

# Annual Report 2012

Regreening Program

regreening  
GREATER SUDBURY



# 2012 Partners



## Ugliest Schoolyard Contest

### Corporate Sponsor:



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Jennifer Harvey (Landscape Architect)  
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Sudbury Horticultural Society  
Vale

## 2012 Highlights

After 34 years of reclamation activity in the City of Greater Sudbury, the Regreening Program has progressed beyond spreading limestone, fertilizer and grass/legume seed mix. Now that stands of trees are providing canopy cover, it is time to help jump-start the forest development process and address issues outlined in the Biodiversity Action Plan.

In 2012, the Regreening Program created 30 temporary employment opportunities, reclaimed 4.1 hectares of barren land at a variety of locations, and planted over 70,000 tree seedlings and almost 50,000 shrubs/understory trees throughout Greater Sudbury. External funding, material and in-kind contributions enabled the implementation of the second year of the *5 Year Plan 2011-2015*. A quick summary of accomplishments is shown in the table to the right.

VETAC's Urban Landscape sub-committee continued with the eighth annual "Ugliest Schoolyard Contest". The grand prize winner was École St-Joseph in Sudbury. In all, 17 local businesses, corporations and special interest groups provided funding, materials and offered services to complete the schoolyard regreening project. Corporate funding from Xstrata Nickel in the amount of \$75,000 enabled the Committee to extend the prize package to four runner-up schools: É.s. Hanmer, Chelmsford P.S., Ernie Checkeris P.S. and Copper Cliff P.S. Schoolyard transformations occurred from late August until the end of October.

The operational scale forest floor transplant project proceeded again in 2012 thanks to continued partnership with Ontario Ministry of Transportation (MTO) and a new partner this year; KGHM International who are developing the Victoria Mine site near Fairbank Lake. This year, 14 sites received understory forest floor

mats totaling an area of 0.12 ha. Additionally, 11 sites received exposed vegetation mats totaling an area of 0.13 ha.

The start of a biodiversity inventory was conducted this year to assist in tracking how plant communities have evolved over time and determine what effect the regreening process has had on diversity. Using past vegetation surveys as a baseline, inventories were conducted within the 1970 barren zones for barren areas, forested areas and some wetlands. Next steps include conducting inventories outside of the barren zones to help determine future regreening processes that may be required to introduce species that are still missing. The inventory was not limited to plant species alone, animal tracks and sign as well as live bodies were also recorded when observed. Bird calls were also recorded in several areas.

*The table below outlines the various regreening components followed by the 2012 achievement and the accumulated total since 1978.*

Regreening Component	2012	To Date (since 1978)
Tree Planting	71,605	9,348,227
Shrub Planting	47,578	127,921
Area Limed	4.1 ha	3,439 ha
Area Fertilized	--	3,217 ha
Area Seeded	--	3,145 ha
Forest Floor Transplants	0.25 ha	0.86 ha
Program Cost	\$826,453	\$27,657,189
Temporary Employment Opportunities	30	4,592
Awards	—	14
Number of Schoolyards Regreened	5	31
Volunteer Tree Planters	122	10,274
Trees Planted by Volunteers	8,770	350,687
Trees Provided for Residential Plantings	801	424,100



# Tree Planting

Spring and fall planting activities resulted in 71,605 tree seedlings and 47,578 shrub/understory trees planted throughout Greater Sudbury. Since 1978, a total of 9,348,227 trees and 127,921 shrub/understory trees have been planted by the Program.

Tree Canada provided funding for 46,826 trees and shrubs this year and Vale donated 18,160 seedlings (Jack Pine and White Spruce).

A total of seven species of deciduous understory trees, eleven shrub species and seven tree canopy (conifer and deciduous) species were planted. Of these, four new species were added to the mix this year to increase plant diversity throughout Greater Sudbury including Smooth Serviceberry (*Amelanchier laevis*), Mountain-holly (*Nemopanthus mucronatus*), Sandcherry (*Prunus pumila*) and American Basswood (*Tilia Americana*).

Vale aerial seeded 200 hectares of barren land located 2 km north of Wahnapiatae in the fall of 2011. This 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 and Green Alder.

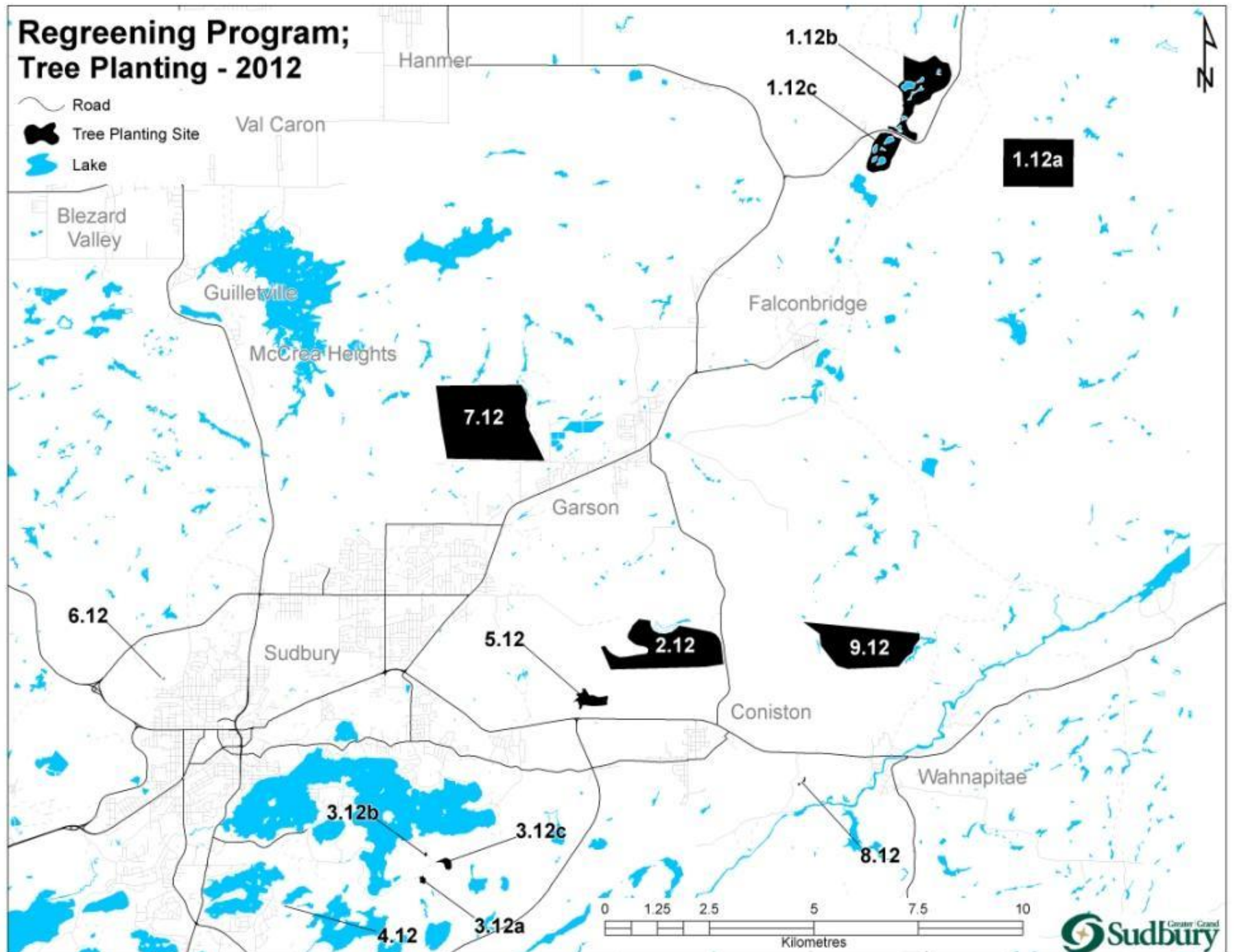
Working from the *5 Year Plan 2011-2015*, other planting sites included the Kettle Lakes, the 2010 aerial lime site, Lasalle/Savannah swamp, Frood Road, O'Neil Drive, and the Lake Laurentian Conservation Area (LLCA). Additional sites included a small area along Bennett Lake and one area off Coniston Hydro Road that was limed this year.

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

**As part of our agreement with Tree Canada, an annual regeneration assessment must be completed on the trees that were donated. Collège Boréal has undertaken this task and has found at least 91% survival in a 2 year old white ash plot and at least 96% survival in a conifer species plot. In a one year old plot, the assessment revealed at least a 95% survival rate.**



*Various tree and shrub species planted.*



## Volunteers

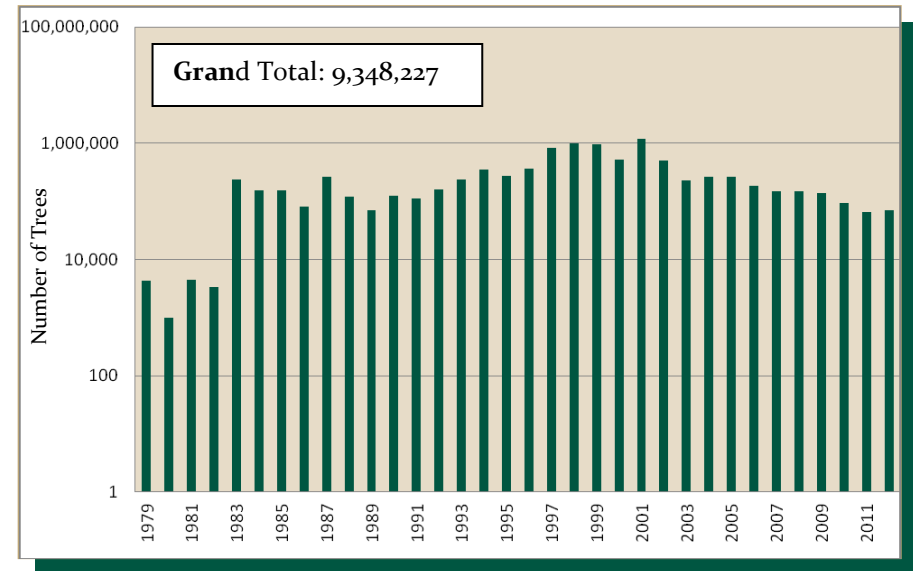
This year, eight volunteer groups involving over 100 individuals planted almost 9,000 tree seedlings throughout Greater Sudbury. The following is a list of groups that participated in tree planting activities this year:

- Capreol Ski Club
- Walden Trails Ski Club
- Walden Trails Bike Club
- Lively Golf Club volunteers
- LoEllen Park Secondary School's Environmental Club
- Junction Creek Stewardship Committee
- St. Paul School in Lively
- BioSki Club

The Regreening Program is able to offer seedlings, planting equipment and direction 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. Many thanks to all the volunteer groups this year. Their efforts affirm the importance of trees in our local environment.

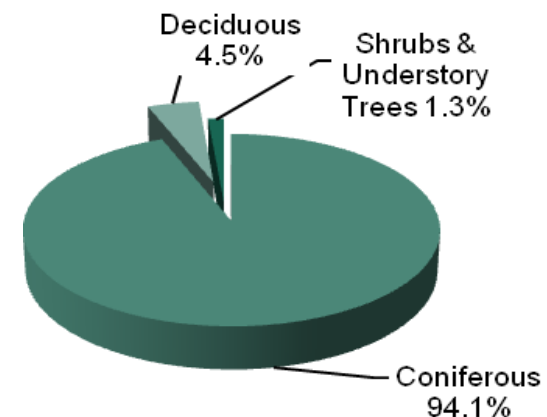
## Number of Trees Planted 1979 to 2012

*The bar graph below indicates the number of trees planted each year since 1979 for a grand total of 9,348,227 trees.*



## Percent of Species Planted 1979 to 2012

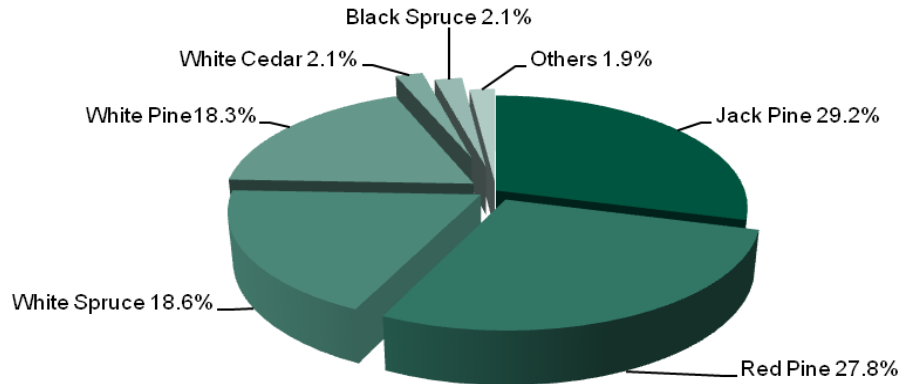
*The pie graph below illustrates the percentage of each type of species planted since 1979 for a grand total of 9,476,148 plants.*





## Percent Coniferous Species Planted 1979 to 2012

The pie graph below illustrates the percentage of each coniferous tree planted since 1979 for a total of 8,919,539 trees.

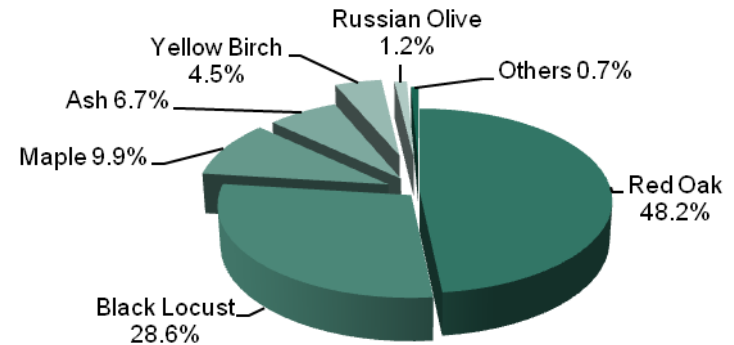


### Others Include:

Tamarack 1.3%	Norway spruce 0.2%	Larch 0.2%
Hemlock 0.1%	Balsam Fir 0.1%	Austrian Pine <0.1%

## Percent Deciduous Species Planted 1979 to 2012

The pie graph below illustrates the percentage of each deciduous tree planted since 1979 for a total of 428,688 trees.

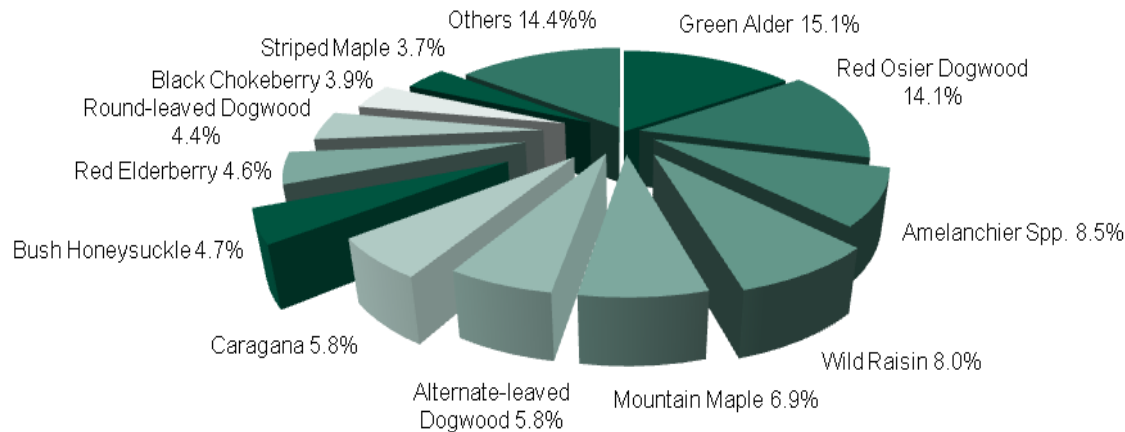


### Others Include:

Bur Oak 0.5%	Bitternut Hickory 0.1%	White Oak <0.1%
American Beech 0.1%	Basswood <0.1%	

## Percent Shrubs and Understory Trees Planted 1979 to 2012

The pie graph below illustrates the percentage of each type of shrub or understory tree planted since 1979 for a total of 127,921 plants.



### Others include:

Common elderberry 1.7%	Steeplebush 0.6%
Highbush cranberry 1.7%	Hobblebush 0.5%
Mugho pine 1.5%	Prickly wild rose 0.4%
Nannyberry 1.2%	Sweet gale 0.2%
Winterberry holly 1.0%	Broad-leaved meadow-sweet 0.2%
Staghorn sumac 0.7%	Wintergreen 0.2%
Buffaloberry 0.7%	Choke cherry 0.2%
Narrow-leaved meadow-sweet 0.7%	Buttonbush 0.2%
Bearberry 0.7%	Smooth wild rose 0.2%
Ninebark 0.6%	Mountain-holly <0.1%
Pin cherry 0.6%	Sandcherry <0.1%
Swamp Rose 0.6%	Canada Plum <0.1%

# Assisted Migration

The intent of assisted migration in the context of the Regreening Program is to plant native species a little farther north than their current growing range in anticipation of climate change effects on vegetation. Historically, naturally caused climate change events have been slow enough to allow for plant species migration. It has been suggested that the current rate of climate change may be occurring too quickly for some native species to migrate without assistance.

A couple of species that are found occasionally in the southern part of this growing zone, which extends as far south as Parry Sound, were selected for assisted migration this year and include:

- Hobblebush
- American Basswood

Other species planted this year whose northern limit is at or just to the south of Greater Sudbury include:

- Black Chokeberry
- Alternate-leaved Dogwood
- Round-leaved Dogwood
- Common Elderberry

This year transects were established to monitor and validate the future use of 10 species of trees and shrubs for regreening:

- |                        |                     |
|------------------------|---------------------|
| • American Basswood    | • Winterberry Holly |
| • Yellow Birch         | • Black Chokeberry  |
| • Smooth Serviceberry  | • Buffaloberry      |
| • Running Serviceberry | • Bearberry         |
| • Hobblebush           | • Sandcherry        |

Monitoring of past transects indicated that most species had a high survival rate. Though many shrubs appeared to be browsed, it has been suggested that site suitability may be a more important factor

in their survivability. Two of the three species introduced for assisted migration in 2011 (White Oak and Bitternut Hickory) had some of the best percentage survivability. Possible explanations include:

- they had not been shifted too far from their home climate range, and
- local browsers may not be accustomed to the taste of these plants.



*Smooth Serviceberry (Amelanchier laevis) transect plot.*



# Seed Collecting

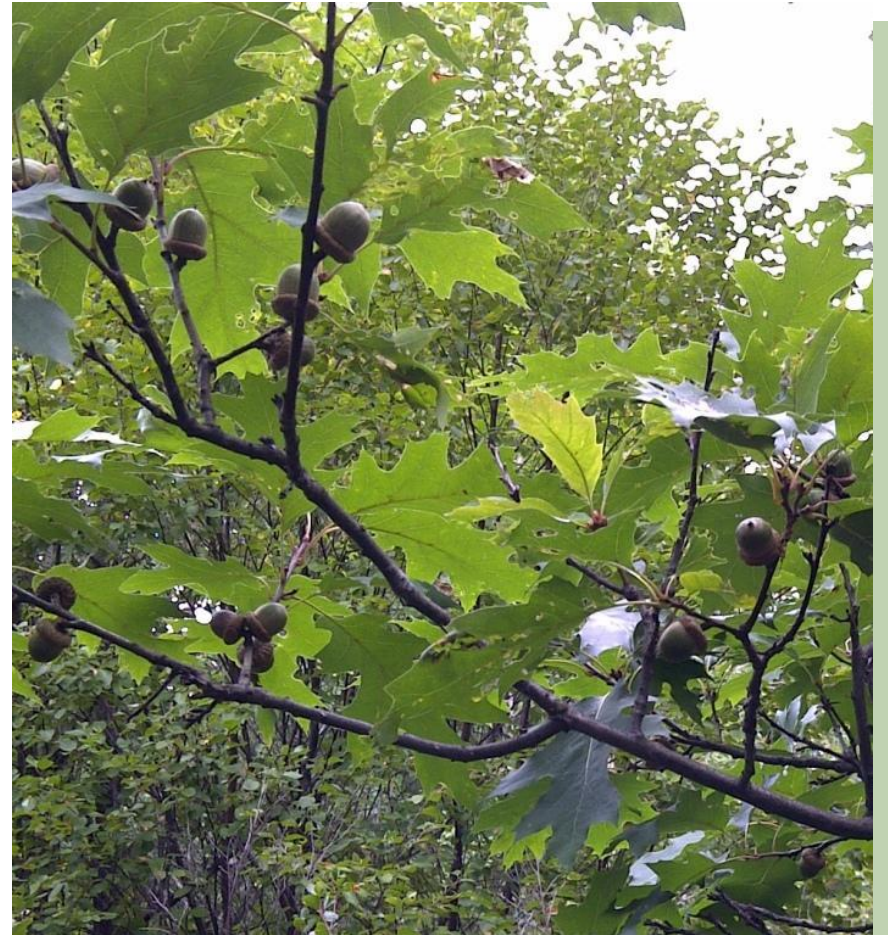
Seeds from red oak, green alder, and bristly sarsaparilla were collected and shipped directly to the propagation nursery to grow the plants for the coming years.

Seeds of pale corydalis were collected and sown directly on two areas in Coniston that were recently limed. The broadcasting of native seed method was not very successful last year, and it is thought that perhaps the soil conditions were too harsh or mulch may be required as one mossy area did show good germination. Hopefully better success will result on limed areas. There are no results yet for broadcasting bristly sarsaparilla, wild columbine or mountain holly from 2011. These species require two years to germinate before conclusions can be drawn.

Vegetative root transplants from 2011 of Winterberry Holly and Mountain-holly were not completely successful. This method requires a great deal of time to collect and transplant, therefore mass planting from nursery stock is a more viable option. Local seed will be collected in the future and sent to the nursery for propagation of these species. Unfortunately this year proved too dry for abundant berry collection.

*The table below outlines the amount of seed collected in 2012 for each species listed in grams (g) or kilograms (kg) as listed.*

Species	Amount of Clean Seed
Bristly Sarsaparilla	95g
Common Juniper	9g
Prickly Wild Rose	2g
Green Alder	93g
Red Oak	66.7kg



*Red Oak acorns were abundantly collected this year.*

## Crushed Limestone, Fertilizer and Seed

Numerous smaller rock outcrops within neighbourhoods throughout Greater Sudbury were targetted for liming activities this year.

Outcrops included Percy Avenue in the Flour Mill area, Nova Drive in Moonglo, and Maki Avenue on Lake Nepahwin. Small areas in Coniston were also limed including an area off Coniston Hydro Road and an area at the end of Edward Avenue. Approximately 4.1 hectares of barren land were manually limed in total. Refer to the liming maps on the next page for liming locations. *In lieu* of fertilizing and seeding, exposed area vegetation was transplanted in these areas. Refer to the Forest Floor Transplant section for further details.

In keeping with the recommendations set out in the *5 Year Plan 2011-2015*, Vale agreed to alter the seed mix used in their aerial seeding activity this year to reflect a more desirable native seed mix which included:

- 40% fall rye (*Secale cereale*)
- 20% Canada Wildrye (*Elymus canadensis*)
- 20% Little Bluestem (*Schizachyrium scoparium*)
- 10% Alsike Clover (*Trifolium hybridum*)
- 10% Slender Wheatgrass (*Elymus trachycaulus*)

The Regreening crew also collected, dried and crushed lichen covering an area of 0.016 ha (155.5 m<sup>2</sup>). These lichen fragments were added to the aerial seed mix.

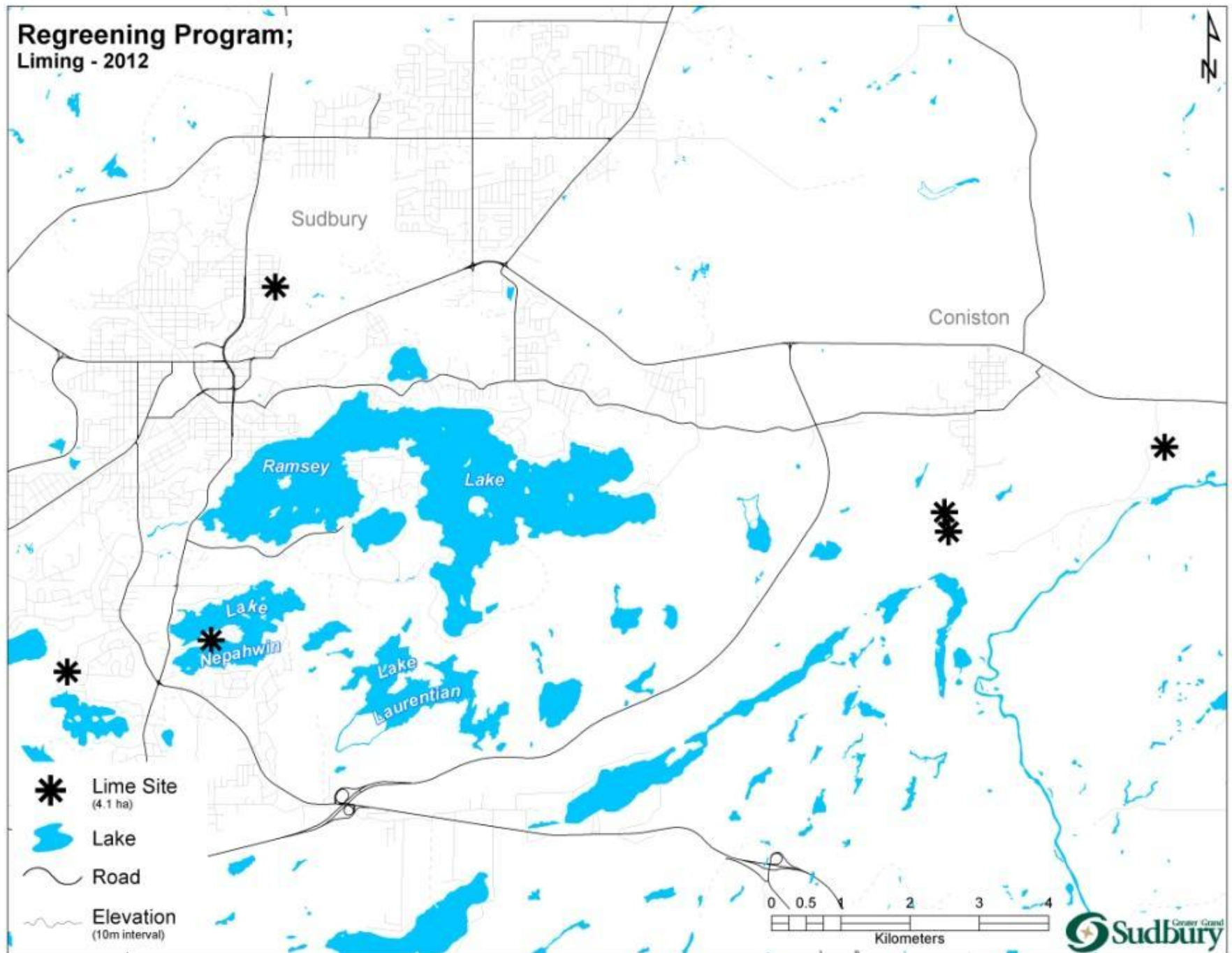
An area of 181 hectares was aerial seeded by Vale starting September 17, 2012, located 3 to 4 km north of Wahnapiatae. This area will be the main focus for planting in the spring of 2013.

To date, 3,439 hectares of barren land have been treated with crushed limestone by the City's Regreening Program.



*Regreening crew placing lichen out to dry.*

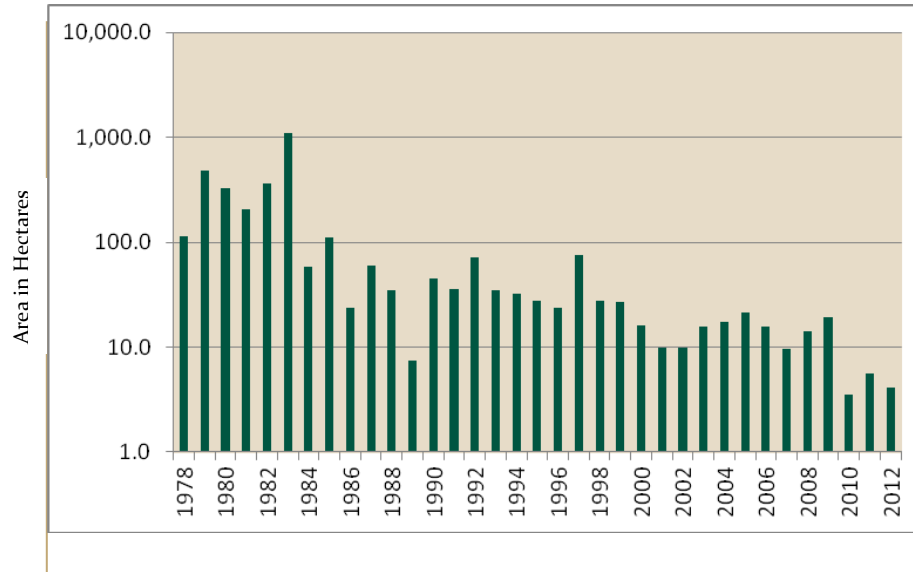






## Area Limed 1978 to 2012

*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 3,439 ha limed to date.*



*Crew engaged in spreading crushed limestone in the Coniston area.*



*The 2011 seed mix of 90% fall rye and 10% alsike clover broadcast in the LLCA fared well in the first year. Assessments will be made again in 2013 for this site and the Vale aerial seeded site.*



# Forest Floor Transplants

Continued partnership with the MTO and a new partnership with KGHM International allowed the continuation of forest floor transplants in 2012. These transplants have successfully increased the biodiversity in Greater Sudbury. In June, Regreening crews were able to salvage plants from the construction corridor of the Highway 69 widening project. From July to October crews dug vegetation at the Victoria Mine site near Fairbank Lake.

As in the past, Regreening crews dug up the top 4 inches (10 cm) of soil containing plants, seeds, microorganisms and invertebrates from the donor sites. The vegetation was then transported to reclamation sites in Greater Sudbury for transplanting. There were two main site types this year: understory sites (for shade tolerant species) and barren or exposed sites (for sun loving species).

## Understory Transplants

Criteria for selecting receptor sites to receive 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. Plots were established measuring approximately 4m by 4m. Over the season, 70 plots were completed at 14 different locations covering an area of 0.12 ha. Since 2010, a total of 455 plots (90 sites) received understory transplants, covering an area of 0.72 ha.

Eleven of the original 49 sites established in 2010 are being monitored yearly. Results show that the 11 most common species present at every site in 2011 are the same for 2012. The number of species per plot at each site ranges from 10 to 30 species. There is still no evidence of migration by seed as plants still seemed stressed from transplant and few flowers were produced this year. Plants that spread by stolons (runners) or rhizomes do appear to be migrating

such as Common Strawberry (0-90cm) and Woodland Strawberry (0-60 cm).

**In 2011 Nodding Trillium and Wild Columbine were hand dug with substantial soil intact around the roots and transplanted into select areas. These species were found rarely at the donor sites and research indicated more care was needed for transplanting success. This year these transplants were healthy and many of them flowered.**

Between 2011 and 2012, there were no significant differences in abundances or cover estimates for plots. Long-term monitoring will continue to identify ideal habitats for future transplants as well as most successful species.



*Monitoring a forest floor transplant mat that was planted in 2010.*



## Exposed Area Transplants

Barren exposed rocky habitats are abundant in the Greater Sudbury area. These rocky areas are suitable habitats for exposed drought tolerant species where natural colonization has been limited due to the absence of seed sources. All areas limed in 2012 received exposed area transplants *in lieu* of the usual fertilizer and seed mix.



*Exposed vegetation planted in exposed sites on Nova Drive.*

Transplants were not established in the usual 4m x 4m plots, but rather conformed to the rocky habitat in small fissures and pockets of soil. Over the season 11 sites received exposed vegetation covering an area of 0.13 ha. Since 2011, a total of 0.14 ha have received exposed vegetation mats.

Species targeted for this transplant exercise included grasses (Poverty Oat Grass), upland sedges, lichens, mosses, shrubs (Sandcherry, Bearberry) and herbs (Wild Columbine, Bristly Sarsaparilla, Pale Corydalis).

While some mats were laid on the soil, those with more roots were planted individually to accommodate their root mass. Just over 30% of all these mats were understory plants, transplanted into exposed areas as an experiment to see if the soil seed bank stored in the mat would favour the germination of light-loving, drought-resistant plants species (e.g., upland sedges).

The exposed area transplants from 2011 revealed that bearberry was the only plant that did not survive the transplant. Although others did show signs of stress, overall they still showed continual growth.

## Lichen Transplants

In 2011, plots were established to monitor lichen transplants. Initial observations suggest lichen transplanted in mats were healthier than those dispersed as fragments. Monitoring will continue in the coming years as it is too early to draw final conclusions.



*Lichen monitoring plot.*



# Biodiversity Inventory

## Plant Community Succession

The Regreening Program has operated since 1978, reclaiming what was considered 'barren' land by spreading crushed agricultural limestone, fertilizing, seeding and tree planting. In the mid to late 1970s, Brian Amiro undertook a M.Sc. research project on local plant community patterns. He evaluated 142 sites in and around Greater Sudbury and identified 9 plant communities noting that the communities were strongly influenced by topography, soil characteristics and distance from smelters.

A 15 year follow-up study was conducted by Andrea Sinclair (1996) in which one-third of the original Amiro (1979) sites were re-examined along with 22 new sites. Sinclair only recognized 6 main plant communities, with the most notable difference being a significantly lower abundance of red maples. She also noted changes in the herb stratum and the tree layer as a result of the Regreening Program's seed mix and the planting of Jack and Red pine.

This year, the Regreening Interns were able to locate most of Amiro's sites in the field to assess continued existence. Eight (8) of Amiro's original sites classified as 'barren' were sampled using a method similar to Amiro's. Over the 34 year period changes have occurred to these eight sites. Analysis of the data collected showed that White Birch is more abundant now than in 1978 and there are prominent increases in mosses, lichens, red pines, lowbush blueberries and hawkweeds (abundant at limed sites only). The effects of the Regreening Program, through spreading crushed agricultural limestone, seeding, fertilizing and tree planting, have changed these sites to a new community type which could now be classified as falling between Amiro's Barren and Birch Transition. One site could now be classified as Amiro's Jack Pine Community. Although there are improvements to the canopy cover, understory diversity is still

low. Understories of limed and planted sites are dominated by species in the Regreening Program seed mix and by ruderals (e.g., hawkweeds, goldenrods and fireweed).

This study will continue in the future to track the changes in plant communities over time and the effect of the regreening process on diversity.

## A Flora of the Barrens and Semi-barrens

Field Interns were tasked with developing a flora of the acid/metal damaged areas of Greater Sudbury using the 1970 barren limit as a guide and to broadly describe vegetation communities present. Interns conducted field surveys throughout Greater Sudbury's barrens and semi-barrens, recording all species encountered along with their relative abundance and distribution. A total of 366 plant species were recorded in the barrens and semi-barrens. Of the 19 community types described the most common was Birch Dominated Upland Forest.

The Interns also made note of any animal species encountered. Moose scat was frequently observed along with numerous bird species, amphibians and reptiles. The Regreening Interns also assisted a postdoctoral research associate conducting a baseline field study of Greater Sudbury's amphibians and reptiles.

Another project involved a rapid evaluation of wetlands in developed areas to assess wetland, inflow and outflow locations and collect data of plant species present. Wetlands in Greater Sudbury serve a number of important functions, including stormwater retention, water filtration, nutrient and metal storage, and wildlife habitat. Of the 12 wetlands studied, Meadow Marsh and Poor Fen were the most common community types recorded. A total of 238 plant species were identified from the wetlands surveyed.

## Wetland Plant Workshop

On July 6<sup>th</sup>, Dr. Daniel Campbell of the Living with Lakes Centre lead a one-day wetland plant identification workshop on several sites north of Capreol. The field workshop was followed up by two plant identification labs lead by Dr. Campbell to identify several problematic specimens collected during the Regreening Intern's botanical survey. In attendance were the Manager of Environmental Planning Initiatives, the four Regreening Interns, the Coordinator of the Lake Water Quality Program, the Lake Water Quality Field Intern, and a biologist from the Wahnapiatae First Nation.

## Bird Call Monitoring

Bird populations are an important indicator of the health of Greater Sudbury's recovering ecosystems. Six Song Meter wildlife recording devices (Wildlife Acoustics Inc.) were deployed at various locations throughout Greater Sudbury to collect baseline data on the presence of wildlife, especially birds in various vegetation community types. Data from these devices will be used to determine trends in breeding bird use of the regreened areas over the coming years. This information provides one means of detecting changes in wildlife habitat due to changes in vegetation, climate, and land-use. Recording devices were set up in and out of the impacted zone from late June to early July. In total, 1584 hours were recorded. This information will be analyzed in 2013.



*Song Meter wildlife recording device set up on tree.*

## Working Together

The Biodiversity Action Plan identified the importance of working with the community and promised to provide opportunities for the general public to get involved in restoring our ecosystem, creating and managing wildlife habitat and tracking plants and animals in our City. In 2011, two on-line surveys were developed for the general public to engage in tracking animals in the City.

### FrogFind



The Regreening Program partnered with Junction Creek Stewardship staff to initiate the FrogFind program for Greater Sudbury in 2011. A Flash-based interactive document on the Frogs of Greater Sudbury and an on-line survey were developed. The survey and interactive document were made available online at [www.greatersudbury.ca/biodiversity](http://www.greatersudbury.ca/biodiversity).

Over a two year period, 182 entries were submitted via the on-line survey, identifying seven frog species and one toad species in the Greater Sudbury area. This data will be used to track the overall health of the Greater Sudbury ecosystem.

### Whip-poor-will



Bookmarks were designed and printed in 2011 with information about the Whip-poor-will. Web information was created and an on-line survey for the monitoring of the bird through its breeding season in June was developed for the public to participate. Over a two year period, 213 entries were submitted via email, through the on-line survey, and phone-in reports.



# Ugliest Schoolyard Contest

The Canadian Biodiversity Institute and Earth Day Ottawa initiated the Ugliest Schoolyard Contest in 1998 in Ottawa. VETAC's eighth annual version of this Contest was another overwhelming success thanks to the tireless efforts of Mr. Wayne Hugli, Co-chair of VETAC's Urban Landscape Sub-committee and the generous support of numerous sponsors. The winning school, *École St-Joseph* in the Flour Mill, was selected from the 7 applications received. Thanks to the financial support from Xstrata Nickel in the amount of \$75,000, runner-up prizes were awarded to three area schools:

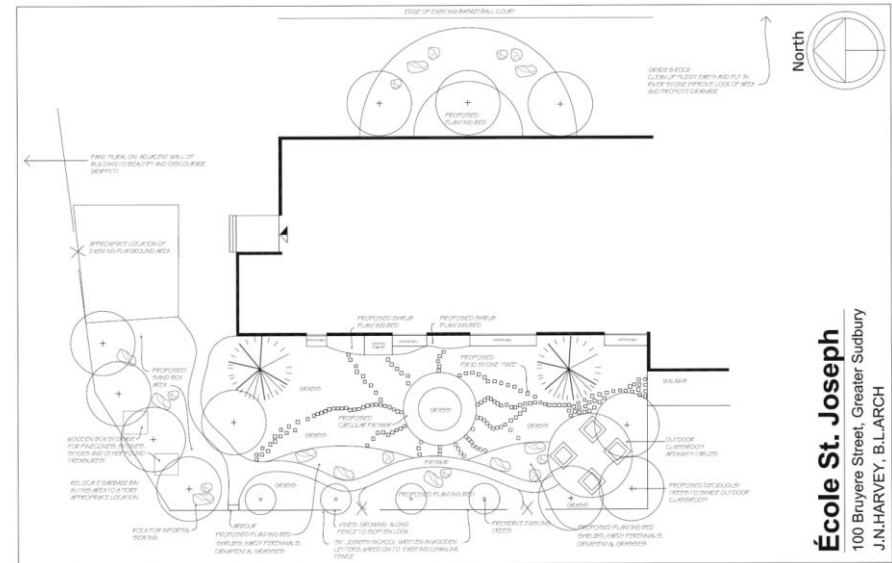
*École secondaire Hanmer, Hanmer*  
*Chelmsford Public School, Chelmsford*  
*Ernie Checkeris Public School, Sudbury*

A fifth award was granted to *Copper Cliff Public School* for the Home Depot Prize package.

In addition to the Xstrata Nickel funding, all schools received a voucher for the purchase of concrete materials from Brown's Concrete Supplies, and were provided with topsoil from Vale. As the winning school, École St-Joseph also received assistance with their project from the VETAC Advisory Panel and was provided with additional in-kind donations to enhance the project.

Wayne Hugli met the principal early in July to obtain approval of the landscape design (pictured to the right) prepared and donated by Jennifer Harvey, Landscape Architect. The principal was very excited about the ideas in the plan. School board official, Leon Vezeau, gave approval of the plan and supported the work by removing and relocating the bicycle racks, removing wooden borders that enclosed the existing trees and bike racks, installing a new water outlet near the proposed gardens at the front of the school, installing the four picnic tables before the school year began, improving the entrance area from the school to the new garden location, arranging for

locates for water, hydro and gas lines and removing asphalt from the front of the school to make way for the sod, trees, gardens and outdoor classroom.



Hollandia Land and Environmental Solutions provided a large amount of paving stones for the pathways. Plants were donated by Holla's Produce and Greenhouses, Southview Greenhouse Growers, Botanix Azilda Greenhouses and Canadian Tire on Regent Street. Canadian Tire also donated topsoil and mulch. Topsoil, garden mix, large stones, river stones and sand were all delivered to the school in mid August.

## Ugliest Schoolyard Contest – Cash Donations 2012

Sudbury Master Gardeners:	\$250
Sudbury Horticultural Society	\$600
Xstrata Nickel	\$75,000
<b>Total:</b>	<b>\$75,850</b>

Staff from Southview Greenhouse Growers met with Wayne Hugli to lay out the planting areas, garden beds and lawn areas and plant several trees. Tree guards were installed by the City's Regreening Crew around the new trees as well as 4 existing trees in the front of the school to help protect them.



*Large trees planted and preliminary layout complete.*

Volunteers and seven members of the Horticultural Society prepared the flower beds and worked on the drainage ditch using equipment donated by Echo Rentals. The City's Regreening Crew assisted in spreading soil and placing stones in the drainage ditch. They also assembled the tables and delivered them to the school. A circular pathway was constructed in the front yard and the tables were placed to create an outdoor classroom area. All preliminary preparations were completed by mid August, and ready for the students to return to assist with the transformation.



*Placement of stepping stone pathways on freshly laid sod.*

In early September, the City's Regreening Crew constructed part of the pea gravel path and parent and student volunteers finished the job the following week. September 13 and 14 were set for students to spread topsoil, pea gravel and manure to finalize the preparatory work. The big planting day was held on September 18 and all grade levels participated in planting shrubs and perennials. On September 26 the school was engaged in laying sod along with other volunteers. Four areas received sod and stepping stones were installed in the front of the school.

Students also completed the drainage ditch at the back of the school by filling it with rounded stones.





*St-Joseph before the transformation.*



*St-Joseph after the transformation.*

## Sponsors

Ashley's Landscape Supplies

BT Paving

Botanix Azilda Greenhouses

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Canadian Tire on Regent Street

City of Greater Sudbury

Echo Rentals

Holla's Produce and Greenhouses

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Jennifer Harvey (Landscape Architect)

North Range Sod

Planet Earth Organic Landscaping

Southview Greenhouse Growers

Sudbury Master Gardeners

Sudbury Horticultural Society

Vale

**Special thanks to our  
corporate sponsor:**





## Runner-up Prizes

Thanks to the continued generosity of Xstrata Nickel, VETAC was able to provide support for greening projects at four other schools. École secondaire Hanmer in Hanmer, Chelmsford Public School in Chelmsford, Ernie Checkeris Public School in Sudbury, and Copper Cliff Public School in Copper Cliff each received financial support to improve their school grounds. Copper Cliff Public School received a Home Depot Prize that includes materials needed for planter boxes. Team Depot (staff volunteers) will provide the labour to construct the boxes and provide general upkeep of existing garden beds.

Prior to releasing the funds, the runner-up schools provided VETAC with a plan and a budget for their project. Vale's donation of topsoil freed up funding for other purposes.

The City of Greater Sudbury's Regreening Program crew installed the tree guards and assembled and delivered any picnic tables and benches that were purchased by these schools.

Chelmsford Public School used their funding to purchase and plant eight large Linden trees. They also planted twelve eastern white cedars along with a variety of shrubs and perennials. Eight tables were installed for outdoor classroom use and a large area was transformed into lawn.

The main area that was transformed at École secondaire Hanmer was an old neglected tennis court. The school board disposed of all the unwanted broken asphalt before the addition of soil, trees and shrubs to this new park-like area. The students will be completing the construction of a gazebo during the school year.



*Chelmsford Public School volunteers moving topsoil.*



*École secondaire Hanmer layout complete.*

Ernie Checkeris Public School used their donated funds to create an outdoor classroom area with two benches and a picnic table. Sod was laid around the benches and table and four Linden trees were planted to create shade. Stones were also placed around the area for additional seating.



*Ernie Checkeris PS new outdoor classroom.*

Copper Cliff Public School was the winner of the Home Depot Prize package. In addition to this, Xstrata funding was used to purchase two benches and two large trees to enhance their project. Home Depot will provide materials and labour to construct planter boxes and help the students with general maintenance of their past projects.

Xstrata Nickel's generous funding and the additional donations received for this project enabled VETAC to provide greatly improved environments for the students and teachers at these schools.

Since the inception of the contest, thirty-one schools have been provided support for their greening projects and VETAC looks forward to assisting more schools in the future. Generous financial support and donations from local businesses and organizations in our City will ensure the continuation of this Contest well into the future.



# Labour

Program staff included one foreperson position, four crew leaders, four field interns and fifteen worker positions. There were a total of six summer students involved in regular reclamation activities as well. Student positions were partially funded by YMCA Summer Job Service for a period of 10 weeks. A summary table of labour distribution is to the right.

In total 30 temporary positions were created. To date 4,592 temporary positions have been created.



*Regreening crew getting ready to plant trees and shrubs.*

*The table below outlines the temporary positions created and the number of weeks worked, with a total of 30 positions created in 2012.*

Program	Positions	Weeks	Cost to City	Activity
<b>CGS Temporary Staff</b>	24	33	100%	Foreperson (1)
		31		Crew Leader (4)
		30		Field Interns (4)
		26		Workers (15)
<b>CGS Summer Students</b>	6	17	95%	Tree planting, liming, transplanting
<b>Total Positions</b>	<b>30</b>			

## 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 Xstrata Nickel, 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 almost 3.6 million trees to the Program. The Sudbury earthdancers have contributed almost \$25,000 in cash since 1999. 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 on trees sponsored by Tree Canada and is participating in the creation of a local seed bank. Laurentian University has provided support to the Regreening Interns in terms of expertise and use of facilities. NDCA 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. The YMCA has been offering financial supplementation of student wages.

# 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.

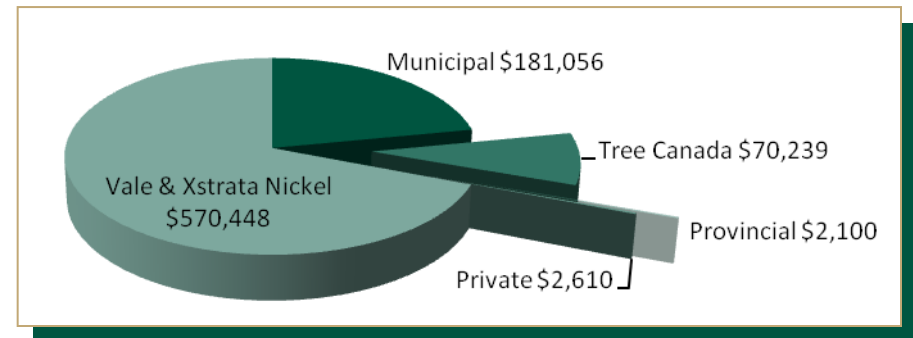
The table below outlines funding sources by type of donation received and the graph to the right outlines funding contribution by source in 2012.

Since 1978, the City's contribution to the Program has averaged 14.8% of the total costs with 85.2% coming from external sources. To date, the Program costs exceed \$27 million.

*The table below outlines the program contributors and the dollar amount associated with their contributions in 2012.*

## Percent Funding Contributions by Source 2012

*The graph below illustrates 2012 funding contributors by source.*

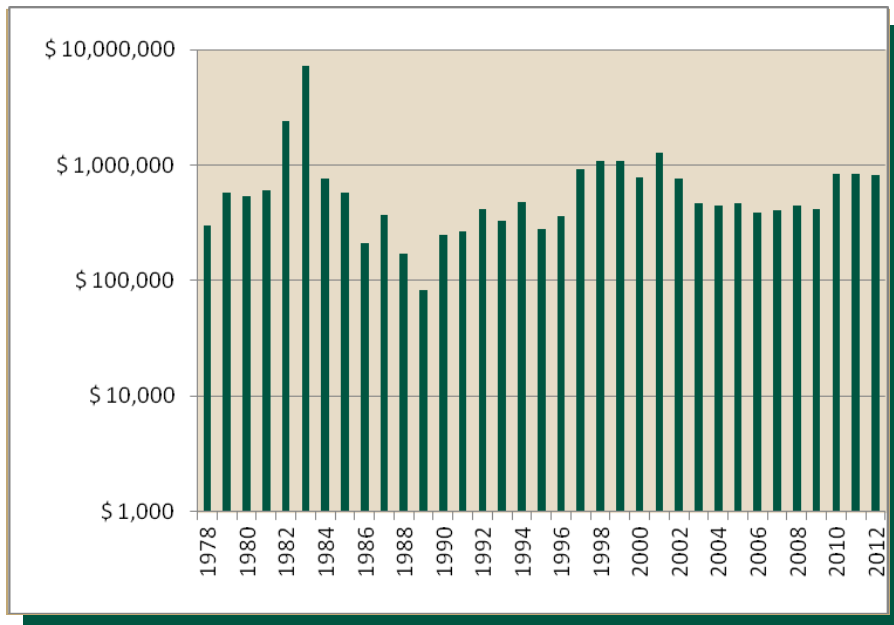


Program Contributors	Weeks	Number	Source	Amount
<b>Labour</b>				
YMCA - SJS	17	6	Provincial	\$2,100
<b>Cash</b>				
Vale			Mining Co.	\$250,000
Xstrata Nickel			Mining Co.	\$240,000
Sudbury earthdancers			Private	\$1,760
<b>Materials</b>				
Vale		18,160 seedlings	Mining Co.	\$5,448
Tree Canada		46,826 seedlings	Private	\$70,239
<b>Ugliest Schoolyard Contest</b> (Does not include material, equipment and other in-kind donations provided by other sponsors).				
Xstrata Nickel		Cash Contribution	Mining Co.	\$75,000
Sudbury Horticultural Society		Cash Contribution	Private	\$600
Sudbury Master Gardeners		Cash Contribution	Private	\$250
<b>Sub Total</b>				<b>\$645,397</b>
City of Greater Sudbury				\$181,056
<b>Grand Total</b>				<b>\$826,453</b>



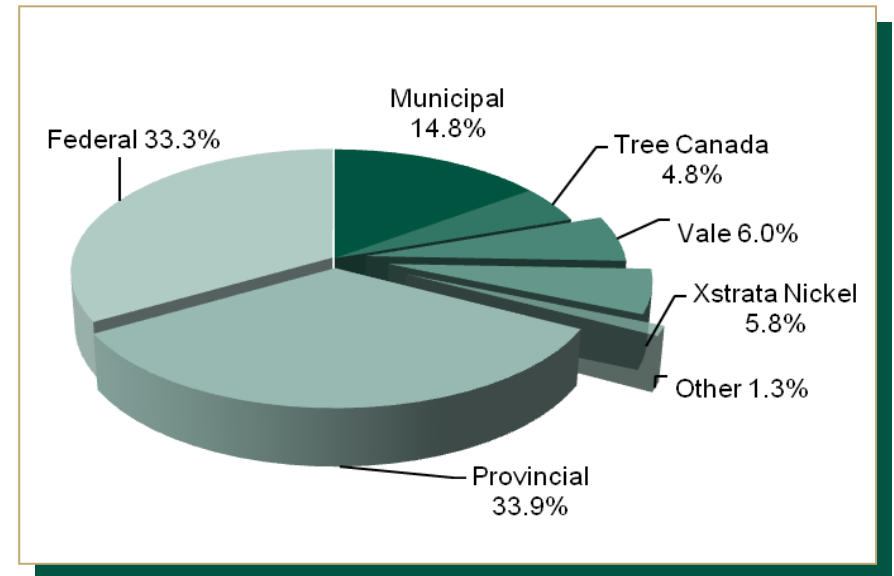
## Yearly Program Costs 1978 to 2012

*The bar graph below indicates yearly program costs from 1978 to 2012 with a grand total of \$27,657,189.*



## Percent Funding Contributions by Source 1978 to 2012

*The graph below illustrates funding contributions in percentages by source from 1978 to 2012.*



# Events

## Jane's Journey

Biodiversity booths were set up in the foyer of the Fraser Auditorium on March 25<sup>th</sup> during the screening of "Jane's Journey", a movie about Dr. Jane Goodall. Exhibitors included Xstrata Nickel, Vale and Ontario Parks as well as the Regreening Program and Ugliest Schoolyard Contest. Dr. Goodall was present at the event.

## Garden Festival

A table was reserved at the Sudbury Horticultural Society's Garden Show at Market Square on May 26<sup>th</sup> for the annual tree giveaway. A display booth was set up and trees and shrubs were provided to the public free of charge. Residents were provided with a total of 801 seedlings which included Red Pine, Serviceberry, Black Chokeberry and Elderberry.

## Grand Opening St. John School in Garson

On June 7<sup>th</sup>, a Grand Opening was held at St. John School in Garson to unveil their new schoolyard. Attendees included the school



community, volunteers, VETAC members and sponsors of the project. A sign listing all sponsors was provided to the school to display outside for all to see. 24

## International Forestry Week

On September 27<sup>th</sup> during International Forestry Week at Science North, the Regreening Interns set up a booth with information on regreening and local biodiversity for the general public and over 140 participating students.

## Communications

Communicating the successes of local regreening efforts continues yearly, to both local audiences and groups abroad. Media coverage was widespread with positive comments on initiatives associated with the Program and VETAC. Presentations, tours, and field trips featuring planting activities were also provided to a wide range of audiences.

## Clean Air Partnership

Clean Air Partnership produced a number of case studies under the Ontario Regional Adaptation Collaborative. The case studies are for use by municipalities and focus on climate change adaptation actions in Ontario municipalities. Stephen Monet, Manager of Environmental Planning Initiatives, City of Greater Sudbury, Peter Beckett, Laurentian University and Chair of VETAC and Tina McCaffrey, Supervisor, Regreening Program, City of Greater Sudbury were interviewed by Caroline Rodgers of Clean Air Partnership for a case study that focused on forest floor mat transplanting that is occurring in Sudbury. The document, entitled *Accelerating Adaptation in Canadian Communities* was published in July 2012 and can be found on-line at:

[http://www.cleanairpartnership.org/accelerating\\_climate\\_change\\_adaptation](http://www.cleanairpartnership.org/accelerating_climate_change_adaptation)



## Biodiversity: A Nation's Commitment, an Obligation for Ontario

The Environmental Commissioner of Ontario released a Special Report to the Legislative Assembly of Ontario in January 2012 entitled *Biodiversity: A Nation's Commitment, An Obligation for Ontario*. On page 15, the City of Greater Sudbury's Biodiversity Action Plan is referenced as "*the innovation shown by the City of Greater Sudbury in developing its own localized biodiversity strategy*" in the section regarding the Ministry of Municipal Affairs and Housing. The document can be view on-line at:

<http://www.eco.on.ca/uploads/Reports-special/2012-Biodiversity/Biodiversity-A-Nations-Commitment-An-Obligation-for-Ontario.pdf>

## Evaluation of Biodiversity Policy and Priorities

The Audit and Evaluation Branch of Environment Canada is undertaking an evaluation of the activities that support Biodiversity Policy and Priorities within the department. Environment Canada's biodiversity activities focus on a coordination role in the conservation of biodiversity including the development of multilateral agreements, policies, and priorities to promote Canada's interests in biodiversity.

Interviews were conducted as part of a case study that will look at integrating biodiversity considerations in planning and decision-making at the local or municipal level. On February 27, Stephen Monet was interviewed on Greater Sudbury's Biodiversity Action Plan.

## III International Environmental Conference, Russia

Dr. Graeme Spiers and Dr. Peter Beckett were invited to give a presentation in September at the III International Environmental Conference -Environmental Protection and Industrial Activities in the North held in Norilsk, Siberia to present the Sudbury success story. In attendance were participants from about 10 countries including USA, Russia, Canada, France, Italy, Australia, and Britain. Their presentation was entitled "*From Barren to Biodiverse - The Sudbury, Canada, Experience*". In his introduction of the presenters, the Director of the Polar Division of Norilsk Nickel stated that 'miracles can happen' as he explained the presence of Dr. Spiers and Dr. Beckett at the conference. Later they participated in field tours of the region, and the mouth of the Yenisei River where it enters the Arctic Ocean.

While in Russia, Dr. Spiers and Dr. Beckett were also invited to give a presentation to graduate students and faculty from Physics and Biology at Lomonosov Moscow State University. The presentation was entitled "*The Sudbury, Canada, Landscape Reconstruction Experience*".

## Television

CTV EarthCare Minute ads featured:

- *Plant Biodiversity* which focused on the Regreening Program's forest floor mat transplant activity.
- *Animal Biodiversity* which encouraged residents to participate in the FrogFind and Whip-poor-will surveys.

## Livable Cities Forum 2012, ICLEI Canada

ICLEI and the City of Hamilton hosted the Livable Cities Forum on November 29 – 30, 2012 on the theme of Creating Adaptive and Resilient Communities. The event provided a forum for municipal practitioners and elected officials to discuss the importance of urban climate change adaptation and provided a platform to explore adaptation and its vital role at the local level. Stephen Monet contributed by delivering a segment on *Living Landscape – A Biodiversity Action Plan for Greater Sudbury*.

## Radio

Following the article in the Toronto Star dated August 17, 2012, Stephen Monet was interviewed by Radio Canada International regarding forest floor transplants. The article can be viewed on-line at: [http://www.rcinet.ca/english/daily/interviews-2012/15-04\\_2012-08-24-from-black-and-barren-to-green-and-diverse-replanting-greater-sudburyrsquo-s-forest-floor/](http://www.rcinet.ca/english/daily/interviews-2012/15-04_2012-08-24-from-black-and-barren-to-green-and-diverse-replanting-greater-sudburyrsquo-s-forest-floor/)

## Newspapers

- *'Regreening efforts taking root'* by Arron Pickard, The Northern Life, Tuesday, January 24, 2012, page 3.
- *'VETAC wants to find city's ugliest schoolyard'* by Northern Life Staff, Tuesday, February 21, 2012, page 11.
- *'Reverdissement et biodiversité'* by Daniel Aubin, Le Voyageur, Wednesday, April 18, 2012, page 3.
- *'Smaller Ontario communities are leaders in adapting to climate change'* by Leslie Scrivener, Toronto Star, Saturday, August 18, 2012, section IN, pages 1-2. This article can be viewed on-line at:  
[http://www.thestar.com/news/insight/2012/08/17/smaller\\_ontario\\_communities\\_are\\_leaders\\_in\\_adapting\\_to\\_climate\\_change.html](http://www.thestar.com/news/insight/2012/08/17/smaller_ontario_communities_are_leaders_in_adapting_to_climate_change.html)

## Interviews

- January 12 – Stephen Monet, Tina McCaffrey and Jennifer Babin-Fenske, EarthCare Sudbury Coordinator, were interviewed by Arron Pickard of the Northern Life regarding the forest floor transplants and Regreening Program.
- March 25 – Tina McCaffrey and Stephen Monet were interviewed by Ray Ford of ON Nature magazine for a potential story on vegetation transplant mats.
- March – Peter Beckett was interviewed in the field by Markus Schwabe regarding forest floor transplants for a Special CBC provincial show on 'Signs of Spring' which broadcasted during Easter.



- April 13 – Stephen Monet was interviewed by Daniel Aubin, Le Voyageur, regarding the Regreening Program – 2012 Annual Report.
- June 7 – Stephen Monet participated in a Panel at the Muskoka Summit on the Environment in Bracebridge that was moderated by Paul Kennedy, host of the CBC Radio program 'Ideas'. The recorded panel session aired on Ideas later in June.
- June 15 – Stephen Monet and Kierann Santala, M.Sc. student at Laurentian University, were interviewed in the field by Megan Thomas of CBC Radio regarding forest floor mats. Resulting from the interview, on June 18, CBC News posted an online article entitled "*Forest floor transplant project sees success in Sudbury - Greater Sudbury, mining companies continue partnership in re-greening city's landscape*". The article can be viewed on-line at:  
<http://www.cbc.ca/news/canada/sudbury/story/2012/06/18/sby-forest-floor-transplant.html>
- August 18 – Tina McCaffrey was interviewed by Leslie Scrivener of the Toronto Star for an article entitled '*Smaller Ontario communities are leaders in adapting to climate change*'. The article can be viewed on-line at:  
[http://www.thestar.com/news/insight/2012/08/17/smaller\\_ontario\\_communities\\_are\\_leaders\\_in\\_adapting\\_to\\_climate\\_change.html](http://www.thestar.com/news/insight/2012/08/17/smaller_ontario_communities_are_leaders_in_adapting_to_climate_change.html)
- August 24 – Stephen Monet was interviewed by Gilda Salomone of Radio-Canada International regarding the City's Biodiversity Action Plan.

- September 26 – Stephen Monet was interviewed by Nael Shiab of Radio-Canada television regarding the City's Regreening Program.

## Publications

- **Risk Assessment and Environmental Management A Case Study in Sudbury, Ontario, Canada**, edited by Christopher Wren, past Director of the Sudbury Area Risk Assessment (SARA) Group, was published in June 2012. Chapter 12, Risk Management, co-authored by Stephen Monet, Marc Butler, Glen Watson, Bill Lautenbach and Tina McCaffrey, deals directly with ecological risk management and Greater Sudbury's regreening efforts and Biodiversity Action Plan. VETAC member Graeme Spiers co-authored Chapter 3, The 2001 Soil Survey and Selection of Chemicals of Concern and Chapter 4, Distribution of Chemicals of Concern in the Study Area. Graeme Spiers along with VETAC Chair Peter Beckett also co-authored Chapter 10, ERA Objective #1: Are the Chemicals of Concern Preventing the Recovery of Terrestrial Plant Communities? This 454 page book written for practitioners and students of risk assessment is available from: <https://www.maralte.com/books/risk-assessment-and-environmental-management>
- In October, Maria DeCambra, Freelance Permissions Editor, McGraw-Hill Ryerson Limited, working with Linda Tanaka on the McGraw-Hill Ryerson textbook "**Biology 11 College Preparation**", requested photographs of the before and after series related to the regreening program.



- The Biodiversity Action Plan and regreening actions were profiled in an international report entitled *Cities and Biodiversity Outlook (CBO) Action and Policy*. More than 120 other scientists and practitioners in many different fields contributed to this report. The official launch occurred on October 15 at the “Cities for Life” Summit – part of the Conference of the Parties to the Convention on Biological Diversity and ICLEI in Hyderabad, India. This document can be found on-line at: <http://www.stockholmresilience.org/download/18.5ea7abe0139dodada524fe/CBD+CBO1+Book-F+WEB.pdf>, see page 44.
- Boghos Ghougassian, President of MECTAT (Middle East Centre for the Transfer of Appropriate Technology) and Director of Research and Training for EDM (Environment and Development Magazine) based in Beirut, Lebanon approached staff back in July of 2011. As a result of the meeting, *Sudbury’s Environmental Revival – the story of reversal of 100 years of environmental chaos in a Canadian City* was published in the December 2012 issue (#177) of EDM. The English version of the article can be found at [www.mectat.com.lb](http://www.mectat.com.lb). The magazine is distributed to 22 countries of the Middle East and North Africa region. It is the prominent environmental magazine in the region, read by more than 300,000 people.
- February 26 – Peter Beckett provided a presentation on the Sudbury Environmental Story to students in the Graduate Environmental Monitoring and Impact Assessment Program at Cambrian College. A field trip to regreened sites in 28 Coniston was held on March 1 as a follow-up.
- April 25 – Stephen Monet presented at an ICLEI Webinar entitled: “*Communities Bridging the Nexus – municipal best practices in biodiversity management and climate change action*”. There were 85 registered participants in the webinar.
- May 4 – Peter Beckett delivered two presentations on Sudbury’s Environmental Heritage to a number of local schools at the Sudbury Heritage Fair held at Laurentian University.
- May 16 – Stephen Monet presented at a Clean Air Partnership Webinar entitled: “*Accelerating Adaptation in Canadian Municipalities*”. There were approximately 12 participants.
- June 6 – Stephen Monet presented at the Muskoka Summit on the Environment in Bracebridge. Dr. Monet and other presenters also formed a panel whose comments were shared on the CBC program ‘Ideas’ with Paul Kennedy.
- June 22 – Stephen Monet presented the Biodiversity Action Plan at the Ontario municipal planning directors meeting held at the Vale Living with Lakes Centre.
- August 16 – Peter Beckett and Graeme Spiers led a regreening discussion and field trip to 30 teachers participating in the Mining Tour hosted by the Canadian Ecology Centre.

## Presentations, Tours & Field Trips

- February 21 – Stephen Monet gave a presentation to University of Toronto Landscape Architecture students on Greater Sudbury’s biodiversity plan and actions (in Room C-11 at TDS).



- September 11 – Stephen Monet presented the City’s Biodiversity Action Plan to a group of youths from across the Ukraine and Canada.
- October 2 and 3 – Peter Beckett presented an overview of the Sudbury Regreening Program to Environmental students from Sault College followed by a regreening field trip led by Peter Beckett and Graeme Spiers.
- November 2 - Peter Beckett gave a day long discussion and field trip accompanied by Graeme Spiers to a number of key environmental sites that illustrate the changing environment of Sudbury to 25 students in the Restoration Ecology program from Sir Sandford Fleming College and Trent University.
- October 30 – Stephen Monet presented to delegates from Columbia, Peru, Costa Rica and Jamaica as requested by the Inter-American Institute for Cooperation on Agriculture (IICA) office in Canada, on Greater Sudbury’s regreening and biodiversity initiatives.

## Other

- The CTV EarthCare Minute videographer recorded planting activities on May 17 and vegetation transplanting on June 20.

## VETAC Members 2012

### Chair

*Dr. Peter Beckett*      Laurentian University

### Co-Vice-Chairs

*Dr. Stephen Monet*      CGS, Environmental Planning  
*Ben van Drunen*      Hollandia Land & Environmental Solutions

### Members

*Jacques Barbeau*      Councillor, Ward 2  
*Tony Fasciano*      Citizen  
*Enzo Floreani*      Master Gardener  
*Jim Found*      Citizen  
*Marc Hebert*      Collège Boréal  
*Wayne Hugli*      Horticultural Society  
*Jim Ilnitski*      Citizen  
*Terry Kett*      Councillor, Ward 11  
*Lisa Lanteigne*      Vale  
*Bill Lautenbach*      CGS, Growth & Development  
*Lisa Léger*      Xstrata Nickel  
*Shirley Makela*      Citizen  
*Tina McCaffrey*      CGS, Regreening Program  
*John Negusanti*      Citizen  
*Mike Peters*      Citizen  
*Paul Sajatovic*      NDCA  
*Kierann Santala*      LU Graduate Student  
*Dr. Graeme Spires*      MIRARCO  
*Sarah Woods*      JCSC

# Species List

The tables below outline the scientific and common names of the species of trees, shrubs and understory trees that have been planted by the Program. Those species with an \* are non-native. Those species followed by a + were newly introduced to the planting mix in 2012.

Species Scientific Name	Species Common Name
<b>Trees</b>	
<i>Abies balsamea</i>	Balsam Fir
<i>Acer (rubrum, saccharum, saccharinum)</i>	Maples (Red, Sugar, Silver)
<i>Betula alleghaniensis</i>	Yellow Birch
<i>Carya cordiformis</i>	Bitternut Hickory
<i>Eleagnus angustifolia</i> *	Russian Olive*
<i>Fagus grandifolia</i>	American Beech
<i>Fraxinus (pensylvanica, americana, nigra)</i>	Ash (Red, White, Black)
<i>Larix (decidua*, kaempferi*)</i>	Larch (European*, Japanese*)
<i>Larix laricina</i>	Tamarack
<i>Picea (glauca, mariana, abies*)</i>	Spruces (White, Black, Norway*)
<i>Pinus (banksiana, resinosa, strobes, nigra*)</i>	Pines (Jack, Red, White, Austrian*)
<i>Quercus (rubra, alba, macrocarpa)</i>	Oaks (Red, White, Bur)
<i>Robinia pseudoacacia</i> *	Black Locust*
<i>Thuja occidentalis</i>	Eastern White Cedar
<i>Tilia americana</i> +	American Basswood+
<i>Tsuga canadensis</i>	Eastern Hemlock

Species Scientific Name	Species Common Name
<b>Understory Trees</b>	
<i>Acer (spicatum, pensylvanicum)</i>	Maples (Mountain, Striped)
<i>Alnus viridis ssp. crispa</i>	Green Alder
<i>Amelanchier laevis</i> +	Smooth Serviceberry+
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood
<i>Prunus nigra</i>	Canada Plum
<i>Prunus pensylvanica</i>	Pin Cherry
<i>Sambucus canadensis</i>	Common Elderberry

Species Scientific Name	Species Common Name
<b>Shrubs</b>	
<i>Amelanchier sanguinea</i>	Red-twigged Serviceberry
<i>Amelanchier sp.</i>	Serviceberry (Amel. sp.)
<i>Arctostaphylos uva-ursi</i>	Bearberry
<i>Aronia melanocarpa</i>	Black Chokeberry
<i>Caragana arborescens</i> *	Siberian Pea Shrub
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Cornus (sericea, rugosa)</i>	Dogwood (Red Osier, Round-leaved)
<i>Diervilla lonicera</i>	Dwarf Bush-honeysuckle
<i>Gaultheria procumbens</i>	Wintergreen
<i>Ilex mucronatus</i> +	Mountain-holly+
<i>Ilex verticillata</i>	Winterberry
<i>Myrica gale</i>	Sweet Gale
<i>Physocarpus opulifolius</i>	Ninebark
<i>Pinus mugo</i> *	Mugho Pine*
<i>Prunus pumila</i> +	Sandcherry+
<i>Prunus virginiana</i>	Choke Cherry
<i>Rhus typhina</i>	Staghorn Sumac
<i>Rosa (blanda, acicularis ssp. sayi)</i>	Wild Rose (Smooth, Prickly)
<i>Rosa palustris</i>	Swamp Rose
<i>Sambucus pubens</i>	Red Elderberry
<i>Shepherdia canadensis</i>	Buffaloberry
<i>Spiraea alba</i>	Narrow-leaved Meadowsweet
<i>Spiraea latifolia</i>	Large-leaved Meadowsweet
<i>Spiraea tomentosa</i>	Steeplebush
<i>Viburnum cassinoides</i>	Wild Raisin
<i>Viburnum lantanoides</i>	Hobblebush
<i>Viburnum lentago</i>	Nannyberry
<i>Viburnum trilobum</i>	Highbush Cranberry



For further information please contact:

Regreening Program

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website: [www.greatersudbury.ca/VETAC](http://www.greatersudbury.ca/VETAC)