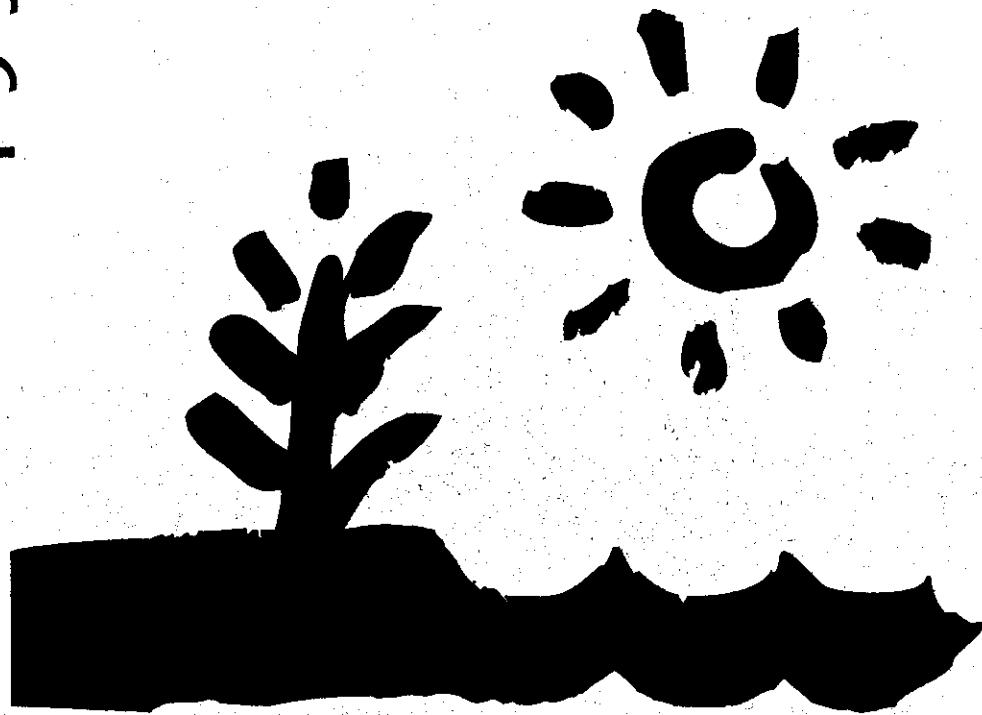


1999



Land Reclamation Program

Annual Report

March 16, 2000

March
2000

The Planning and Development Department

Regional Municipality of Sudbury



1999 PROGRAM

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1) PROGRAM ACHIEVEMENTS

a) Summary

In 1999, The Regional Municipality of Sudbury Land Reclamation Program continued its dedication towards a greener Sudbury. With a work crew of almost 200 individuals, the program was able to plant over 970,000 trees. This marks the third consecutive year where the annual tree plant neared 1 million trees. An effort to reclaim area Southeast of the Falconbridge Smelter was made by liming , fertilizing, and seeding 27 hectares of land.

The following summarizes some of the activities that occurred:

| Task | Result 1999 | Total Completed |
|-----------------|------------------|-----------------|
| Area Limed | 27 ha (66 acres) | 3,278 ha |
| Area Fertilized | 27 ha (66 acres) | 3,119 ha |
| Area Seeded | 27 ha (66 acres) | 2,999 ha |
| Trees Planted | 977,336 | 5,523,713 |

Funding Partners

- The Regional Municipality of Sudbury
- TransCanada Energy Limited / Tree Canada Foundation
- Eddie Bauer /Tree Canada Foundation
- Trans Canada Energy - Sudbury Hydro
- Human Resources Development Canada (HRDC)
- Ontario Works
- INCO Limited
- Falconbridge Limited

Other Partners

- District of Sudbury Social Services Administration Board
- Nickel District Conservation Authority
- YMCA - Employment Services
- Laurentian University - Geography Department
- Sudbury Community Foundation



b) Labour

With the assistance from various funding agencies, many different positions were made possible this year. These positions ranged from working in the "field" planting trees, to administration and support. The labour force this year was made up of participants from Ontario Works and HRDC - Job Creation Partnership Program (JCP) . This labour enabled us to complete our targets and plant the trees that were donated to the program. Other positions were also made possible through JCP such as a Researcher, Geographic Information System (GIS) Technician, Administrative Assistant and Computer Graphics Technician and Supervisors.

LABOUR STRUCTURE - 1999 Land Reclamation Program

| Program | Number of Positions | Cost to Region | Activity |
|--|---|-----------------------|--|
| Regional Municipality of Sudbury <i>Temporary/Summer Students</i> | 2 | 80 % | field work, tree planting, liming |
| Regional Municipality of Sudbury <i>Temporary Employees</i> | 5 | 100 % | Supervisor, Foreman tree planting labourer, GIS mapping |
| Human Resource Development Canada (<i>Job Creation Partnership</i>) | 23 | NIL | tree planting, liming, bus driver |
| | 4 | \$0.70/hr (each) | crew leaders |
| | 1 | \$1.20/hr | Foreman |
| | 4 | NIL | research, GIS mapping, computer graphics, administration |
| Ontario Works | 50 100 people Session 1 | NIL | tree planting, liming |
| | 25 50 people Session 2 | NIL | tree planting, liming |

Total
114


c) Ontario Works

This was the third year that the Land Reclamation Program has "partnered" with the District of Sudbury Social Services Administration Board and the Regional Municipality of Sudbury's Health and Social Services Department to facilitate the Community Placement component of the Ontario Works Program.

In the first session (twelve weeks in duration), 50 positions were created for 100 people, each participating two days per week at eight hours per day. In the second session, which was fifteen weeks due an extended planting season, 25 positions were created for 50 people, also participating two days a week.

The individuals who participated on the program, worked as part of our regular "crew," planting tree seedlings and "greening" barren landscapes by spreading lime, fertilizer and seed. In addition to assisting with the 1999 Land Reclamation Program, these individuals received job experience, a work history, a letter of reference, certified Workplace Hazardous Materials Information System (WHMIS) training as well as job search skills.

Our "partnering" with Ontario Works has been very successful. Many individuals have gained valuable work experience and have become employed.

d) Job Creation Partnership

In 1999, the Land Reclamation Program reunited with Human Resource Development Canada, and their Job Creation Partnership (JCP) program. We were fortunate to receive 32 job placements. This included 20 Labourer positions and 12 administrative and technical positions. These labourer positions when combined with the balance of our work force gave us a large, strong work crew and allowed us to complete all of our work and meet our targets for 1999. The administrative and technical positions provided valuable support to the program and allowed us to complete many research and monitoring projects. These projects will help us to monitor the quality and survival rates of the trees we plant as well as determine best planting methods and practices.

Individuals participating on JCP, worked four days a week, eight hours a day for the duration of the program. These individuals attended seminars dealing with resume writing, interview preparation and job search skills. They also received certified WHMIS training and a letter of reference. These positions were "filled" as individuals found full time employment. Approximately 80% of the individuals who were on this program gained employment.

e) Volunteers

Over 15,000 trees were planted by **90 volunteers** who assisted with this years program. These volunteers were involved in a variety of organized groups or clubs. The volunteer program provides educational opportunity on environmental issues, information on the reasoning behind the Region's Land Reclamation Program, as well as tree planting experience.

f) Trans Canada Energy - Sudbury Hydro

The Land Reclamation Program partnered with Trans Canada Energy Ltd./ Sudbury Hydro, in a promotion which contributed 5 trees to our program for each new customer that purchased natural gas during this promotional offer. These trees were in addition to any other trees that were donated to the program by Trans Canada Energy. The trees were all planted in 1999, throughout the Region in areas that required reclamation.

2) EVENTS

a) Earth Day Celebration

On April 22 1999, the Region of Sudbury in association with many others, hosted an Earth Day Celebration at Tom Davies Square. Displays from more than 15 groups were set up to advertise their contribution towards a greener environment. The groups ranged from local government and community organizations to schools, retailers and service providers. There was also entertainment provided by the "Sudbury Earthdancers" and the "Sudbury Percussionists".

Earth Day was the official launch of the Region of Sudbury's, Earth Month. The theme for this year was a "Celebration of Our Community's Water Resources." Local groups and individuals were encouraged to participate in conserving and enhancing our lakes and streams, also to aide in maintaining the natural integrity of Junction Creek - an important part of our community's natural and cultural heritage.

The development of the Sudbury Heritage Waterway Park along Junction Creek stream system was announced. The park will tie into the Trans Canada Trail, linking the Sudbury Region to the rest of the nation.



b) Tree Giveaway

The annual Tree Giveaway was held Friday, May 7/99 and Saturday, May 8/99 at the New Sudbury Shopping Centre. Almost **15,000 tree seedlings** were handed out by more than 10 volunteers. The tree species given out included White Spruce and the very popular Cedar. Over 6,000 individuals received trees.

Two other groups helped in this years activities. Cambrian College was on hand conducting soil testing for pH levels to anyone who brought in a sample. The Sudbury Horticultural Association and Master Gardeners were also available to offer gardening and landscaping advice.

The purpose of this event is to let the community know about the activities of the Land Reclamation Program and promote tree planting. Many interested individuals donated to this years "collection" box, which totalled **\$1,407.10**.

c) Appreciation Barbeques

This year, barbecue lunches were held for the participants of the Ontario Works Program. At these events, participants were thanked for their participation in the Land Reclamation Program and for their compliance to the Ontario Works Program. Awards, in the form of Program T-shirts and hats, were distributed to individuals with outstanding attendance and dedication to their Placement.

In all, four lunches were held to encompass the two sessions (12 weeks each) and the two crews per week (Monday-Tuesday crew and Wednesday-Thursday crew). On July 20 & 22/99, this event took place for Session I and on Sept. 28 & 29/99, for Session II. These barbeques took place at Fielding Park in Walden where people were able to relax in the beautiful landscape or watch some of the water fowl which inhabit the park.

These lunches were a great success, and the Participants were made to feel that they were really doing some good work that was appreciated by many people.

d) Continuous Improvement Sessions

Upon completion of their work session, participants and employees took part in an information session to discuss the Program activities. Questions were asked to determine what improvements and efficiencies could be made. The intent of this session, was to provide all participants a forum for discussing their ideas, as well as an opportunity to learn what issues remain challenges for improvement.

Several excellent ideas were discussed and will be incorporated into the 2000 Program. A number of suggestions were made that will aid in our liming process. One suggestion was to lay down plastic or tarps beneath the lime pile. This would ensure that less of the lime would be lost on the ground and a quicker, easier clean-up at the end of the liming season. Another idea was to place wooden pallets under the lime bags. This would keep the bags drier in case of rain storms and may prolong the life of the bag due to less weathering.

e) A Gift That Grows campaign

This campaign has enjoyed another successful year with over 90 people donating to the Sudbury Community Foundation's, Tree Fund, generating over \$300. This program helps to celebrate an event or commemorate a memorial, by planting a tree in dedication to someone special. These trees are planted in the Tom Davies Commemorative Forest, located within the Lake Laurentian Conservation Area. The fund contributes a variety of trees to this forest such as White Pine, Red Pine, Jack Pine, White Cedar, Tamarack, and White Spruce.

The donations are pooled with other such gifts and invested - with the interest income distributed as a grant, back to the Land Reclamation Program. The capital is never touched and continues to grow, generating income to aid in the preservation, protection and improvement of watersheds, forests and ecosystems within the Regional Municipality of Sudbury.

f) Friends of VETAC

The Friends of VETAC campaign was initiated. Several members of VETAC have been selling tickets. A presentation to Regional Council was made regarding this program. It is hoped that the campaign will get underway in 1999.

Monies from this venture, will go toward the various projects initiated by VETAC sub-committees. These include advertising and promotion projects and materials.

3) PROJECTS

a) Mapping and Cartography

i) GIS Mapping

Mapping is an important part of the planning and activities of the Land Reclamation Program. There has been a lot of work completed by the Region's Land Reclamation program as well as by other groups and organizations. The records of what was planted, when and where, are very important to plan future efforts as well as monitor the survival and quality of previously planted and reclaimed sites.

We have completed GIS mapping for the Land Reclamation Program for the following:

- Tree Planting (1978 - 1999)
- Greening (1978 - 1999)
- Monitoring and Research Sites (1978 - 1999)
- Proposed Tree Planting Sites
- Junction Creek Watershed
- Existing and Proposed Trails (Trans-Canada)
- Cloverleaf Restoration Sites
- Worthington Crescent CPR Railway Reforestation
- Sudbury School Boards Sites
- Welcome Centre Interpretive Trail

To upgrade records of the program's activities utilizing current technology, all previous mapping of Land Reclamation activities (tree planting and greening) were digitized and stored on computer. With this type of mapping, a cumulative map can be constructed by overlaying or adding all activities from year to year. In this format, Land Reclamation progress can be clearly defined.

Another project completed was to identify what areas in the Region still required some form of treatment. This was accomplished by first updating a base map outlining roads, buildings, residential areas and bodies of water.

From this point, FRI maps from the MNR were utilized to determine what areas from their analysis were still in need of reforestation. The work that the Land Reclamation Program had completed was deleted from this map and all other areas were "ground truthed" for accuracy.

The Land Reclamation data summaries completed in the past years were updated to the current level of technology available today. All year end mapping summaries were digitized and compiled on a database and a cumulative map was developed including activities over the past twenty years for tree planting and greening activities.

Through the use of other data sources for urban use areas, waterways and already forested areas, as well as Land Reclamation activities, a final map is in development which will outline areas in the Region that are still in need of some form of reclamation activities, be it liming or tree planting or both.

Updating yearly efforts and locations of activity, can now be completed much more efficiently and in a shorter time frame. GIS mapping has produced drawings that are very clear and easy to read. One of the added benefits of GIS mapping is that various combinations or pieces of information can be produced, as information is now stored in a data base.

ii) Five Year Plan

We have utilized GIS mapping to assist with the development of a five year plan.

The use of GIS has enabled us to produce more accurate mapping. In addition, the quality and production of the drawings are very professional and easier to read.

This five year plan identifies the future direction for the program and outlines what areas are left for reclamation and tree planting. This plan will serve as a tool for planning yearly programmes as well as providing an overall outlook for the program. The capability of GIS, will allow us flexibility in creating drawings with various pieces of information.

b) Graphic Design

i) Millennium Proposal

A proposal was presented to The Millennium Bureau of Canada to gain funding for the photographic-book project "Healing The Environment". This proposal utilized stock photography which was imported into CorelDraw and finally produced using a colour photocopier.

ii) Action Plan Report

The Action Plan report was created to illustrate how the Land Reclamation Program has developed since 1978 as well as what the plan for the program is for the next 5+ years. This report was produced in-house using black and white photocopying facilities.

iii) Action Plan Presentation

This presentation was created to illustrate graphically how the Land Reclamation Program has progressed since 1978 and where it will be in the next 5+ years. This presentation is a summary of the Action Plan report and was created using CorelPresentations.

iv) Working Practices Booklet

The Working Practices booklet is a combination of working guide, planting procedure booklet, safety guide, and The Regional Municipality's Discrimination and Harassment Policy. It was created to provide a "handbook" for the Land Reclamation crews and staff during the planting season.

v) Junction Creek

This booklet was created to demonstrate the efforts of the Junction Creek clean-up and to provide a plan for future organized efforts. It was produced entirely in-house using the program CorelDraw.

vi) Nickel Centre Welcome Centre Interpretive Trail Signs

This project consisted of 23 signs, 20 tree species signs, 2 lookout signs, and a welcome sign. Each sign displayed a silhouette of the tree species and a description of its characteristics. The welcome sign included a welcome blurb as well as map of the entire trail. These signs were to be similar to the previous graphic designer's "welcome" sign and were created using CorelDraw.

vii) Scanned Slides

The Land Reclamation Program has acquired many slides that have recorded the progress of the program since 1978. These slides were scanned using a PhotoSmart scanner and later burned to a CDWriter. A identification system was needed for these disks, so a Jewel Case cover was developed for filing purposes.

viii) International Council For Local Environmental Initiatives (ICLEI) Proposal

A booklet was created by the Sudbury Land Reclamation Program to present to the International Council for Local Environmental Initiatives. As well, a similar booklet was created for Barb McDougal to present the atmospheric affects of environmental rehabilitation to ICLEI.

ix) Funding Sheet

Additional funding was needed for the "Healing The Environment" project and a one-page layout with graphics was developed in CorelDraw to solicit funds from potential project contributors.

c) Monitoring and Research

Monitoring of sites tree planted in the years 1996 - 1998, was carried out over the 1999 season. This study determined the health and density of 468 sites planted over the past three years. Each site was given the status of sparse, adequate or overstocked. Sites requiring further planting will be added to the existing planting plan and planted with the necessary species in the upcoming years.

Several ongoing research projects initiated in previous years were monitored in 1999. A complete assessment and final report was completed for the following: the Black Spruce Survival Study, Japanese Knotweed Survival Study, Liming Over Winter research project and Reforestation Type Planting (Cloverleafs).

New research projects initiated in 1999 included the Leaf Compost Experimental Plots, Monitoring of Soil Acidity after liming and the Late Planting of Seedling Study. These studies are useful in determining the success rates of the various tree species used in the program and in finding ways of improving the program.

d) Other

i) Administration/Files

Given the large number of individuals (over 175), working on the program this year, we were fortunate to receive outside funding for an administrative assistant to coordinate the comings and goings of the participants. This position monitored attendance and provided a contact for the participants.

In addition, templates for all common forms were created and a revised filing system initiated.

ii) Archiving Photos

The process of scanning and storing our many photographs on computer CD, is almost complete. This involves cataloguing the twenty year history of the program from slides and pictures onto disk. Many of our historical photos were fading and were being misplaced. Our photos can now be easily reproduced into many visual formats as they have been stored in a computer format.

iii) Field Photos

Many of our previously documented and photographed sites were revisited and photographed. These photos will be added to our collection of "before and afters", updating these historical photos.

4) OTHER

a) Media

Several media covered the progress and/or activities of the Land Reclamation Program. Media response was positive and responded to many of our programs and events.

i) Newspapers

- Sudbury Star
- Northern Life

ii) Magazines

- Canadian Geographic

iii) Television

- TVO "Studio 2"
- MCTV Evening News



5) FINANCIAL SUMMARY

The Land Reclamation Program was very fortunate to receive funding and material from outside "partners". The program costs **over 1 million dollars** to operate. The Region of Sudbury contributed just over **\$131,000.00**. The Region therefore contributes **12%** of the Program. The other **88%** of the program costs are financed from others.

Financial Summary - Including "In-kind" contributions of labour and material.

| Program Contributions by Others | Number Weeks | | Source | Amount |
|--|--------------|-----------------------|--------------------|---------------------|
| LABOUR | | | | |
| HRDC - Job Creation Partnership | 28 4 | 24 36 | Federal Federal | \$306,768.00 |
| Ontario Works | 150 | 1800 | Provincial | \$288,000.00 |
| Jobs Ontario | 2 | | Provincial | \$2,240.00 |
| Environment Canada | 1 | 16 | Federal | \$4,853.00 |
| CASH CONTRIBUTION | | | | |
| INCO Limited | | | Mining Co. | \$25,000.00 |
| Falconbridge Limited | | | Mining Co. | \$10,000.00 |
| District of Sudbury Social Services Administration Board | | | Provincial | \$36,600.00 |
| MATERIAL CONTRIBUTION | | | | |
| NDCA (Trees) | 9,600 | 9,600 | Private | \$2,880.00 |
| Tree Canada Foundation | | | | |
| Eddie Bauer Co.(Trees) | 250,235 | 250,235 | Private | \$75,070.50 |
| TransCanada Energy (Trees) | 651,416 | 651,416 | Private | \$195,424.80 |
| Sub-Total | | | | \$946,836.30 |
| Region of Sudbury Contribution | | | | \$131,499.00 |
| GRAND TOTAL | | \$1,078,335.30 | | |



6) CHALLENGES FOR 2000

The 2000 Land Reclamation Program was very successful. All of the goals and expectations for the Program were met and/or surpassed.

Several challenges have been explored for 2000. These include:

- Securing long term commitments from funding “partners”
- Initiating projects and programs initiated by VETAC sub-committees
- Establishing along term tree supply
- Initiate a program to increase liming



KEY FACTS

1999 Quick Summary

- 977,336 tree seedlings were planted in 1999
- 27 ha or 66 acres of land was limed, the primary location being South-East of the Falconbridge Smelter
- 27 ha or 66 acres of land was fertilized
- 27 ha or 66 acres of land was seeded
- over 150 individuals participated in the Program through Ontario Works
- over 30 individuals participated in the Program through Job Creation Partnership
- over 90 volunteers participated in this year's program, planting trees throughout the Region
- over 15,000 tree seedlings were given away to residents of the Regional Municipality of Sudbury
- to date, 5,523,716 tree seedlings have been planted throughout the Regional Municipality of Sudbury as a part of the Land Reclamation Program

Funding Partners Included

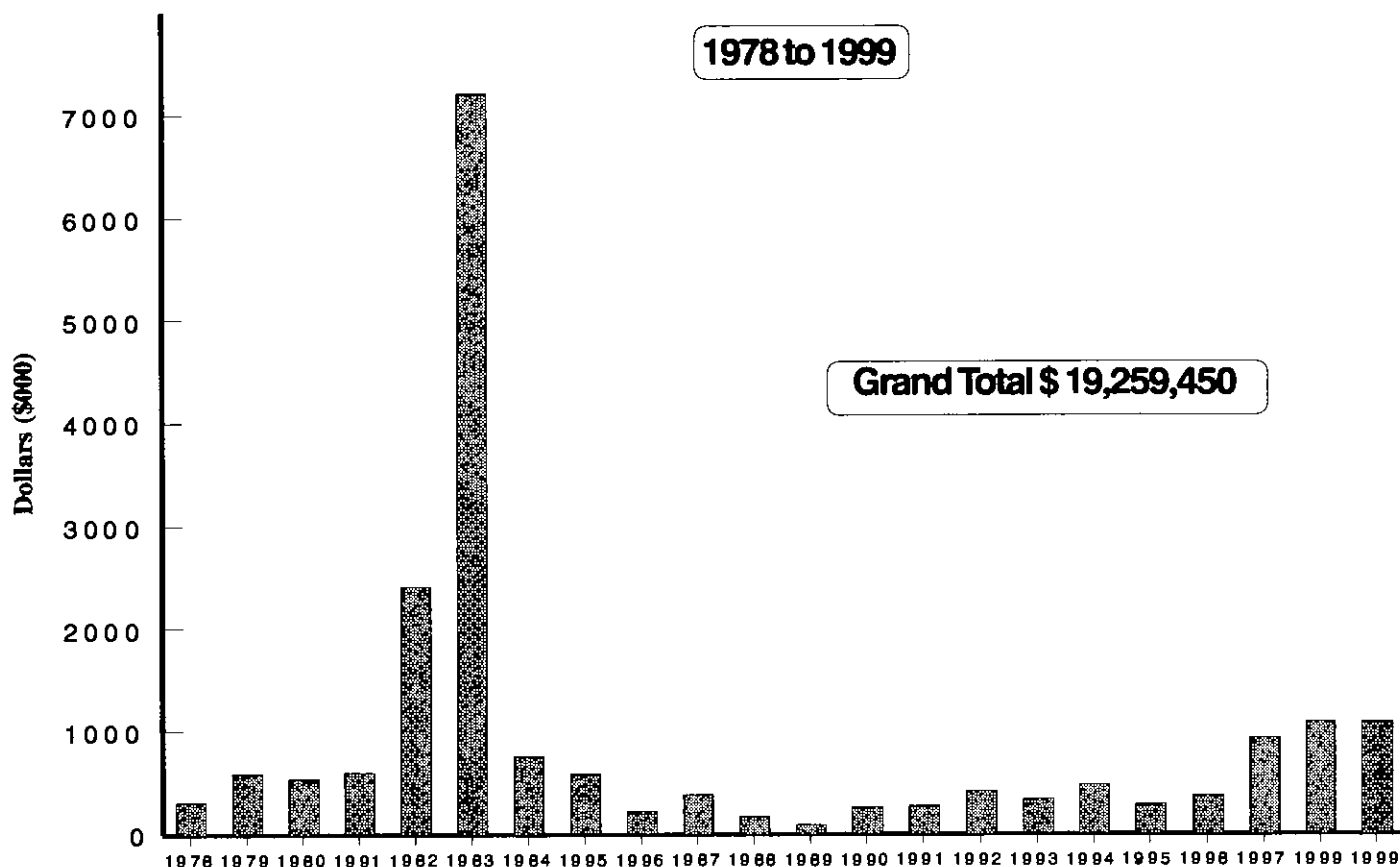
- The Regional Municipality of Sudbury
- TransCanada Energy Limited / Tree Canada Foundation
- Eddie Bauer / Tree Canada Foundation
- Trans Canada Energy - Sudbury Hydro
- Human Resources and Development Canada (HRDC)
- Ontario Works
- INCO Limited
- Falconbridge Limited

Other Partners Included

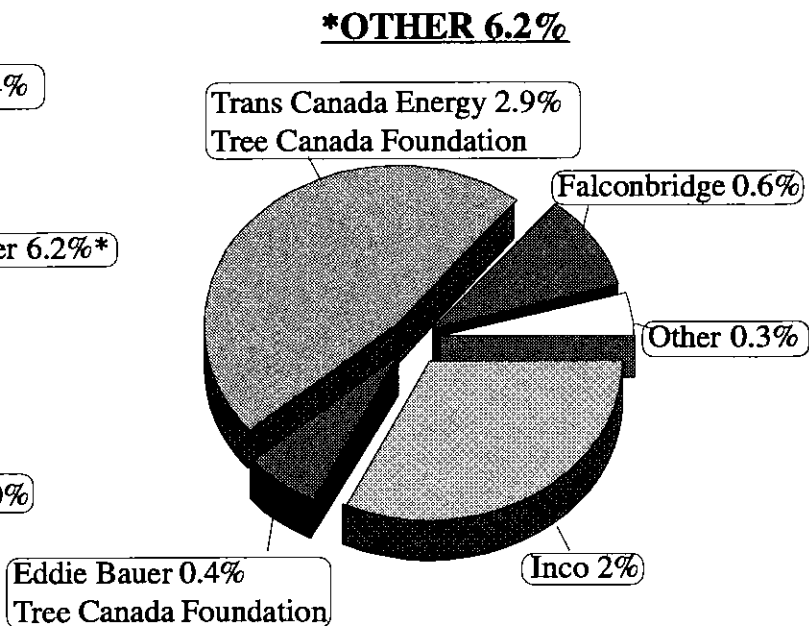
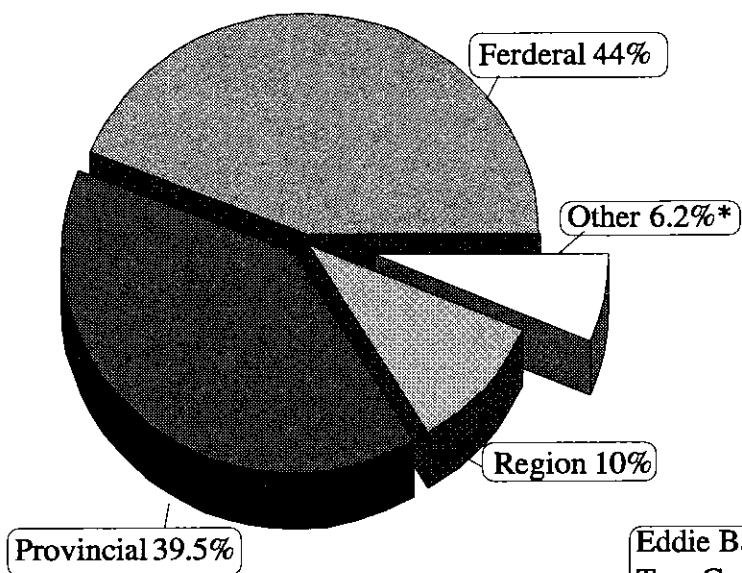
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- Nickel District Conservation Authority
- YMCA Employment Services
- Laurentian University - Geography Department
- Sudbury Community Foundation



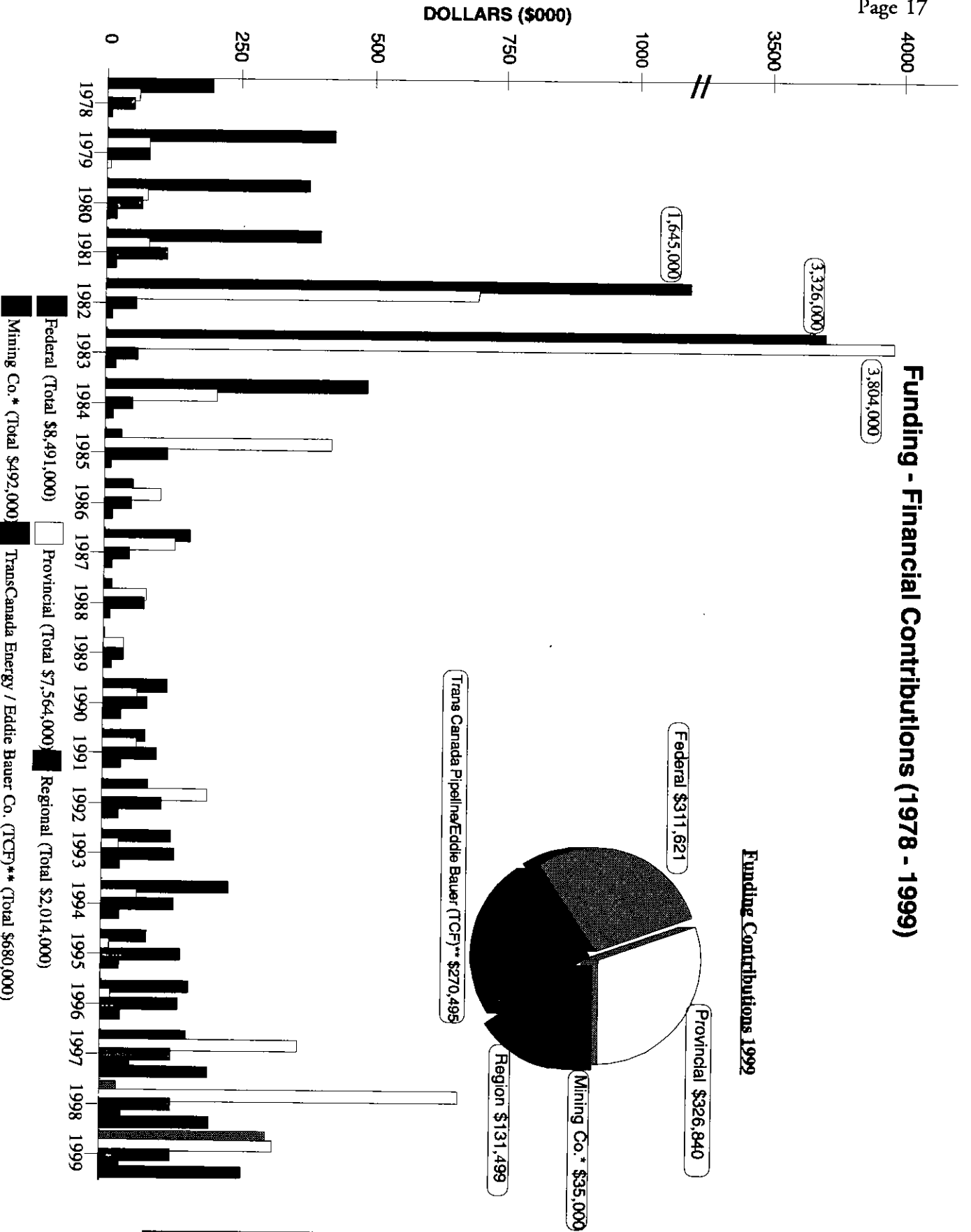
Yearly Financial Contributions To Date



OVERALL PERCENTAGES



Funding - Financial Contributions (1978 - 1999)

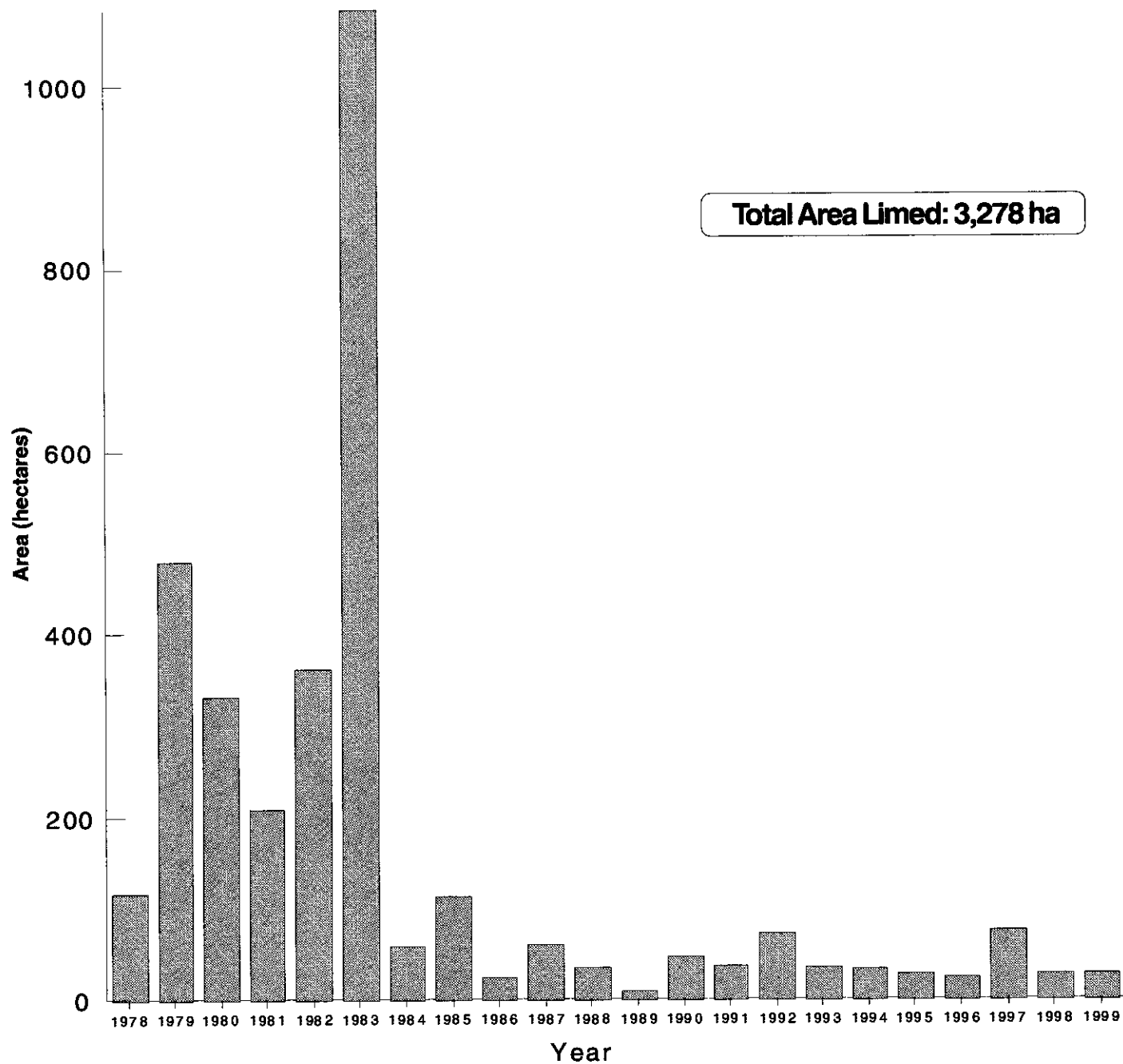


* Mining Co. Includes: INCO and Falconbridge
 ** (TCF) - Tree Canada Foundation

Yearly Liming To Date

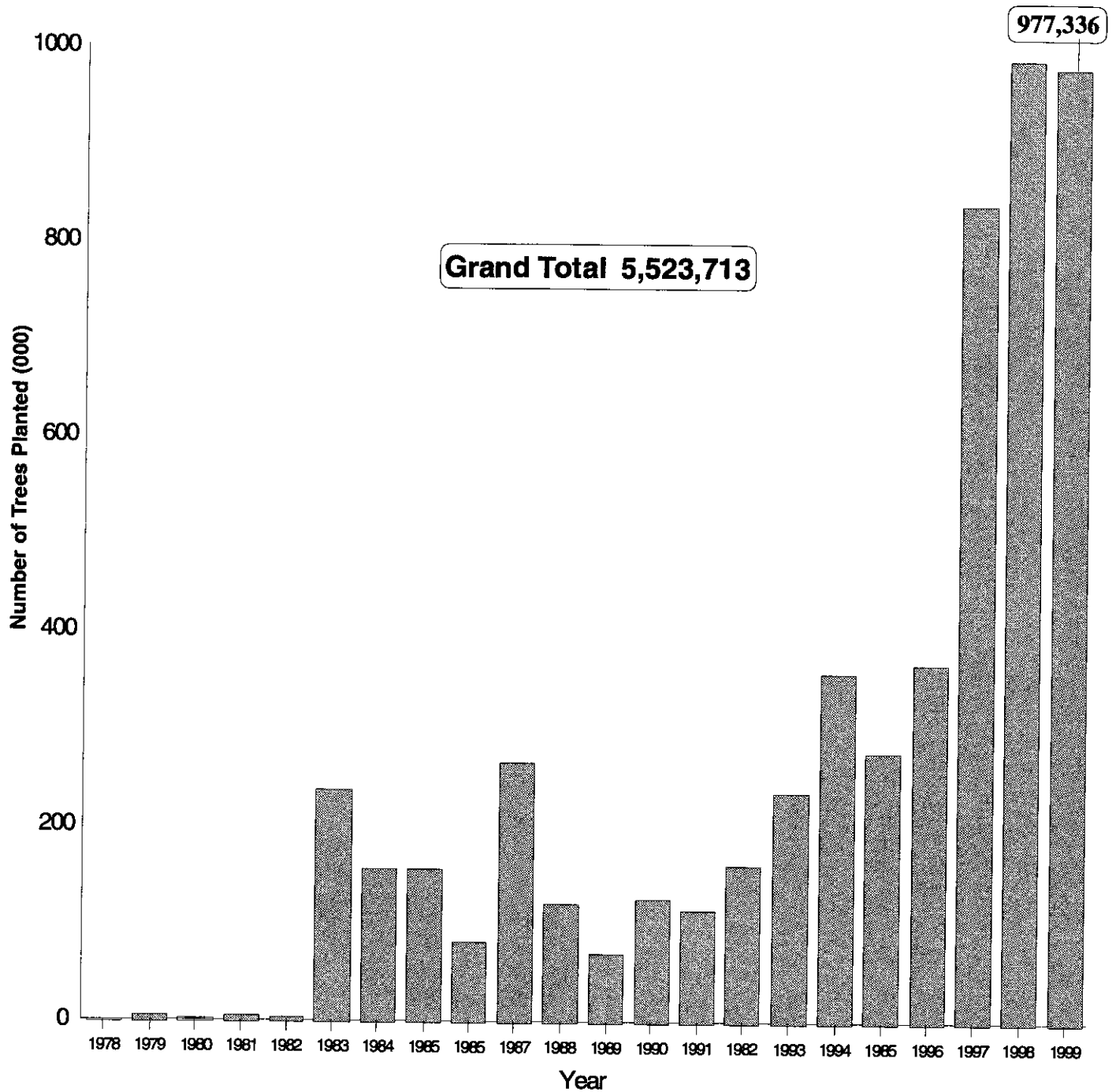
1978 to 1999

Total Area Limed: 3,278 ha



Yearly Trees Planted To Date

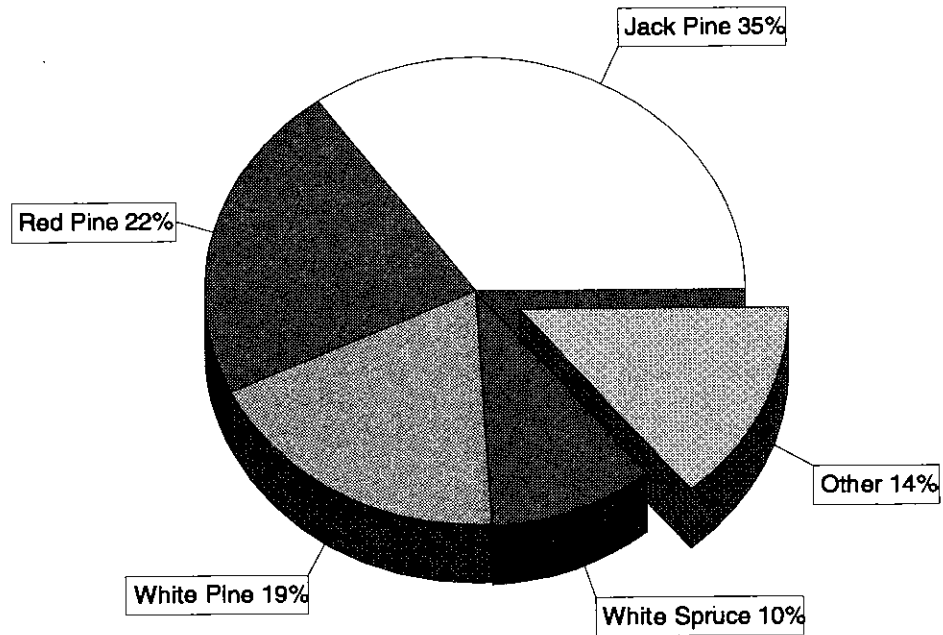
1978 to 1999



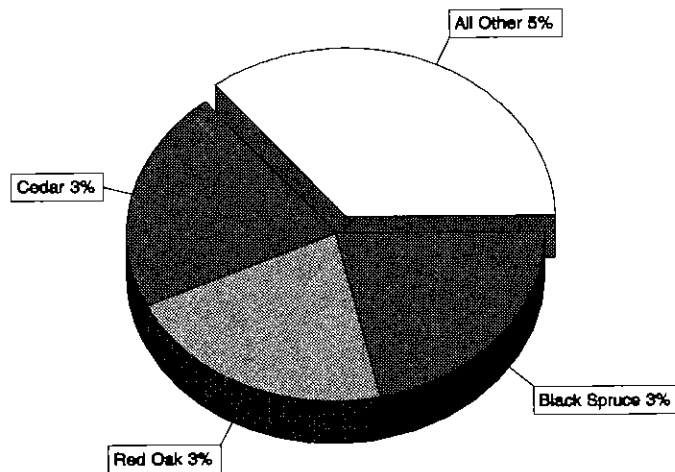
Percentage Of Tree Species Planted

1978 to 1999

Tree Species Planted



Other (14%)



Note: The other 5% includes: Alder, Mountain Ash, Green Ash, White Ash, Yellow Birch, Caragana, Dogwood, Elderberry, Honeysuckle, Juneberry, Black Locust, European Larch, Japanese Larch, Hard Maple, Sugar Maple, Nannyberry, Peashrub, Mugo Pine, Russian Olive, Norway Spruce, Tamarack, Hemlock, Cranberry, Sumac.

Completed and Future Reclamation Activities

1978 to 1999

Total Reclamation Area 29,771 ha

(Barren and Semi Barren Lands)

Area To Be Reclaimed 16,574 ha

Area Reclaimed 13,197 ha

Barren Lands

(9,737 ha)

Area Reclaimed 5,316 ha

Area to be Reclaimed 4,421 ha

Semi Barren Lands

(20,034 ha)

Area Reclaimed 7,881 ha

Area to be Reclaimed 12,153 ha

* see "Barren and Semi-Barren Land in the Regional Municipality of Sudbury" map for outline of areas (pg.22.)

Note: Barren Lands fall within areas of major smelting activities in the Region boundaries
Semi Barren Lands are the areas surrounding these heavily damaged Barren lands within the Region of Sudbury boundaries

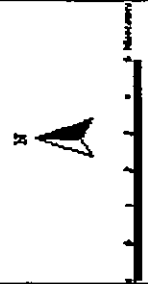
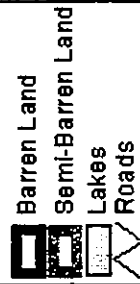
March
2000

The Planning and Development Department

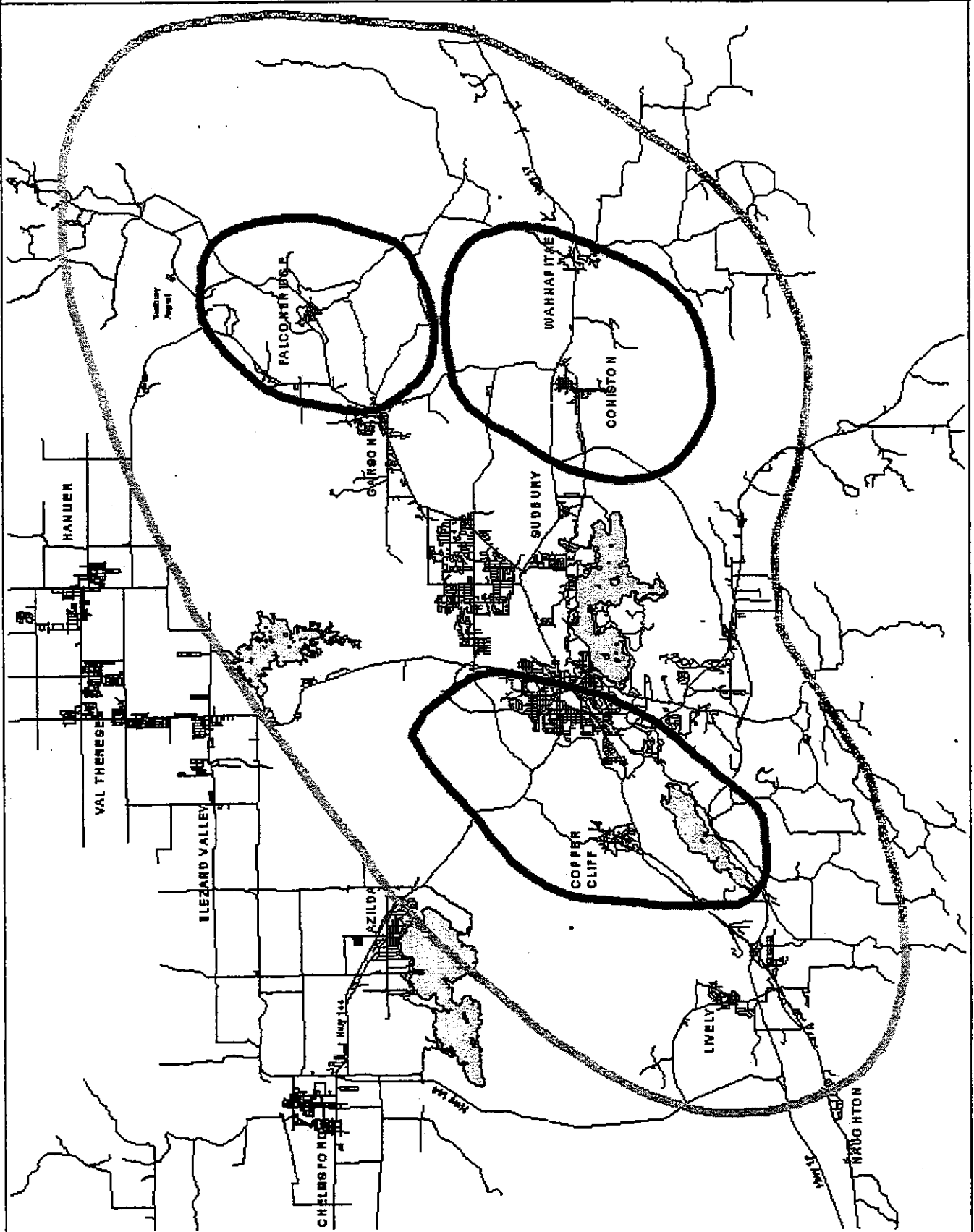
Regional Municipality of Sudbury



BARREN & SEMI-BARREN LAND IN THE REGIONAL MUNICIPALITY OF SUDBURY



Drawn by: Day 03/01/01
Data: 05/03/00 DWG: BSB999
Source: OBM, John Green



**LAND RECLAMATION
PROGRAM
GRASSING & GREENING
1999**

 Road
 Lake
 Grassing &
Greening Site



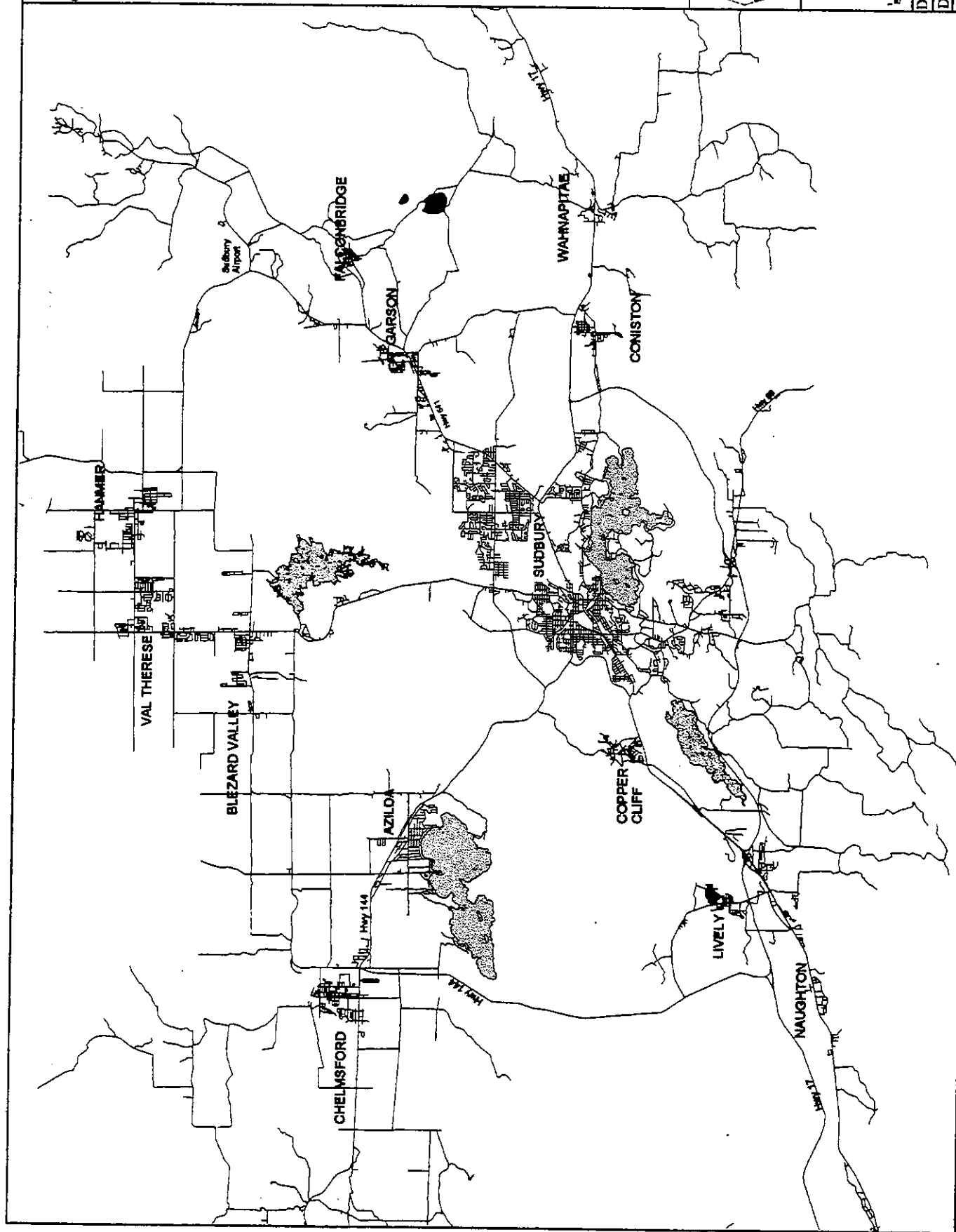
N

0 1 2 3 4 5 Kilometers




Drawn by : Guy Gironet

Date : 05 / 01 / 00 [Dwg : YGG99]

Source : OBM, VETAC



**LAND RECLAMATION
PROGRAM
TREE PLANTING
1999**

 Road
 Lake
 Tree Planting Site



1 2 3 4 5 6 7 8 9 10 Meters

Drawn by : Guy Glonnet
 Date : 05/01/00 Dwg : YTP99
 Source : OBM, VETAC

