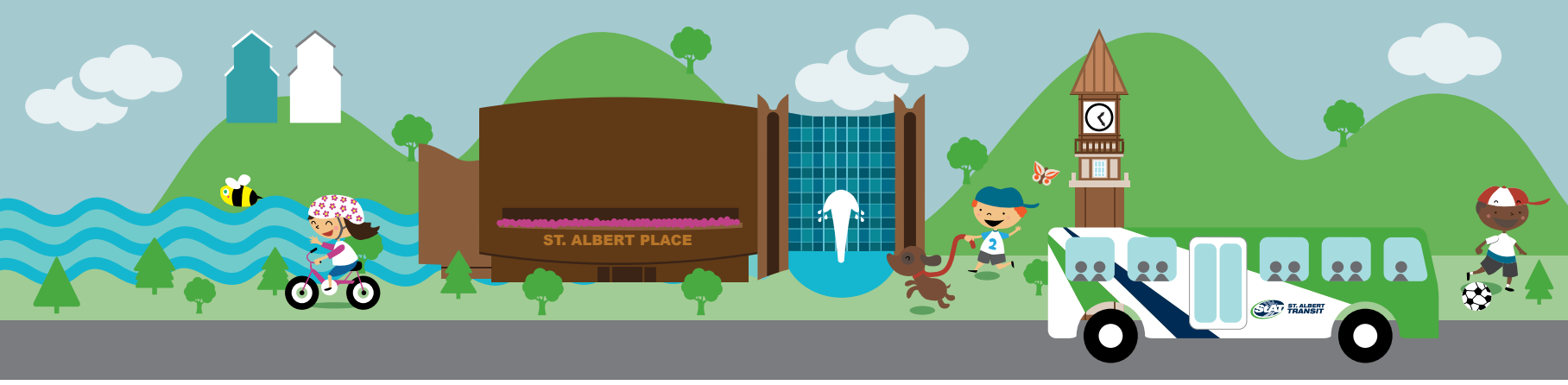


April 22, 2017

2016 REPORT ON THE ENVIRONMENT

The Environmental Master Plan (EMP) is a long-term community plan that identifies, prioritizes and sets specific goals and targets for key environmental issues for the City and the community. To view the full EMP visit **stalbert.ca** and search '**Environmental Master Plan**'.

Each year, the City reports our progress to the community through the Report on the Environment. It provides a snapshot of our progress, as well as key projects, highlights and achievements.

AIR AND ENERGY

GOAL 1

Download the Air Quality Health Index app called **AQHI Canada** to get real time St. Albert air quality data from your smart phone.

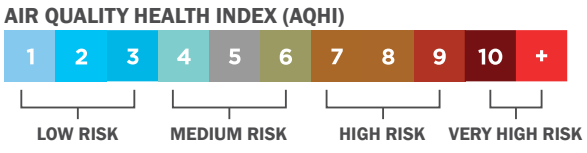
MANAGE AIR QUALITY

St. Albert's Air Quality

The City celebrated the opening of the first Air Quality Monitoring Station in St. Albert at Salisbury Park on June 8. The station measures particulate matter, nitrogen dioxide and ozone that are components of urban smog which can impact your health.

The target in the Environmental Master Plan is to maintain air quality below specified levels as outlined in the Capital Region Air Quality Management Framework. The station started collecting data in April and 2016 measurements were significantly below the specified levels. As the station recently opened, continuous baseline data for at least a full year is required to accurately provide the overall air quality in St. Albert. To view the data from the air quality station, visit **airdata.alberta.ca**.

The measurements taken by the air quality station are used by the Province of Alberta and Environment Canada to report the Air Quality Health Index (AQHI), which links outdoor air quality to health risks.



For St. Albert, the air quality was rated Low Risk for 95 per cent of the time; 5 per cent rated Medium Risk, and less than 1 per cent for High or Very High Risk. The High-Risk ratings were associated with smoke from forest fires. Air quality can be affected by many natural and human related causes, including traffic, industry, agriculture and wildfires.

GOAL 2

FortisAlberta began the conversion of more than 5,800 of St. Albert's High Pressure Sodium streetlights to Light Emitting Diode (LED) technology. These conversions will **save approximately 2.3 million kWh/year**, which is equivalent to taking 317 cars off the road; operating 298 homes; or planting 68,072 trees/year.

REDUCE ENERGY CONSUMPTION & GREENHOUSE GAS EMISSIONS

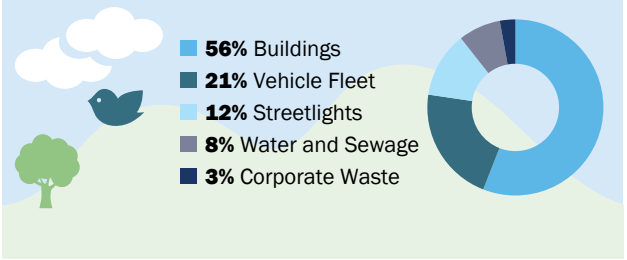
Corporate (City) Greenhouse Gas Emissions

Overall, St. Albert's 2016 corporate emissions were calculated to be approximately nine per cent below 2008 levels. The target is to reduce emissions to 20 per cent below 2008 levels by 2020, which means there is still work to do.

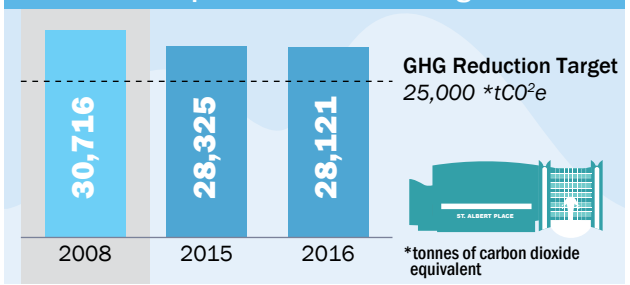
The City completed milestone four of the five milestones for the Partners for Climate Protection program which includes implementing the Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions. The City is currently working on completing milestone five which includes monitoring progress and reporting results.

In 2016, the Energy and Water Conservation Audit Report of major City facilities was completed and recommendations provided for potential green energy (i.e. solar, co-generation, etc.) opportunities. A $500,000 solar panel installation project was approved and is scheduled to be installed at a City facility in 2017.

2016 Corporate (City) Greenhouse Gas Emissions



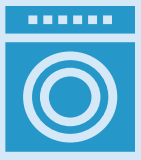
Corporate (City) Emissions Compared to Baseline Target



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AIR AND ENERGY

Energy Efficiency Alberta is a new provincial agency that is offering residential programs including free installation of efficiency products such as lighting, water fixtures and programmable thermostats and rebates on efficient appliances, lighting and insulation. For more information, visit **efficiencyalberta.ca**



Community Greenhouse Gas Emissions

In 2016, the community emissions inventory shows approximately a 3 per cent increase compared to 2008 levels. The target is to reduce emissions to 6 per cent below 2008 levels by 2020.

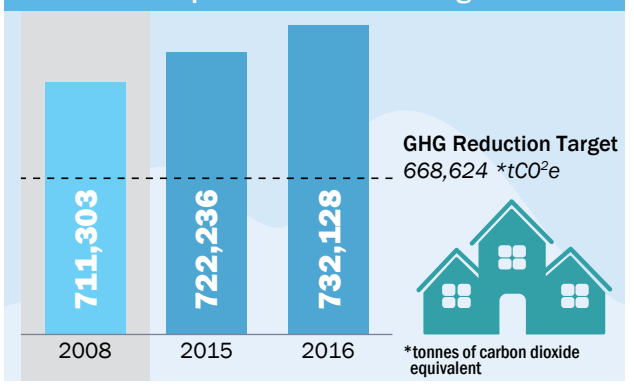
The biggest factor effecting the increase in community greenhouse gas emissions is the transportation sector. Transportation emissions have increased by 40 per cent since 2008 but in the same time St. Albert's population has only increased by 12 per cent.

2016 Community Greenhouse Gas Emissions



Likely due to the improved efficiency of new homes, the residential sector experienced a 15 per cent decrease in GHG emissions in 2016 when compared to the 2008 baseline.

Community Emissions Compared to Baseline Target



LAND

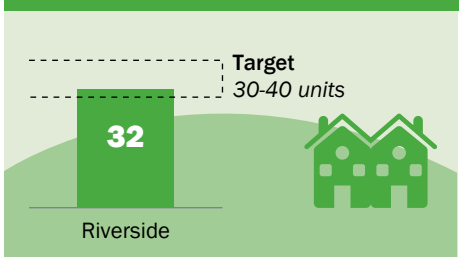
GOAL 3

PROMOTE SUSTAINABLE NEIGHBOURHOODS AND TRANSPORTATION CHOICES

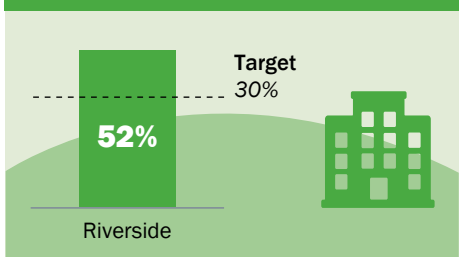
Neighbourhood Density Targets

As part of the City planning process, new neighbourhood designs must meet specific density targets that reduce urban sprawl, infrastructure costs and the city's ecological footprint. In 2016, these targets were exceeded by the new neighbourhood plan for Riverside.

Residential Density
Dwelling Units per net residential hectare



Medium and/or High Density
Per cent per new neighbourhood



In 2016, St. Albert purchased three electric transit buses in which two thirds of the funding came from the provincial Green TRIP grant program. The electric buses are expected to be delivered and in service in 2017.

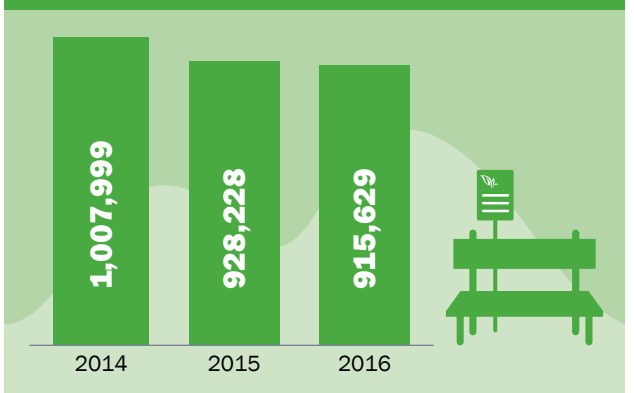


Transit Commuter Ridership

The target in the Environmental Master Plan is to increase transit ridership equal to or greater than population growth. In 2016, the population of St. Albert grew 1.1 per cent, and St. Albert Transit (StAT) ridership decreased 1.4 per cent.

St. Albert Transit improved service levels to downtown commuter routes based on feedback from passengers. More direct travel and express options to downtown will reduce travel times during morning and evening peak periods.

Annual St. Albert Transit Commuter Ridership
Number of Commuters



Transportation Master Plan

In 2016, City Council approved the Transportation Master Plan (TMP) which will guide how the City plans its transportation needs for the next 27 years. One of the key focuses of the TMP is the development of a long-term active transportation network which will provide opportunities for residents to walk or cycle for shorter trips.

For more information on the Transportation Master Plan go to **stalbert.ca** and search '**Transportation Master Plan**'.



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LAND

GOAL 4

PRESERVE AND MANAGE TREES, PARKS AND NATURAL AREAS

Tree Canopy

St. Albert's tree canopy is estimated to be 13 per cent of our land area and benefits include clean air, shade, habitat for native species and an enjoyable landscape. The City will determine a tree canopy target as part of the development of the Urban Forest Management Plan in 2017.

A recommendation from the Urban Forest Management Plan is to use the modeling program iTree to document and monitor the urban forest canopy. Once St. Albert's tree inventory is complete, data will be entered into this software and City staff will be able to measure the urban forests ability to clean the air, reduce storm water runoff, and sequester carbon.



Throughout St. Albert's ecological network, 21 sites were identified as potential priority restoration areas to strengthen ecological connections or create larger, more contiguous habitat patches.

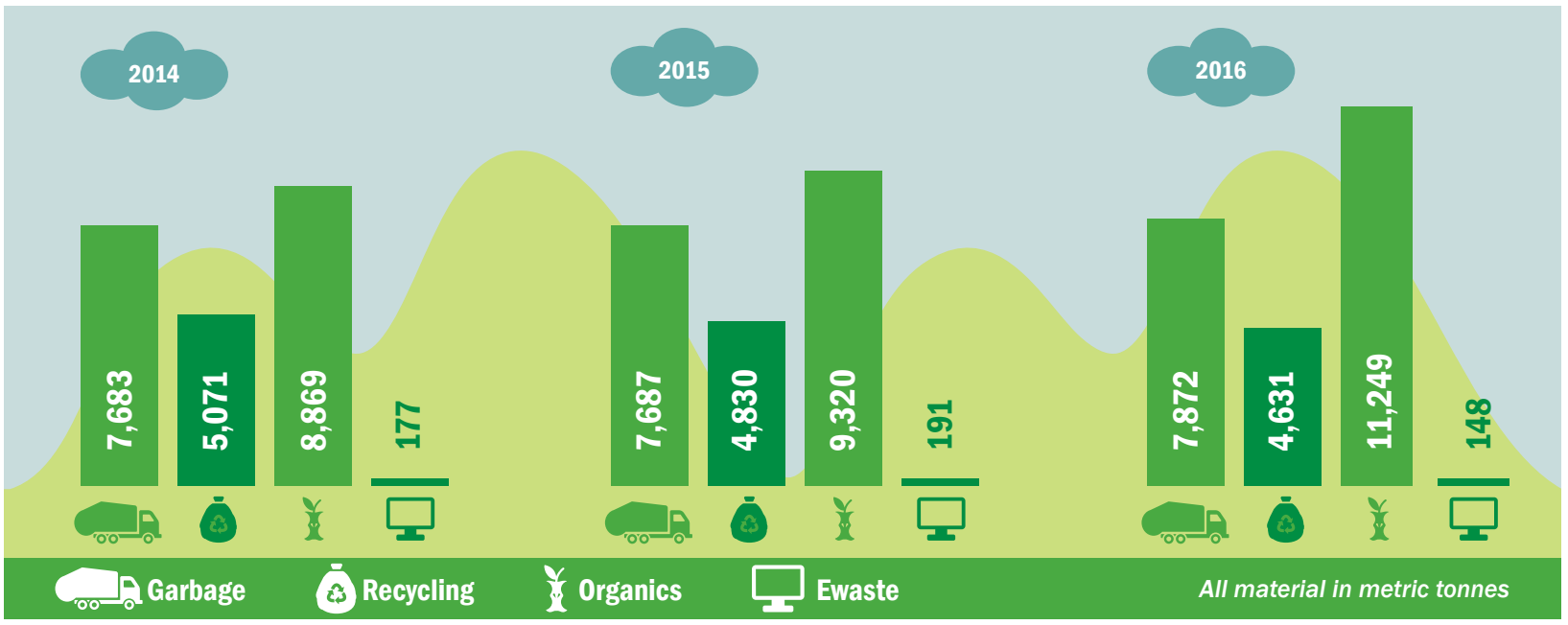
Natural Areas Assessment Management Plans

The Natural Areas Assessment, Conservation and Management Plans were approved by Council in 2016. The assessment identified 193 natural areas having a combined total area of 491 hectares. The top three significant natural areas adjacent to Big Lake and Carrot Creek will be protected and meet the target identified in the EMP. The report also identified many small stepping stone natural areas that are significant and essential for the connectivity of key conservation areas.

GOAL 5

THREE YEAR ANNUAL RESIDENTIAL WASTE COMPOSITION COMPARISON

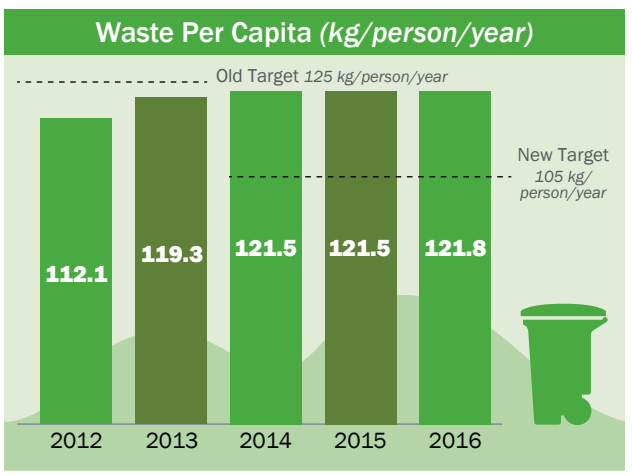
The graph below shows the amount of waste (in tonnes) per waste stream from 2014 to 2016. In 2016, the City of St. Albert residents diverted the most organics in five years through the use of the Green Organics Carts and Compost Depot. This number is higher than normal likely due to unseasonable warm weather in the spring and fall.



Waste Per Capita

Waste per capita is calculated by taking the total of residential landfill garbage and dividing that number by the population. This number represents approximately how much material each resident in St. Albert produces, so the lower the number the better! The Waste per Capita goal set in the EMP is 105 kg/person/year and in 2016 we were at 121.8.

Remember to sort your waste properly by placing materials in the right cart or bag. Minimize waste production in your everyday life by choosing to use reusable water bottles, coffee mugs and grocery bags instead of one-time use products, to help reach our target.



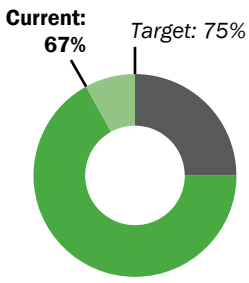
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LAND

Waste Diversion Percentage

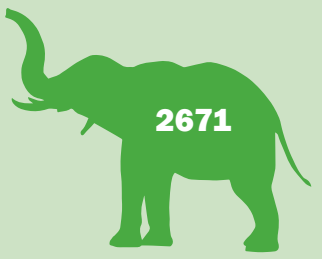
Waste Diversion Percentage is a great statistic for St. Albert residents to help identify the total amount of waste leaving each household. **Diversion** is when waste does not go to the landfill, but instead goes into your Green Organics Cart to be turned into nutrient rich compost or into your Blue Recycling Bag to be recycled into new materials.

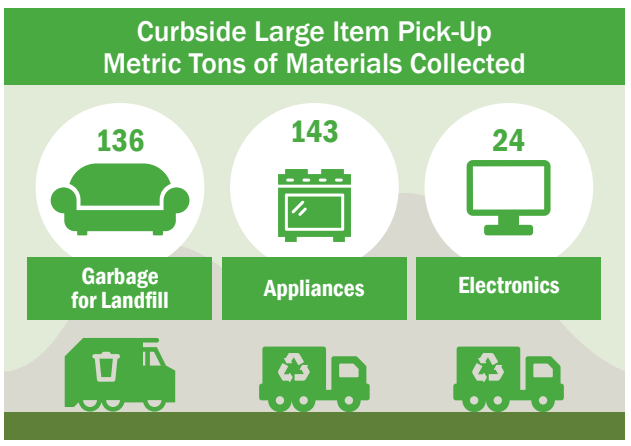
The EMP has set a Waste Diversion goal of 75 per cent by 2020 and in 2016 we were at 67 per cent.



WASTE DIVERTED IN 2016

The total weight of waste diverted from the landfill by residents would equal the weight of 2671 African elephants!





Curbside Large Item Pick-Up

In 2016, the City hosted the first Curbside Large Item Pick-Up program. This new waste collection service provided residents the opportunity to place up to two large household items such as furniture or appliances, and up to two additional electronic items for collection at the curb.

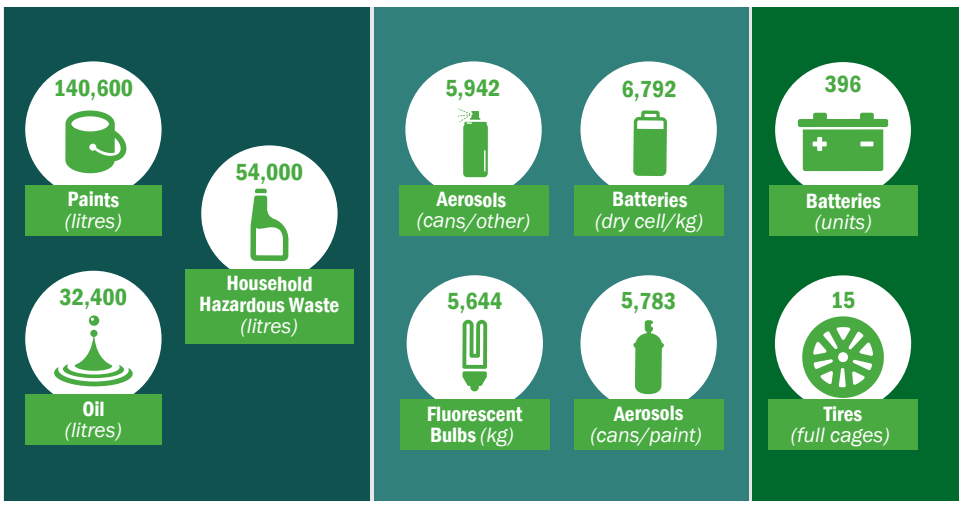
The program saw over 303 MT of materials being collected such as old couches, washing machines and televisions. 167 MT of appliances and electronics were collected, which is 55 per cent of the total waste, and recycled instead of entering the landfill!

The City received many phone calls, emails and kudos from residents who are looking forward to future Curbside Large Item Pick-Up programs.

Hazardous Waste

The Mike Mitchell Recycling Depot accepts various hazardous or hard to recycle materials including paint, aerosols, motor oil, fluorescent bulbs, automotive and household batteries, and tires. While some of these materials are incinerated for disposal (such as hazardous chemicals), many of these materials are recycled and turned into new products.

Hazardous waste should be disposed of safely. Drop off these materials at the Mike Mitchell Recycling Depot for free. For a list of materials accepted at the Mike Mitchell Recycling Depot go to **stalbert.ca/waste**.



WATER

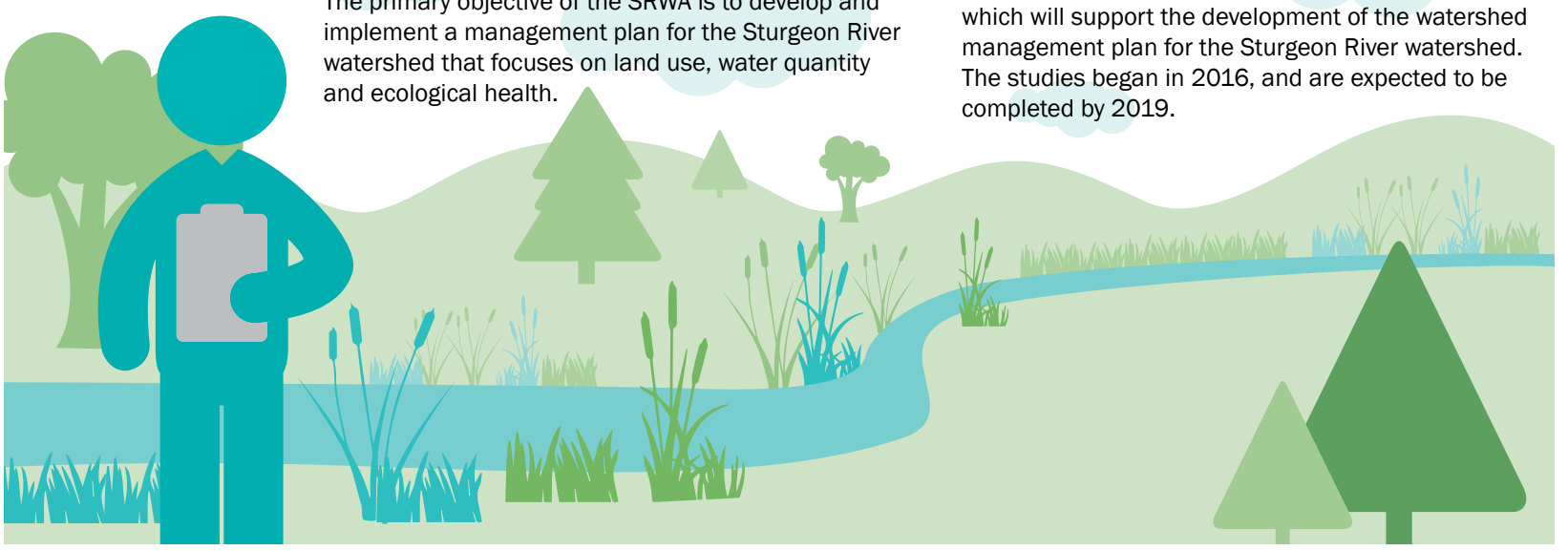
GOAL 6

PROTECT AND IMPROVE THE STURGEON RIVER WATERSHED

The Sturgeon River Watershed Alliance (SRWA) is a multi stakeholder group made up of municipalities, provincial representatives, and non-profits that strive to protect the health of the Sturgeon River watershed.

The primary objective of the SRWA is to develop and implement a management plan for the Sturgeon River watershed that focuses on land use, water quantity and ecological health.

In 2016, the SRWA received a $300,000 Alberta Community Partnerships Grant from Alberta Municipal Affairs, in partnership with the North Saskatchewan Watershed Alliance. The funding will be used to complete four major technical studies on the river, which will support the development of the watershed management plan for the Sturgeon River watershed. The studies began in 2016, and are expected to be completed by 2019.



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WATER

IMPROVE WATER QUALITY OF THE STURGEON RIVER

River Quality

The City regularly tests water quality at five locations along the Sturgeon River and four locations along Carrot Creek. Based on the 2016 testing results:

- High levels of nitrogen and phosphorus, in both the Sturgeon River and Carrot Creek, continue to be well above guidelines for protecting the health of the watershed. Fertilizer is often a source of nitrogen and phosphorus and the surface water runoff from homes, businesses and agricultural fields can contribute to high nutrient levels, excess aquatic plant growth and low oxygen levels.
- Bacterial levels continue to be high in Carrot Creek and through the City with levels above guidelines for protection of health of river. The rivers are natural systems and both the natural (e.g. wildlife) and urban environments (e.g. dog feces) can contribute to bacterial loads.
- High chloride concentrations continue to be measured along Carrot Creek and are likely a result of road salt being applied to Highway 2. Chloride levels through St. Albert continue to meet acceptable levels, suggesting that the City's road salt management plans are working to reduce salt impacts to the Sturgeon River.



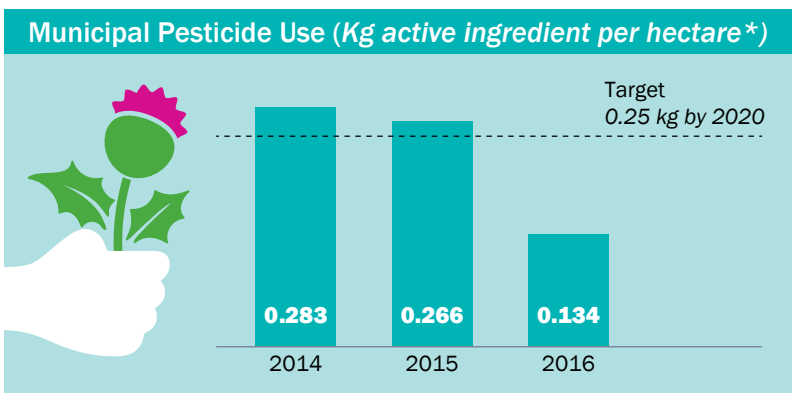
Reduce Pesticide Use

The amount of pesticide used by the City varies and is dependent on the weather, the types of weed and pest infestations addressed and the management techniques utilized. The City does not use pesticides for cosmetic purposes, however is compelled under provincial legislation to take action on invasive plant species.

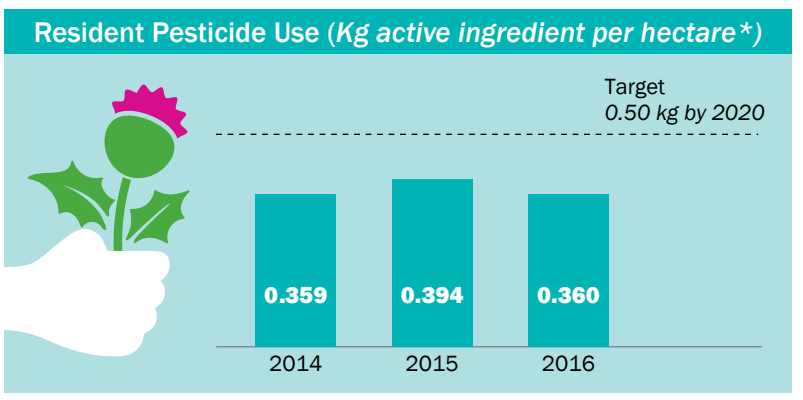
In 2016, the City's pesticide use decreased compared to the 2014-2015 growing season largely due to the completion of the Poplar tree removal program.

Residential pesticide use is based on the sale of pesticides and the most recent provincial data is from 2015. Pesticide use from 2015 decreased slightly compared to 2014 which continues to be below the target set in 2014.

Municipal Pesticide Use (*Kg active ingredient per hectare)**



Resident Pesticide Use (*Kg active ingredient per hectare)**

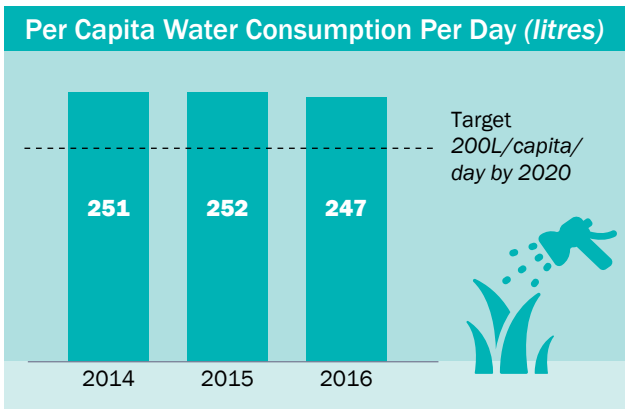


REDUCE WATER CONSUMPTION

St. Albert's water consumption continues to show a downward trend from a per capita rate of 252 litres in 2015 to 247 litres in 2016.

In an effort to help residents reduce the use of treated water for gardening and landscaping, the City has provided access to low-cost rain barrels. Rain barrels allow residents to collect rain water from their roofs and avoid the use and cost of tap water. Residents have purchased over 4,600 rain barrels since the program was launched in 2006. For information on the 2017 rain barrel program visit **stalbert.ca** and search '**Rain Barrels**'.

Per Capita Water Consumption Per Day (*litres*)



Installation of upgraded residential water meters will begin in 2017. The new technology will provide water customers with real time consumption information which can promote water conservation and identify household leaks quickly.

Water Conservation Bylaw

A new Water Conservation Bylaw, effective January 1, 2018, was approved by Council to help promote efficient use of water in the community and reduce water waste. The bylaw will require the installation of water efficient fixtures for new construction or major renovations and restrict outdoor daytime sprinkler use to the hours of 7:00 pm and 9:00 am between May 1 and October 1.

For more information on the bylaw visit **stalbert.ca** and search '**Water Conservation Bylaw**'.



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PEOPLE

GOAL 9

FOSTER COMMUNITY ENVIRONMENTAL STEWARDSHIP

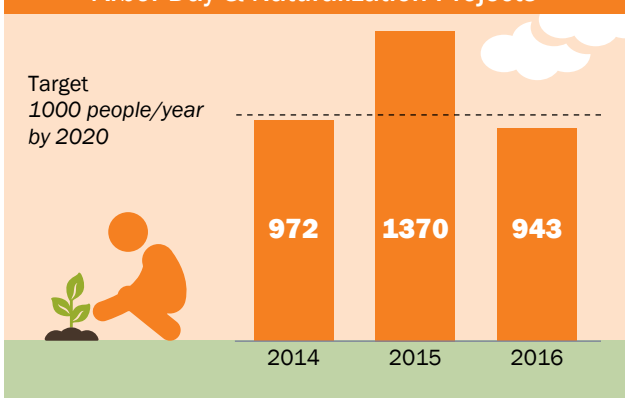
Engaged Residents

Environmental stewardship is central to reaching our goals and targets and St. Albert residents have a high rate of participation and engagement in our environmental programs and initiatives.

Help us celebrate the environment-focused activities in our community and learn how you can get involved in the coming year by referring to the event listing below.

In 2016, participation in naturalization projects resulted in 4,063 native trees and shrubs, such as Balsam Poplar and Canada Buffalo Berry, being planted along the Sturgeon River and St. Albert parks.

Participation in Clean and Green Riverfest, Arbor Day & Naturalization Projects

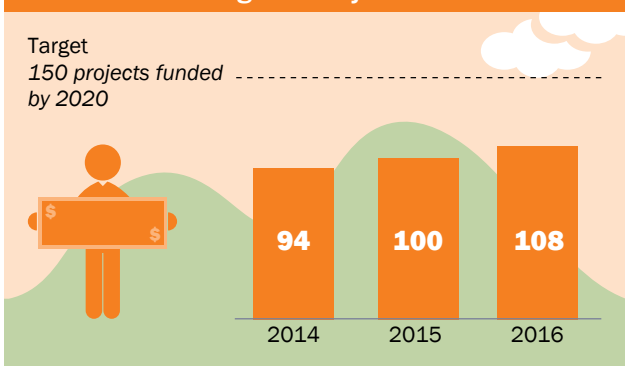


Environmental Initiatives Grant Program

New in 2016, the City offered two information sessions for residents and community groups to attend and learn about the environmental grant program. Get a head start in 2017! Brainstorm your project idea and work through the updated application at the Information Session on July 8 in the Douglas Cardinal Boardroom (City Hall) from 9–11 a.m. For more information, visit **stalbert.ca** and search '**Environmental Initiatives Grant Program**'.

Community environmental projects like a solar panel array, an indoor classroom garden or bicycle repair stations are made possible through the City's Environmental Initiatives Grant Program. For more project ideas visit **stalbert.ca** and search '**Environmental Initiatives Grant Program**'.

Total Number of Environmental Initiatives Grant Program Projects Funded



Environmental Management Systems

The City of St. Albert shows its continued commitment to the protection of the environment by maintaining their ISO-14001 certification. This internationally recognized standard helps the City maintain a high level of compliance and minimize their environmental impacts of City operations. Corporate environmental management systems are aligned with the City's Environmental Sustainability Policy.

Some examples of environmental protection actions are:

- Activities that minimize road sand and salt from entering the Sturgeon River
- Proper handling and disposal of hazardous waste (i.e. used oil, tires, car batteries)
- Having a corporate spill response policy

ISO REGISTERED 14001:2004 INFRASTRUCTURE SERVICES

St. Albert Environmental Advisory Committee

The City of St. Albert Environmental Advisory Committee (EAC) is comprised of seven volunteer residents and one City Councillor. This committee provides advice to Council on key environmental priorities. Recruitment for EAC and other civic agencies and boards occurs in the fall.

For more information, visit **stalbert.ca** and search '**Boards and Committees**'.

GET INVOLVED

Event Name	Date	Location/Website
COMPOST GIVEAWAY	Available early May & October	**stalbert.ca/waste**
RAIN BARREL SALE	Saturday, May 6	L.B.H. Building Centre **stalbert.ca/rain-barrel-program**
TD CLEAN AND GREEN RIVERFEST	Saturday, May 13	Search this event at **stalbert.ca**
YELLOW FISH ROAD PROGRAM	June–September	Search this event at **stalbert.ca**
ECO SOLAR TOUR	June 3–4	**ecosolar.ca**
CLEAN AIR DAY	Wednesday, June 7	**stalbert.ca/clean-air-day**
TAKE IT OR LEAVE IT	Saturday, June 24	**stalbert.ca/waste**
LARGE ITEM DROP OFF	Saturday, July 29 & September 30	**stalbert.ca/waste**
CURBSIDE LARGE ITEM COLLECTION	September 11–22	**stalbert.ca/waste**
CURBSIDE LEAF PICKUP	October 2–13 & October 30–November 10	**stalbert.ca/waste**
WASTE REDUCTION WEEK	October 16–22	**wrwcanada.com**

For more information, visit **stalbert.ca** and search '**Events**'.

Contact Environment

5 St. Anne Street
St. Albert, AB, T8N 3Z9

Phone: 780-459-1735
Email: environment@stalbert.ca