education and awareness and coordinates programs and initiatives for the community with the support of the [Environmental Advisory Committee](#) and the guidance of the [Environmental Master Plan](#).
- **Waste and Diversion Services** – provides curbside pick up of garbage, recycling and compost to 19,500 households. The City operates year-round recycle and seasonal compost depots and coordinates community wide events such as Take it or Leave it, Large Item Drop offs, Compost Give Away and Leaf and Christmas Tree Pick Up.

This report complements the [Report on the Environment](#), which has been released annually to the community since 2003. The Report on the Environment focuses specifically on the metrics and goals established in the Environmental Master Plan. This Year in Review Report provides an update on the full range of services provided by the Environment Department.



We protect, embrace and treasure our deeply-rooted connections with the natural environment through championing environmental actions.



2016 Highlights



AIR QUALITY MONITORING STATION OPENS

After years of planning and advocacy, the City celebrated the opening of the first [Air Quality Monitoring](#) Station on June 8, 2016. The station measures particulate matter (PM2.5), nitrogen dioxide (NO₂) and ground-level ozone (O₃) that are components of urban smog and can impact health. The measurements taken are used by the Province of Alberta and Environment Canada to report on air quality through the [Air Quality Health Index](#) (AQHI).

The air quality monitoring station is located at Salisbury Park, next to the Sturgeon Water Reservoir. Benefits of the station include:

- Opportunity to add to the air quality monitoring network in the Capital Region that provides information on long term air quality.
- Provide residents, especially those most at risk from air pollution, with the real-time AQHI health management tool to control their exposure to air pollutants.
- Provide weather information to City departments to assist in analyzing and optimizing services such as snow removal activities.

CURBSIDE LARGE ITEM COLLECTION

The [Curbside Large Item Collection](#) event took place for the first time in September 2016. This event allows residents to place two large items and two electronic items directly at their curb for collection. Over 300 metric tonnes of material was collected throughout the event with roughly half of it recyclable (i.e. metal and electronic items). The City received many positive responses from residents on the benefits and convenience of this event and plans are in place to host another event in 2017.

NATURAL AREAS CONSERVATION AND MANAGEMENT PLAN

The Natural Areas Conservation and Management Plan was approved in 2016 and will provide foundational information for the City's approach to protecting and managing our river valley, ravines and other natural areas for future generations.

The plan provides an inventory of significant natural areas including their connectivity and local and regional significance. It also outlines policy and planning process changes and improvements for the operational management of natural areas to ensure their health and sustainability.





Corporate Environmental Services

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001 THIRD PARTY AUDITS

Environmental Management Systems (EMS) provide a systematic approach for the City to address the significant environmental impacts related to our day-to-day operations and provide a framework for evaluating and improving our environmental performance.

Public Works and Utilities have met the standards and have been ISO 14001 certified since 2011. Transit has held their certification since 2008. ISO 14001 is an international standard that provides a comprehensive framework for EMS that includes annual audits conducted by trained third party auditors.

Some significant corporate environmental aspects addressed through the EMS include:

- Fuel and energy use
- Greenhouse gas emissions
- Road salt and sand management
- Use of pesticides

Audits conducted in 2016 for the Public Works, Utilities and Transit departments have confirmed that they continue to meet the ISO 14001 standards. This achievement demonstrates the City's continued commitment to protecting the environment and setting an example for the community that is outlined in City Council's Environmental Sustainability Policy.



Photo courtesy St. Albert Gazette

ENERGY CONSERVATION MEASURES FOR MAJOR CITY FACILITIES

City facilities account for 56% of corporate greenhouse gas emissions. Based on the recommendations of the Energy and Water Assessment report (2015), the Environment Department developed an implementation plan and capital charters for energy conservation measures for 11 City facilities. Plans for each facility vary but include:

- Energy efficient lighting replacements
- Smart building energy monitoring systems
- Heat recovery systems
- Cogeneration (energy and heat) systems
- Solar photovoltaic installations

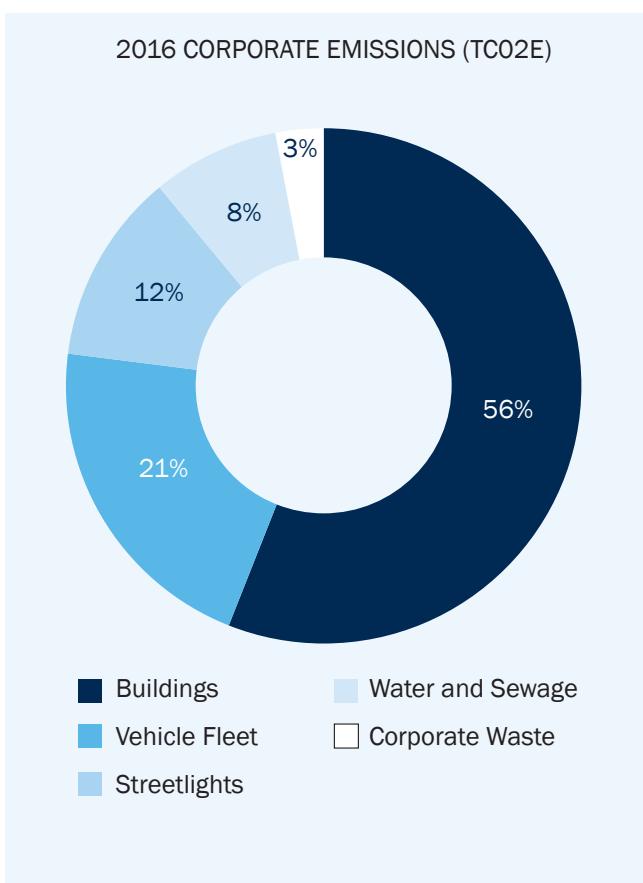
Each of these measures will reduce energy use, avoid carbon taxes and the cost savings will pay for the initial costs over the lifetime of the facility. To further offset the initial capital costs, the Environment Department will be applying for climate change grants offered by the federal and provincial governments which can provide up to 50% of the costs depending on the type and scope of the project.

CONTAMINATED SITES MANAGEMENT

The Environment Department has monitoring programs for the City's contaminated sites that are required by the provincial and federal governments. The programs assist in the reporting of these sites as environmental and financial liabilities. Ongoing monitoring programs are in place for:

- Former Sewage Lagoons and Dry Landfill (Riel Park)
- Former and current Public Works Facilities (Riel and Campbell Industrial Areas)
- Snow Storage Facility (Villeneuve Road)

The programs include over 25 groundwater wells that are sampled annually for over 40 types of contaminants of concern including metals, salts and hydrocarbons.



STURGEON RIVER WATER QUALITY MONITORING PROGRAMS

Protecting and maintaining the Sturgeon River is one of nine goals in the Environmental Master Plan, with 90% of residents ranking this goal as important in the last Community Environmental Survey (2013).

The City has been monitoring the water quality of the Sturgeon River at five locations since 2006, with the addition of Carrot Creek in 2008. While the water quality of the Sturgeon River remains good overall, higher levels of nutrients, fertilizers and bacteria are introduced to the river from storm water from residential neighbourhoods, City roads and other developments.



Community Environmental Services

ENVIRONMENTAL ADVISORY COMMITTEE 2016 ANNUAL REPORT AND THREE-YEAR WORKPLAN

On January 9, 2017, the EAC presented their annual report to Council. Highlights from 2016 include:

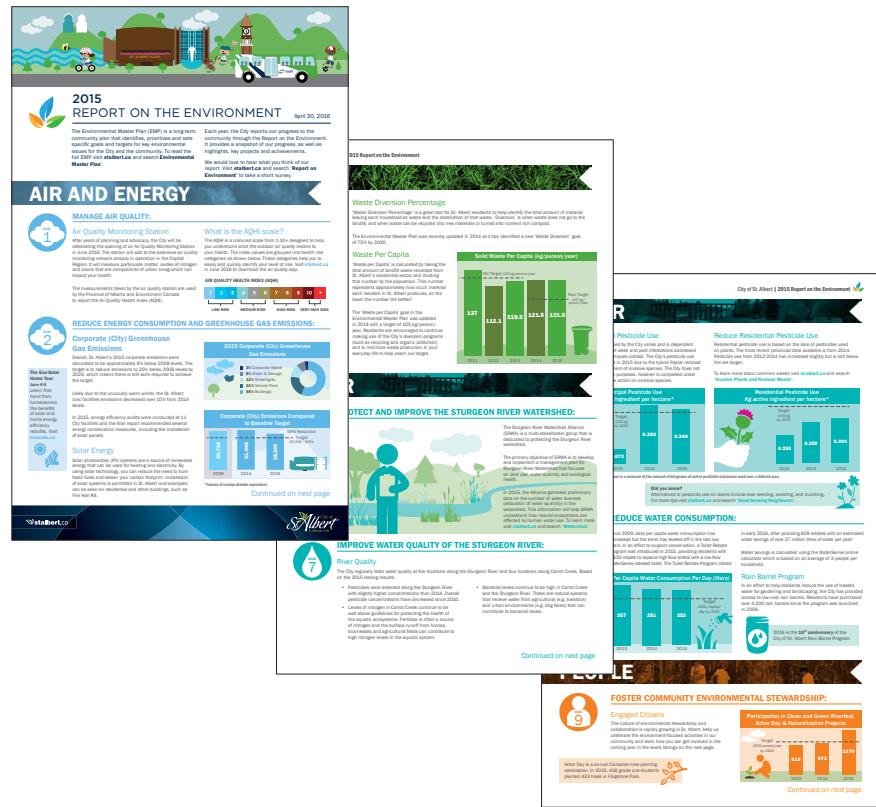
1. Advice and input on key Environmental Master Plan Projects
2. Environmental Initiatives Grant Program Policy Review
3. Environmental Initiatives Grant Program Recommended Recipients
4. Advice on the proposed Sustainable Building Policy
5. Advice on the proposed updates to the Storm Water Rate Model

EAC also provided Council with a three-year workplan that recommended priorities for the committee for 2017 – 2019 which aligns with the Environmental Master Plan and the City's three-year budget cycle.

ENVIRONMENTAL MASTER PLAN (EMP) REPORTING

The [Environmental Master Plan](#) (2014) is a community long-term plan that identifies nine goals and 21 targets related to air, land, water and people. The EMP is championed by the Environmental Advisory Committee (EAC) which includes seven members of the public and one Council representative.

Since 2003, the City of St. Albert has produced a Report on the Environment, that informs the community of the progress on the environmental goals and targets of the EMP. The 2016 report will be published in the Saturday, April 22, 2017 issue of the St. Albert Gazette, and can also be viewed online at stalbert.ca by searching [Report on the Environment](#).



ENVIRONMENTAL INITIATIVE GRANTS

In addition to the EMP, the Environmental Advisory Committee also champions and provides recommendations to Council on the annual allocation of the Environmental Initiative Grants. The total grant funding available each year is based on \$0.50/ capita. In 2016, \$33,450 was allocated for eight environmental projects including:

- Trout Unlimited for promotion and presentation of Yellow Fish Road Program in St. Albert
- Bertha Kennedy Elementary School to purchase supplies for a microgreens greenhouse
- Society of Friends for the St. Albert Botanic Park to purchase and install an irrigation system
- Grey Nuns White Spruce Park Working Group (GNWSPWG) for site preparation and spruce tree seedling planting, control of the spread of Manitoba Maple trees, and a new GNWSP publication
- Ecolé Marie Poburan for an outdoor garden/classroom
- St. Albert Urban Agriculture & Arts and Heritage Foundation for the planning and development of community food forest
- Grandin Village Gardeners for an expansion of their community garden
- ESSMY Jr High School for naturalization project to plant native trees and shrubs around their school

In 2016, the EAC also reviewed and updated the Environmental Initiative Grant application process to simplify it, therefore making the grant more accessible to a wider audience. Changes to the EIG for 2016 included:

- Providing two workshops in July and September for interested applicants with the goal of reviewing potential grant ideas and assisting in the application process
- Simplifying the grant application and reporting forms by reducing the amount of detail required from potential applicants
- Increased advertising and promotion

The changes to the EIG program made a noticeable difference in the first year, with over 20 interested parties at the open houses and 15 applications submitted for the grant compared to 7 applications submitted in 2015.





Waste and Diversion Services

WASTE AND DIVERSION PROGRAMS

The City of St. Albert continues to be a leader in waste and diversion programs.

The City of St. Albert is the only municipality in the province that offers three levels of automated garbage carts that are priced to encourage waste minimization. This is reflected in our residential waste generation of 122 kg/person/year which is the lowest in the region.

Our residents are also educated when it comes to diverting organics and recyclable materials from their waste. 67% of St. Albert's residential waste stream is diverted from going to the landfill through our curbside organics, blue bag programs, recycling and compost depots and special events.



METRICS IN 2016

2016 Waste Composition Comparison:

Garbage	7,871.70 MT
Recycling	4,631.63 MT
Organics	11,248.74 MT
Electronics	147.89 MT

Household Hazardous Waste:

Paint	140,600 L
Oil	32,400 L
Household Hazardous Waste	54,000 L
Batteries (Dry Cell)	6,792 kg
Aerosol (Cans/Other)	5,942
Aerosol (Cans/Paint)	5,783
Fluorescent Bulbs	5,644 kg
Batteries	396 units
Tires (Full Cages)	15



67%

total residential diversion

121.78
SOLID WASTE PER CAPITA
(kg/person/year)

WASTE AND DIVERSION EVENTS



CHRISTMAS TREE COLLECTION

1,632 trees were collected and mulched curbside from residents in 2016. The material from these trees is taken to Dapp Energy plant near Westlock, Alberta and used as fuel for electricity generation.

COMPOST GIVEAWAY

More than 200 metric tonnes of cured compost is provided to residents for pick up twice a year at the Mike Mitchell Recycling Depot. The compost is created from the material residents contribute as a part of the curbside organic program. Compost is typically available in May and September of each year.

LARGE ITEM DROP-OFF

The City hosts two disposal events each year to allow residents an opportunity to get rid of large household items. Combined attendance for both events was over 250 vehicles and approximately 60 metric tonnes of material disposed of.

250
VEHICLES

dropped off material

60
METRIC TONNES

of material disposed

TAKE IT OR LEAVE IT

The 23rd annual Take it or Leave it event was held on Saturday, June 25, 2016 at Servus Place. 582 vehicles were counted dropping off material and several hundred were in attendance to 'take' the items. Many reusable items were dropped off this year, including: lawn mowers, patio table sets, leather furniture, weight sets, bicycles and small furniture. The most unique items donated this year were an inflatable backyard pool and gas powered generators.

582
VEHICLES

dropped off material



LEAF COLLECTION

Each Fall, staff collect bagged leaves curbside from residents for 5 weeks and compost the material at the City of Edmonton's Waste Management Centre. In 2016, there was 205 metric tonnes of leaves collected.

205
METRIC TONNES

of leaves collected



Committees and Outside Agencies

The Environment Department collaborates with regional, provincial and federal environmental committees and agencies to align our environmental goals and communications, as well as utilize shared resources to make the best use of department budgets.

CAPITAL REGION WASTE MINIMIZATION COMMITTEE

The [Capital Region Waste Minimization Committee \(CRWMC\)](#) has been meeting for nearly two decades and is comprised of 24 municipalities in the Edmonton Region. The committee meets monthly with a focus on waste management, diversion and minimization.

The committee is guided by the recently completed Alberta Capital Region Integrated Waste Management Plan (2013), which identifies a roadmap for regional collaboration on waste reduction efforts. CRWMC received a \$180,000 Alberta Partnership Grant in 2012 to complete this comprehensive report. The City of St. Albert serves as example for the region because of the community's strong efforts toward waste minimization in the residential sector.

ALBERTA CAPITAL AIRSHED

The [Alberta Capital Airshed \(ACA\)](#) is a provincially supported group with a focus on air quality measurement and management within the Edmonton Capital Region. The ACA consists of municipal partners, Government of Alberta staff, non-profit and industry partners, who discuss and implement measures related to the control and avoidance of air pollution and the measurement of air quality within the region.

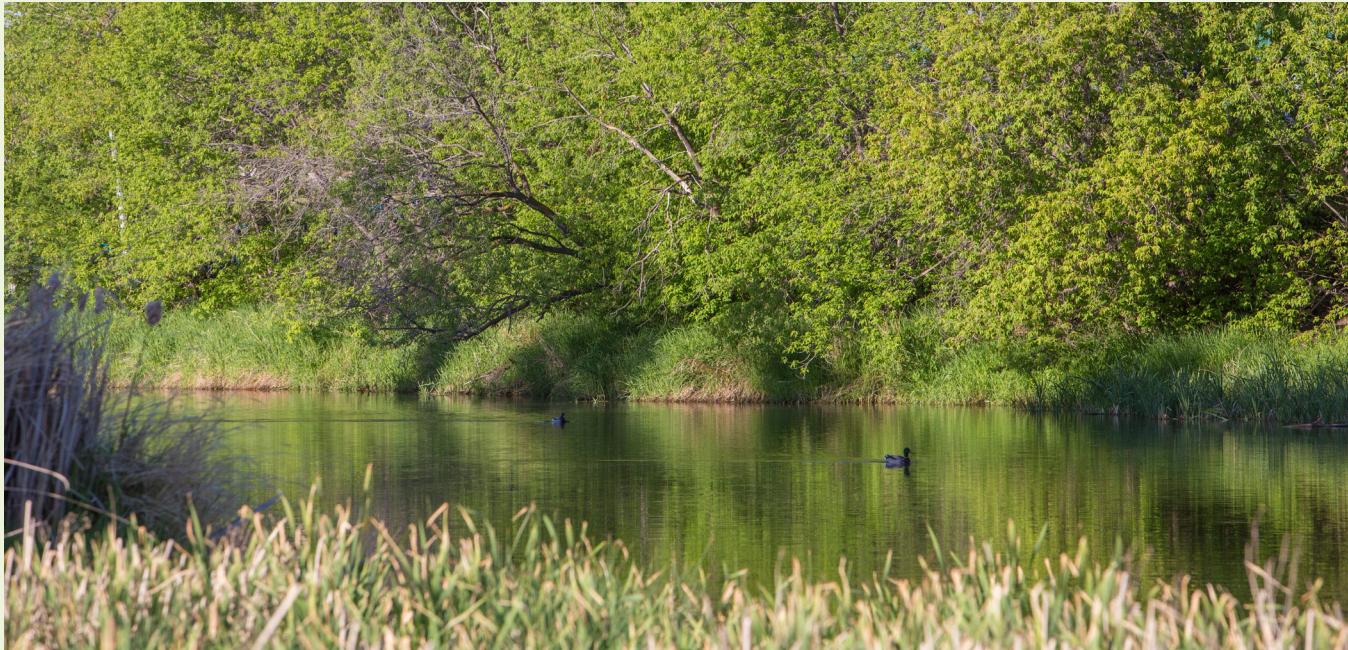
Two major air quality contaminants in the capital region are fine particulate matter and ozone which are largely caused by vehicle emissions. St. Albert's Transportation Master Plan, Transit Long Term Department Plan and Greenhouse Gas Local Action Plan all align with regional ACA initiatives to improve air quality through the promotion of transit, reduction of single occupant vehicle use and walkable communities.

PARTNERS FOR CLIMATE PROTECTION

The [Partners for Climate Protection \(PCP\)](#) program is a network of Canadian municipal governments that have committed to reducing greenhouse gases and to acting on climate change. PCP is a partnership between the Federation of Canadian Municipalities (FCM) and ICLEI - Local Governments for Sustainability.

The City of St. Albert became the 200th member of the PCP program in 2009 and has used the five-milestone framework to complete an inventory, set targets and develop and implement a local action plan for reduction of community and corporate greenhouse gases. St. Albert reached milestones one and two in 2009, milestone three in 2012 and recently received recognition for meeting milestone four in 2016.





STURGEON RIVER WATERSHED ALLIANCE

The City of St. Albert is a founding member of the [Sturgeon River Watershed Alliance \(SRWA\)](#) which is one of thirteen sub watersheds within the larger North Saskatchewan Watershed Alliance (NSWA).

The SRWA is guided by the State of the Sturgeon River Watershed Report completed by the City of St. Albert in 2012. The SRWA has received over \$500,000 in federal and provincial grants to fill in data gaps related to the health of the Sturgeon River watershed in the last two years. Research includes work related to:

- Summary of hydrology of the Sturgeon River, its tributaries and major lakes

- Historical review of water use and water licensing for the Sturgeon River
- Summary and review of water quality information for the Sturgeon River watershed
- Assessment of Ecological Health of the Sturgeon River watershed through riparian assessments
- Summary of environmentally sensitive natural areas within the Sturgeon River watershed

The information and reports produced by the SRWA will contribute to development of an integrated watershed management plan targeted to be completed in 2020.

CAPITAL REGION MUNICIPAL SUSTAINABILITY GROUP

The Environment Department represents the City of St. Albert as a part of the Capital Region Municipal Sustainability Group (CRMSG), which is a technical committee whose mandate includes collaborating on the development and communications of major environmental sustainability programs and projects within the Edmonton Capital Region.

In 2016, the group discussed projects and brought in speakers related to the implementation of the Province of Alberta's Climate Leadership plan, integrated pest management strategies and challenges related to invasive species management.

ALBERTA URBAN MUNICIPALITIES ASSOCIATION (AUMA)

The Environment Department has taken advantage of environmental programs offered through the Alberta Urban Municipalities Association to develop reports and initiatives including:

- Municipal Sustainability Planning
- Brownfield and Contaminated Sites Liabilities
- Municipal Climate Change Action Centre and Grants
- Towards Zero Waste
- Water Conservation



Summary

Considerable progress has been made in 2016 toward St. Albert's community and corporate environmental goals. The permanent Air Quality Management Station will create a benchmark for air quality within our community and help to develop programs to ensure future air quality standards.

Through the continued success of ISO 14001 within the Infrastructure Division, the corporation continues to reflect our commitment to environmental responsibility. In addition, the continued assessment and management of our contaminated sites solidifies City owned corporate responsibility to the community and our residents.

The City's waste and diversion programs are regionally and provincially recognized as best management practices for residential solid waste. The addition of new programs, such as the Curbside Large Item Collection program, recognizes the balance between service provision to residents and the responsibility to avoid unnecessary landfilling of useful materials.

The City's Environment Department and Council environmental policies and bylaws, support the Natural Environment Pillar in the St. Albert Community Vision and ensure that community priorities related to the natural environment continue to be addressed.

2017 AND BEYOND

SOLAR PHOTOVOLTAICS PILOT PROJECT

- City Council provided funding for the installation of a \$500,000 solar photovoltaic array at a City owned facility. This pilot project solar array will be approximately 250 kW_s and could provide up to 20% of the energy requirements of a facility. City facility solar-ready assessments are still underway, but have been narrowed down to the Dez Leggett Transit Facility, Fountain Park Recreation Centre or Servus Place.



URBAN FOREST CANOPY TARGET

- Establishing an urban forest canopy target was one of the proposed initiatives in the 2014 Environmental Master Plan. Public Works will be presenting the Urban Tree Management Plan to Council in 2017 which will include a proposed urban forest canopy target. The current urban forest canopy is approximately 13%.

CONTAMINATED SITES UPDATE AND POLICY

- The Environment Department will continue with the assessment of City owned contaminated sites as well as formalize the management of these sites through an update to City Council Policy – Public Works Site Management (C-IS-06).

WASTE AND DIVERSION COMMUNICATIONS

- Environment staff will perform informal curbside checks throughout the summer of 2017. The information gathered will provide an understanding of common waste bin set out and sorting issues and will help guide communication and education programs aimed at reducing contamination in the organic and recycling streams. New communication strategies for 2017 already include a new 'What goes Where' brochure and updates to the City website.

INVASIVE FISH SPECIES

- In partnership with the Provincial Government, St. Albert will be using a chemical treatment at Edgewater Terrace Storm Water Management Facility to eradicate a non-native, invasive species of goldfish. The introduction of invasive fish species to municipal storm water facilities has increased in recent years and is largely the result of illegal dumping of fish by residents. The City of St. Albert is communicating the costs and dangers of invasive species through alignment with the province's "[Don't Let It Loose](#)" education campaign.



WATER CONSERVATION BYLAW

- The new Water Conservation Bylaw will come into effect on January 1, 2018. The Environment Department will be conducting an education and awareness campaign in 2017 around regulations related to low flow fixtures and outdoor sprinkler watering restrictions. This will include information in CityLights, the City website and promoting water conservation at City events.

CLOSING COMMENTS

2016 marked a year of considerable change for the Environment Department, both in the structure of the department and the number and complexity of programs required through environmental regulations, Council direction or community priorities.

The City of St. Albert is known for the beauty of its river valley, tree lined streets and passion for green living. The environmental commitment of the City is reflected in the guidance provided by the Environmental Sustainability Policy and voiced through St. Albert's Community Vision.

The City of St. Albert has a strong foundation of environmental responsibility and stewardship. The existing corporate and community programs will continue to provide excellent service, as well as adapt to new and more complex environmental issues that the community may face in the future.

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