

# Regreening Program

Annual Report 2016

regreening  
GREATER SUDBURY



## 2016 Partners

### Regreening Program



### Ugliest Schoolyard Contest

#### Corporate Sponsor:



Azilda Greenhouses

Brown's Concrete Products Ltd.

Canadian Tire on Regent Street

Futurescape Landscaping

Greater Sudbury Regreening Program

Jetty's Landscaping Supplies

King Fabricating

Southview Greenhouse Growers

Sudbury Horticultural Society

Sudbury Master Gardeners

Vale

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## 2016 Highlights

Keeping with the goals set out in the **BIODIVERSITY ACTION PLAN OF 2009**, the **5 YEAR PLAN 2016-2020** was developed and implemented starting this year. Thanks to external funding, material and in-kind contributions from our many partners, 2016 was another successful year.

The Regreening Program created 32 temporary employment opportunities, limed 5.18 hectares of barren land along the Kelly Lake Trail and off Sunderland Road in Garson and planted almost 80,000 tree seedlings and over 32,000 shrubs/understory trees throughout Greater Sudbury.

Regreening Component	2016	To Date (since 1978)
Tree Seedlings Planted	78,712	9,643,463
Shrub Seedlings Planted	32,401	314,521
Area Limed	5.18 ha	3,465 ha
Area Fertilized	4.54 ha	3,240 ha
Area Seeded	4.54 ha	3,168 ha
Forest Floor Transplants	0.246 ha	1.68 ha
Program Cost	\$855,162	\$30,994,604
Temporary Employment Opportunities	32	4,715
Awards	3	17
Number of Schoolyards Regreened	2	41
Volunteer Tree Planters	541	11,638
Trees Planted by Volunteers	7,234	374,764
Trees Provided for Residential Plantings	1,000	427,251

The 12<sup>th</sup> annual “Ugliest Schoolyard Contest” hosted by VETAC continued again this year. The winner was St. Charles Catholic Elementary School in Chelmsford and the runner-up was École secondaire Macdonald-Cartier in Sudbury. In all, 12 local businesses, corporations, special interest groups as well as numerous private citizens provided funding, materials and offered services to complete the schoolyard Regreening projects. Corporate funding from Sudbury Integrated Nickel Operations, a Glencore Company (Sudbury INO), in the amount of \$20,000 enabled these schools to become greener, more engaging environments for students. Schoolyard transformations occurred from late August until the end of October.

The large-scale forest floor transplant project proceeded again in 2016 thanks to continued partnership with KGHM International that allowed Program staff to access vegetation at its Podolsky Mine site north of Capreol. This year, 22 sites containing 186 plots received understory forest floor mats totaling an area of 0.246 ha.

Biodiversity Research Assistants conducted additional plant community succession investigations. This large scale monitoring project will enable greater understanding of how plant communities are changing over time and how Regreening activities affect plant communities.

## Tree Planting

Spring and fall planting activities resulted in 78,712 tree seedlings and 32,401 shrub/understory tree seedlings planted throughout Greater Sudbury. Since 1978, a total of 9,643,463 trees and 314,521 shrubs/understory trees have been planted by the Program.

Tree Canada provided funding for 28,498 trees and shrubs this year and tentree donated funds to have 50,000 seedlings planted. In addition, Vale donated almost 50,000 seedlings to the Program, mainly jack and red pine with some white spruce.

Conservation Sudbury provided 15,020 red pine seedlings to plant at the Maley Conservation area as part of the Ontario government's 50 Million Tree Campaign. The crew also assisted Conservation Sudbury by planting almost 10,000 trees on two private properties outside the impact zone for this initiative. Since these later trees were planted outside the impact area, their numbers are not reflected in this report.

A total of four species of deciduous understory trees, fourteen shrub species and eight tree canopy (conifer and deciduous) species were planted. Of these, wild black currant (*Ribes americanum*) was a new species added to the mix this year to increase plant diversity throughout the impact zone. Seeds for this species were collected locally by staff and grown by a nursery. The shrubs will be observed over the next few years to assess survival.

Vale aerially limed and seeded 121.4 hectares of barren land located to the east and west of Alice Lake in Coniston in the fall of 2015. This area was the main planting site for the crew

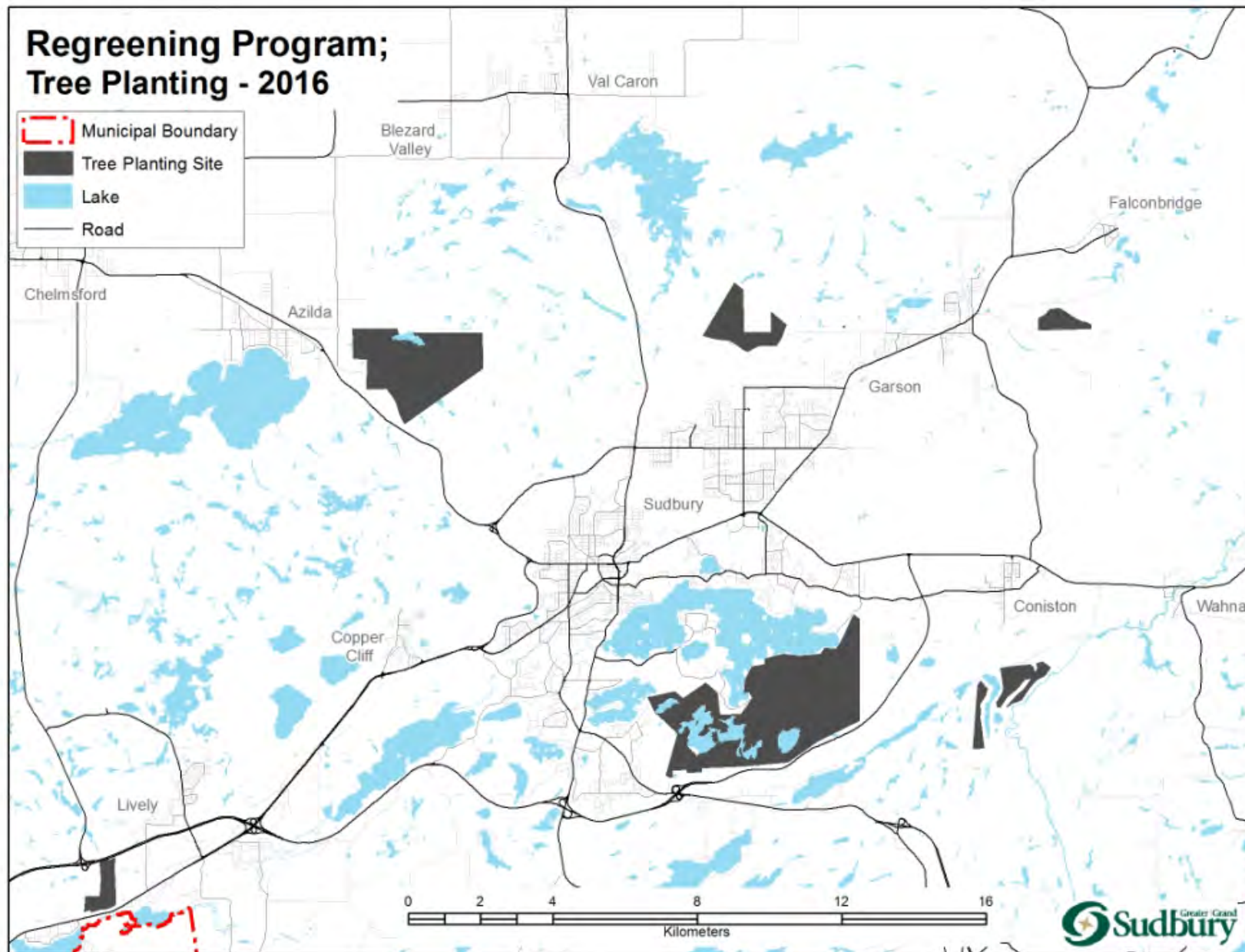
this spring. Species planted included the typical first phase planting mix of jack pine, red pine, white pine, white spruce, green alder and a few red oaks.

Working from the **5 YEAR PLAN 2016-2020**, other major planting sites included the Azilda Trails and Maley Conservation areas. Additional sites included City property in the Lively area and transect plot sites in Garson and near the airport.

Refer to the tree planting map on the next page for locations of the planting sites.



Map – Tree Planted Areas 2016





## Survival & Quality Assessments

Collège Boréal partnered with us to provide Tree Canada with survival assessments of past planting sites. Assessments were conducted in September. Overall, tree survival rates are all over 90% for 1 year, 2 year and 5 year old plantations except for bearberry which had an 82% survival rate.

Tree Canada also requires that funded plantations be evaluated by a quality assessor to ensure the seedlings are planted at locations specified and that they are planted according to industry standards. The quality assessor visited the planting crew on-site both in the spring and in the fall. Overall, he found the crew's quality was 97% in the spring and 97.5% in the fall for all species planted.



*Second year assessment  
of yellow birch.*

## Volunteer Tree Plants

The Regreening Program is able to offer seedlings, planting equipment and guidance to any local group wanting to participate in the regreening effort. The volunteer program provides educational opportunity on environmental issues, information on the City's Regreening Program, tree planting experience as well as a sense of community pride and ownership of the natural environment.

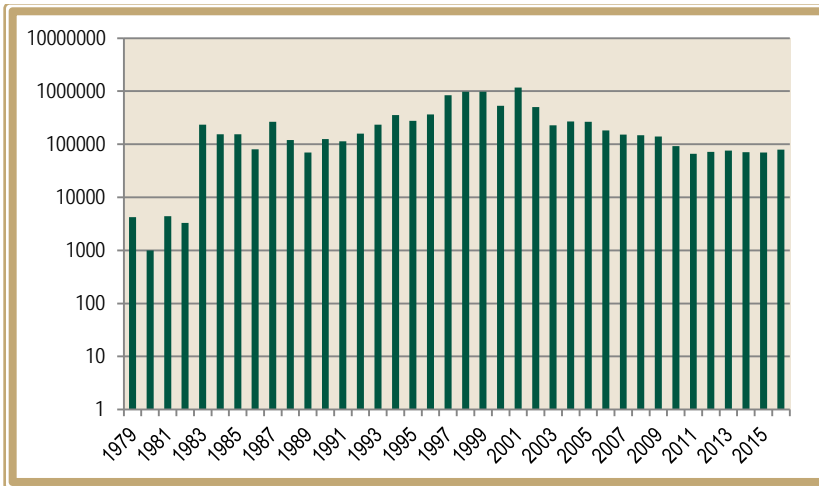
This year, ten volunteer groups involving 541 individuals planted over 7,200 tree seedlings throughout Greater Sudbury. The following is a list of groups that participated in tree planting activities this year:

- BioSki Club
- Continental Currency Exchange
- Copper Cliff Scouts
- Hannah Lake Stewardship Group
- KGHM International
- Laurentian University Biology students
- OLG Slots
- Roots & Shoots
- Sudbury Protocol participants
- Val Caron Brownies



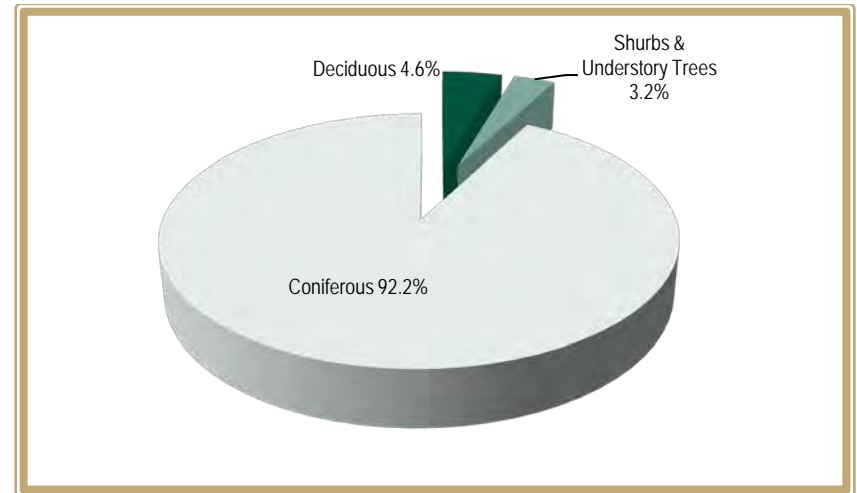
## Number of Trees Planted 1979 to 2016

The bar graph below indicates the number of trees planted each year since 1979 for a grand total of 9,643,463 trees.



## Percent of Species Planted 1979 to 2016

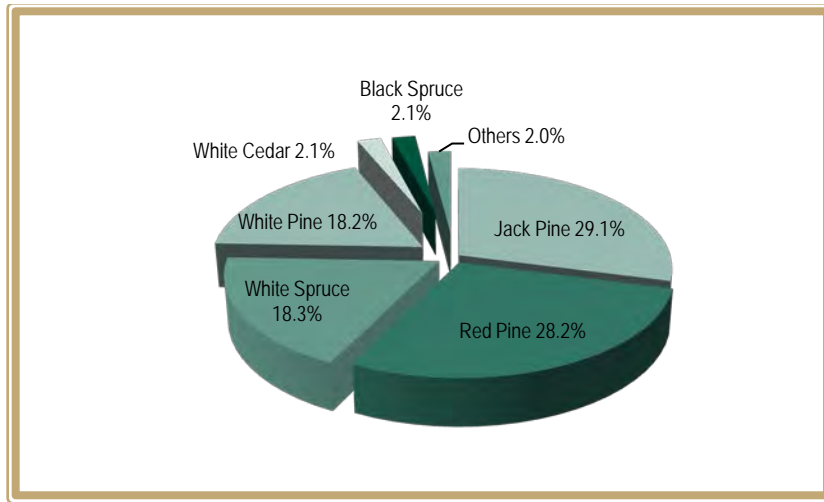
The pie graph below illustrates the percentage of each type of species planted since 1979 for a grand total of 9,957,984 plants.



*Planting at the Alice Lake aerial lime site.*

## Percent Coniferous Species Planted 1979 to 2016

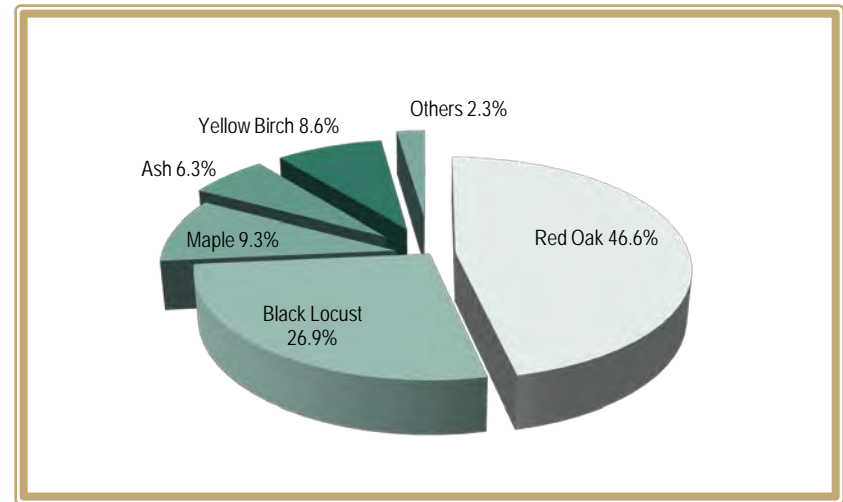
The pie graph below illustrates the percentage of each coniferous tree species planted since 1979 for a total of 9,186,650 trees.



**Others Include:** balsam fir 0.2%, tamarack 1.3%, Norway spruce 0.2%, larch 0.2%, hemlock 0.1%, and Austrian pine <0.0%.

## Percent Deciduous Species Planted 1979 to 2016

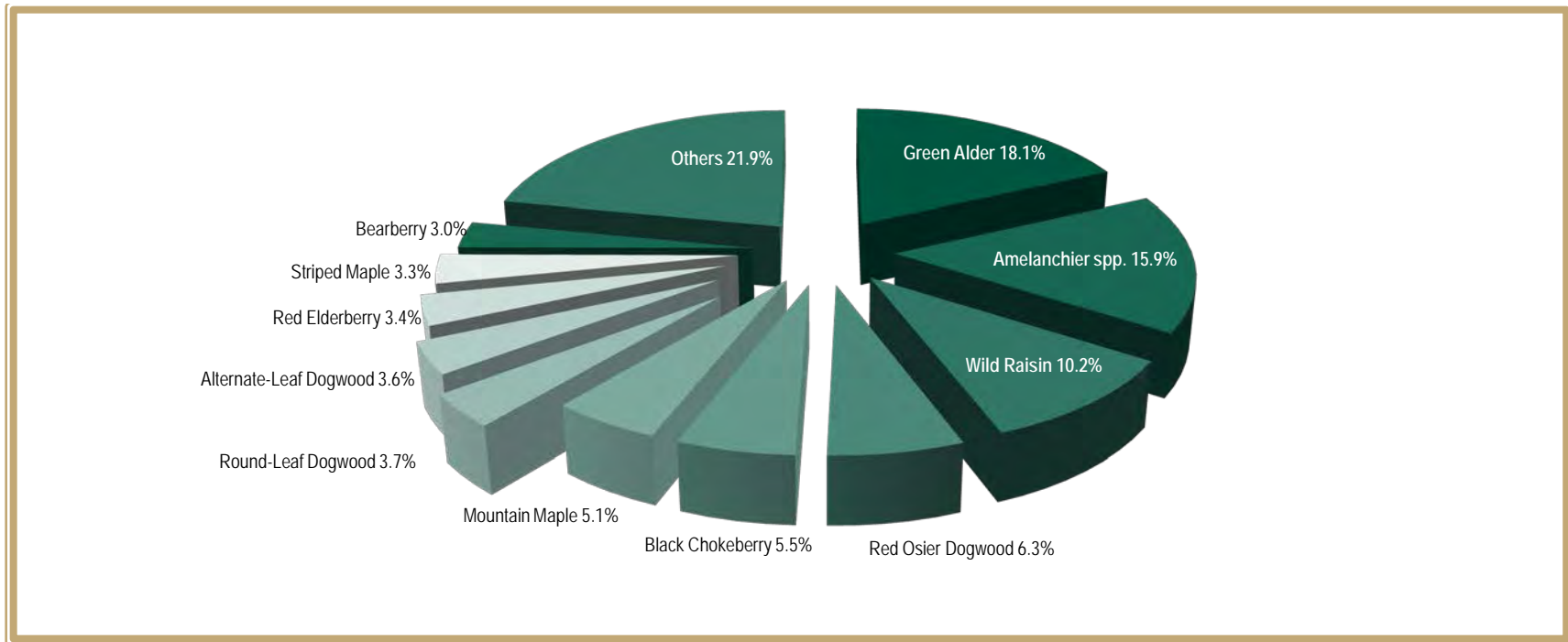
The pie graph below illustrates the percentage of each deciduous tree species planted since 1979 for a total of 456,813 trees.



**Others Include:** Russian olive 1.1%, bur oak 0.5%, ironwood 0.3%, American beech 0.1%, bitternut hickory 0.1%, white oak 0.1% and basswood 0.1%.

## Percent Shrubs and Understory Trees Planted 1979 to 2016

The pie graph below illustrates the percentage of each type of shrub or understory tree species planted since 1979 for a total of 314,521 plants.



**Others include:** caragana/Siberian pea shrub 2.4%, mountain-holly 2.1%, staghorn sumac 2.1%, bush-honeysuckle 1.9%, common elderberry 1.5%, American mountain-ash 1.3%, highbush cranberry 1.2%, winterberry holly 1.1%, common juniper 1.1%, hardhack 0.9%, swamp rose 0.7%, showy mountain-ash 0.6%, mugho pine 0.5%, nannyberry 0.5%, buffalo berry 0.5%, choke cherry 0.4%, prickly wild rose 0.4%, white meadowsweet 0.4%, ninebark 0.3%, hobblebush 0.3%, pin cherry 0.3%, smooth wild rose 0.2%, Canada yew 0.2%, black chokeberry 'Viking' 0.2%, wild black currant 0.2%, flowering raspberry 0.2%, snowberry 0.2%, buttonbush 0.1%, sweet gale 0.1, wintergreen 0.1%, red chokeberry <0.0%, American hazel <0.0%, sandcherry <0.0% and Canada plum <0.0%.



## Seed Collecting

Over 15 kg of seeds/berries were collected by staff / crew this year from a dozen species and shipped to the nursery to grow stock for the coming years. New collection sites were located this year which have been added to an in-house database to improve future seed collection projects. Numerous sites are required for each species so over-harvesting or depleting seed from a single source is avoided. See the table below for species and quantity of seeds/berries collected in grams.

Species	Weight (in grams)
Mountain Maple	1134
Red Baneberry	59
Green Alder	5897
Black Chokeberry	1361
Mountain-holly	59
Winterberry Holly	567
Common Blackberry	1247
Smooth Blackberry	113
Snowberry	113
Large Cranberry	567
Wild Raisin	1814
Highbush Cranberry	2268

Many thanks to Ontario Parks for allowing the Biodiversity Research Assistants access to the Windy Lake Provincial Park to collect berries for the Regreening Program's tree planting initiatives. Since 2011, Parks management staff has allowed the collection of wild raisin, mountain-holly and highbush

cranberry which were all delivered to a nursery to grow plants for the Regreening Program.

The crew also collected seed of poverty oat grass and a panic grass from two areas in Hanmer. Thanks to the cooperation of K. J. Beamish Construction Co. Ltd. and OCL Trucking & Custom Crushing for allowing the crew access their sites. Approximately 1.3 kg of uncleaned seed was collected, dried and used in the grass seed mixture during the liming phase. Seeds for these native grasses are not readily commercially available so finding a local source and collecting manually is the only option viable at this time.



*Crew collecting poverty oat grass.*

## Crushed Limestone, Fertilizer and Seed

The liming activity this year focused on an area of barren land along the southern shore of Kelly Lake, along a portion of the Trans Canada Trail ([Kelly Lake Trail](#)). A total of 4.54 hectares of barren land were manually limed using a crushed dolomitic limestone. Fertilizer and seed consisting of 90% fall rye and 10% alsike clover was applied to the area in early September. Approximately 1.3 kg of uncleaned poverty oat grass seed mixed with a panic grass collected locally by the crew weeks in advance was also added to the seed mix.

A second area measuring 0.64 ha was limed off Sunderland Road in the Garson area. No seed or fertilizer was added as this area will continue to receive reclamation work in the future.

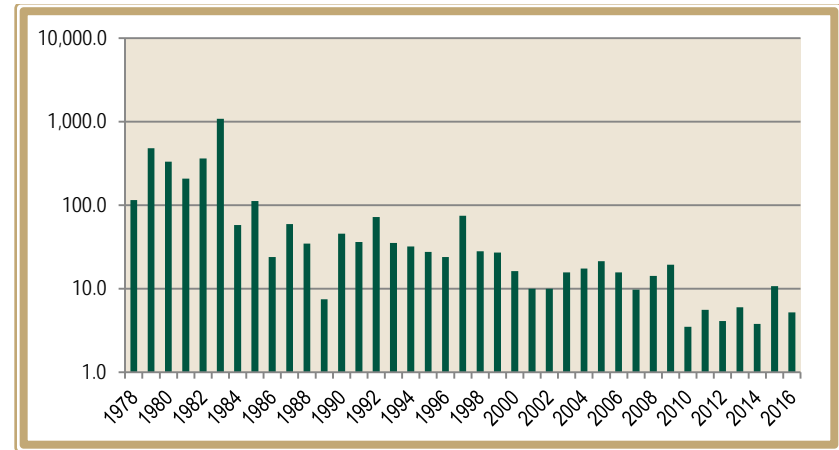
Refer to the following page for a map of the locations of liming activities.

To date, 3,465 hectares of barren land have been treated with crushed limestone by the City's Regreening Program.

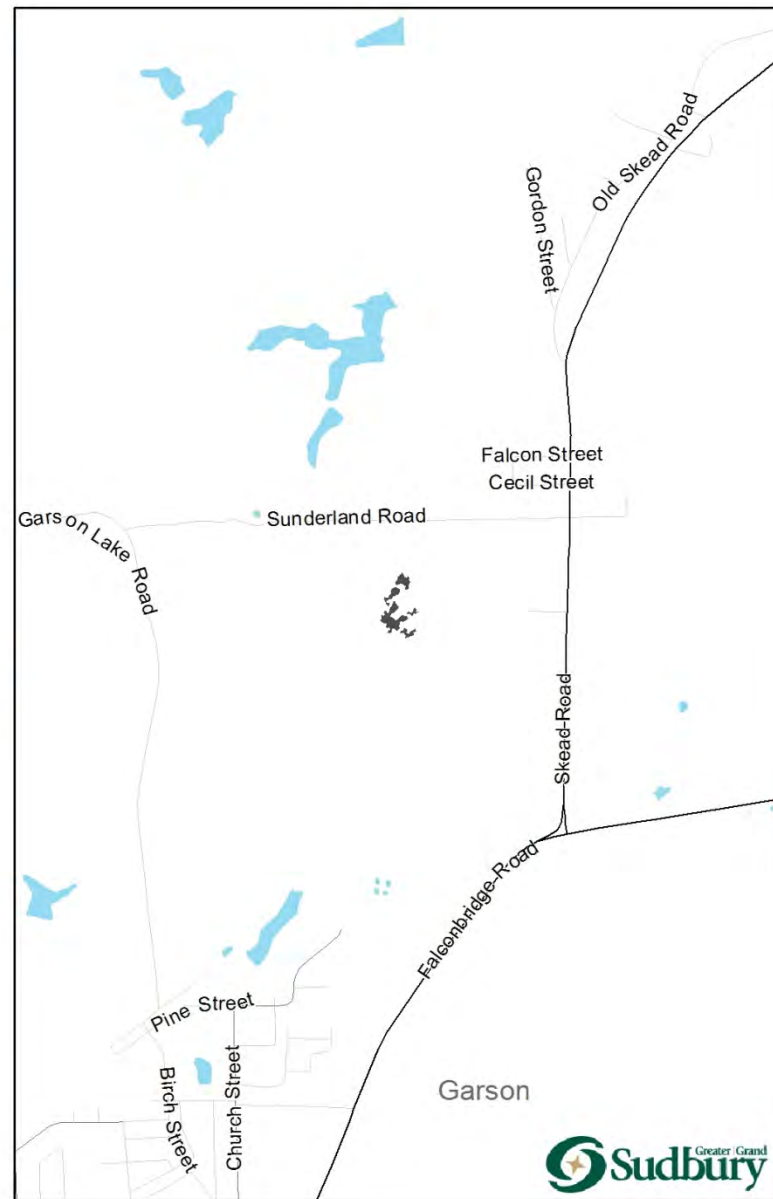
*Lime bags spread out on barren land along the Kelly Lake Trail.*

## Area Limed 1978 to 2016

The bar graph below indicates the area in hectares per year that were limed by the municipal Regreening Program since 1978 with a grand total of 3,465 ha limed to date.



Map – Manual Liming Site 2016





Vale is committed to following the recommendations set out in the **5 YEAR PLAN 2016-2020** and as such, aerially limed and seeded barren land south of Alice Lake and another area off Coniston Hydro Road. The total area covered measures approximately 121 ha and will be the main focus site for tree planting activities in the spring of 2017.

The seed mixture used consisted of half native species and half agricultural species, including:

- 40% fall rye (*Secale cereal*)
- 20% Canada wildrye (*Elymus canadensis*)
- 20% little bluestem (*Schizachyrium scoparium*)
- 10% slender wheatgrass (*Elymus trachycaulus*)
- 10% alsike clover (*Trifolium hybridum*)

## 5 Year Plan 2016-2020

This year a new plan was developed to guide the Program over the next 5 years. The plan can be found at: <http://www.greatersudbury.ca/living/environmental-initiatives/regreening-program/reportspublications/>. This Plan continues to follow the directives set out in the **BIODIVERSITY ACTION PLAN** of 2009. Several steps have been taken to implement this plan in its first year including mapping projects and early stages of developing completion criteria.

### Mapping Projects

#### Management Units

The barren and semi-barren area affected by past smelting operations spans a vast area (82,000 hectares). As VETAC

moves forward in addressing regreening needs, management units of a workable size will assist in determining future interventions required. A map with management units has been developed based on watershed/subwatershed boundaries, resulting in 140 management units.

#### Interactive Public Map

Since 2015, with the assistance of Sudbury INO funding, a mapping exercise was conducted to update all Regreening Program mapping for tree planting and liming activities. This assignment was completed early this year and the data has been uploaded using ESRI software. In early 2017, the interactive map should be available to the public through the City's website as part of the Open Data policy.

In this format, the general public will be able to access up-to-date tree planting and liming data. This will also be a useful tool for staff at the City and the VETAC partners during the planning stages of regreening activities.

#### Completion Criteria

Initial steps have been taken in developing completion criteria for Greater Sudbury's ecological recovery. These criteria will assist VETAC in gauging when sufficient regreening activities have been undertaken in a particular area. Following an internal VETAC Operations/Biodiversity sub-committee meeting, a workshop focused on completion criteria was hosted at Laurentian University by the Canadian Centre for Forestry. Additional meetings and workshops are planned for 2017 to allow completion criteria to be developed and endorsed by a broad representation of stakeholders.

## Forest Floor Transplants

The practice of transplanting forest floor has occurred yearly since 2010 as a mechanism of re-introducing species, improving habitat, creating a seed bank and increasing the diversity of past reclamation sites. Continued partnership with KGHM International allowed for the ongoing forest floor transplants in 2016. From June to October, vegetation was harvested from the Podolsky Mine site north of Capreol.

The Regreening crews hand dug the top 10 cm of soil containing plants, seeds, microorganisms and invertebrates from the donor site. The vegetation was then watered over night and transported to reclamation (receptor) sites in Greater Sudbury for transplanting. The focus this year was understory sites for shade tolerant species.

Criteria for selecting receptor sites for the understory transplants included sufficient canopy cover, low understory species diversity, sufficient soil depth and organic layer (>5cm) and large enough areas to allow the species to spread. There was also a focus on placing transplants under conifer stands. Plots were established measuring approximately 4m by 4m.

In 2016, approximately 0.246 ha of understory material was transplanted into 186 plots using 6,792 trays of plant material. Of the approximately 40 different species re-introduced, the most common included balsam fir (*Abies balsamea*), bluebead lily (*Clintonia borealis*), starflower (*Trientalis borealis*), bunchberry (*Cornus canadensis*), goldthread (*Coptis trifolia*) and twinflower (*Linnaea borealis*).

Twenty-two sites received transplants: 11 in the barren zone, 8 in the semi-barren zone and 2 in the non-impacted area under pine plantations. Over the 6 years of this initiative, a total of 143 sites have received understory transplants covering a total area of approximately 1.53 ha. Although there were no exposed transplants this year, to date 19 sites received exposed transplants covering an area of 0.15 ha. The grand total of 1.68 ha of forest floor transplants is comparable to moving over two Canadian football fields of plant material into the City's impacted areas.



# Biodiversity Inventory

## Plant Community Change

In 1978, Brian Amiro, a researcher from Laurentian University, conducted field work for a study of the plant communities in Greater Sudbury and the surrounding area. The main purpose of his Masters study was to provide a base for future vegetation studies in terms of the successional pathways of plant communities in areas impacted by industry and development. A total of 142 sites were examined and importance values were determined from quantitative vegetation data for each species encountered in three different layers (i.e. tree, shrub and herb strata). Based on his findings from the tree stratum analyses, he identified nine major community types that reflected the dominant tree species present.

Andrea Sinclair performed a follow-up study 15 years later (1996 MSc thesis) in which she re-examined 46 of Amiro's original sites and also added 22 new sites. Sinclair only identified six main community types and these communities, similar to Amiro, reflect the dominant tree species present. She found that red maples (*Acer rubrum*) were far less abundant across the plant communities. In addition, changes were observed in the tree layer due to planting of conifer seedlings and the vegetation within the herb layer had changed over time due to revegetation efforts (i.e., seeding).

Beginning in 2012, the Regreening Program began conducting re-assessments of the same sites that Amiro studied in 1978. This year 29 sites were sampled, bringing the total sites

sampled to 93. These re-assessments seek to answer the following questions:

- 1) Are plant communities changing over time and how?
- 2) Does site location in relation to the three smelter impact zones affect plant species present?
- 3) Are re-greening activities affecting plant communities, and if so, how?

Overall, significant differences in the plant community are observed between:

- 1978 and 2016
- Impact zone (barren, semi-barren and non-impacted)
- The three strata (tree, shrub and herb layers)

Barren and semi-barren zones are becoming more vegetated overall and more species have colonized these areas than in 1978. Changes in plant communities on the non-impacted sites have either not occurred or have been much less dramatic than the changes observed on the barrens and semi-barrens.

Field assessments of the Amiro sites will continue in 2017 following which a thorough statistical analysis will be undertaken. An evaluation of vegetation changes over 40 years of regreening is expected to be completed in 2018 in time for the Regreening Program's 40th anniversary.



## Bird Monitoring

The presence or absence of bird species can be an important indicator of ecosystem health as many have specific habitat requirements. Birds are important components of ecosystem function by dispersing seeds, creating habitats and controlling certain pests. To gather information on bird populations (richness and composition) during breeding season, acoustic monitoring units were set up in various impacted and non-impacted areas in 2012, 2014 and again in 2016.

The goal is to create an updated list of bird species currently found within the barren and semi-barren zones compared to those species in the un-impacted area. The results will show what species, if any, are absent from the impacted area but are found in healthy forests.

A total of 75 bird species were identified from the 2012 bird monitoring study. Species in mixed wood forests were similar, ranging between 23-28 species per site for historically smelter disturbed sites and 18-25 species for sites not disturbed by smelter emissions. Smelter damaged areas are thought to have more homogeneous habitats with fewer food sources and suitable nesting habitats than undisturbed sites. Since the City of Greater Sudbury's greening efforts have incorporated tree plantings for nearly 40 years, and disturbed understories have received vegetation transplants, it is anticipated that bird communities in reclaimed and undisturbed forest habitats will be more similar in the 2016 bird monitoring study.



*Staff installing an acoustic monitor.*

## Ugliest Schoolyard Contest

The regreening work continued at local schools again this year as a result of VETAC's twelfth annual Ugliest Schoolyard Contest. Thanks to the generous grant of \$20,000 from Sudbury INO and numerous sponsors providing material/supplies, services and financial support, two schools received assistance in transforming their schoolyards. The grand prize winner was **St. Charles Catholic Elementary School** in Chelmsford and the runner-up was **École secondaire Macdonald-Cartier** in Sudbury.

In addition to the Sudbury INO funding, schools also received a voucher for the purchase of concrete materials from Brown's Concrete Supplies and topsoil donated by Vale. Other in-kind and/or financial donations from Azilda Greenhouses, Canadian Tire on Regent Street, Futurescape Landscaping Supplies, Jetty's Landscape Supplies, Southview Greenhouse Growers, Sudbury Horticultural Society, and Sudbury Master Gardeners ensured the projects were a great success.

*The Canadian Biodiversity Institute and Earth Day Ottawa initiated the Ugliest Schoolyard Contest in 1998 in Ottawa.*



*Judging committee.*

### Winner Projects

#### **St. Charles Catholic Elementary School**

St. Charles Catholic Elementary School received 4 linden trees, 3 silver maple trees, and 3 serviceberry trees in raised planters created with the concrete stones and topsoil. On September 14th, volunteers from the Sudbury Horticultural Society, Sudbury Master Gardeners and the City's Regreening Program worked with students and teachers in the planting of shrubs and perennials, and the mulching of all new garden beds and trees. Gardens were planted along the side of the school, vines were planted along the fence, perennials were planted under the new trees, and an edible garden was created in one corner of the schoolyard. During the next week, students added additional mulch to all of the new garden beds and King Fabricating created and donated two "buddy



benches” which will be added to the schoolyard under one of the trees.

On September 29<sup>th</sup>, a special assembly was held by the school to recognize the people who made the project possible. A PowerPoint presentation showcased the work that was done and everyone was treated to a sample of berries that will be growing on the shrubs that were planted in the edible garden. Everyone then gathered outdoors on the basketball court for an official ribbon-cutting ceremony.

Project [photos](#) are available on the [website](#) as well as a [video](#) of the schoolyard transformation.



*Students mulching around strawberry plants in the edible garden.*



*Large caliper trees planted with perennials and stone seating.*



## École secondaire Macdonald-Cartier

On September 19<sup>th</sup>, students and teachers from the school worked with Southview Greenhouse Growers to plant 3 linden trees in raised planters. A raised planter was created with wedge stone along one side of the building. Three garden beds were also created along another wall of the building. Donated shrubs and perennials were added to all of the new gardens. Fifty false spirea shrubs were planted on a sloped area to help reduce soil erosion.

Volunteers from VETAC, the City's Regreening Program and the Sudbury Horticultural Society worked with the students and teachers throughout the day. Later in September, several additional shrubs were planted by the students and additional mulch was added to all of the garden beds.

Following an open house presentation, two local businesses agreed to donate benches or tables to the school to provide outdoor seating in the new green space that was created.

Project [photos](#) and a [video](#) of the schoolyard transformation are available on the [website](#).



*Students planting tree in stone planter.*

## Sponsors

Generous funding from Sudbury INO and numerous other donors (see page 2 for list) enabled VETAC to provide greatly improved environments for the students and teachers at these two schools.

## Future Involvement

Since the Contest began in 2005, forty-one schools have received support for their schoolyard regreening projects. This represents 50% of all schoolyards in Greater Sudbury. In bringing enhancements to additional schoolyards and engaging students in regreening and biodiversity projects, it is important to more fully understand the opportunities that are present at each school site. To this end, a Field Intern was hired early in 2016 to identify the presence of barren rock outcrops, streams, or wetlands at or near all school properties in the City. This database will be useful in planning specific regreening and biodiversity projects at individual schools.

## Website

In 2016, a 'Story Map' was developed that displays information on all Contest winners. This web-enabled map can be accessed via the Ugliest Schoolyard Contest main page. The user-friendly and engaging map application facilitates the distribution of data through the City's OpenData initiative.



*Volunteers from the Sudbury Master Gardeners, Sudbury Horticultural Society and the Regreening Program.*

## Media

A communication strategy was implemented to promote the Contest focusing on Social Media with a [News Release](#) issued March 11<sup>th</sup> announcing the contest for 2016. On March 22<sup>nd</sup> Tina McCaffrey was interviewed by Nick Liard of Q92 and KISS radio regarding the 2016 Ugliest Schoolyard Contest. On June 10<sup>th</sup> the City issued a [News Release](#) announcing the winning schools for the year.

Advertisements appeared in the Sudbury Star on Tuesday, November 22<sup>nd</sup>, Le Voyageur on Wednesday, November 23<sup>rd</sup> and the Northern Life on Thursday, November 24<sup>th</sup> thanking all the sponsors of the project.

## Labour

Program staff included one foreperson, four crew leaders, fifteen workers and six summer students involved in regular regreening activities. The Field Intern position was secured for a 6-week period to assist with watershed mapping. The Cartography/GIS Technician funded through Sudbury INO for an 8-week period completed a Regreening project initiated in 2015. The four Biodiversity Research Assistants were mainly engaged in data collection in the field.

In total 32 temporary positions were created in 2016. To date, 4,715 temporary positions have been created.

The table below outlines the temporary positions created and the number of weeks worked, with a total of 32 positions created in 2016.

Program	Positions	Weeks	Cost to City	Activity
CGS Temporary Staff	25	32 30 6 31 29 8.5 25	100%	Foreperson (1) Crew Leader (4) Field Intern (1) Biodiversity Research Assistant (2) Biodiversity Research Assistant (1) Biodiversity Research Assistant (1) Workers (15)
	1	8	0%	Cartography/ GIS Technician
CGS Summer Students	6	17	100%	Tree planting, liming, transplanting
Total Positions	32			

## Volunteer Placements

A volunteer opportunity was provided for the Ministry of Natural Resources and Forestry (MNRF) Ontario Stewardship Rangers Program. From July 25 to 28, 8 high school students and their 2 team leaders from Windy Lake Provincial Park worked alongside the Regreening Crew digging up and transplanting vegetation mats as well as participating in liming activities. From August 8 to 11, 4 high school students and their team leader from the Sudbury District MNRF were also provided the same volunteer experience. Students learned a great deal about their natural environment and the steps taken to restore damaged lands.



*Ministry of Natural Resources Ontario Stewardship Rangers.*

## Partners

The success of the Regreening Program depends heavily on the support of its many partners. Long time support from the two major mining companies, Vale and Sudbury INO, through

in-kind and financial assistance has grown substantially since the release of the Sudbury Soils Study in 2009.

Tree Canada has been a partner since 1997 contributing over 3.7 million trees to the Program. The Sudbury earthdancers have contributed over \$35,000 in cash since 1999. The Ontario Ministry of Transportation (MTO) and KGHM International have provided access to some of their properties for Regreening crews to salvage forest floor plants.

Collège Boréal has been conducting survival assessments and quality control assessments on trees sponsored by Tree Canada and are participating in the creation of a local seed bank of native trees and shrubs. Laurentian University has provided support to the Regreening Program's Biodiversity Research Assistants in terms of expertise and use of facilities.

Conservation Sudbury continues to allow long-term vegetation monitoring plots to be established in the Lake Laurentian Conservation Area and occasionally is able to provide financial assistance towards the purchase of trees.

tentree is a new sponsor since 2015 whose contribution went towards wages to have 50,000 trees planted.

Ontario Parks has allowed the collection of seeds/berries in Windy Lake Provincial Park since 2011. And new this year, KJ Beamish Construction Co. Ltd. and OCL Trucking & Custom Crushing allowed the crew to collect poverty oat grass seeds.

It is the financial and in-kind support of these partners that ensures the program continues to function effectively.



## Funding

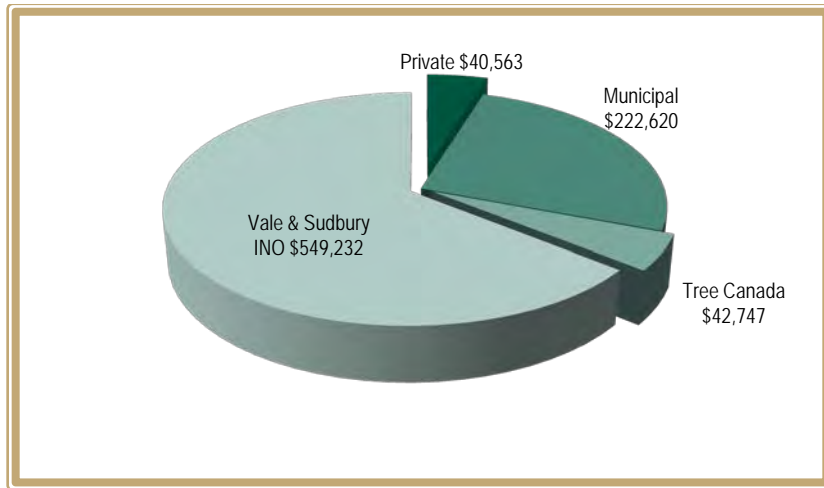
The Regreening Program relies on donations to operate the yearly Program. Many successful partnerships have been developed over time and new opportunities are always being investigated.

The table below outlines the program contributors and the dollar amount associated with their contributions in 2016.

Program Contributors	Weeks	Number	Source	Amount
<b>Labour</b>				
Sudbury INO	8	1	Mining Co.	\$7,742
tentree	To have 50,000 seedlings planted		Private	\$5,000
Conservation Sudbury	50 Million Tree Campaign		Private	\$12,954
<b>Cash</b>				
Vale			Mining Co.	\$250,000
Sudbury INO			Mining Co.	\$265,000
Sudbury earthdancers			Private	\$4,552
Sudbury Protocol Conference			Private	\$500
Sudbury Community Foundation			Private	\$11,450
<b>Materials</b>				
Tree Canada		28,498 seedlings	Private	\$42,747
Vale		36,056 seedlings	Mining Co.	\$6,490
Conservation Sudbury		15,020 seedlings	Private	\$5,257
<b>Ugliest Schoolyard Contest</b> (Does not include material, equipment and other in-kind donations provided by other sponsors)				
Sudbury INO	Cash Contribution		Mining Co.	\$20,000
Sudbury Horticultural Society	Cash Contribution		Private	\$600
Sudbury Master Gardeners	Cash Contribution		Private	\$250
<b>Sub Total</b>				<b>\$632,543</b>
City of Greater Sudbury			Municipal	\$222,620
<b>Grand Total</b>				<b>\$855,162</b>

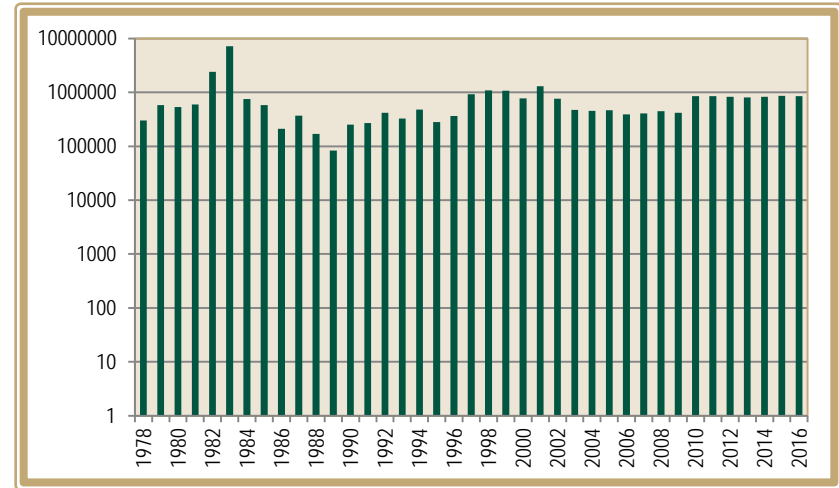
## Funding Contributions by Source 2016

The graph below illustrates 2016 funding contributors by source.



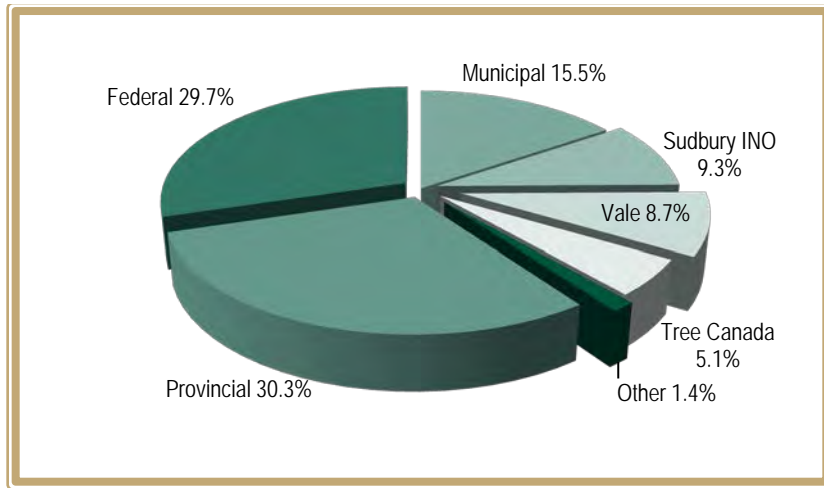
## Yearly Program Costs 1978 to 2016

The bar graph below indicates yearly program costs from 1978 to 2016 with a grand total of \$30,994,604.



## Percent Funding Contributions by Source 1978 to 2016

The graph below illustrates funding contributions in percentages by source from 1978 to 2016.



Since 1978, the City's contribution to the Program has averaged 15% of the total costs with 85% coming from external sources. To date, the Program costs exceed \$30 million.

## Events

### Northern Ontario Curling Association

On January 26<sup>th</sup>, a local citizen and parent of a local youth curler hosted a booth at the national Curling Championships in Stratford, Ontario. The theme was to promote your Northern community. The Regreening Program was able to provide

Healing the Landscape books and Regreening posters for the event that accompanied other swag from local educational institutions. More than 200 parents, friends and players attended the event and the City's Regreening Program received a great deal of interest.

### Community Builders Award Gala

Wayne Hugli, VETAC's Ugliest Schoolyard Contest Chair, was honoured with the 2016 Community Builders Award of Excellence in the category of Environment at the gala on March 3<sup>rd</sup>. The award acknowledges his work with the Ugliest Schoolyard Contest which he alone initiated and sustained. The program is now in its 12th year. All who were involved in the program as well as the contributors, including Sudbury INO were thanked for their role in the Contest. Many VETAC members and contest contributors were in attendance at the gala event to show support.

### Canadian Master Gardener Conference

On April 9, 2016, VETAC's Ugliest Schoolyard Contest Chair spoke at the Canadian Master Gardener Conference in Huntsville, Ontario regarding VETAC's roll with regreening Greater Sudbury and the Ugliest Schoolyard Contest. Master Gardeners were interested in learning about highly successful programs involving Master Gardeners working with youth. The presentation focused on the important educational component that is provided to schools as part of the schoolyard regreening projects by volunteers from the Sudbury Master Gardeners and Sudbury Horticultural Society members.

## **Sudbury earthdancers 25<sup>th</sup> Anniversary**

This year, earthdancers celebrated their 25th anniversary at their annual concert April 23<sup>rd</sup> and donated \$4,552 to the Regreening Program, which is more than double their normal yearly contribution. When VETAC's Chair accepted their cheque, he presented the dance troop with a certificate recognizing their 25<sup>th</sup> anniversary and their ongoing support of VETAC initiatives through the Regreening Program.

## **Sudbury Protocol Conference**

Held May 9<sup>th</sup> to 11<sup>th</sup>, this conference hosted by Laurentian University aimed to answer the question "How did Sudbury do it?" The conference brought together researchers, community leaders and industry partners to produce a research plan for the [Sudbury Protocol](#) project which featured 5 perspectives including Government and Legislative; Economic and Financial; Research and Innovation; Industry, Labour and Occupational Health Perspective; and Community and First Nations. Over 20 speakers engaged audiences including VETAC's Chair and two other members. VETAC's Chair also helped lead a field trip of 40 people in the Kelly Lake area. VETAC later received a thank you note on behalf of Laurentian University and the Sudbury Protocol Conference indicating that they would be making a donation to VETAC in recognition of its contribution to the regreening of Sudbury. The donation later received was in the amount of \$500.

## **Roots and Shoots**

The Roots and Shoots event took place on May 11<sup>th</sup> and 12<sup>th</sup> and was well attended. On May 11<sup>th</sup>, seven students from French high schools attended in the morning and two busloads

of French elementary students in the afternoon. On May 12<sup>th</sup>, over two busloads of students from English high schools participated in the morning and one busload of students from English primary schools in the afternoon. After a brief history of the local Regreening Program, students set off to plant tree seedlings off South Bay Road. In total, 2,370 trees were planted by the 224 elementary and secondary students over the two days. Along with VETAC Chair, City and Regreening staff, Science North staff and teachers helped make the event a success.

## **Annual Tree Giveaway**

Regreening staff and VETAC members distributed 500 black chokeberry (*Aronia melanocarpa*) and 500 wild raisin (*Viburnum nudum* var. *cassinoides*) seedlings to local residents at the 6<sup>th</sup> annual Garden Festival on May 28<sup>th</sup>. Both these native shrubs produce edible berries and are regularly planted as part of the Regreening Program. Regreening Program Supervisor provided a presentation on the Regreening of Greater Sudbury in the speaker corner to interested residents. The entire event was well attended with an estimated 1,500+ gardeners in attendance.

## **Waterfront Gardens**

On June 17<sup>th</sup> the Sudbury Horticultural Society hosted this outdoor information session open to all residents interested in gardening with native plants along shorelines. The event was held at Science North along the waterfront where the City's Lake Water Quality Program had installed a waterfront garden demonstration plot in 2009. Many residents came to the event looking for tips on using native plants in their home gardening



projects. Regreening Program staff provided information on waterfront plants to interested attendees.

### **Pioneer of Reclamation Award**

The American Society of Mining Reclamation presented Dr. Peter Beckett the 2016 Pioneer of Reclamation award in recognition of his 40+ years of land reclamation. Dr. Beckett's work has included engagement and leadership with local community groups, city, industry, and public education and outreach.

### **Watkins Award**

Dr. Peter Beckett, who has been chair of VETAC for many years, received the Dr. Edward M. Watkin Award at the 41st National Canadian Land Reclamation Association (CLRA/ACRSD) Conference in Timmins, Ontario. This award is presented by the CLRA in recognition of major contributions to land reclamation, especially through service to foster advances in regulation, reclamation success or development of personnel or students.

### **The Peter Beckett Doctoral Bursary**

The Peter Beckett Doctoral Bursary, endowed by funds from the Sudbury Mining and the Environment Conference Series, was established in recognition of Dr. Beckett's many outstanding contributions and leadership to environmental restoration. The announcement was made at a Watershed Lecture on September 9<sup>th</sup> by the Watershed Lecturer. Later that day a barbeque was hosted by the Living with Lakes Centre to celebrate Peter's achievements where several members of VETAC were present along with Mayor Brian Bigger. The Mayor also presented Peter Beckett with an

Award of Distinction for his 40+ years of reclamation activity in the community.

## **Communications**

### **Envirothon**

Collège Boréal was provided with 80 posters and brochures in French for an Envirothon event in May in which they participated.

### **Biodiversity Artwork**

The biodiversity colouring poster was printed and made available to the three Deluxe Hamburger locations, Gloria's Restaurant and Gus's Restaurant. The Wetland poster was finalized and placed on-line. This was the final biodiversity poster; all four are currently available on-line. The Wetland poster also appeared as the centre pages of the Green Living Magazine Summer 2016 which is published by the Northern Life.

Working with the City's Tourism and Communications sections, a postcard "package" was created for distribution to visitors. Tourism has distributed numerous packages to out-of-town visitors as promotional material.

### **Bioremediation Course Film Review**

The film by Nadia Mykytczuk and John Gunn for Laurentian University's Bioremediation course (Global Lessons from the Sudbury Story Course) is near completion. VETAC Chair invited all members for a final review of the Regreening

components on July 6<sup>th</sup>. This was the last opportunity to ensure the correct facts were incorporated. The course is planned to go on-line in the near future.

### **Canadian Centre for Architecture**

The Canadian Centre for Architecture (CCA) located in Montréal produced an exhibition entitled **IT'S ALL HAPPENING SO FAST: AN UNSTABLE ENVIRONMENTAL HISTORY OF MODERN CANADA** that opened in November. City staff provided an up-to-date Regreening Program map for the exhibition that included the entire tree planting and liming activities since 1978.

The goal of the exhibition is to present case studies from the last five decades of human intervention in the Canadian landscape and explore Canadians' often conflicted and conflicting views of what is considered the "natural" environment. Among the materials included are selections from CCA, Library and Archives Canada, McCord Museum, Arkitektur-och Designcentrum Stockholm, and works by Douglas Coupland.

### **Presentations**

#### **Post Secondary Students**

Over the year, several talks and tours were provided to students attending post secondary institutions and included those from Cambrian College's Environmental Technology & Impact Assessment Program and Environmental Monitoring Program, Sault College's Natural Resources & Outdoor Studies Program, several Laurentian University courses including the Ontario Universities Program in Field Biology as

well as Sir Sandford Fleming/Trent University Restoration Ecology Program.

#### **Conferences**

In May, Dr. Peter Beckett was invited to give a presentation to 200 delegates at the First International Conference on Mining In Europe held in Aachen, Germany.

Both Graeme Spiers and Peter Beckett presented at the Remtech conference in Banff Alberta in October. Their talk covered the evolution of the Sudbury Regreening Protocol which included the Sudbury experience as well as its influence in Russia.

#### **Tours**

Tours were provided over the season to various groups including:

- 50 retired professionals of the Third Age Learning Group from Guelph
- Government and Industrial representatives from South Korea
- expert travel photographer, Gary Crallé
- visitors from OMAFRA

#### **Newspapers**

- Turning Sudbury's regreening expertise into actual green, Ella Myers, Northern Life, January 8, 2016.
- Outstanding Sudburians honoured, NorthernLife.ca, March 3, 2016

# VETAC Members 2016

## Chair

Dr. Peter Beckett, Laurentian University

## Co-Vice Chairs

Lisa Lanteigne, Vale

Sarah Woods, Junction Creek Stewardship Committee

## Members

Kendra Driscoll	Wahnapitae First Nation
Tony Fasciano	Citizen
Enzo Floreani	Sudbury Master Gardener
Jim Found	Ontario Soil and Crop Improvement Association-Sudbury District
John Hall	MNDM
Marc Hebert	Collège Boréal
Lana Henderson	Sudbury INO
Wayne Hugli	Sudbury Horticultural Society
Jim Ilnitski	Citizen
Carl Jorgensen	Conservation Sudbury (NDCA)
Bill Lautenbach	Citizen
Tim Lehman	MNRF
Serena Maki	Sudbury INO
Franco Mariotti	Citizen
Tina McCaffrey	CGS, Regreening Program
Stephen Monet	CGS, Environmental Planning Initiatives
John Negusanti	Citizen
Mike Peters	Citizen
Dr. Madhi Ramadoss	MOECC
Dr. Graeme Spiers	Laurentian University
Ben van Drunen	Hollandia Land & Environmental Solutions

**For further information please contact:**

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**Accessible version available upon request.**