TOARC
2010 ANNUAL REPORT

BOARD OF DIRECTORS

2011

Representing the Ontario Stone, Sand & Gravel Association (OSSGA)

Ken Lucyshyn .....Chairman of the Board

Norm Flemington.....Secretary/Treasurer

Greg Sweetnam

Bruce Semkowski

Representing the Conservation Council of Ontario (CCO)

Tony Jennings

Representing the Association of Municipalities of Ontario (AMO)

Ric McGee

Representing the Aggregate Industry at large (non OSSGA)

Gord Lavis

Representing the Ministry of Natural Resources (MNR) as an "Ex Officio Member"

Carrie Hayward

2010

Representing the Ontario Stone, Sand & Gravel Association (OSSGA)

Ken Lucyshyn .....Chairman of the Board

Norm Flemington.....Secretary/Treasurer

Greg Sweetnam

Bruce Semkowski

Representing the Conservation Council of Ontario (CCO)

Tony Jennings

Representing the Association of Municipalities of Ontario (AMO)

Ric McGee

Representing the Aggregate Industry at large (non OSSGA)

Gord Lavis

Representing the Ministry of Natural Resources (MNR) as an "Ex Officio Member"

Carrie Hayward

TOARC
2010 ANNUAL REPORT

July 28, 2011

The Honourable Linda Jeffrey
Minister of Natural Resources
Whitney Block
6th Floor, Room 6630
99 Wellesley St. West
Toronto, ON M7A 1W3

Dear Ms. Jeffrey:

On behalf of the Board of Directors, I am pleased to submit the 2010 Annual Report of The Ontario Aggregate Resources Corporation.

This annual report includes audited financial statements for the Aggregate Resources Trust and The Ontario Aggregate Resources Corporation for the fiscal year ended December 31, 2010. Included within the financial statements for the Aggregate Resources Trust is a schedule of rehabilitation costs for projects completed by the Management of Abandoned Aggregate Properties (MAAP) program in 2010. The report also reviews a number of the many rehabilitation research and other initiatives being funded, as well as their application to creative rehabilitation solutions.

Yours truly,

Ken Lucyshyn
Chairman of the Board

CHAIRMAN'S MESSAGE - 2010

Aggregate resource fees, collected and disbursed in 2010 were down sharply over the previous year. Fees collected in 2010 totaled $18.5 million compared to $20.0 million in 2009. The fees disbursed in 2010 (based on 2009 production) were divided amongst designated recipients as follows:

	($ MILLION)
Local municipalities	8.7
Counties & regions	2.2
MAAP program	0.7
Province (from licence fees)	5.0
Province (royalties & permit fees)	1.9
Total	**18.5**

We are pleased to say that the final phase of the inventories of abandoned pits in the most recently designated areas of the Province (2007) is complete. As a result of these recent inventories, an additional 1,319 sites have been "deemed abandoned" and now qualify for rehabilitation assistance under the MAAP program. The first rehabilitation (construction) projects (12 sites) within the newly designated area in Haliburton were tendered in the fall of 2010 and completed in 2011 along with an additional 7 sites that required only tree planting.

With regard to sites deemed abandoned, we now have a completed picture of the extent of the disturbances resulting from aggregate extraction; in total over 7,900 files. Keep in mind that this total represents, for the most part, extraction on a very small scale. Aggregate extraction was often for personal use or local municipal works. Further, keep in mind that many of these site disturbances have already been remediated through various processes. As I reported last year, MAAP staff have undertaken a re-evaluation of files from the original inventories and while that process has not been completed, we now know that very many of those original site disturbances simply no longer exist. This has been determined through a rigorous process utilizing online database and mapping applications (derived from high resolution, satellite sources), field checks and cross references with other database sources.

At the end of 2010, close to 2,500 files were closed for the following reasons;

Developed	372
Licenced	147
No historical extraction	107
Naturalized (to create new habitat)	951
Rehabilitated (by owner)	273
Situated on Crown Land	13
Landowner Not Interested	312
Rehabilitated by MAAP/MNR	322
Total Files Closed:	**2,497**

I can't emphasize enough that files are only closed after a rigorous reassessment process that assures accuracy and fairness in such decisions. This is further supported by a Board policy to revisit any closed file if asked to do so by the landowner.

With the completion of the field inventories, the MAAP database is now complete in a paper based format. As both a security measure (i.e. back-up) and the final step in completing the functionality of the MAAP database, staff are undertaking to digitize and store electronically all of the paper based files. This custom designed application will be known as eMAAP, featuring a Google Earth user interface for the geographical searching and display of all abandoned aggregate sites in the Province of Ontario. With a single 'click' staff will be able to access all information pertinent to an abandoned site including the inventory record, field notes, photographs and correspondence of all sorts. We expect to have this work completed before the end of 2011.

The Board has taken further initiatives with respect to our responsibility of undertaking and supporting industry related research projects. At the request of The Aggregate Forum, the

Board has agreed to fund research into ways and means of improving the overall environmental performance of the industry through a certification process. The Aggregate Forum is made up of industry representatives from the OSSGA as well as representatives from other stakeholders including the Nature Conservancy of Canada, Ontario Nature, The Couchiching Conservancy, Gravelwatch Ontario, Save the Oak Ridges Moraine Coalition and the Coalition on the Niagara Escarpment. The research work is being carried out by Deloitte & Touche LLP.

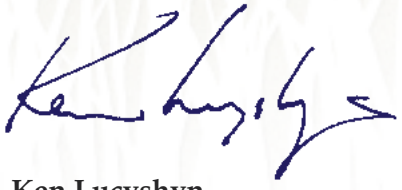
The Board is conscious of the increasingly difficult land use allocation environment within which the industry must attempt to find aggregate resources for the future. The need for informed decisions has never been greater as competing demands for the same spaces continue to grow. To assist the process of informed decision making, we are pleased to announce a new research project investigating the potential for creating biodiversity offsets at locations external to proposed extraction sites.

While regrettable, at times the recovery of important mineral aggregates means the removal of forest cover and other ecosystem types. In the case of quarried stone, it is not always possible to restore the affected forest cover in the same place. However, the opportunity often exists to replace forest cover (and other natural ecosystems) nearby on marginal farmland or former aggregate pits. It is hoped that management recommendations generated by this broadly-scoped study will dramatically improve the capacity of the aggregate industry to meet environmental responsibilities, including mitigation of planned forest losses and rehabilitation of dry extraction sites.

This new research project will be undertaken by Dr. Paul Richardson, now a Research Fellow with TOARC, and Dr. Stephan Murphy from the Centre for Ecosystem Resilience and Adaption, University of Waterloo. TOARC would like to thank the Natural Sciences and Engineering Research Council of Canada (NSERC) for assisting with funding for this important work through their Industrial R&D Fellowship program.

For the year ending 2010, the value of the Trust Funds increased by 4% over the prior year-end valuation (from $16,405,407 to $17,057,642). The continuing recovery of long term Trust investments is welcomed given our many needs to fund research projects and other Trust priorities. Unfortunately, returns on short term investments continue to remain at historic low levels given that they are driven by short term interest rates.

Respectfully submitted,



Ken Lucyshyn
Chairman of the Board

2010 MAAP – Project Summary

Project Number	Landowner	Location	Rehabilitation End Use	Area (ha)	Cost*
09-11	Smith (Hunter) Pit	Wellington County	Woodland/ Wetland	2.00	$ 18,730
10-01	Sullivan Pit	Peterborough County	Forested Meadow	0.30	$ 10,703
10-02	Buck Pit	City of Kawartha Lakes	Oak Savannah	1.50	$ 12,073
10-03A	Barrett Pit	City of Kawartha Lakes	Forested Meadow	0.70	$ 8,971
10-03B	Keenan Pit	City of Kawartha Lakes	Residential	0.30	$ 8,971
10-04	McQuaid Pit	City of Kawartha Lakes	Forested Meadow	0.30	$ 2,448
10-05	Cook Pit	City of Kawartha Lakes	Forested Meadow	0.50	$ 5,214
10-06	Carroll Pit	City of Kawartha Lakes	Forested Meadow	0.50	$ 9,417
10-07	Carnaghan Pit	City of Kawartha Lakes	Meadow	0.30	$ 3,394
10-08	Johnston Pit	City of Kawartha Lakes	Agriculture	8.00	$ 69,131
10-09	Hoddenbagh Pit	City of Kawartha Lakes	Woodland/ Wetland	1.80	$ 6,047
10-10	Dancey Pit	City of Kawartha Lakes	Meadow	0.50	$ 6,836
10-11	Soenen Pit	Norfolk County	Prairie	1.40	$ 13,100
10-12	Sheele Pit	Elgin County	Slope Stability	2.20	$ 11,450
10-13	McRae Pit	District of Muskoka	Residential	0.07	$ 4,800
10-14	Bradford Pit	Haliburton County	Native Meadow	0.12	$ 2,403
10-15	Dow Pit	Perth County	Agriculture	0.40	$ 32,490
10-16	Sisson Pit	Haliburton County	Agriculture	0.27	$ 2,332
10-19	Boice Pit	Haliburton County	Woodland/ Native Meadow	0.09	$ 3,000
10-24	Montgomery Pit	Haliburton County	Residential	0.10	$ 3,540
				21.35	**$ 235,050**

** Total project costs incurred for 2010 were $261,845. The difference between the $235,050 shown and the total was monies spent on 15 projects carried over from 2007, 2008 and 2009 (mainly seeding and tree planting).*

2010 MAAP – Summary of MAAP Rehabilitation Costs

Year	Number of New Sites	Area Rehabilitated (ha)	Total Costs**	Cost (ha)	Avg Cost per site	Avg Area Rehabilitated (ha)
1992-96*	52	77.99	$ 726,480	$ 9,315	$ 13,971	1.50
1997	15	22.40	$ 497,973	$ 22,231	$ 33,198	1.49
1998	10	18.35	$ 219,199	$ 11,945	$ 21,920	1.84
1999	16	30.45	$ 366,636	$ 12,041	$ 22,915	1.90
2000	17	28.50	$ 411,226	$ 14,429	$ 24,190	1.68
2001	21	25.50	$ 320,337	$ 12,562	$ 15,254	1.21
2002	10	14.25	$ 288,844	$ 20,270	$ 28,884	1.43
2003	19	46.39	$ 342,897	$ 7,392	$ 18,047	2.44
2004	15	27.35	$ 414,986	$ 15,173	$ 27,666	1.82
2005	28	75.45	$ 498,819	$ 6,611	$ 17,815	2.69
2006	28	48.50	$ 510,556	$ 10,527	$ 18,234	1.73
2007	23	39.11	$ 740,796	$ 18,941	$ 32,209	1.70
2008	29	45.10	$ 480,875	$ 10,662	$ 16,582	1.56
2009	19	22.29	$ 293,724	$ 13,177	$ 15,459	1.17
2010	19	21.35	$ 216,320	$ 10,132	$ 11,385	1.12
Total	**321**	**542.98**	**$ 6,329,668**	**$ 11,657**	**$ 19,719**	**1.69**

** 1992-1996 data is based on information provided by MNR*

*** Total Costs have been restated (except for MNR contracts) to conform with the Trust's revised financial statement presentation*

2010 MAAP – Tallgrass Prairie Restoration

TALLGRASS PRAIRIE RESTORATION WITHIN DERELICT SAND PITS IN SOUTHERN ONTARIO: AN INVESTIGATION OF NATIVE PRAIRIE PLANT RESPONSE TO MYCORRHIZAL INOCULATION AND SOIL CARBON AMENDMENTS

Research Team:

Brian Ohsowski [1], PhD Student
Dr. John Klironomos [1], Co-Advisor
Dr. Miranda Hart [1], Co-Advisor
Dr. Kari Dunfield [2], Committee Member
Andre Audet [1], Field Assistant

[1] *University of British Columbia - Okanagan, Kelowna, British Columbia, Canada*
[2] *University of Guelph, Guelph, Ontario, Canada*

TOARC is pleased to update the progress of the tallgrass prairie research project undertaken by Dr. Klironomos and Brian Ohsowski (PhD student). A large-scale experiment (1.2 acres) was established last summer in a post-mine sand pit. Brian's PhD research tests the efficacy of novel and easily applicable restoration techniques to facilitate native plant growth and sustainability. Dr. John Klironomos is an established leader in the fields of plant and fungal ecology. Along with Dr. Klironomos, Drs. Miranda Hart and Kari Dunfield are an integral part of the research project. Dr. Hart's current research focuses on the use of mycorrhizal fungi in degraded ecosystems and plant growth in extreme environmental conditions. Dr. Dunfield's research focuses on understanding the ecology of bacteria and fungi in managed ecosystems.

Background

Habitat destruction and land use change are among the human influences impacting grassland (i.e. prairie) ecosystems. Ontario's highly diverse tallgrass prairies are a threatened habitat that only remains as isolated patches. Pre-settlement estimates of Ontario's native tallgrass prairies range from 800 - 2,000 km^2. Currently, southern Ontario's tallgrass prairies occupy less than three percent of this original range. Habitat reduction threatens Ontario's unique prairie inhabitants, elevating the status of many grassland plants and animals to provincially endangered or rare.

Depleted aggregate sites are good candidates for prairie restoration projects due to their 'open' nature and adaptability to management scenarios. This potential has been recognized by TOARC and has led to the support of this research initiative. The results of this study can be directly translated into the industrial-scale restoration of native prairie plants.

The research team is testing land management strategies that promote the growth of native prairie plants in former sand pits. The land management tools utilized in this project include the application of arbuscular mycorrhizae (commercially-available) and soil supplements (municipal compost and biochar). These treatments are anticipated to drastically alter microbe-driven biogeochemical cycles, soil building processes, and plant-mycorrhizal symbioses resulting in the regeneration of ecosystem-level feedbacks. It is expected that the combined use of soil amendments and mycorrhizal inoculation will be synergistic with respect to soil development and plant growth.

Why biochar as a soil amendment?

Biochar is created from the high temperature combustion of organic matter (i.e. agricultural wastes, raw materials) in the absence of oxygenated air. The resulting substance is a fine-grained, highly porous black carbon (a.k.a. biochar) that resists microbial degradation for 100's to 1,000's of years. When used as a soil amendment, research suggests that biochar positively enhances soil fertility by retaining important soil nutrients, neutralizing acidic soils, increasing water holding capacity, and increasing soil aeration. Although biochar has been used in agricultural field trials, this will be the first project to investigate the use of biochar in an ecological restoration project.

Why compost as a soil amendment?

All living tissues eventually break down into their simplest parts through the process of decomposition. In the presence of oxygenated air, bacteria, fungi, and tiny scavengers digest dead organic material (i.e. plant tissue, animal tissue, wastes) as a source of food. The remaining material is a now stable organic product, compost. Under controlled conditions, compost can be produced at a large, industrial scale from municipal refuse (i.e. yard trimmings, garden wastes, food wastes). When added to soils as an amendment, composted organic material has been shown to increase soil fertility by increasing soil organic matter content, providing a source of plant macronutrients (i.e. nitrogen, phosphorus, potassium) and micronutrients (i.e. iron, copper, zinc), increasing water holding capacity of soils, and improving soil aeration.

What are mycorrhizal fungi?

Arbuscular mycorrhizal fungi (AMF) are soil microorganisms that form close symbiotic associations with receptive plant root cells. This common symbiotic relationship has been identified in at least 80% of known terrestrial plants. As a major constituent of soil microbial communities, these microscopic organisms are ubiquitously distributed in terrestrial habitats across the globe.

In exchange for photosynthetically produced plant sugars, AMF have been described to benefit plants by increasing nutrient acquisition, protecting target plants from pathogenic fungi, enhancing seedling performance, and improving plant water relations. In addition, mycorrhizae have been shown to directly increase soil aggregation (by growing in and around soil particles), thus reducing erosion and accelerating soil development.

Research Goals:

In addition to industrial applicability, this research will contribute significantly to the scientific fields of ecological restoration, mycorrhizal ecology, and soil ecology. Project goals include: 1) describing potential plant-soil-microbe feedbacks, 2) understanding the role of AMF and native plants in the restoration of degraded landscapes, 3) determining the utility and persistence of AMF inoculum in prairie restoration projects, 4) describing the impact of commercial AMF inoculum on existing mycorrhizal communities, and 5) determining soil carbon amendment influence on native prairie plant survival and growth.

The research will answer two practical questions:

1. ***Does mycorrhizal inoculation (a relatively inexpensive application) positively influence plant establishment, thus adding value to the overall restoration scheme?***
2. ***Does the addition of soil supplements (biochar & compost) in various proportions significantly and cost effectively accelerate soil restoration thus promoting plant persistence?***

Research Site Establishment:

A research site, near St. Williams, Ontario, has been constructed on land graciously donated by the Nature Conservancy of Canada (NCC). St. Williams, ON is located within the historic range of Ontario's tallgrass prairie ecosystems. The experimental site is set-up on a recently active sand pit. In May 2010, an earthmover graded the sand pit in order to minimize soil topographical variability. With the land surface homogenized, experimental plots were established in June 2010. To deter ATV activity, a nine wire fence was installed around the perimeter of the experimental area (July 2010).

The research team is conducting two field trials at the restoration site: a plant plug experiment and a seed addition experiment. These experiments will test the efficacy of two planting approaches. Both experiments will incorporate arbuscular mycorrhizal inoculation, biochar, and municipal compost treatments in the design.

Plant Plug Experimental Set-Up (Experiment #1)

Experiment #1 was constructed during spring 2010. One ton (T) of biochar, 1.5T of compost, and 8,640 plant plugs (8 grassland species) were utilized. Plants were grown as plugs at the St. Williams Nursery and Ecology Centre (St. Williams, Ontario, Canada) using local prairie plant

2010 MAAP – Tallgrass Prairie Restoration (continued)

During the first growing season, many of the composite and nitrogen fixing plant species bloomed in the plug experiment. In this picture, a smooth blue aster was visited by a potential pollinator, the American Copper butterfly.

Investigating root cultures to determine the presence and persistence of living mycorrhizal tissues. The culture was started from the commercial mycorrhizal inoculum.

populations as a seed source. AMF inoculum was added to 50% of the plant plug containers at the recommended application rate.

The plant species selected for this project meet the following criteria: 1) core plant species that are common in Ontario prairies, 2) tolerant of sandy soils, 3) tolerant of dry to dry-mesic moisture regimes, and 4) endemic to the study site area. The native prairie plant species grown are as follows:

C_3 Grasses: *Bromus kalmia, Elymus canadensis*
C_4 Grasses: *Panicum virgatum, Andropogon gerardii*
N-Fixing Forbs: *Desmodium canadense, Lespedeza capitata*
Composites: *Liatris cylindracea, Symphyotrichum laeve*

Experiment #1 uses a 6 x 2 x 2 factorial design where factors are:

- Soil Amendments
  - No amendment
  - 20T/ha compost
  - 5T/ha biochar
  - 5T/ha biochar + 20T/ha compost
  - 10T/ha biochar
  - 10T/ha biochar + 20T/ha compost
- Pre-inoculation of greenhouse grown plants
  - ± AMF inoculum (Glomus intraradices) supplied by Mikro-Tek
- Time
  - Plant harvest in Fall 2011 and Fall 2012

All treatments were replicated five times with each replicate unit comprising a 10.2 m^2 plot. Thirty plots without plant plugs were established as controls. A total of 150 plots were set-up in a fully randomized order. Randomly sorted and pre-mapped, a total of seventy-two (72) native prairie plant plugs were sown (June 2010) into each field plot (plug spacing = 33cm).

Seed Application Experimental Set-Up (Experiment #2):

Experiment #2, adjacent to Experiment #1, employed a fully-crossed, randomized experimental design. One ton of biochar, 1.0 T of compost, and seeds of 8 grassland species (same species as Experiment #1) were utilized. Soil amendments were added to Experiment #2 in August 2010. Each application rate combination was replicated twice for a total of seventy-two 10.2m^2 plots. Amendment application rates are as follows for Experiment #2:

Biochar Application Rate	Compost Application Rate
0.0 T/ha	0.0 T/ha
2.5 T/ha	2.5 T/ha
5.0 T/ha	5.0 T/ha
10.0 T/ha	10.0 T/ha
20.0 T/ha	20.0 T/ha
40.0 T/ha	40.0 T/ha

To minimize overwinter seed mortality and undesired seed movement, native plant seeds and mycorrhizal inoculum were applied to Experiment #2 in May 2011. Mycorrhizal inoculum was added to one set of the amendment application rates via a liquid medium containing spores. Seeds and mycorrhizal inoculum were applied at standard rates as recommended for tallgrass prairie restoration projects.

Ongoing Analyses:

AMF Inoculation of Plant Plugs:

To test for AMF inocula colonization in the greenhouse plugs, ten randomly chosen plugs from each AMF treatment were selected for each plant species grown in the greenhouse. Roots were washed, chopped to 1cm pieces, and frozen at -20°C until analysis. To date, the following analyses are being conducted to detect AMF presence: 1) percent root colonization, and 2) molecular identification via DNA sequencing (see below). To determine AMF colonization, stored roots are stained and percent root colonization analyzed via the gridline intercept method. This data will give us an indication of inoculum presence in the plant plug roots.

Aboveground Net Primary Production (ANPP):

Experiment #1 - Aboveground biomass estimates will be conducted at the end of the 2011/2012 growing seasons. Since spatial location of

2010 MAAP – Tallgrass Prairie Restoration (continued)

the plant plugs is explicitly mapped, plant survivorship data will be collected before the aboveground biomass is harvested. Prairie plants will be clipped above the soil surface, separated into biomass components [green living biomass (bg), current year's standing dead biomass (bsen), and previous year's standing dead biomass (blitter)]. The shoot biomass of this year's cohort will be weighed [ANPP = bg + bsen]. Living green biomass will be operationally defined as any plant containing foliar material with visible chlorophyll, even if the majority of the standing crop is senesced and brown. Similar plant species within experimental field plots will be pooled.

Plant species that infiltrate the experimental field plots will be placed in an "Invader" category. "Invader" plant species will be collected, identified, and weighed under the same protocol as native plant plug species.

Experiment #2 - Aboveground biomass estimates will be conducted at the end of the 2012 growing season. Plant diversity indices will be estimated for each plot in Experiment #2. To estimate aboveground biomass in Experiment #2, plant harvests will be conducted along a representative transect within each plot. Aboveground biomass will be collected according to sampling scheme previously outlined for Experiment #1.

Collection of Soil Cores:

Soil cores containing soil and root material will be collected at the time of aboveground plant harvests. Multiple soil cores will be collected from each plot and subsequently pooled. Once pooled, soils will be: 1) homogenized, 2) roots removed, washed and stored for DNA extraction and AMF percent colonization, and 3) soils analyzed for biochemical characteristics.

To date, soil cores were collected from control plots in the fall 2010 and shipped to UBC-O for analyses which are currently in progress. Soil cores will be used to determine base-line AMF species present in the soil as well as initial chemical and physical soil characteristics.

Development of a Molecular Probe for the Mycorrhizal Inoculum:

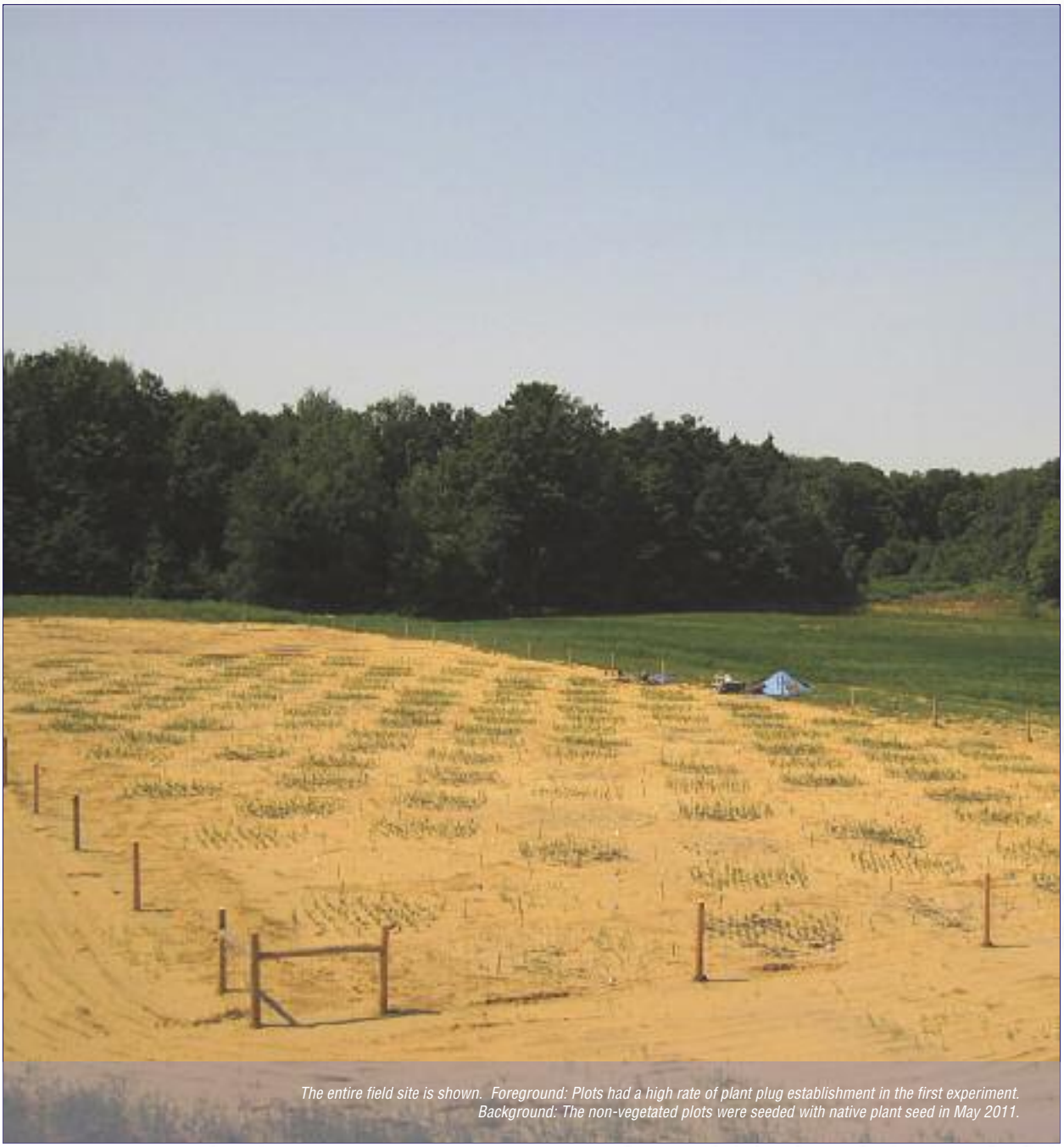
Under a microscope, identifying AMF to the species level is difficult. To overcome this obstacle, the research team is currently developing a molecular probe for the AMF inoculum added to the experiments. Once development is complete, it will be possible to identify and quantify the AMF inoculum via molecular methods.

Assessment of AMF community composition:

DNA will be extracted from the soil cores containing the segregated soil and root samples. AMF primers that amplify the total AMF community in the root samples will be used. Downstream molecular applications will be used to indicate fungal identity in the root samples. Furthermore, the molecular probe previously described will be used to specifically quantify the mycorrhizal inoculum in the collected root samples.

These methods will allow the research team to make comparisons among the experimental plots to test the ramifications of mycorrhizal inoculation and soil supplements on the mycorrhizal community. Resulting information from the belowground community molecular work will be incorporated into the aboveground plant growth dynamics.

A ground-level perspective of an experimental plot in the plug experiment. Many of the grass species flowered by August 2010.



The entire field site is shown. Foreground: Plots had a high rate of plant plug establishment in the first experiment. Background: The non-vegetated plots were seeded with native plant seed in May 2011.

Establishing Alvar Mosses on Quarry Floors

Suzanne Campeau, Bryophyta Technologies Inc.

Moss colonies continue to expand as research nears completion in Eastern Ontario near Kingston and Prescott where Ms. Suzanne Campeau of Bryophyta Technologies Inc. has been conducting research to determine if alvar moss species can be successfully established in depleted limestone quarries.

Alvars are flat, open areas of calcareous bedrock with a patchy, thin soil cover and sparse vegetation. The plant communities on these bedrock outcrops are composed of a unique mixture of stunted trees, herbs, forbs, mosses and lichens. Despite the low plant biomass, the flora of Ontario alvars is highly diverse and contains a large proportion of native species. Establishing alvar plant communities in depleted limestone quarries therefore becomes an option for the restoration of degraded land into a highly valuable natural habitat.

Previous research conducted by the University of Guelph demonstrated that quarries resembled alvars with respect to many environmental conditions and that a number of alvar herbs and forbs can successfully establish in quarries by seeding. However, natural alvars contain many mosses which aid in soil development. The goal of this research was *to determine if three alvar representative moss species (Schistidium rivular, Tortella tortuosa* and *Syntrichia ruralis)* can also be established in depleted limestone quarries with simple amendments including the addition of substrate (mulch, sand and gravel), changes in topography and nutrient addition.

Mulch:

In 2008 and 2009, a series of experiments were initiated in two south-eastern Ontario quarries. The objective was to evaluate if the use of a protective cover of straw mulch improves moss establishment. Three more experiments addressing the same question were initiated in 2010 in two south-western Ontario quarries, one located in the Clanbrassil area, near Hagersville (Figure 1) and the other at Fletcher Creek, near the city of Guelph (Figure 2).

The results were conclusive. By fall 2010, plots that were initially covered with straw mulch harboured thriving moss colonies (Figure 3). The densities of these colonies increased and expanded from fall 2009 even though the mulch was nearly fully decomposed (Figure 4 &Figure 5). Plots with no initial straw mulch had a much lower, stagnating moss cover (Figure 4). This result was true for all three species of moss tested, even though colony development was found to be slower in some species.

Most importantly, the observed result was found to be highly repeatable among seasons, years and sites. All trials demonstrated the positive effect of straw mulch on plant establishment. Observations made at Fletcher Creek in April 2011 indicated early signs of growth on straw-covered plots, but little to no growth was found on plots without mulch (Uta Matthes, personal communication). A more detailed assessment of the south-western Ontario experiments are being conducted during summer 2011.

Substrate and substrate amendments:

The presence of an existing sandy substrate and/or the addition of a sand amendment were found to have a smaller than mulch addition, but consistent effect on moss establishment throughout the experiments.

Early experiments at the Prescott and Kingston quarries indicated that plots located on the existing sandy substrate had better moss establishment than plots located on bare rock (Figure 6). Only one species out of the three tested failed to show an improved establishment on sand.

In the fall of 2009, Campeau and her team went further and tested if adding a thin (8 mm) layer of sand or of a sand-peat mixture to the existing substrate would improve moss establishment. By fall 2010, plots that received sand or a mixture of sand and peat (75 % and 81% moss cover respectively) showed better *Tortella tortuosa* establishment than plots that did not receive any amendments (56% moss cover).

It was found that a thin layer of sand and organic matter works two ways to improve moss establishment: (1) a thin layer of sand helps to keep moss fragments in place during early establishment despite wind and rain and, (2) by storing a certain amount of water, a thin sand and organic matter substrate helps keep the moss fragments moist longer after a rain event.

Experiments initiated in south-western Ontario in 2010 provided more opportunities to gather information on the potential effect of substrate on moss establishment. At Fletcher Creek, two separate experiments were established, each in a different area of the quarry: (1) Old weathered rock pavement, (2) new unweathered surface (shallow soil material was

recently scraped away by machinery) (Figure 2). Although the two experiments can not statistically be pooled, their comparative results will still give some indications on how moss establishment may vary depending on the level of rock weathering. In the recently scraped area, half the plots were located on bare rock while the other half had a sandy/gravelly substrate (Figure 2). This is similar to what was completed in the eastern Ontario quarry experiments. It will be interesting to see if results obtained at Fletcher Creek corroborate earlier, eastern Ontario findings on the positive effect of a sandy substrate.

FIGURE 1: Experimentation at Clanbrassil Quarry, Hagersville. (1) General view of the site, with some experimental plots at the fore front (straw mulch visible); showing the re-worked limestone cliff and surface. (2) Introducing moss fragments on experimental plots. (3) First type of substrate: smooth limestone pavement. (4) Second type of substrate: broken-up limestone pavement, where diaspores will be sheltered between rocks.

Establishing Alvar Mosses on Quarry Floors (continued)

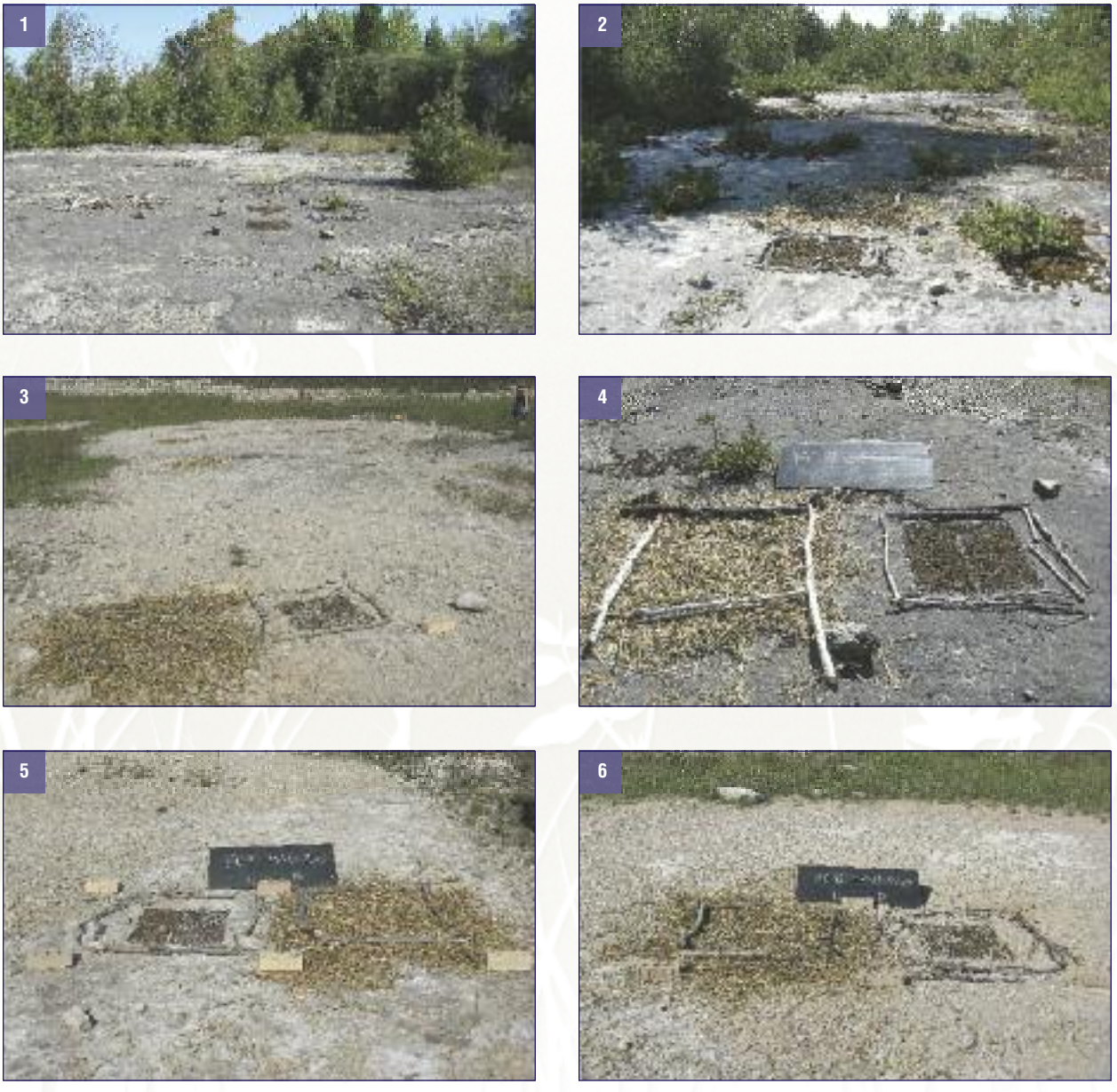


FIGURE 2: Experimentation at Fletcher Creek Quarry, Guelph. (1) And (2) General views of the old quarried area with weathered limestone pavement, experimental plots at the forefront. (3) General view of the area where the thin existing soil was scraped away with machinery. Pairs of experimental plots (with and without straw mulch) on (4) weathered limestone pavement (5) unweathered rock pavement in an area where soil was scraped away and (6) a sand and gravel substrate.

Topography:

Two experiments initiated in 2008 examined the effect of a protective topographical element (presence of low protective "rock ridges") on moss establishment. Data collected in 2009 and 2010 indicated that using this type of topography had an insignificant impact on moss establishment. However, Campeau found through observation that, in old quarries, mosses establish more readily in cracks than directly on the bare rock. Campeau and her team set out to determine how to mimic this topography in a way that would be workable for rehabilitation and to what extent would it increase moss establishment. The Clanbrassil Quarry provided an opportunity for Campeau to address the question. The Clanbrassil quarry had been graded by the MAAP program to smooth a steep cliff face. Equipment that worked on the site left behind areas where the limestone pavement was cracked and broken into pieces (Figure 1). In August 2010, a series of experimental plots were established; half of plots were located on broken up rock and the others on sites where the rock pavement was left intact. It is expected that moss fragments will be washed down into the interstices between the broken-up rocks, where they will find a sheltered microenvironment. This experiment is being monitored in 2011.

Nutrients:

Campeau wanted to address the potential effect of nutrient additions on moss establishment. To test the affects of nutrients, Campeau and her team sampled some of the moss colonies that developed in early experimental plots and compared their nutrient content with those of mosses from naturally occurring colonies. In addition, they will also run a low-dose fertilization experiment at the Prescott Quarry. Using introduced moss colonies that were established in 2009 for this purpose, nutrients will be added in the form of compost that will be spread among the mosses. The results of the comparison between the established plants and naturally occurring colonies (growth and nutrient content) will give an indication if nutrients will improve moss establishment and success on quarry floors.

Alvar and non-alvar species:

The majority of the experiments conducted in this research were completed using species of mosses that are found both in alvars and in some depleted quarries (Tomlinson et al., 2008). However, one of the project objectives was to find if similar techniques would allow for the establishment of alvar mosses that are not readily found in old quarries to be established there. In August 2010, one of these species - *Encalypta procera* – was used in the Fletcher Creek and Clanbrassil quarry trials along with the three other species used in previous experiments. Another small-scale introduction trial will be run at the Prescott quarry in spring 2011, this time with a late successional species of the genus Thuidium. Analysis of this data is ongoing.

Publication and presentation of project results

An article targeting the general public was published in "Quatre-temps" a tri-monthly magazine published by the "Société des amis du Jardin Botanique de Montréal" (literally translated, the "Friends of the Montreal Botanical Garden Association"). It was part of a special issue on bryophytes (mosses and liverworts). The article, entitled "Les mousses et la végétalisation de sites perturbés" (Mosses and the rehabilitation of disturbed land) discusses rehabilitation research conducted with mosses in various habitats (peatlands, boreal forest, etc.). A similar, but more technical article is in preparation for the "Canadian Reclamation" magazine, 2011. A scientific paper to be submitted to a peer-reviewed journal is also in preparation, along with a technical summary suitable for the aggregate industry.

On June 2nd, 2011, an oral presentation on the topic of "Mosses and the rehabilitation of disturbed sites" was made at the Société Québécoise de Phytotechnologie (SQP) annual meeting in Montréal (www.phytotechno.com). This year's meeting was organized jointly by the SQP and the Quebec chapter of the Canadian Land Reclamation Association.

Establishing Alvar Mosses on Quarry Floors (continued)

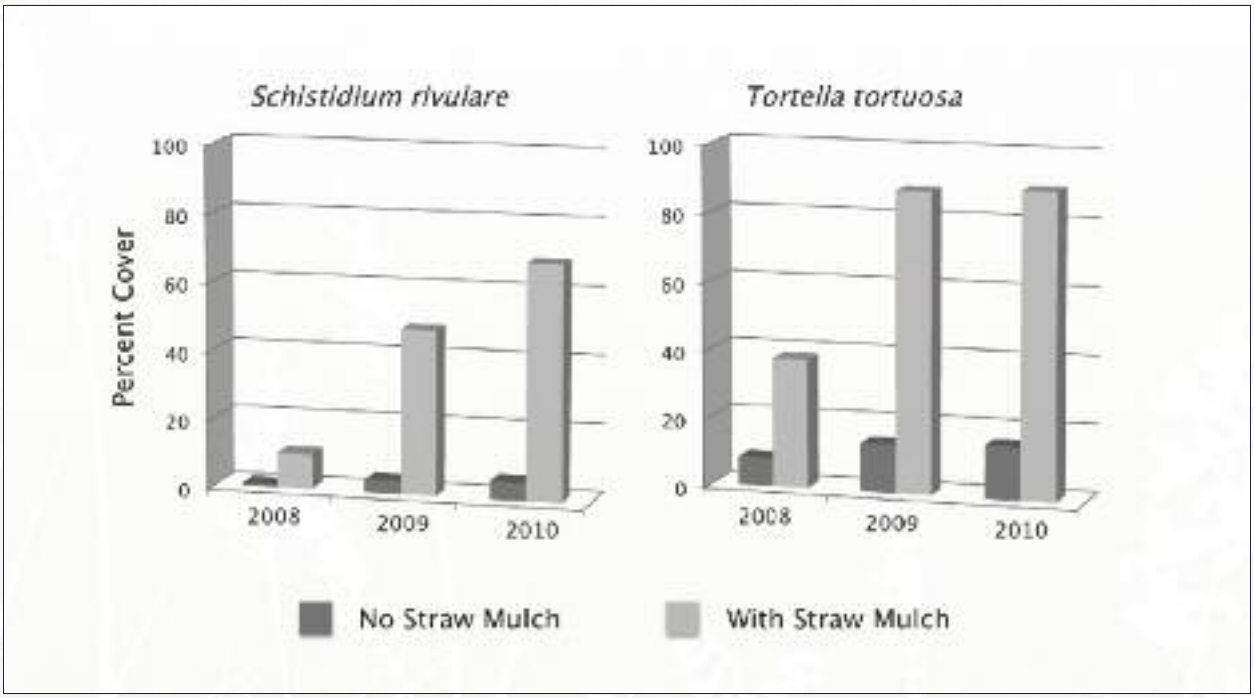


FIGURE 3: Prescott Quarry. Evolution of moss covers between 2008 and 2010, on plots with or without an initial straw mulch cover. Moss introduction were done in June 2008, and data were collected in November of each year.

FIGURE 4: Prescott Quarry. Evolution of moss covers between 2008 and 2010 on one experimental plot (with straw and on a sandy substrate). Top and bottom right: *Tortella tortuosa;* Bottom left: *Schisidium rivulare;* Top left; no moss introduction.

FIGURE 5: The experimental area at Prescott Quarry in 2008 and 2010. Left: June 2008. The area was essentially bare of moss when the experiment was set up. Right: November 2010; The series of moss colonies observed on the limestone pavement are some of the newly established colonies from the experimental introductions. The straw mulch that initially covered some of the plots is now all decomposed or gone.

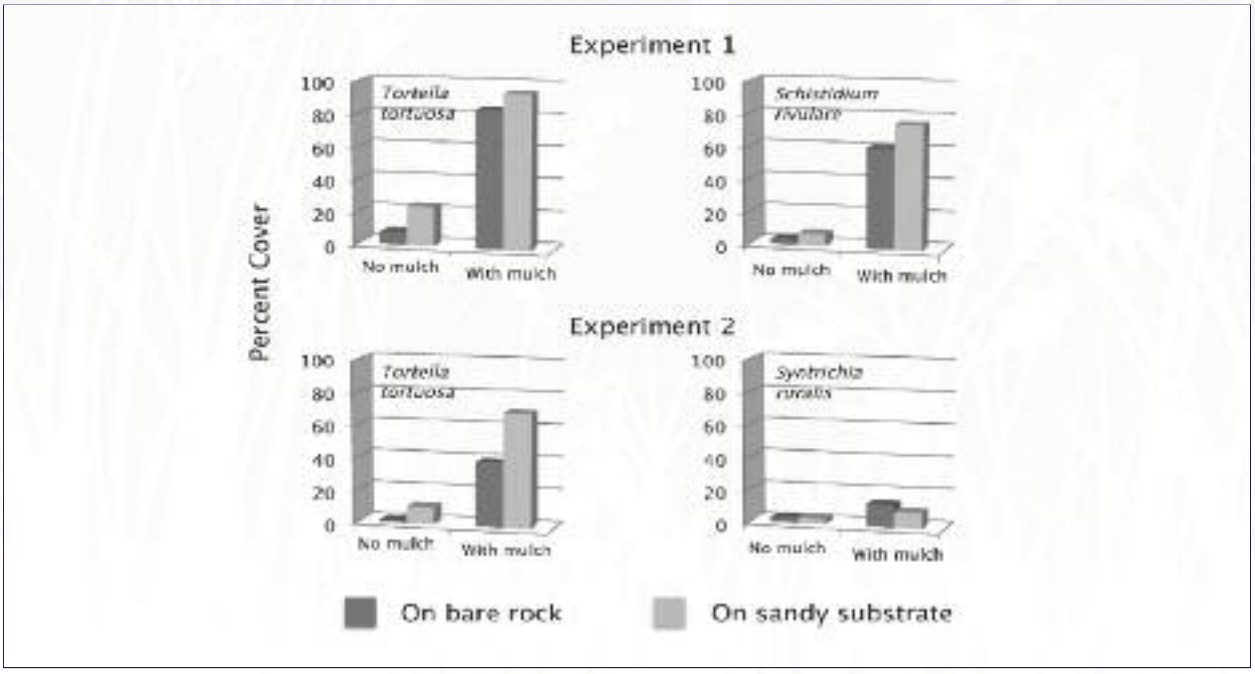


FIGURE 6: Effect of the type of substrate on moss establishment in two experiments conducted at Prescott Quarry in 2008, with three species of mosses. Experiment 1 and 2 were initiated in June and October 2008 respectively. Data were collected in November 2010.

Afforestation research project

DETERMINING THE TIMESPAN AND ECOLOGICAL CONDITIONS NECESSARY FOR AFFORESTED ENVIRONMENTS TO SUPPORT OLDER-GROWTH UNDERSTOREY COMMUNITIES

Background

The Ontario Aggregate Resources Corporation (TOARC) is pleased to announce a new research project investigating the potential for creating biodiversity offsets at locations external to proposed extraction sites. While regrettable, at times the recovery of important mineral aggregates means the removal of forest cover and other ecosystem types. In the case of quarried stone, it is not always possible to restore the affected forest cover in the same place. However, the opportunity often exists to replace forest cover (and other natural ecosystems) nearby on marginal farmland or former aggregate pits.

Managers however need to know if forests created on marginal-value farms will adequately replicate those removed, particularly when it comes to capturing important features existing below the canopy layer. It is commonly assumed that once trees are planted, other key forest components will eventually fall into place. However, this assumption is rarely tested and leaves open the questions of how much time is required and what management steps can accelerate the process. Answers to such questions are of great importance to those decision makers having to deal with allocating land use priorities amongst competing demands. Management recommendations generated by this broadly-scoped study will dramatically improve the capacity of the aggregates industry to meet environmental responsibilities, including mitigation of planned forest losses and rehabilitation of dry extraction sites, thereby increasing the merit of applications to expand or open new extraction sites.

This new research project will be undertaken by Dr. Paul Richardson, Research Fellow with TOARC, and Dr. Stephan Murphy from the Centre for Ecosystem Resilience and Adaption, University of Waterloo. The goal is to improve the effectiveness with which managers develop new forests on former farmlands, in the context of mitigating ecological impacts of aggregate production in forested landscapes. TOARC would like to thank the Natural Sciences and Engineering Research Council of Canada (NSERC) for assisting with funding for this important work through their Industrial R&D Fellowship program.

The Research

Research problem

Features of older-growth forests which are ultimately desired in planted woodlots include: 1) a canopy layer featuring diverse, mixed-age, shade-tolerant native hardwoods; 2) a moderately-shaded ground layer featuring deadwood in various states of decay plus a wide variety of shade-tolerant native herbs, ferns, mosses, shrubs, and saplings; 3) spatial heterogeneity of light and soil conditions (which supports biological diversity), including sporadic small and mid-sized canopy openings and the occurrence of moist hummocks and dry hills on the forest floor. Ecological theory suggests that target features can be achieved most rapidly in tree plantations by planting particular tree species, thinning to create specific types of canopy gaps, and altering the ground layer to increase the resemblance of soils and understorey communities to reference forests (e.g. through soil amendments and removal of exotic species). However, such theory has been difficult to test, refine, and put into practice due to two main problems. First, ecological processes underlying the development of older-growth features typically play out over many decades, but it is impractical to monitor experimental plantations for the century or more potentially required to capture all relevant dynamics. This problem can be circumvented somewhat by comparing at a single time point multiple locations that happen to differ with respect to how long forest development has been ongoing (e.g. plantations that were established in different years). This type of study system, where spatial differences substitute for temporal ones, is called a chronosequence. Use of such systems in studying ecological succession (the natural development of an ecosystem) relies on

FIGURE 1: A deciduous upland reference forest.

FIGURE 2: A "young" plantation (25-40 years since planting).

Afforestation research project (continued)

FIGURE 3: A "middle-age" plantation (45-60 years since planting).

FIGURE 4: An "old" plantation (65-95 years since planting).

the fact that understorey vegetation in well-developed forests is comprised of species that have adapted to particular environmental conditions. As such, the spontaneous occurrence of certain species can reliably indicate whole suites of environmental conditions that may otherwise be difficult to measure directly. Determining the minimum ages at which woodlots can support older-growth indicator species may thus provide an alternative method for estimating the timespan required for development of older-growth features which are most relevant to the vegetation itself.

Unfortunately, drawing inferences from such information is hampered by the second main problem: the absence of indicator species from a given site may signal lack of appropriate environmental conditions, but this could just as easily reflect a lack of species immigration to habitat that is otherwise suitable. Only by experimentally introducing such indicator species to test plantations can it be determined whether environment or immigration is most limiting to older-growth understorey vegetation (and the conditions these represent) in planted forests.

Methods addressing the problem

The new research project will address both the long timescale of forest succession and the difficulty of interpreting indicator species absence by combining a chronosequence study with an understorey herb relocation experiment. The chronosequence component consists of a large network of tree plantations across southern Ontario that were established at different points in time over the past century, as well as several natural woodlands that exemplify upland deciduous older-growth forests (i.e. reference sites; Figure. 1). An equal number of sites fall into "young" (planted 25-40 years ago; Figure. 2), "mid" (planted 45-60 years ago; Figure. 3), and "old" (planted 65-80+ years ago; Figure. 4) age classes. By identifying ecological similarities and differences among reference sites and plantations of different ages, we will be able to determine the minimal timespan needed following tree planting to achieve different thresholds of resemblance to natural forests. In order to determine how different management practices may either accelerate or decelerate this process, we will be investigating sites within each age class that differ consistently with respect to a few key aspects of management history. Specifically, we expect to contrast the outcomes of: 1) thinning stands with high versus low intensity; 2) planting conifers only versus a mixture of conifers and hardwoods; 3) planting trees on former farmland versus aggregate extraction sites. The specific nature of the comparisons to be made may shift somewhat to reflect the final suite of study sites that become available.

Study sites will be concentrated in several distinct geographical regions in southern Ontario, and are largely comprised of woodlots managed by either regional municipalities (e.g. Dufferin, Halton, Simcoe, York) or conservation authorities (e.g. Ausable-Bayfield; Grand River; Halton; Long Point). Aggregate producers, private landowners, and the rare Charitable Research Preserve have also been helpful in providing potential study sites, but we are still in search of more examples of plantations established on former extraction sites. Given the spatial scope of the study, potential geographical effects will be controlled for by ensuring reference sites and plantations spanning age and management gradients are located in each region. Each site corresponds to a single distinct stand of trees (either planted or natural) that is at least 0.5 ha in area. All sampling and experimental activities will take place within two 30 m x 30 m plots at each site, with each plot located at least 30 m from forest edges.

Study design and ecological sampling

In order to make inferences about how plantations eventually come to resemble older-growth woodlands, relevant ecological information must be gathered from all study plantations and reference forests. Indicators of older-growth status to be assessed include features of the canopy and understorey vegetation as well as the physical environment and underlying soils. In addition to spontaneously-occurring features, the capacity of plantations to support native understorey herbs which may not yet have immigrated will be assessed, by relocating select indicator species from reference forests to each plantation. Plantations and reference forests will be compared in order to determine how the degree to which plantations resemble reference forests is dependent upon site age, management factors, and study conditions aimed at controlling for potential confounding effects (e.g. geographical location). Where interactions between age and management are found to be important, different management conditions must

Afforestation research project (continued)

correlate with different rates of development towards older-growth conditions. Factors associated with most rapid or complete development can thus be identified.

Specific features of the forest canopy to be measured in each study plot include stand density, degree of canopy closure (measured using a spherical densitometer), stand basal area, species distribution, and the distribution of trunk diameter size classes. This data will be gathered using point-quarter sampling, in which random points each serve as centres for four quadrants within each of which the distance to the nearest tree is measured, as is the trunk diameter and species identity of this tree. Specific features of the understorey to be measured include total vegetation cover, biomass (both above and below ground), species richness and evenness, and the frequency of surface cover by each plant species present (including mosses, ferns, wildflowers, shrubs, and grasses). A subset of the randomly-sampled trees from the point-quarter sampling will serve as centres for 3 m radius circular plots in which understorey vegetation will be assessed. Soil will be collected from some of the circular plots at each site and analyzed for physical and chemical properties including pH, bulk density, particle size distribution, and concentrations of several macronutrients and micronutrients. Biomass of arbuscular mycorrhizal fungi (AMF) will additionally be assessed at some small plots in each site (AMF are important facilitators of soil development and plant growth), as will environmental features such as cover by herbaceous litter or woody debris and occurrence of hill-hummock micro-topography. The spatial density and decay class of snags (i.e. large pieces of deadwood) will be assessed during the canopy survey using the same point-quarter methods (but applied to dead rather than living trees). A map of the study design (including site locations and the herb relocation experiment described below) is shown in Figure 5.

Herb relocation experiment

The herb relocation component of the study is designed to obtain a "plant's-eye view" of each site, such that conditions capable of supporting characteristic older-growth understorey species can be identified, even if immigration of such species has not yet occurred. In addition to determining how suitable different sites are for indicator herbs, plant relocation will follow a design aimed at determining what factors are responsible for the failure of indicator species to survive at some sites. Specifically, we will test whether inadequate soil conditions (including living and non-living soil components) or competition with the existing understorey limit relocation success above and beyond the light-related limitations that are expected to be correlated with site age. Two different species have been selected as indicator herbs based on their broad distribution within older-growth upland deciduous forests across the entire study region, and on their relative absence from young forests and open habitats. Both species are native but not rare, and are immediately recognizable as part of southern Ontario's woodland heritage. Wild leek *(Allium tricoccum)* is a spring ephemeral that is clearly adapted to mature forests, given its habit of leafing-out in early spring to harvest sunlight prior to leafing-out of the canopy layer, followed by leaf desiccation, flowering, and dormancy in early summer when sunlight becomes generally unavailable on the forest floor due to leafing-out of the canopy. Although this species is most active under moderate light intensity, the bulb is sensitive to heat and drought and will generally not return if planted in a habitat without appropriate shade. Wild Ginger *(Asarum canadense)* similarly requires shaded habitat consistent with older-growth forests but retains its leaves all summer and provides important carpets of herbaceous cover on many forest floors. Relocating both of these characteristic older-growth species and monitoring their return (in spring) and survival will thus provide a robust window into how similar plantations are to natural forests from the plant's perspective. Given that failure to return following relocation could be explained by transplantation shock rather than unsuitable conditions, the selected species will additionally be relocated and monitored within their home forests as a baseline for plant performance following potentially stressful relocation to an otherwise suitable habitat.

The actual mechanics of the relocation experiment are illustrated in Figure 5. Within each of the circular plots, four individual plants of the same species (Wild Leek or Wild Ginger) will be transplanted, with each individual receiving a different experimental treatment. Individuals will be planted in each plot 1 m from the base of the central tree and spaced equidistantly from each other. An individual

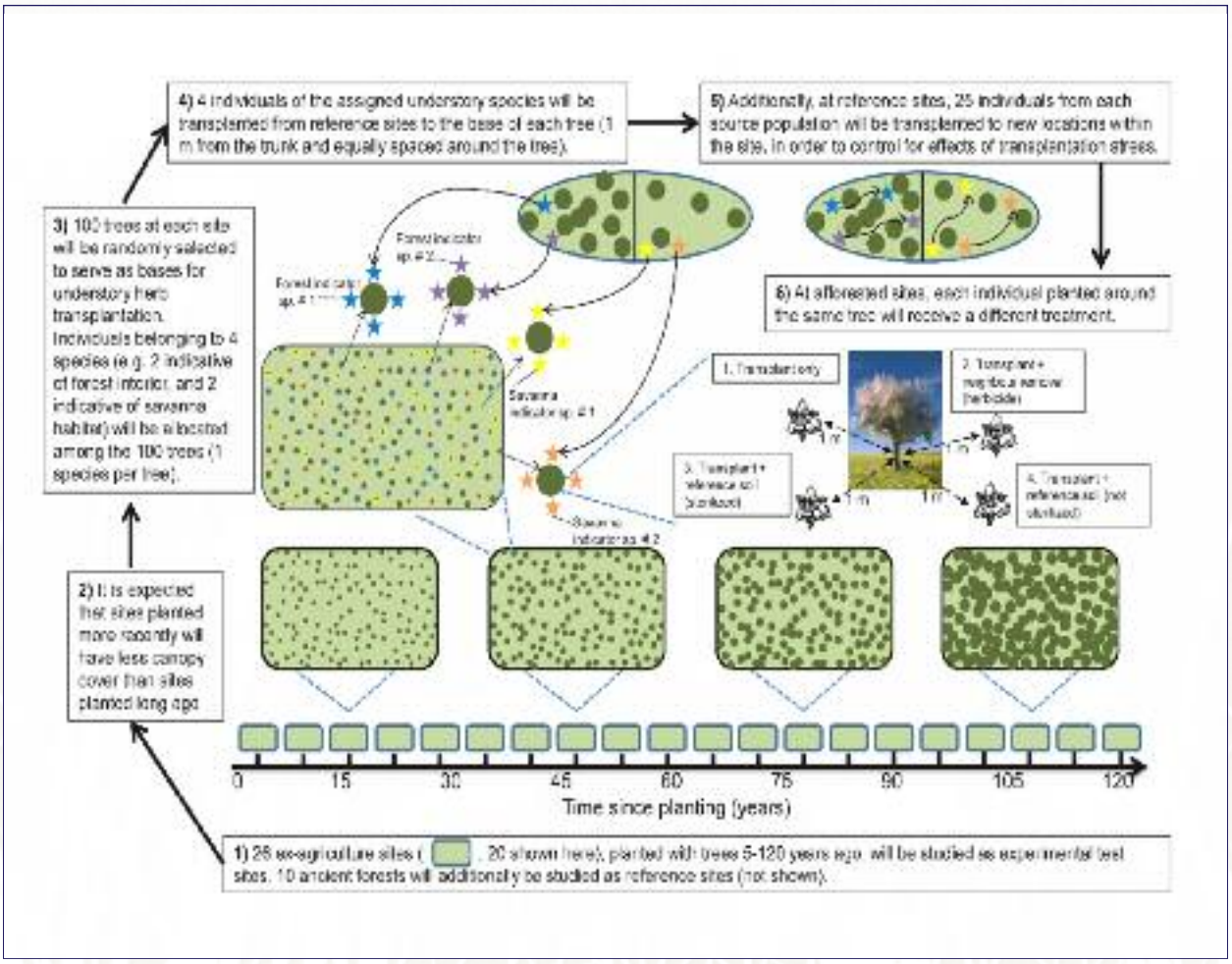


FIGURE 5: Schematic of the experimental design that will be used for determining the time span and ecological conditions necessary for afforested farmlands to support "ancient forest" understorey vegetation.

will consist of a mature bulb for Wild Leek, or a mature rhizome with associated root and shoot material for Wild Ginger. Relocation will take place in autumn 2011, and transplants will be monitored for return/survival as well as height, vigor, flowering, and other metrics throughout 2012 and 2013. In each circular plot, one individual will be planted as bare-bulb or bare-rhizome stock, with no soil introduced from the herbs' home sites. A second individual will be planted identically, but with the addition of 500 ml of soil from the reference site alongside the planet material. A third individual will be planted similarly to the first, but to 0.3 m x 0.3 m patches where the understorey layer has been removed via herbicide and weeding applications. The fourth individual will be planted exactly as the first, but will be harvested at the end of the experiment in order to assess above- and below-ground biomass

Afforestation research project (continued)

as well as the degree to which root material is colonized by arbuscular mycorrhizal fungi (AMF) and other symbiotic microorganisms.

Under this design, the degree to which transplant performance is limited by inappropriate soil conditions in the plantation environment will be determined by comparing transplants receiving extra "home" soil and those not receiving extra soil (with the expectation that the former will out-perform the latter where soil is a limiting factor). The importance of living soil components in this respect will be inferred from correlations between AMF colonization of transplants (and related metrics) and transplant performance. Finally, the degree to which transplant performance is limited by competition with other understorey species (including exotic invasive plants) will be determined by comparing transplant performance in vegetation-removal patches and in non-removal patches, under the expectation that the former will out-perform the latter where understorey competition is a limiting factor.

Expected results and their significance

The methods described here will yield comprehensive data on the ecological status of tree plantations representing multiple perspectives, including focus on the canopy-forming trees, the herbaceous and woody understorey, underlying soils and habitat features, and environmental conditions required for the growth of herbs indicative of older-growth upland deciduous forests. Results of experimental treatments and comparison of similarly-managed sites along the site-age gradient will provide insight into the degree to which these planted indicator species are limited by light conditions associated with site age versus conditions related to plantation soils and competing vegetation. Comparisons among differently managed sites will reveal overall differences in the effectiveness of different approaches to woodlot naturalization, including "leave it alone" versus "thin regularly" strategies, and "conifer only" versus "conifer/hardwood mix" plantings. Careful analysis of the site age effect and its interactions with management approach will yield definitive estimates of the number of years required for plantations to resemble older-growth forests, with different numbers likely for different target properties, and analyses for different thresholds of resemblance possible. Such analysis will also determine the number of years by which this degree of ecological convergence may be either hastened or held back as a result of different management strategies, including site-level variables related to thinning and tree planting, and plot-level variables related to soil amendments, understorey removal, and symbiotic microorganisms.

This information will be directly useful to managers of existing woodlots as well as parties interested in establishing new forests that have high ecological and natural heritage value, be it for mitigation, rehabilitation, or other purposes. Results will enable forecasting of the direction and rate of ecological succession in planted woodlots in the context of different thinning regimes, initial planting regimes, and geographical locations. By accounting for a wide range of target conditions including capacity to support characteristic herb species (whether or not immigration has occurred), and by accounting for confounding effects such as transplantation shock, we have ensured that any patterns detected will be done so with strong statistical and biological confidence. We expect to find that regular canopy thinning and mixed conifer/hardwood plantings will both contribute positively to the convergence of plantations with reference forests (with respect to multiple targets), and that relatively complete convergence can be achieved within 60-70 years. Removing competitors and amending soil will likely have smaller but still significant effects on the pace of understorey development. The nature and precision of our results will enable land managers to make economic decisions about the value of different afforestation strategies in relation to their individual needs and available resources. Most importantly, it will yield useful estimates as to the amount of time required for forest creation to ecologically compensate for forest removal.

Independent Auditor's Report

To the Trustee of
Aggregate Resources Trust:

We have audited the accompanying financial statements of Aggregate Resources Trust, which comprise the statement of financial position as at December 31, 2010, and the statements of revenues and expenses and changes in fund balances, and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Trust's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Trust's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Trust as at December 31, 2010 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

BDO CANADA LLP

Chartered Accountants, Licensed Public Accountants

February 16, 2011

Burlington, Ontario

Aggregate Resources Trust

Statement of Financial Position

As at December 31	2010	2009
	$	$
ASSETS		
Current		
Cash	**610,726**	567,693
Short-term investments	**333,442**	750,000
Due from Licensees and Permittees	**199,244**	185,067
GST/HST recoverable	**38,555**	20,489
Interest and dividends declared receivable	**35,610**	49,048
Prepaid expenses	**17,851**	34,397
Total current assets	**1,235,428**	1,606,694
Investments [note 3]	**16,299,413**	15,374,129
Capital assets, net [note 4]	**96,379**	99,467
	17,631,220	17,080,290
LIABILITIES AND TRUST FUNDS		
Current		
Accounts payable and accrued liabilities	**120,945**	218,992
Due to Licensees and Permittees [note 1]	**—**	6,693
Due to The Ontario Aggregate Resources Corporation [note 1], [note 5]	**11,091**	135
Wayside permit deposits	**67,880**	91,595
Deferred Aggregate Resources Charges	**56,391**	31,474
Deferred Lease Costs	**31,781**	40,256
Due to Governments	**285,490**	285,738
Total current liabilities	**573,578**	674,883
Trust Funds		
Rehabilitation Fund	**14,084,899**	13,462,145
Abandoned Pits and Quarries Rehabilitation Fund	**2,972,743**	2,943,262
Total Trust Funds	**17,057,642**	16,405,407
	17,631,220	17,080,290

See accompanying notes

On behalf of the Trust by The Ontario Aggregate Resources Corporation as Trustee:

Director

Director

Aggregate Resources Trust

Statement of Revenue and Expenses and Changes in Fund Balances

For the Year ended December 31	2010			
	Aggregate Resources Fund $	Rehabilitation Fund $	Abandoned Pits and Quarries Rehabilitation Fund $	Total $
REVENUE				
Investment income [note 3]	—	**616,370**	**115,761**	**732,131**
Unrealized changes in fair value	—	**676,889**	**147,681**	**824,570**
Publications	—	**300**	**1,620**	**1,920**
Gain on disposal of capital assets	—	—	**7,500**	**7,500**
	—	**1,293,559**	**272,562**	**1,566,121**
EXPENSES				
Reimbursed expenses	—	**543,598**	**560,820**	**1,104,418**
Depreciation	—	**23,612**	**16,934**	**40,546**
Investment management fees	—	**99,264**	**21,656**	**120,920**
	—	**666,474**	**599,410**	**1,265,884**
Excess (deficiency) of revenue over expenses before the following	—	**627,085**	**(326,848)**	**300,237**
Aggregate Resources Charges	**18,477,313**	—	—	**18,477,313**
Allocated to the Governments	**(17,756,807)**	—	—	**(17,756,807)**
Allocated to the Crown	**(720,506)**	—	—	**(720,506)**
Excess (deficiency) of revenue over expenses for the year	—	**627,085**	**(326,848)**	**300,237**
Trust Funds, beginning of year	—	**13,462,145**	**2,943,262**	**16,405,407**
Funds reinvested by the Crown	**726,956**	—	—	**726,956**
Interfund transfer	**(726,956)**	**6,450**	**720,506**	—
Expenditures incurred in meeting the Trust purposes [see schedules]	—	**(10,781)**	**(364,177)**	**(374,958)**
Trust Funds, end of year	—	**14,084,899**	**2,972,743**	**17,057,642**

See accompanying notes

Aggregate Resources Trust

Statement of Revenue and Expenses and Changes in Fund Balances

For the Year ended December 31	2009			
	Aggregate Resources Fund $	Rehabilitation Fund $	Abandoned Pits and Quarries Rehabilitation Fund $	Total $
REVENUE				
Investment income [note 3]	—	**577,180**	**90,019**	**667,199**
Unrealized changes in fair value	—	**1,220,611**	**266,669**	**1,487,280**
Publications	—	**200**	**1,301**	**1,501**
Loss on disposal of capital assets	—	**(538)**	—	**(538)**
	—	**1,797,453**	**357,989**	**2,155,442**
EXPENSES				
Reimbursed expenses	—	**641,009**	**390,095**	**1,031,104**
Depreciation	—	**30,388**	**17,044**	**47,432**
Investment management fees	—	**91,605**	**20,014**	**111,619**
	—	**763,002**	**427,153**	**1,190,155**
Excess (deficiency) of revenue over expenses before the following	—	**1,034,451**	**(69,164)**	**965,287**
Aggregate Resources Charges	**20,168,072**	—	—	**20,168,072**
Allocated to the Governments	**(19,376,190)**	—	—	**(19,376,190)**
Allocated to the Crown	**(791,882)**	—	—	**(791,882)**
Excess (deficiency) of revenue over expenses for the year	—	**1,034,451**	**(69,164)**	**965,287**
Trust Funds, beginning of year	—	**12,474,334**	**2,834,971**	**15,309,305**
Funds reinvested by the Crown	**791,882**	—	—	**791,882**
Interfund transfer	**(791,882)**	—	**791,882**	—
Expenditures incurred in meeting the Trust purposes [see schedules]	—	**(46,640)**	**(614,427)**	**(661,067)**
Trust Funds, end of year	—	**13,462,145**	**2,943,262**	**16,405,407**

See accompanying notes

Aggregate Resources Trust

Statement of Cash Flows

For the Year ended December 31	2010 $	2009 $
CASH FLOWS FROM OPERATING ACTIVITIES		
Excess of revenue over expenses for the year	**300,237**	965,287
Add (less) items not involving cash		
Depreciation	**40,546**	47,432
Unrealized changes in fair values	**(824,570)**	(1,487,280)
Loss (gain) on disposal of capital assets	**(7,500)**	538
	(491,287)	(474,023)
Net change in non-cash working capital balances related to operations		
Due from Licensees and Permittees	**(14,177)**	(93,636)
GST/HST recoverable	**(18,066)**	(8,972)
Interest and dividends declared receivable	**13,438**	8,651
Prepaid expenses	**16,546**	(17,905)
Accounts payable and accrued liabilities	**(98,047)**	(173,875)
Due to Licensees and Permittees	**(6,693)**	—
Due to The Ontario Aggregate Resources Corporation	**10,956**	(10,304)
Wayside permit deposits	**(23,715)**	(25,300)
Deferred Aggregate Resources Charges	**24,917**	9,147
Deferred lease costs	**(8,475)**	40,256
Due to Governments	**(248)**	81,456
Cash used in operating activities	**(594,851)**	(664,505)
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of capital assets	**(37,459)**	(77,484)
Proceeds on disposal of capital assets	**7,500**	50
Purchase of short-term investments	**(36,030,772)**	(18,450,270)
Sale of short-term investments	**36,449,804**	19,008,155
Purchase of investments	**(1,852,924)**	(3,013,538)
Sale of investments	**1,749,737**	3,068,620
Cash provided by investing activities	**285,886**	535,533
CASH FLOWS FROM FINANCING ACTIVITIES		
Funds reinvested by the Crown	**726,956**	791,882
Expenditures incurred in meeting the Trust purposes	**(374,958)**	(661,067)
Cash provided by financing activities	**351,998**	130,815
Net increase in cash during the year	**43,033**	1,843
Cash, beginning of year	**567,693**	565,850
Cash, end of year	**610,726**	567,693

SUPPLEMENTAL CASH FLOW INFORMATION	**2010**	2009
For the Year ended December 31	**$**	$
Cash received from interest	**434,556**	468,602

See accompanying notes

Aggregate Resources Trust

Schedules of Rehabilitation Costs for the Rehabilitation Fund

For the Year ended December 31		2010
Project Number	**Project Name**	**Paid or Payable** $
	Education	
	Rehabilitation Manual	**270**
	Student Rehabilitation Design Competition	**9,511**
	Rehabilitation Tour Brampton & surrounding area	**1,000**
		10,781

See accompanying notes

For the Year ended December 31		2009
Project number	**Project name**	**Paid or Payable $**
08-02	Victoria Graphite Quarry, County of Leeds & Grenville	**25,325**
	Education	
	Rehabilitation Manual	**10,168**
	Student Rehabilitation Design Competition	**9,706**
	Rehabilitation Tour Uxbridge & surrounding area	**1,000**
	Tendering, consulting and other	**441**
		46,640

See accompanying notes

Aggregate Resources Trust

Schedules of Rehabilitation Costs for the Abandoned Pits and Quarries Rehabilitation Fund

For the Year ended December 31		2010
Project Number	**Project Name**	**Paid or payable / (Recovered) $**
06-15	Clark Pit, Dufferin County	**2,950**
07-17	Morrison Pit, Grey County	**1,752**
07-18	Fogels Pit, Grey County	**856**
08-02	Sallans Pit, Peterborough County	**107**
08-24	Maree Pit, Grey County	**91**
08-26	Brindley Pit, Bruce County	**(750)**
09-01	Birch Pit, Huron County	**2,573**
09-04	Powell Pit, Huron County	**462**
09-05	Mahon Pit, Perth County	**1,914**
09-06	Mount Pit, Huron County	**493**
09-11	Smith (Hunter) Pit, Wellington County	**18,730**
09-13	Poel Pit, Middlesex County	**116**
09-15	Kroes Pit, Perth County	**5,975**
09-16	Kruger Pit, Renfrew County	**2,491**
09-17	Galbraith Pit, Renfrew County	**2,636**
09-19	Graham Pit, Lanark County	**3,350**
09-21	Martin Pit, Lanark County	**1,779**
10-01	Sullivan Pit, Peterborough County	**10,703**
10-02	Buck Pit, City of Kawartha Lakes	**12,073**
10-03A	Barrett Pit, City of Kawartha Lakes	**8,971**
10-03B	Keenan Pit, City of Kawartha Lakes	**8,971**
10-04	McQuaid Pit, City of Kawartha Lakes	**2,448**
10-05	Cook Pit, City of Kawartha Lakes	**5,214**
10-06	Carroll Pit, City of Kawartha Lakes	**9,417**
10-07	Carnaghan Pit, City of Kawartha Lakes	**3,394**
10-08	Johnston Pit, City of Kawartha Lakes	**69,131**
10-09	Hoddenbagh Pit, City of Kawartha Lakes	**6,047**
10-10	Dancey Pit, City of Kawartha Lakes	**6,836**
10-11	Soenen Pit, Norfolk County	**13,100**
10-12	Sheele Pit, Elgin County	**11,450**
10-13	McRae Pit, District of Muskoka	**4,800**
10-14	Bradford Pit, Haliburton County	**2,403**
10-15	Dow Pit, Perth County	**32,490**
10-16	Sisson Pit, Haliburton County	**2,332**
10-19	Boice Pit, Haliburton County	**3,000**
10-24	Montgomery Pit, Haliburton County	**3,540**

See accompanying notes

Aggregate Resources Trust

Schedules of Rehabilitation Costs for the Abandoned Pits and Quarries Rehabilitation Fund (continued)

For the Year ended December 31	2010
Project Name	**Paid or payable / (Recovered) $**
Newly Designated Areas – Inventories report	**39,929**
Research costs	
Bryophyta Technologies – Establishing Alvar mosses on Quarry floors	**7,708**
Savanta Inc. – Pilot Tallgrass Prairie Restoration Plan	**25,638**
Pilot Tallgrass Prairie Restoration Plan Recoveries (MNR)	**(15,179)**
Dr. Klironomos – Fungal & Soil Ecology - Native prairie plant response to mycorrhizal inoculation and soil carbon amendments	**27,000**
Dr. Richardson – Determining the time span and ecological conditions necessary for afforested environments to support older growth understorey communities	**10,000**
Tendering, consulting and other	**7,236**
	364,177

See accompanying notes

Aggregate Resources Trust

Schedules of Rehabilitation Costs for the Abandoned Pits and Quarries Rehabilitation Fund

For the Year ended December 31		2009
Project Number	**Project Name**	**Paid or payable / (Recovered) $**
06-02	McLean Pit, Dufferin County	**416**
06-15	Clark Pit, Dufferin County	**562**
07-15	MacDonald Pit, Hastings County	**(746)**
07-16	Hardy Pit, Hastings County	**(2,797)**
07-17	Morrison Pit, Grey County	**241**
08-03	Sorenson Pit, Lennox and Addington County	**550**
08-04	Robinson Pit, Hastings County	**1,151**
08-05	Sexsmith Pit, Hastings County	**153**
08-07	Holiday Quarry, Hastings County	**15,000**
08-08	Phillips Pit, Hastings County	**1,066**
08-16	Russell Pit, Grey County	**1,135**
08-21	Crawford Pit, Grey County	**632**
08-23	Brown Pit, Grey County	**6,480**
09-01	Birch Pit, Huron County	**21,052**
09-02	Nott Pit, Huron County	**55,000**
09-03	Jankowski Pit, Huron County	**26,400**
09-04	Powell Pit, Huron County	**6,352**
09-05	Mahon Pit, Perth County	**7,116**
09-06	Mount Pit, Huron County	**3,046**
09-07	Shetler Pit, Huron County	**4,680**
09-08	Miller Pit, Huron County	**1,100**
09-09	Lantz Pit, The Regional Municipality of Waterloo	**2,800**
09-10	Detzler Pit, The Regional Municipality of Waterloo	**2,900**
09-11	Smith (Hunter) Pit, The Regional Municipality of Waterloo	**1,927**
09-12	Keupfer Pit, Perth County	**280**
09-13	Poel Pit, Middlesex County	**185**
09-14	Deboer Pit, Huron County	**313**
09-16	Kruger Pit, Renfrew County	**18,690**
09-17	Galbraith Pit, Renfrew County	**43,996**
09-18	Behm Pit, Renfrew County	**12,572**
09-19	Graham Pit, Lanark County	**13,480**
09-21	Martin Pit, Lanark County	**31,314**

See accompanying notes

Aggregate Resources Trust

Schedules of Rehabilitation Costs for the Abandoned Pits and Quarries Rehabilitation Fund (continued)

For the Year ended December 31	2009
Project Name	**Paid or payable / (Recovered) $**
Newly Designated Areas – Inventories report	**86,007**
Research costs	
McMaster University – Calcareous wetland rehabilitation	**10,000**
University Guelph – Connecting opportunities & solutions	**7,954**
University Guelph–Biodiversity & Stability-Restoration of Quarries	**4,400**
Savanta Inc. – Species at Risk Best Practice Guidelines	**776**
Bryophyta Technologies – Establishing Alvar mosses on Quarries floors	**17,665**
State of Aggregate Resources in Ontario Update 2007 - Demand	**100,000**
State of Aggregate Resources in Ontario Update 2007 - Availability	**100,000**
Savanta Inc. – Pilot Tallgrass Prairie Restoration Plan	**23,365**
Pilot Tallgrass Prairie Restoration Plan Recoveries (MNR)	**(14,321)**
Tendering, consulting and other	**1,535**
	614,427

See accompanying notes

Aggregate Resources Trust

Notes to Financial Statements

December 31, 2010

1. Formation and Nature of Trust

Aggregate Resources Trust [the "Trust"] was settled by Her Majesty the Queen in Right of the Province of Ontario [the "Crown"] as represented by the Minister of Natural Resources [the "Minister"] for the Province of Ontario pursuant to Section 6.1(1) of the Aggregate Resources Act, R.S.O. 1990, Chap. A.8 as amended [the "Act"]. The Minister entered into a Trust Indenture dated June 27, 1997 [the "Trust Indenture"] with The Ontario Aggregate Resources Corporation ["TOARC"] appointing TOARC as Trustee of the Trust.

The Trust's goals are: [a] the rehabilitation of land for which a Licence or Permit has been revoked and for which final rehabilitation has not been completed; [b] the rehabilitation of abandoned pits and quarries, including surveys and studies respecting their location and condition; [c] research on aggregate resource management, including rehabilitation; [d] making payments to the Crown and to regional municipalities, counties and local municipalities in accordance with regulations made pursuant to the Act; [e] the management of the Abandoned Pits and Quarries Rehabilitation Fund; and [f] such other purposes as may be provided for by or pursuant to Section 6.1(2)5 of the Act.

In 1999 the Trust's purposes were expanded by amendment to the Trust Indenture to include:

[a] " the education and training of persons engaged in or interested in the management of the aggregate resources of Ontario, the operation of pits or quarries, or the rehabilitation of land from which aggregate has been excavated; and

[b] the gathering, publishing and dissemination of information relating to the management of the aggregate resources of Ontario, the control and regulation of aggregate operations and the rehabilitation of land from which aggregate has been excavated."

In accordance with the Trust Indenture, TOARC administers the Trust which consists of three funds: the Aggregate Resources Fund, the Rehabilitation Fund and the Abandoned Pits and Quarries Rehabilitation Fund. TOARC is a mere custodian of the assets of the Trust and all expenditures made by TOARC are expenditures of the Trust.

Prior to the creation of the Trust, the Trust's goals were pursued by the Minister and, separately, the Ontario Stone, Sand & Gravel Association [the "OSSGA"] formerly The Aggregate Producers' Association of Ontario [the "APAO"]. Upon the creation of the Trust, rehabilitation security deposits held by the Crown, as represented by the Minister, were to be transferred to the Trust. In addition, the Crown directed the OSSGA to transfer, on behalf of the Crown, the Abandoned Pits and Quarries Rehabilitation Fund to the Trust. By December 31, 1999, the Minister and the OSSGA had transferred $59,793,446 and $933,485, respectively, to the Trust.

Pursuant to the Trust Indenture, TOARC "shall pay and discharge expenses properly incurred by it in carrying out and fulfilling the Trust purposes and the administration of the Trust . . ." [Section 7.02].

The Aggregate Resources Fund is for the collection of the annual licence and permit fees, royalties, and wayside permit fees [aggregate resources charges] collected on behalf of the Minister. Effective for the 2007 production year the annual licence fee increased from $0.06 per tonne to $0.115 per tonne. The licence fees are due by March 15 of the following year, and are disbursed within six months of receipt. The fees are disbursed as follows: [a] $0.06 to the lower tier municipality, [b] $0.015 to the upper tier municipality, [c] $0.035 to the Crown, collectively [the "Governments"] and [d] $0.005 to the Trust. Minimum annual fees will also increase effective for the 2007 production year:

- a Class A licence from $200 to $400 or $0.115 per tonne whichever is greater;
- a Class B licence from $100 to $200 or $0.115 per tonne whichever is greater;
- the minimum wayside fee from $100 to $400 or $0.115 per tonne whichever is greater;
- the annual aggregate permit fee from $100 to $200;

  and
- the minimum royalty rate for aggregate extracted on Crown land from $0.25 to $0.50 per tonne.

For production prior to 2007 all aggregate resources charges remain at the old fee schedule with the $0.06 licence fee being disbursed as follows: [a] $0.04 to the lower tier municipality, [b] $0.005 to the upper

tier municipality, [c] $0.01 to the Crown, collectively [the "Governments"] and [d] $0.005 to the Trust.

The funds reinvested by the Crown to the Trust from the Aggregate Resources Fund will be transferred within the Trust and used for the Rehabilitation Fund and the Abandoned Pits and Quarries Rehabilitation Fund. In addition, the Trust collects the royalty payments and annual fees related to aggregate permits and also disburses the funds to the Crown within six months of receipt.

The Rehabilitation Fund represents the rehabilitation security deposits, contributed by Licensees and Permittees, held by the Crown and, in accordance with the Trust Indenture, transferred to the Trust. TOARC has been directed by the Minister to refund approximately 3,000 individual licensee and permittee accounts based on the formula of retaining $500 per hectare disbursed on licenses and 20% of the deposit amount for aggregate permits. As a result, the Trust has refunded approximately $48.6 million and $6,450 was forfeited during the year as per the Crown's directions. The balance of funds will be used to ensure the rehabilitation of land where licenses and/or permits have been revoked and final rehabilitation has not been completed.

The Abandoned Pits and Quarries Rehabilitation Fund is for the rehabilitation of abandoned sites and related research. Abandoned sites are pits and quarries for which a licence or permit was never in force at any time after December 31, 1989.

The Trust's expenses [or Trustee's expenses] are the amounts paid pursuant to Article 7.02 of the Trust Indenture.

Pursuant to Section 4.01 of the Trust Indenture, the Trust's assets and the income and gains derived therefrom are property belonging to the Province of Ontario within the meaning of Section 125 of the Constitution Act, 1867 and, by reason of Section 7.01 of the Trust Indenture, the amounts paid by the Trustee pursuant to Article 7 are paid to or for the benefit of the Crown.

2. Summary of Significant Accounting Policies

The financial statements of the Trust have been prepared in accordance with Canadian generally accepted accounting principles and within the framework of the significant accounting policies summarized as follows:

Use of Estimates

The preparation of financial statements in accordance with Canadian generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from management's best estimates as additional information becomes available in the future. The financial statements have, in management's opinion, been properly prepared using careful judgment within reasonable limits of materiality and within the framework of the accounting policies of the Trust.

Aggregate Resources Charges

Aggregate resources charges collected on behalf of the Minister are recorded upon receipt of a tonnage report from Licensees and Permittees. Aggregate resources charges are based on the tonnage produced in the preceding period by the Licensees and Permittees as reported by the Licensees and Permittees. If there is no production in the preceding period, an annual fee is recognized for Permittees.

Deferred Aggregate Resources Charges represents prepayments and overpayments of fees charged to Licensees and Permittees.

Capital Assets

Capital assets are recorded at cost less accumulated depreciation. Depreciation is recorded to write off the cost of capital assets over their estimated useful lives on a straight-line basis as follows:

Computer equipment and software	3 to 5 years
Furniture and fixtures	5 years
Leasehold improvements	5 years
Vehicles	3 years

Deferred Lease Costs

Deferred lease costs represent leasehold improvements that are being reimbursed by the landlord and are being amortized over the term of the lease.

Financial Instruments

Financial instruments are initially measured at fair value. Those classified as loans and receivables or other liabilities are subsequently measured at amortized cost using the effective interest rate method. The Trust does not classify any of its financial assets as held-to-maturity or available-for-sale.

The Trust has classified its financial instruments as follows:

Cash is designated as held-for-trading.

Short-term investments are designated as held-for-trading and are considered highly liquid investments maturing within 12 months of the financial statement date. The carrying values of short -term investments are a reasonable estimate of their fair value due to their short-term maturity. The fair value of these assets is based on quoted market prices.

Short-term investments consist of:

i) A Province of Quebec bond that bears interest at 1.00% per annum with a maturity date of February 14, 2011.
ii) A Province of Quebec promissory note that bears interest at 0.91% per annum with a maturity date of February 22, 2011.
iii) A George Weston bond that bears interest at 6.45% per annum with a maturity date of October 24, 2011.
iv) A Master Credit Card Trust bond that bears interest at 4.444% per annum with a maturity date of November 21, 2011.
v) A Canada Housing Trust bond that bears interest at 3.95% per annum with a maturity date of December 15, 2011.

Investments are classified as held-for-trading. Realized gains and losses and unrealized changes in fair values are recorded in the Statement of Revenue and Expenses and Changes in Fund Balances under investment income and unrealized changes in fair value respectively. Fair value is determined based on quoted market prices.

The Trust accounts for its investments on a trade date basis and transaction costs associated with the investments are included in the Statement of Revenue and Expenses and Changes in Fund Balances under investment income.

Due from Licensees and Permittees and interest and dividends declared receivable are classified as loans and receivables and are measured at amortized cost.

Accounts payable and accrued liabilities, due to Licensees and Permittees, wayside permit deposits and due to Governments are classified as other financial liabilities and are measured at amortized cost.

The Trust utilizes various financial instruments. Unless otherwise noted, it is management's opinion the Trust is not exposed to significant interest, currency or credit risks arising from its financial instruments and the carrying amounts approximate fair values.

Revenue Recognition

Investment income is recognized in the period in which it is earned.

Foreign Currency Translation

Foreign currency accounts are translated into Canadian dollars as follows:

Foreign currency assets and liabilities are translated into Canadian dollars by the use of the exchange rate prevailing at the year end date for monetary items and at exchange rates prevailing at the transaction date for non-monetary items. The resulting foreign exchange gains and losses are included in investment income in the current period.

Aggregate Resources Trust

Notes to Financial Statements (continued)

December 31, 2010

3. Investments

Investments consist of the following:	**2010 Fair Value $**	**2010 Cost $**	2009 Fair Value $	2009 Cost $
Bonds				
Government of Canada and Agencies	**3,389,657**	**3,247,727**	3,384,774	3,270,450
Corporate	**459,648**	**436,604**	671,548	642,614
Convertible Debenture	**3,586**	**2,116**	—	—
Canadian Equities	**1,179,176**	**776,013**	1,105,992	784,355
Foreign Equities	**3,433,735**	**4,288,763**	3,173,464	4,134,783
Pooled Funds	**7,833,611**	**7,226,492**	7,038,351	7,042,325
	16,299,413	**15,977,715**	15,374,129	15,874,527

The Government of Canada and Agencies bonds bear interest at rates ranging from 1.027% to 9.95% per annum [2009 – 0.441% to 9.95%] with maturity dates ranging from June 1, 2012 to December 15, 2025.

The Corporate bonds bear interest at rates ranging from 4.38% to 6.50% per annum [2009 – 3.95% to 8.25%] with maturity dates ranging from December 17, 2012 to November 16, 2020.

Interest rate risk

The Trust is exposed to interest rate risk on its bond portfolio and does not currently hold any financial instruments that mitigate this risk. Management does not believe that the impact of interest rate fluctuation will be significant.

Investment income is broken down as follows:	**2010 $**	2009 $
Interest income	**421,254**	461,589
Dividends	**212,520**	209,358
Realized capital gains [net]	**97,987**	4,463
Foreign exchange gains [net]	**(1,339)**	(9,941)
Other income	**1,709**	1,730
	732,131	667,199

Investment income of the Rehabilitation Fund includes interest earned on Aggregate Resources Charges collected on behalf of the Minister of $82,413 [2009 - $104,657].

4. Capital Assets

Capital assets consist of the following:	**2010 Cost $**	**2010 Accumulated depreciation $**	**2010 Net book Value $**	2009 Cost $	2009 Accumulated depreciation $	2009 Net book Value $
Computer equipment and software	**163,128**	**142,276**	**20,852**	171,802	132,118	39,684
Furniture and fixtures	**122,126**	**108,949**	**13,177**	122,126	103,620	18,506
Leasehold improvements	**46,700**	**14,763**	**31,937**	46,700	5,423	41,277
Vehicles	**81,770**	**51,357**	**30,413**	88,511	88,511	—
	413,724	**317,345**	**96,379**	429,139	329,672	99,467

5. Due to the Ontario Aggregate Resources Corporation

Amounts due to the Corporation are unsecured, non-interest bearing and are due on demand.

6. Commitments

The Trust has entered into a number of Research Funding Agreements. The future annual payments, in total and over the next three years, are as follows:	**$**
2011	**125,759**
2012	**13,750**
2013	**12,750**
	152,259

7. Capital Disclosures

The Trust considers its capital to be its trust funds invested in the Aggregate Resources Fund, the Rehabilitation Fund and the Abandoned Pits and Quarries Rehabilitation Fund. The Trust's objective when managing its capital is to safeguard its ability to continue as a going concern so that it can fulfill the Trust's purposes. Annual budgets are developed and monitored to ensure that the Trust's capital is maintained at an appropriate level.

Independent Auditor's Report

To the Shareholder of
The Ontario Aggregate Resources Corporation:

We have audited the accompanying financial statements of The Ontario Aggregate Resources Corporation, which comprise the balance sheet as at December 31, 2010, and the statement of operations and retained earnings for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Corporation's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Corporation's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as at December 31, 2010 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

BDO CANADA LLP

Chartered Accountants, Licensed Public Accountants

February 16, 2011

Burlington, Ontario

The Ontario Aggregate Resources Corporation

Balance Sheet

As at December 31	2010	2009
	$	$
ASSETS		
Cash	**1**	1
Due from Aggregate Resources Trust [note 3]	**11,091**	135
	11,092	136
LIABILITIES AND TRUST FUNDS		
Liabilities		
Due to Ontario Stone, Sand & Gravel Association [note 3]	**11,091**	135
Total liabilities	**11,091**	135
Shareholder's equity		
Share capital		
Authorized and issued, 1 common share	**1**	1
Retained earnings	**—**	—
Total shareholder's equity	**1**	1
	11,092	136

See accompanying notes

On behalf of the Board:

Director

Director

The Ontario Aggregate Resources Corporation

Statement of Operations and Retained Earnings

For the Year ended December 31	2010		
	Rehabilitation Fund $	Abandoned Pits and Quarries Rehabilitation Fund $	Total $
EXPENSES			
Salaries and employee benefits	322,616	391,712	714,328
Board expenses	3,864	3,864	7,728
Professional fees	102,736	39,309	142,045
Data processing	15,126	19,730	34,856
Travel	20,845	52,102	72,947
Communication	20,769	21,427	42,196
Office	16,106	9,133	25,239
Office lease, taxes and maintenance	37,124	21,337	58,461
Insurance	4,412	2,206	6,618
	543,598	560,820	1,104,418
Recovery of costs	(543,598)	(560,820)	(1,104,418)
Net income for the year	—	—	—
Retained earnings, beginning of year	—	—	—
Retained earnings, end of year	—	—	—

See accompanying notes

For the Year ended December 31	2009		
	Rehabilitation Fund $	Abandoned Pits and Quarries Rehabilitation Fund $	Total $
EXPENSES			
Salaries and employee benefits	410,612	251,121	661,733
Board expenses	13,017	—	13,017
Professional fees	97,838	13,011	110,849
Data processing	13,126	1,495	14,621
Travel	24,954	71,292	96,246
Communication	19,493	20,408	39,901
Office	19,567	11,172	30,739
Office lease, taxes and maintenance	37,990	19,390	57,380
Insurance	4,412	2,206	6,618
	641,009	390,095	1,031,104
Recovery of costs	(641,009)	(390,095)	(1,031,104)
Net income for the year	—	—	—
Retained earnings, beginning of year	—	—	—
Retained earnings, end of year	—	—	—

See accompanying notes

The Ontario Aggregate Resources Corporation

Notes to Financial Statements

December 31, 2010

1. Formation and Nature of Trust

The Ontario Aggregate Resources Corporation [the "Corporation"] was incorporated on February 20, 1997. The Corporation's sole shareholder is the Ontario Stone, Sand & Gravel Association [the "OSSGA"] (formerly The Aggregate Producers' Association of Ontario [the "APAO"]), a not-for-profit organization. The Corporation's sole purpose is to act as Trustee of the Aggregate Resources Trust [the "Trust"]. On June 27, 1997, the Corporation and Her Majesty the Queen in Right of the Province of Ontario [the "Crown"], as represented by the Minister of Natural Resources [the "Minister"], entered into a Trust Indenture, appointing the Corporation as Trustee of the Trust.

In accordance with the Indenture Agreement, the Corporation incurs administrative expenses as Trustee of the Trust which consists of three funds: the Aggregate Resources Fund, the Rehabilitation Fund and the Abandoned Pits and Quarries Rehabilitation Fund. All costs incurred by the Corporation on behalf of the Trust are reimbursed from the Trust's assets.

The Trust's assets managed by the Corporation, amounting to approximately $17.1 million, are not included in the accompanying balance sheet. The beneficial owner of the Trust's assets is the Crown.

2. Summary of Significant Accounting Policies

Financial Instruments

The Corporation utilizes various financial instruments. Unless otherwise noted, it is management's opinion that the Corporation is not exposed to significant interest, currency or credit risks arising from its financial instruments and the carrying amounts approximate fair values.

3. Due to (from) Related Parties

Amounts due to / (from) the Corporation are unsecured, non-interest bearing and are due on demand.

4. Lease Commitments

The future minimum annual lease payments are as follows:

	$
2011	67,025
2012	68,435
2013	69,495
2014	52,120
	257,075

5. Statement of Cash Flows

A separate statement of cash flows has not been presented as cash flows from operating, investing and financing activities are readily apparent from the other financial statements.

6. Capital Disclosures

The Corporation has nominal capital. The Corporation's sole purpose is to act as Trustee of the Aggregate Resources Trust. The Corporation's objective when managing the Trust's capital is to safeguard the ability of the Trust to continue as a going concern so that it can fulfill the Trust's purposes.

Production Reporting

Audit Program

TOARC, on behalf of the Trust, initiated an audit program in 2000 to monitor the completeness and accuracy of production reports submitted by licensees and permittees. The program is designed to educate licence and permit holders with respect to their obligations for record keeping under the Aggregate Resources Act in addition to assuring that aggregate production is being reported properly.

Since the inception of the program, TOARC has audited 494 clients covering 1,528 licences and permits resulting in an additional $508,925 of net aggregate resource fees collected.

Revoked Licences and Permits

Under Subsection (v) (i) of the Trust Indenture , TOARC has the responsibility for "the rehabilitation of land for which a Licence or Permit has been revoked and for which final rehabilitation has not been completed". Since inception of the Trust, 78 licences and 98 permits have been revoked. In the case of licences, 55 have been rehabilitated or the files have been closed for other reasons. In the case of permits, 73 have been rehabilitated or closed for other reasons. To date the Trust has expended $603,285 in net direct costs for rehabilitation of revoked sites.

TOARC
2010 ANNUAL REPORT

The Ontario Aggregate Resources Corporation
1001 Champlain Avenue, Suite 103
Burlington, ON L7L 5Z4

Tel: 905.319.7424
Fax: 905.319.7423
Toll Free: 866.308.6272

www.toarc.com

PROFESSIONAL ASSISTANCE

Banking Institution

The Bank of Nova Scotia

Investment Advisors

T.E. Investment Counsel Inc.

Investment Managers

Burgundy Asset Management Ltd.
Letko Brosseau & Associates Inc.

Auditors

BDO Canada LLP

Legal Counsel

Blake, Cassels & Graydon LLP

Shareholder

Ontario Stone, Sand & Gravel Association