



2007 ANNUAL REPORT

A Palette of Opportunities for
Rehabilitating Ontario



Board of Directors

2008

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

Greg Sweetnam, Chairman of the Board
Norm Flemington, Secretary/Treasurer
Dick Pipe
Ken Lucyshyn

**Representing the Conservation
Council of Ontario (CCO)**

Tony Jennings

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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”**

Ray Bonenberg

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June 18, 2008

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

Dear Ms. Cansfield:

On behalf of the Board of Directors, I am pleased to submit the 2007 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, 2007. 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 2007. 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,

Greg Sweetnam
Chairman of the Board



Chairman's Message



May 30, 2008

I am pleased for this opportunity to review with you events over the past year affecting the affairs of the Aggregate Resources Trust (the Trust) and The Ontario Aggregate Resources Corporation (TOARC). As trustee, TOARC has as one of its primary functions the collection of aggregate resource fees and their subsequent disbursement to municipal governments and the Province. That aspect of our work took on a new dimension this past year with the designation of new areas of the Province. As I'm sure you are aware, the Ministry of Natural Resources (MNR) added extensive areas in central and northern Ontario to the existing list of municipal jurisdictions regulated under the Aggregate Resources Act (ARA). Specifically, the ARA was extended to private land in "... all of Muskoka and Parry Sound districts and Haliburton County; and parts of Algoma, Nipissing, Sudbury, Manitoulin and Thunder Bay districts as well as parts of Renfrew, Peterborough, Hastings, Frontenac, and Lennox and Addington counties".

The new designation has resulted in over 1,000 new files for us to manage in addition to the approximate 6,000 licences and permits already in the system at the end of 2006.

In anticipation of this new work load our data base platform was redesigned allowing us to manage our client information in a much more robust environment. We now have a complete historical record of all licences and permits within a single data base system making it much more efficient to track collections and ensure disbursements are appropriate. Disbursements to municipalities and the Province will increase substantially this year with the new fee increases taking effect. While collections are not complete at time of writing, it is expected that disbursements will approximate the following:

	(\$Million)
Local municipalities	9.2
Counties & regions	2.4
MAAP program	.8
Province (from licence fees)	5.9
Province (royalties & permit fees)	1.8

These amounts very closely approximate the projections in our annual report last year. Fees have been increased to \$0.115 per tonne compared to \$0.06 per tonne at the time the Aggregate Resources Act (the ARA) was first proclaimed. In addition to the per tonne fee for licences, permit fees and most minimum fees have doubled, as have minimum royalty rates for aggregate extracted from Crown land. These new fees will be shared as follows:

	New	Old	% Increase
Lower-tier (local) municipalities	.060	.040	50
Upper-tier municipalities	.015	.005	200
The Crown	.035	.010	250
Abandoned Pit & Quarry Fund (MAAP)	.005	.005	NIL

TOARC continues its program of auditing production reports to ensure revenues from fees are as complete as possible. Audits are conducted by TOARC staff and the public accounting firm of BDO Dunwoody LLP.

The new designations referred to above will also create additional work as well as new opportunities for the Management of the Abandoned Aggregate Properties program (the MAAP program). Within the newly designated areas, those wishing to continue supplying aggregates have been granted licences under the ARA. Remaining pits (while not actually abandoned by their owners) have been "deemed" to be abandoned and now qualify for rehabilitation funding through the MAAP program. The first step in proceeding with



this work is to locate these former aggregate sites and assess their rehabilitation needs. That inventory is commencing this year.

Mr. David Beamer, formerly with The Niagara Restoration Council, and who joined us last year as Co-ordinator of Science and Research has recently been appointed as Manager of the MAAP program, including revoked sites. In addition to his existing duties, David will help to further focus our resources to take on the new challenges with a budget that has remained static since inception of the program. David has been successful so far in bringing to the program a new approach to our rehabilitation efforts that puts the emphasis on restoring, or creating, entire ecosystems that can be self sustaining and which add to the Province's stock of important natural habitats. We now look at each site with the view of creating a naturalized area, be it wetland, forest or meadow using native species to the greatest extent possible.

The new rehabilitation focus is chronicled elsewhere in this report or on our website. Our website (www.toarc.com) will be undergoing a redesign and reorganization this year to make it easier to navigate and to place a new emphasis on it being a repository for articles and research papers on various aspects of rehabilitation. We hope all those engaged in rehabilitation of pits and quarries will find it more useful and we ask you to bear with us while we undertake this work.

The Board has recently approved a new research project to investigate ways and means whereby mosses can be established in depleted limestone quarries. This project complements earlier work conducted by the Cliff Ecology Research Group at the University of Guelph and will aid in rounding out our knowledge about restoring alvar communities in depleted quarries. We know mosses are an important component of alvar vegetation, both in terms of biodiversity and the role these plants play at the ecosystem level. The work will be conducted by Ms. Suzanne Campeau of Bryophyta Technologies Inc. over the next few summers.

I would also like to alert our readers to look for a new publication just completed by TOARC. It is entitled *Best Practice Guidelines for Aggregate Rehabilitation Projects: Extracting the Benefits for Species at Risk and Rare Habitats*. This handbook was prepared for TOARC by Savanta Inc. with funding assistance from the Province's Species at Risk Stewardship Fund. The handbook looks to outline opportunities for aggregate producers to create habitat for rare and endangered species (in addition to other species) and to include plans for such work in their rehabilitation projects. We would especially like to thank Kate Hayes for an outstanding effort in the preparation of this manual.

One of the very important things we have discovered through our various research initiatives is that former pits and quarries contain tremendous opportunities for replacing natural habitats that have been lost to urbanization, farming, forestry and other land uses. TOARC has made the study of and replacement of habitat one of its primary goals. Our annual report cover provides a tribute to this theme; *A Palette of Opportunities for Rehabilitating Ontario*.

Finally, I would like to welcome Mr. Ken Lucyshyn to our Board and thank Mr. Richard Seibel, past chair, for his contribution over the last few years. In fact, that was Richard's second term on the Board and his efforts have been greatly appreciated.

Respectfully submitted,

Greg Sweetnam
Chairman of the Board





Measuring the Environmental Success of an Aggregate Rehabilitation Project

The Management of Abandoned Aggregate Properties Program is clarifying how we measure the level of success of our rehabilitation projects. The measurement of pit and quarry rehabilitation success should be based on function, safety, aesthetic, and environmental factors. It is very easy to assess whether rehabilitation has resulted in enhanced function (agricultural rehabilitation for example), become safer (reduced slopes), or become more aesthetically pleasing (making a site greener by establishing vegetation). However, it is much more difficult to assess whether the rehabilitation efforts have enhanced the true ecological integrity of the site. Environmental rehabilitation needs to be based on the achieved level of biomass, biodiversity, biofunction and biomimicry in order to determine if the site has truly returned (or is returning) to a naturalized state capable of sustaining habitat for multiple species of flora and fauna.

Biomass is the measurement of the production and preservation of organic matter in an ecosystem. Biomass is often lacking in pits and quarries due to the degradation of the topsoil that often occurs during the process of aggregate extraction. Rehabilitation efforts that include the regeneration of the organic soil layers are more likely to be successful. However, not all ecosystems require the same level of biomass to be considered important or productive (e.g. Alvar ecosystems have very little biomass but are very biodiverse and contain many rare species).

Biodiversity refers to the number of different species found in an ecosystem. There are frequently direct correlations between the level of species (e.g. flora) in an ecosystem and the variety of

species (e.g. fauna) it can support, as well as the ecological functions that it may perform.

Biofunction (in the context of habitats and ecosystems) is the measurement of the biological function and ecological services that an ecosystem can provide. Biofunction may refer to ecological processes that are required for the ecological health of the ecosystem (such as erosion control, or providing food and cover to wildlife), or may have beneficial impacts on habitats adjacent to the ecosystem (such as acting as a seed bank). Frequently, human health is also dependant on these functions (such as the recharge and purification of groundwater), and even global health (through a rehabilitation project's ability to sequester carbon).

Biomimicry is the study of and act of mimicking and replicating natural, biological processes. Typically, restoration designs and efforts that mimic local ecosystems as nature intended are more likely to be successful than sites using species and/or components not originally found in that ecosystem, or that require long term maintenance (such as watering and ongoing fertilization).

As a result of this new rule of measure, we are rehabilitating properties to be more compatible with their surrounding landscape. In order to accomplish this we are experimenting with new ecosystem restoration techniques (i.e. prairie, alvar, fen, etc.) that we have not attempted to use in the past. We are also using native species on our non-agricultural sites, and researching local rare species and ecosystems to better include them in our rehabilitation strategies.





MANAGEMENT of
ABANDONED
AGGREGATE
PROPERTIES Program



2007 MAAP Project Summary

PROJECT NUMBER	LANDOWNER	LOCATION	REHABILITATION END USE	AREA (HA)	TOTAL PROJECT COST
05-26	Mac Key	County of Leeds & Grenville	Agriculture	N/A *	10,600
05-27	Tessier	Stormont, Dundas, and Glengarry Country	Agriculture	N/A *	995
05-28	Vanderbijl	Stormont, Dundas, and Glengarry Country	Agriculture	N/A *	3,953
06-13	Cataraqi Conservation Authority	County of Leeds & Grenville	Wetland/Woodland	N/A *	13,752
06-14	Township of North Dundas	Stormont, Dundas, and Glengarry Country	Wetland/Prairie	N/A *	9,381
06-18	Roehner	Simcoe County	Wetland/Woodland	N/A *	425
06-19	Seiling	County of Leeds & Grenville	Alvar/Wetland/Woodland	N/A *	360
06-26	Grein	Grey County	Woodland/Prairie	N/A *	3,300
06-15	Clark	Dufferin County	Woodland	2.00	39,490
07-02	Bentley	Dufferin County	Prairie	1.00	30,800
07-03	Boulter	Grey County	Woodland/Pasture	2.50	62,560
07-04	Evans	Grey County	Wetland/Pasture	3.00	45,661
07-05	Toth	Haldimand County	Alvar	0.50	17,736
07-06	Christensen	Haldimand County	Prairie/Agriculture	1.40	41,910
07-07	Dawkins	Wellington County	Woodland	0.70	7,180
07-08	Koeslag	Wellington County	Agriculture	1.25	24,500
07-09	Martin	Wellington County	Agriculture	1.90	18,374
07-11	Stephens	Wellington County	Prairie	0.70	18,660
07-12	Bennett	Wellington County	Pasture	1.70	13,877
07-13	Scott	Wellington County	Wetland/Prairie/Agriculture	1.90	37,776
07-14	Ross	Huron County	Wetland/Agriculture	2.55	1,077
07-15	MacDonald	Hastings County	Prairie	0.70	15,799
07-16	Hardy	Hastings County	Prairie	1.00	45,260
07-17	Morrison	Grey County	Woodland/Prairie	1.50	30,240
07-18	Fogels	Grey County	Woodland	0.76	5,400
07-19	Kuhl	Grey County	Agriculture	2.05	10,400
07-20	Cook	Grey County	Wetland/Pasture	4.40	90,585
07-21	Hierons	Grey County	Woodland	2.00	11,530
07-23	Thompson	Grey County	Pasture	1.85	16,870
07-24	Frey	Grey County	Pasture	1.75	19,740
07-01	Pfeffer	Grey County	Pasture	2.00	10,227
Total				39.11	658,418

* Area reported in summary statistics for year project commenced

2007 MAAP

Summary of MAAP Rehabilitation Costs (Annual report presentation)

YEAR	NUMBER OF NEW SITES	AREA REHABILITATION (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	\$ 498,820	\$ 6,611	\$ 17,815	2.69
2006	28	48.50	\$ 500,026	\$ 10,310	\$ 17,858	1.73
2007	23	39.11	\$ 615,653	\$ 15,742	\$ 26,768	1.70
Total	254	454.24	\$5,203,077	\$ 11,454	\$ 20,485	1.79

* 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



Former gravel pit – Lyn Valley Conservation Area
(Photo Credit: Stefan Foerster – Cataragui Region Conservation Authority)



MANAGEMENT of
ABANDONED
AGGREGATE
PROPERTIES Program



Before



During



After

Optimizing Ecohydrological Protocols to Enhance Calcareous Wetland Rehabilitation in Abandoned Quarries Report

Aided by funding assistance from the Aggregate Resources Trust, Dr. Mike Waddington and Ph.D. student Tim Duval of McMaster University are nearing completion of a research project that examines the feasibility of rehabilitating former quarries into fen ecosystems. This work has been ongoing at the Fletcher Creek Ecological preserve in Puslinch Township.

Fens are one of the rarest forms of wetland in Ontario. They are exclusively groundwater-fed, and are found overlaying areas of limestone and dolomitic rock. This results in waters that are rich in calcium and magnesium and a distinctive flora of rare, calciphillic (calcium-loving) species. Calcareous fens have been shown to establish naturally over long periods of time in abandoned shallow-water quarries.

Many of Ontario's quarries are influenced by some level of groundwater seepage. Although wetland ecosystems are a logical restoration target, little scientific work has been

undertaken on calcareous fens as a specific target. Challenges include planting in the optimum water depth, managing substrate characteristics and appropriate vegetation type. Without a specific target, restoration efforts have often led to the creation of open water/marsh-type ecosystems that have limited biodiversity and habitat value, and certainly were historically not the dominant wetland ecosystem type that they are today. Calcareous fens are groundwater-fed wetlands that are rich in calcium carbonate and are common along the Niagara Escarpment and down-slope of large spillways and moraines in southern Ontario. They have distinctive flora comprised of rare calcium-loving organisms and have high carbonate soils that can only form in these specific environments. The calcium carbonate-rich groundwater seepages found in quarries provide the perfect opportunity to investigate this wetland type as a low-cost, self-sustaining ecosystem that is more appropriate for the location, and a valuable societal and natural refuge.





The objective of this research was to understand the ecohydrological conditions required for the establishment of a wetland type that will readily establish in shallow quarries and along deep quarry shorelines dominated by groundwater seepage.

The research itself included inventorying vegetation on several natural fen sites, and comparing the species with

environmental gradients. It was found that the presence of certain fen species was most correlated to the duration of peat soil saturation. Also, several experiments were implemented at the Fletcher Creek Ecological Preserve designed to test various water depths and amendments (such as the use of topsoil) to determine the optimum conditions for planting fen species.



Optimizing Ecohydrological Protocols to Enhance Calcareous Wetland Rehabilitation in Abandoned Quarries Report

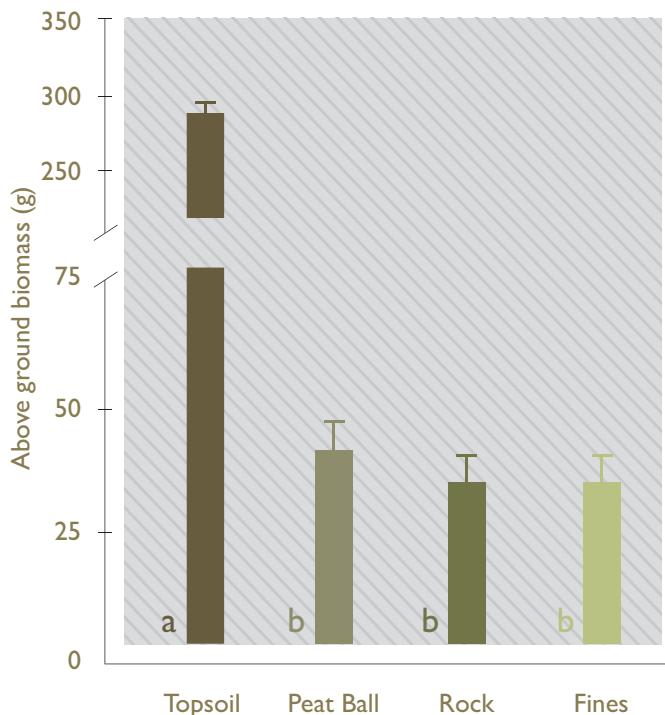
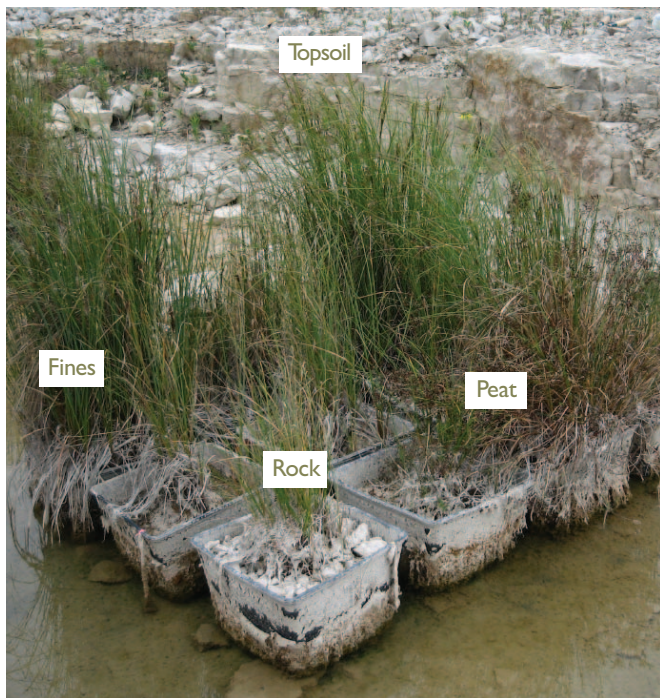
The following are recommendations derived from this research project and represent good first steps in enhancing the success of establishing fen species in quarry rehabilitation projects:

PREPARING THE SITE (THE PLANTING MEDIUM)

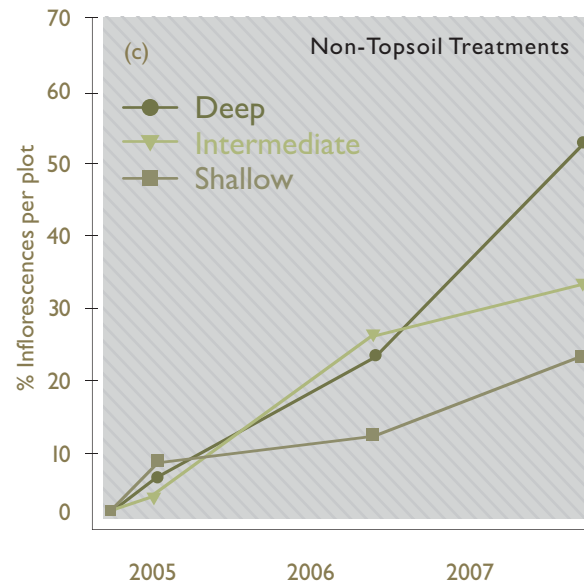
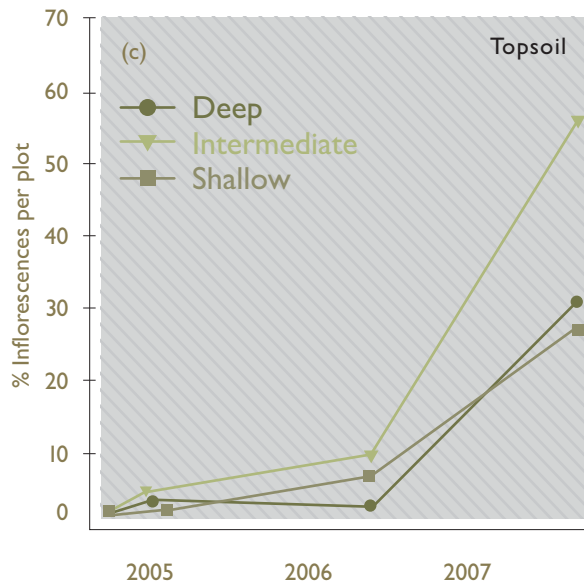
- The quarry floor should be covered with a layer of cobble sized stone (or a size appropriate for the physical support of

the plant stems) and material described as fine gravel or screenings should not be utilized. This layer of coarse aggregate should at a minimum be approximately 20 cm in depth.

- It is recommended that a small amount of topsoil (or other nutrient rich organic matter) be added to the base of coarse aggregate for planting. The addition of topsoil led to significantly more stems, more flowers (inflorescences) and more overall biomass than without the addition, often by a full order of magnitude.



SOIL TREATMENT



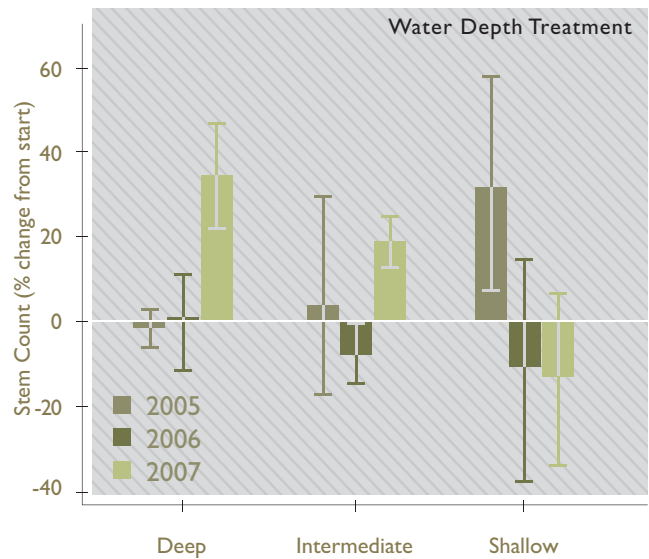
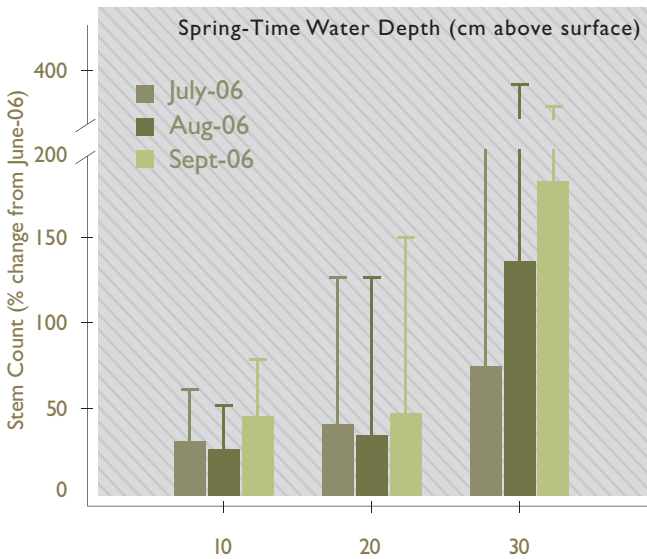
PLANTING CONDITIONS

- Sites with at least 15 cm of standing water above the coarse aggregate on the quarry floor (at the beginning of the growing season) should be targeted. Sites having 30 cm of standing water are optimal providing the water level approaches the level of the quarry floor by the end of July, at the latest.
- The quarry floor should be saturated for a minimum of 8 weeks at the start of the growing season.
- The water table should not drop more than 50 cm below the quarry floor by the end of the growing season.
- Maintaining standing water and/or a shallow water table enhances the de-gassing of CO₂ which facilitates calcium

carbonate precipitation, a key component of calcareous fen sediment.

- Sites that are subject to early season water table draw down are highly susceptible to invasive species such as buckthorn, common reed grass (*Phragmites australis*) and reed canary grass.
- Sites with standing water in excess of 40 cm for a majority of the growing season are highly susceptible to calcareous fen species mortality and may be subject to encroachment of cattails.
- Sites may benefit if fish can be excluded until plants are well established.

Optimizing Ecohydrological Protocols to Enhance Calcareous Wetland Rehabilitation in Abandoned Quarries Report



WHEN TO PLANT

- For optimal growth in the first year it is recommended that planting fen vegetation be delayed until the water level approaches the surface level of the coarse material applied above the quarry floor.
- Planting at this time (mid-July) reduces the anoxic-induced stress placed on the fen vegetation, ensuring maximal resource allocation to root and stem tissue.

WHAT TO PLANT

- Primary species for rehabilitation should include water and yellow sedge.
- Secondary species for rehabilitation should include red-stemmed spikerush, beakrushes, tufted clubrush, wire and candle-lantern sedge.
- Inland sedge and lakebank sedge should be used on drier sites.
- Plant material should not be harvested from natural fens as to preserve their ecological integrity. Planting material should be acquired from native plant nurseries that specialize in the collection, propagation and sale of locally appropriate species.

RECOMMENDED SPECIES FOR INCLUSION IN QUARRY REHABILITATION PROJECTS

	LATIN NAME	COMMON NAME
Sedges		
	<i>Carex aquatilis</i>	Water Sedge
	<i>Carex flava</i>	Yellow Sedge
	<i>Carex livida</i>	Livid Sedge
	<i>Carex stricta</i>	Tussock Sedge
	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush
	<i>Rhynchospora alba</i>	White Beakrush
	<i>Rhynchospora fusca</i>	Brown Beakrush
	<i>Scirpus cespitosus</i>	Tufted Clubrush
Grasses		
	<i>Calamagrostis canadensis</i>	Canada Blue Joint
	<i>Muhlenbergia glomerata</i>	Marsh Timothy
Herbs and Forbs		
	<i>Galium trifidum</i>	Small Bedstraw
	<i>Lycopus uniflorus</i>	Northern Bugleweed
	<i>Lysimachia thysiflora</i>	Tufted Loostrife
	<i>Menyanthes trifoliata</i>	Bogbean
	<i>Solidago uliginosa</i>	Bog Goldenrod
	<i>Symphotrichum boreale</i>	Rush Aster
Shrubs		
	<i>Salix pedicellaris</i>	Bog Willow
	<i>Salix petiolaris</i>	Slender willow
Wetter Sites		
	<i>Carex lasiocarpa</i>	Wire Sedge
	<i>Carex limosa</i>	Candle Lantern Sedge
	<i>Scirpus acutus</i>	Hard-stemmed Bul Rush
	<i>Scirpus validus</i>	Soft-stemmed Bul Rush
	<i>Salix candida</i>	Sage Willow
Drier Sites		
	<i>Carex interior</i>	Inland Sedge
	<i>Carex lacustris</i>	Lakebank Sedge
	<i>Symphotrichum lanceolatum</i>	Lance-leaved Aster

This research has made several significant advances into the establishment of natural calcareous fens as well as their applicability as end-targets of rehabilitation efforts in abandoned limestone aggregate quarries.

Biodiversity and Stability in Quarry Restoration

Restoring ecosystems that have been drastically altered by human activities (such as abandoned mine and quarry sites) poses a major challenge due to the tendency for such environments to be both highly stressed and sensitive to future disturbances. Harsh physical conditions limit which species can establish when introduced, but also amplify the effects of natural variability in resource supply. For example, natural periods of high or low rainfall have more severe impacts on the thin substrate covering quarry floors than on deeper soils in the surrounding region. Flash flooding or intense droughts can periodically decimate populations of organisms that managed to establish initially despite shallow, nutrient-poor soils, and can force “restored” ecosystems to revert back to degraded states. New research by the Cliff Ecology Research Group (CERG) at the University of Guelph has been initiated to determine whether current ecological theories about controls of stability in ecosystems can be used to design increased resistance to such “backsliding” on rehabilitated quarry floors. While ecologists have rarely looked at stability properties of extremely high-stress environments, improved control of such properties could save money spent by land managers on expensive maintenance regimes or replacement of introduced communities that fail to persist.

Under the direction of doctoral candidate Paul Richardson, field experiments were begun to investigate how the amount of biodiversity introduced during quarry floor rehabilitation influences the stability of introduced communities. Biodiversity, including the number and particular properties of species comprising a community, has long been studied as a potential cause of stability in well-established ecosystems of high conservation value, but the stabilizing influence of biodiversity in newly created, high-stress ecosystems remains unexplored. Emerging evidence suggests however that ecological mechanisms traditionally thought to link biodiversity and stability may not operate in environments where physical conditions are exceedingly harsh. For example, several theories of stability depend on the idea that species in the community compete with each other but



Figure 1
Paul Richardson explains relationship between ecosystem stability and biodiversity

evidence is mounting that positive interactions, not negative ones, are most common in high-stress ecosystems. The CERG’s new work tests the hypothesis that it is these positive interactions that promote increased stability with biodiversity on recently restored quarry floors, as interactions such as one species shading or increasing water availability of others help buffer impacts of extreme events experienced by the community as a whole. If this hypothesis is correct then quarry operators may be able to maximize the stability of restoration projects by maximizing the diversity of organisms restored.

Restoration experiments were set-up on four abandoned quarry floors in southern Ontario by introducing plant species typically found on natural limestone pavements called alvars. Previous work by the CERG discovered that alvar species were ideally suited for quarry floors because they are pre-adapted to the harsh environmental conditions. Seeds (in

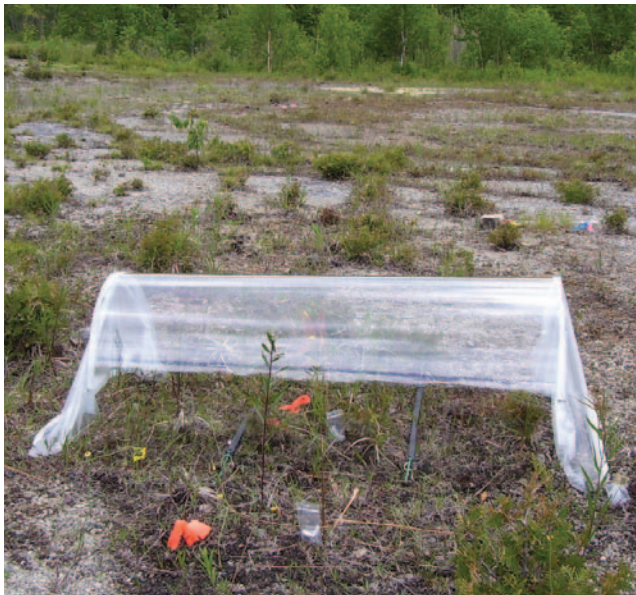


Figure 2

An experimental heat and drought treatment was applied to alvar vegetation seeded to quarry floors through installation of plastic "mini-greenhouses" over plots for eight weeks in summer 2007. Soil in control plots was $\approx 20\%$ water by weight over the eight weeks while soil in plots receiving plastic domes dropped to $\approx 3\%$ water by the end of the drought. Air temperature in control plots reached daily maxima of $\approx 33\text{ C}$ compared to $\approx 40\text{ C}$ in plots receiving domes.

one experiment) and greenhouse-grown plants (in another experiment) characteristic of alvars were introduced to small plots on quarry floors following an experimental design that varied the number and identities of species added, but kept the total number and aerial cover of plants constant. In the seed-addition experiment, 100 plots at a single site were sown in autumn 2005 and allowed to grow to maturity over the 2006 growth season. Throughout spring 2007 these plots were watered as needed until early summer when half of the plots at each level of species diversity were randomly selected for exposure to an experimental drought and heat-wave treatment. Transparent plastic domes were erected over plots and maintained for eight weeks such that rain was excluded and within-greenhouse temperatures were elevated to

extreme levels (maximal temperatures $>60\text{ C}$) (Fig. 2). Plots not receiving domes were watered regularly, and resistance to the heat and drought disturbance was measured by the rate of decrease in plant density and cover over the drought period. The influence of diversity on resistance to the disturbance was assessed by comparing across biodiversity levels the degree to which watered plots outperformed plots receiving the domes. While full analysis is still underway, preliminary results show a fascinating trend - even though all plots had the same cover of vegetation at the beginning of the drought, by the end of the drought this cover had decreased steeply in plots with low or moderate species diversity, but had actually increased in plots where many alvar species had been introduced. As the experiment initially included all species equally at all diversity levels, the observed increase in stability with diversity was a result of the number of species present and not the particular identities of the species involved.



Figure 3
Installation of greenhouse-grown alvar plant communities on an abandoned limestone quarry floor near Georgetown.

Biodiversity and Stability in Quarry Restoration



Figure 4
Transplantation of a greenhouse-grown alvar plant community to a quarry floor.

In the plant-addition experiment, 256 plots distributed across four quarry floors received communities of alvar plants that had been grown, assembled and maintained within University of Guelph greenhouse facilities from September 2006-April 2007. This approach provided CERG researchers with precise control over community properties such as species diversity, composition, and vegetation cover prior to the stress of being introduced to the harsh quarry environment. Pot-grown communities featuring 16 individual plants belonging to 1, 2, 4 or 8 species were out-planted in early May 2007 and monitored continuously until late October. Resistance to quarry conditions including a natural summer drought and flash-flood events was estimated by the degree to which

density and cover dropped over the growing season. Preliminary analysis of the planted communities over the first growth season revealed a striking pattern. Plots planted with 1, 2, or 4-species communities all suffered significant (but approximately equal) loss of cover and density over time, while plots planted with all 8 species actually exhibited a slight increase in vegetation cover over time, and only a very slight decrease in density (Fig. 5 illustrates the response of vegetation cover). Quarry conditions that reduced functioning in communities of low to moderate diversity likely had no effect at high diversity because positive species interactions buffered impacts of natural disturbances.

While further monitoring and analysis over 2008 is required to determine the persistence of the observed patterns, these initial results strongly suggest that a critical threshold of biodiversity is required to achieve stable, self-sustaining vegetation communities on quarry floors, and likely in other harsh environments requiring rehabilitation.

Given that stability in restored ecosystems is a critical but currently unmet goal for many damaged landscapes, land managers should feel encouraged that more effective restoration strategies may be within reach as ecologists develop a better understanding of how to generate stability by manipulating biodiversity in high-stress ecosystems.

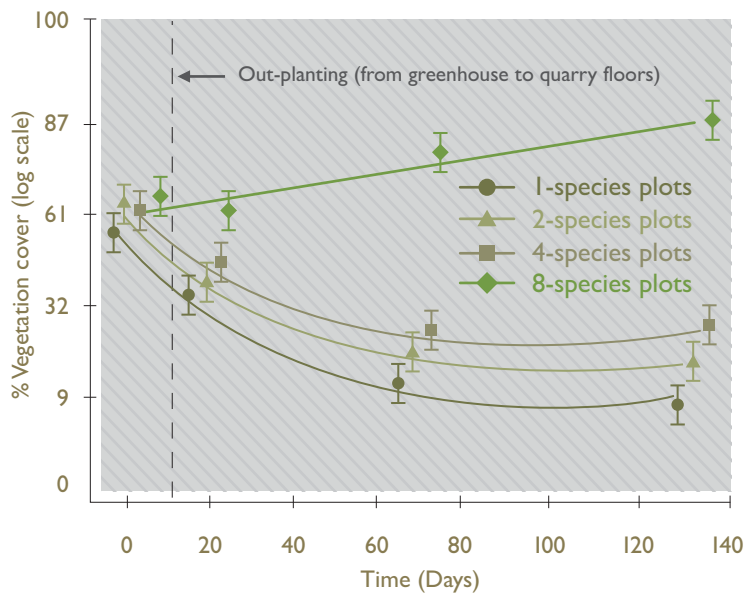


Figure 5

Changes in vegetation cover over time for alvar plant communities transplanted from the greenhouse to abandoned quarry floors. Communities composed of different diversity but equal cover were assembled in the greenhouse (left side of dashed vertical line) then planted out on four quarry floors and monitored for >4 months (right side of dashed line). Communities initially contained 1, 2, 4, or 8 characteristic alvar species. While communities with 1-4 species suffered significant vegetation loss following transplantation, communities with 8 species actually increased in cover over the growing season ($p < 0.0001$).



Best Practice Guidelines for Aggregate Rehabilitation Projects:

Extracting the Benefits for Species at Risk and Rare Habitats

In 2008, TOARC, with matching funding assistance from the Ontario Ministry of Natural Resources, produced a guideline document - *Best Practice Guidelines for Aggregate Rehabilitation Projects: Extracting the Benefits for Species at Risk and Rare Habitats*.

Savanta Inc. led the development of the report, in partnership with a number of additional experts in the field of rehabilitation and species at risk. This report offers a series of best restoration and management practices for rehabilitating former aggregate sites to achieve the goal of maximizing the biodiversity value (including species at risk) while minimizing maintenance costs. The recommendations are outlined within the context of the latest developments in recovery planning and implementation for species at risk, best management practices and ideas that the industry or its related clients may be able to follow or to build upon.

There are few opportunities to recreate large individual and cumulative tracts of land and potentially to ensure their conservation in perpetuity in the province of Ontario. With approximately 3,700 pits and quarries under licence on private land in designated areas and close to 3,400 under permit on Crown land, occupying a total area of over 175,000 hectares of land, the aggregate industry is in a unique position to contribute to positive efforts related to the recovery of at risk and rare species in Ontario.

Background

The Aggregate Resources Trust was established by the province of Ontario in 1997, in association with the private sector, to manage certain activities and administrative functions related to the aggregate industry that were formerly the responsibility of the Ministry of Natural Resources (MNR). The Ontario Aggregate Resources Corporation (TOARC) was created at the same time to serve as Trustee over funds collected from the aggregate industry and to implement the Trust purposes.

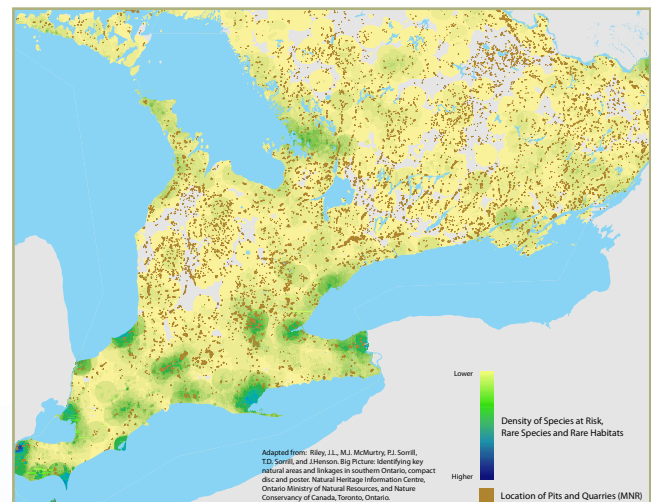
The process of aggregate extraction can result in various effects on the environment, hence the presence of comprehensive policies and legislative guidance. The Aggregate Resources Act (ARA) came into force in 1990, replacing the former Pits and

Quarries Act, and requires the rehabilitation of aggregate pits/quarries.

Some of the many aggregate sites either overlap or are located in close proximity to documented occurrences of species at risk. Some of these areas currently provide important habitat for species at risk, while others could potentially be restored to provide habitat.

There are currently few extraction sites in Ontario that have been deliberately restored to (re)create some form of targeted rare native habitat type or to benefit species at risk. There is, however, a trend towards an increased use of native species and the creation of native vegetation communities. Recent efforts have focused on identifying what types of native habitat types have the greatest potential for successful rehabilitation on aggregate sites following extraction.

Ontario's new Endangered Species Act has sparked an interest in exploring opportunities to focus restoration efforts on activities that will specifically benefit species at risk, rare species, and rare habitats. To this end, TOARC has developed practical best management guidelines that can be used by aggregate producers, regulatory agencies, ENGOs, and others to guide the rehabilitation of aggregate sites specific to the conservation and enhancement of habitats for rare and at risk species in Ontario.



Establishing Alvar Mosses on Quarry Floors

Suzanne Campeau, Bryophyta Technologies Inc.



Alvars are flat, open areas of calcareous bedrock with a sporadic, thin soil cover and sparse vegetation. Plant communities on these bedrock outcrops are 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 variety of native species.

The current project, conducted by Suzanne Campeau, from Bryophyta Technologies Inc., complements earlier work conducted by University of Guelph researchers and funded through the MAAP Program. Starting in 2003, Dr. Doug Larson and his team at the Cliff Ecology Research Group conducted the Quarry to Alvar Initiative (Larson et al., 2006); an innovative research project aimed at assessing the potential for restoring abandoned limestone quarry floors to alvars.

Dr. Larson and his team showed that quarry floors resemble alvars with respect to many environmental conditions and that a number of alvar herbs and forbs can successfully be established in quarries by seeding and simple soil amendments.

The objective of the current project is to see if alvar moss species can also be established in depleted limestone quarries. Mosses are indeed an important component of alvar vegetation, both in terms of biodiversity and in terms of the role these plants play at the ecosystem level. Moss cushions retain humidity, provide organic material through plant growth and death, help catch particles, nutrients and seeds that would otherwise be washed away, and generally contribute to soil building processes. All of these should in turn help promote the establishment of functional alvar plant communities on quarry floors.

The current study seeks to verify whether targeted species of alvar mosses can successfully establish colonies when reintroduced on quarry floors. A further objective is to determine what environmental factors at the quarry floor level need to be manipulated to allow or enhance moss establishment and growth. Field experiments will be conducted in 20 to 40+ year-old quarries that have little vegetation and in young, recently abandoned quarries with no vegetation. Field work will begin in spring 2008 and continue through 2010. Field sites will mainly be located in eastern Ontario.



(Left)
Image of an alvar in the Bruce Peninsula, Ontario, showing the typical mosaic of bare rock and lichens, mosses, patches of herbs and forbs on shallow soils and scattered shrubs and trees.

Photo: John A. Gerrath, 2006, Cliff Ecology Research Group, Guelph University.



(Right)
Vascular plants growing in association with moss cushions on the abandoned (27+ years) Muldoon quarry floor.

Photo: Julie Bussi eres, Bryophyta Technologies Inc., 2007.

Evaluating Alternatives for Pit and Quarry Rehabilitation

On-going research led by Dr. Robert Corry, associate professor of landscape architecture at the University of Guelph, is progressing on all fronts. The past year saw Corry's collaborative research (with Professor Robert Brown, University of Guelph, and Dr. Raffaele Laforzezza, University of Bari, Italy) roll-out an online survey that uses digital photographic simulations of pit and quarry rehabilitations to gauge the perception and preference of alternative approaches to rehabilitation. In the online survey people responded to several full-screen photos of landscapes with pits and quarries (in various stages of extraction) and other typical landscape elements such as houses, farms, golf courses, wetlands, woodlands, and roads. Figure 2 shows a web "screen-shot" with a composite set of photographs that sought respondents choices for the most and least-desirable future landscape conditions. The survey responses are being integrated with outcomes from other evaluations of landscape conditions, including ecological assessments and habitat patterns. A unique part of the research is a multi-scale approach that spans from the extent of a single site to the nearby landscape.

Site-scale research has included the microclimatic modeling of a few selected pits and quarries. Dr. Robert Brown and PhD candidate Natasha Kenny led the assessment of microclimates in the varying terrain and compass directions of depleted aggregate sites. This research continued to extract information about the Karner blue butterfly – a postage-stamp sized endangered species that has a life cycle that may

benefit from some habitat reclamation in pits and quarries – to model the effects of slope, compass direction, and vegetation on parameters such as solar radiation and wind direction and speed. Figure 1 compares life-cycle stages of the Karner blue butterfly with its required host plant, the wild blue lupine. The lupine are early pioneer species that prefer sandy soil, little competition from other plants, and respond positively to fire. The wild blue lupine requires a mix of sunny and shady habitats for extended seasonal growth, and the Karner blue butterfly feeds in both sun and shade, but larvae reared in sunny habitats grow larger and faster. The Karner blue butterfly also require winter snow cover to protect their eggs from freezing. Aggregate sites with topographic relief and varying vegetation are capable of providing a mix of sun, shade, snow cover, and wind attenuation – all things that benefit a small, endangered insect and the plant on which it depends. The implications of microclimatic modeling are that known habitat requirements for a restricted species like the Karner blue butterfly (and its host plants) are measurable and may be achievable in post-extraction rehabilitation if model outcomes are used to inform rehabilitation design.

Collectively, the research is attempting to bring together the microclimatic information with other habitat pattern and species movement assessments and combine the biological, physical, and ecological with the dimensions of human perception and preference. The end result may be used to inform the policy and practice of rehabilitation to yield outcomes that achieve multiple objectives.

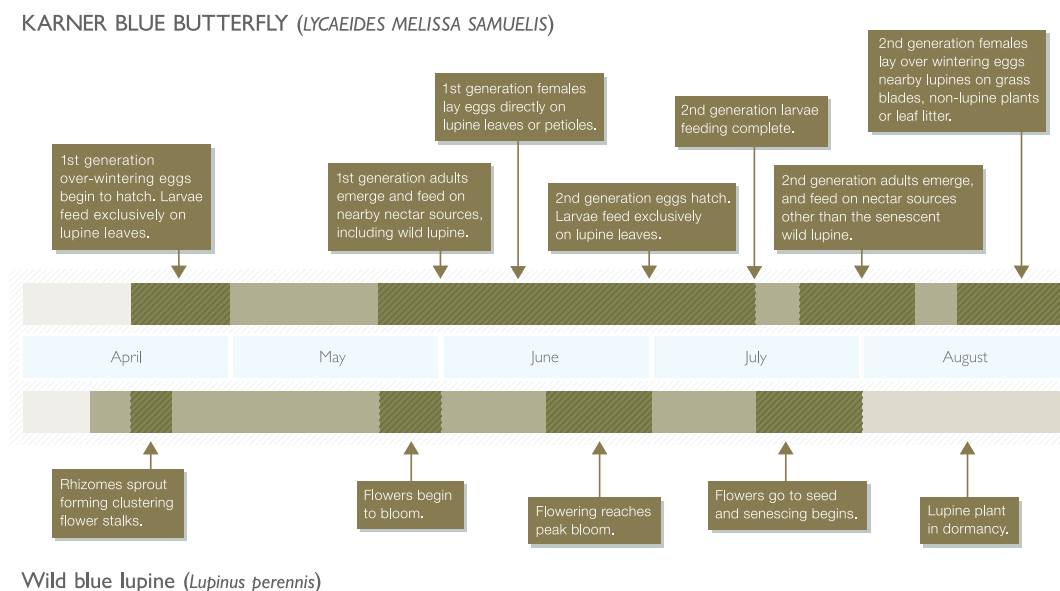


Figure 1
Approximate seasonal timeline of the wild blue lupine and Karner blue butterfly life cycles (Derived from Peterson et al., 2006; Knutson et al., 1999; Grundel et al., 1998b; Boyonoski, 1992).

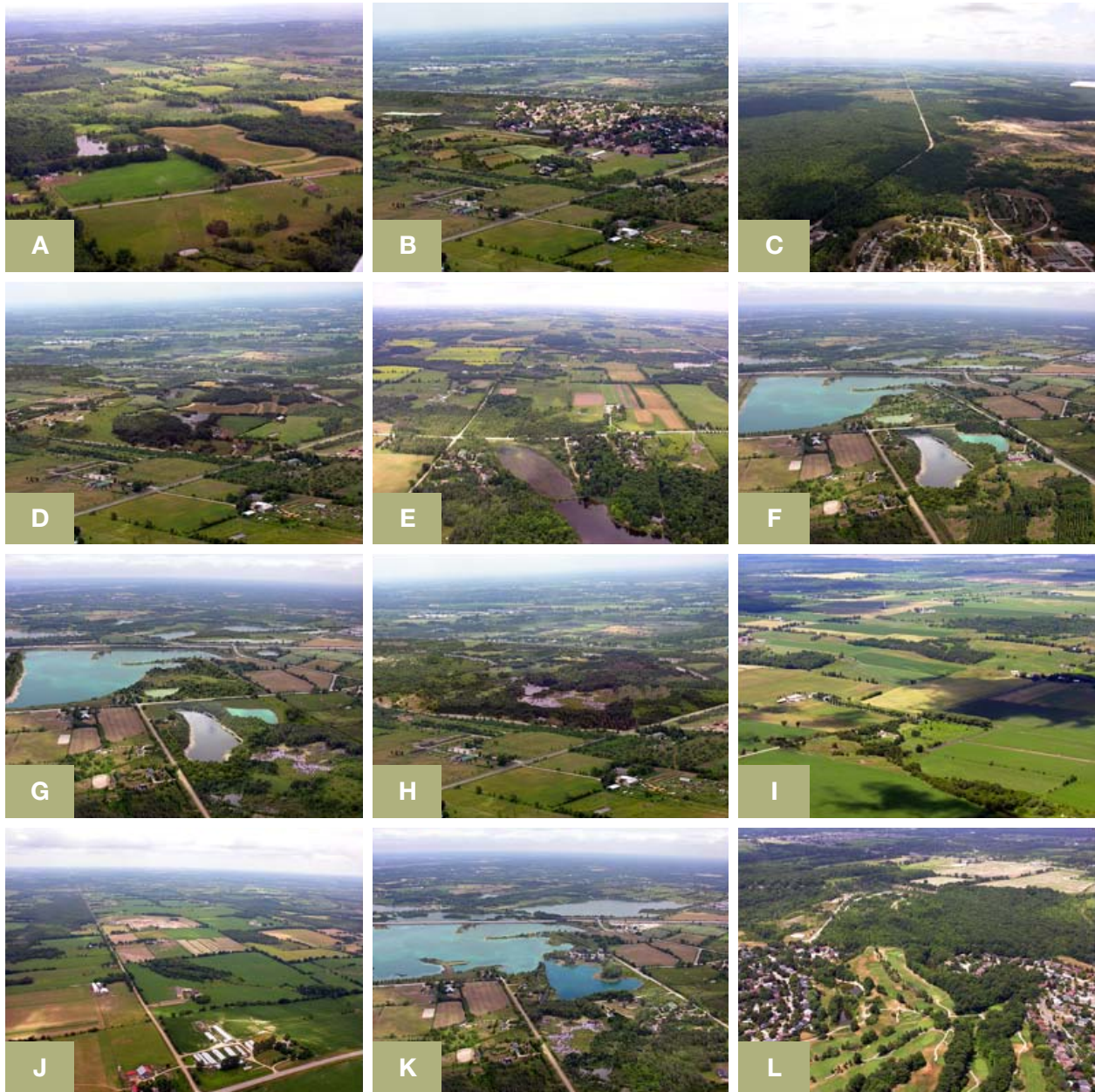


Figure 2
Screen-shot from the internet cultural acceptability survey of pit and quarry rehabilitation alternatives
(one page from the multi-page survey).

For this set of pictures, you are asked to imagine that any of these landscapes could be realized in twenty-five years time (the year 2032). Please choose the three pictures that are best for future Ontarians and the three that are least good for future Ontarians.

1st:

2nd:

3rd:

Three best:

Three least good:

Of the pictures you chose as best for future Ontarians, please say what makes these the best.



Auditor's Report

To the Trustee of
Aggregate Resources Trust

We have audited the statement of financial position of **Aggregate Resources Trust** as at December 31, 2007 and the statements of revenue and expenses and changes in fund balances and cash flows for the year then ended. These financial statements are the responsibility of the Administrator of the Trust. 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 plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Administrator of the Trust, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Trust as at December 31, 2007 and the results of its operations and cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

BDO Sawward LLP

Chartered Accountants,
Licensed Public Accountants

Hamilton, Ontario
February 8, 2008.



Statement of Financial Position

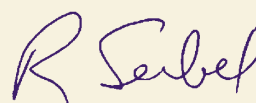
For the Year ended December 31	2007	2006
	\$	\$
ASSETS		
Current		
Cash	717,737	1,358,263
Short-term investments	281,259	641,344
Due from Licensees and Permittees	119,458	61,638
GST recoverable	25,642	17,636
Interest and dividends declared receivable	48,883	63,057
Prepaid expenses	22,191	17,010
Total current assets	1,215,170	2,158,948
Investments [note 3], [note 4]	17,546,406	14,640,526
Capital assets, net [note 5]	124,465	140,063
	18,886,041	16,939,537
LIABILITIES AND TRUST FUNDS		
Current		
Accounts payable and accrued liabilities	359,442	266,209
Due to Licensees and Permittees [note 1]	6,693	6,693
Due to The Ontario Aggregate Resources Corporation [note 1]	122	89
Wayside permit deposits	207,355	90,740
Deferred Aggregate Resources Charges	56,467	88,866
Due to Governments	160,214	229,368
Total current liabilities	790,293	681,965
Trust Funds		
Rehabilitation Fund	14,618,937	12,991,979
Abandoned Pits and Quarries Rehabilitation Fund	3,476,811	3,265,593
Total Trust Funds	18,095,748	16,257,572
	18,886,041	16,939,537

*See accompanying notes

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



Director



Director

Statement of Revenue and Expenses and Changes in Fund Balances

For the Year ended December 31

2007

	Aggregate Resources Fund \$	Rehabilitation Fund \$	Abandoned Pits and Quarries Rehabilitation Fund \$	Total \$
REVENUE				
Investment income [note 4]	—	1,571,087	267,411	1,838,498
Unrealized changes in fair value	—	(935,358)	(174,859)	(1,110,217)
Publications	—	97	1,820	1,917
Loss on disposal of capital assets	—	(118)	—	(118)
	—	635,708	94,372	730,080
EXPENSES				
Reimbursed expenses	—	707,627	249,690	957,317
Depreciation	—	38,786	26,626	65,412
Investment management fees	—	96,675	18,073	114,748
	—	843,088	294,389	1,137,477
Deficiency of revenue over expenses before the following	—	(207,380)	(200,017)	(407,397)
Aggregate Resources Charges [note 1]	11,646,879	—	—	11,646,879
Allocated to the Governments [note 1]	(10,871,126)	—	—	(10,871,126)
Allocated to the Crown [note 1]	(775,753)	—	—	(775,753)
Deficiency of revenue over expenses for the year	—	(207,380)	(200,017)	(407,397)
Trust Funds, beginning of year	—	12,991,979	3,265,593	16,257,572
Change in accounting policy [note 3]	—	1,943,126	363,256	2,306,382
Trust Funds, as restated	—	14,935,105	3,628,849	18,563,954
Funds reinvested by the Crown [note 1]	775,753	—	—	775,753
Interfund transfer [note 1]	(775,753)	—	775,753	—
Expenditures incurred in meeting the Trust purposes [schedules and note 1]	—	(108,788)	(727,774)	(836,562)
Trust Funds, end of year	—	14,618,937	3,476,811	18,095,748

*See accompanying notes

Statement of Revenue and Expenses and Changes in Fund Balances

For the Year ended December 31

2006

	Aggregate Resources Fund	Rehabilitation Fund	Abandoned Pits and Quarries Rehabilitation Fund	Total
	\$	\$	\$	\$
REVENUE				
Investment income [note 4]	—	1,413,218	238,313	1,651,531
Publications	—	384	2,513	2,897
Gain on disposal of capital assets	—	11,000	—	11,000
	—	1,424,602	240,826	1,665,428
EXPENSES				
Reimbursed expenses	—	654,385	180,819	835,204
Depreciation	—	19,413	20,505	39,918
Investment management fees	—	80,593	15,063	95,656
	—	754,391	216,387	970,778
Excess of revenue over expenses before the following	—	670,211	24,439	694,650
Aggregate Resources Charges [note 1]	10,554,209	—	—	10,554,209
Allocated to the Governments [note 1]	(9,785,236)	—	—	(9,785,236)
Allocated to the Crown [note 1]	(768,973)	—	—	(768,973)
Excess of revenue over expenses for the year	—	670,211	24,439	694,650
Trust Funds, beginning of year	—	12,350,890	3,017,232	15,368,122
Funds reinvested by the Crown [note 1]	768,973	—	—	768,973
Interfund transfer [note 1]	(768,973)	—	768,973	—
Expenditures incurred in meeting the Trust purposes [schedules and note 1]	—	(29,122)	(545,051)	(574,173)
Trust Funds, end of year	—	12,991,979	3,265,593	16,257,572

*See accompanying notes

Statement of Cash Flows

For the Year ended December 31	2007 \$	2006 \$
CASH FLOWS FROM OPERATING ACTIVITIES		
Excess (deficiency) of revenue over expenses for the year	(407,397)	694,650
Add (less) items not involving cash		
Depreciation	65,412	39,918
Unrealized changes in fair values	1,110,217	—
Loss (Gain) on disposal of capital assets	118	(11,000)
	768,350	723,568
Net change in non-cash working capital balances related to operations	51,495	558,269
Cash provided by operating activity	819,845	1,281,837
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of capital assets	(51,666)	(69,369)
Proceeds on disposal of capital assets	1,734	11,000
Purchase of investments	(3,381,869)	(13,536,417)
Sale of investments	1,672,154	11,334,985
Cash used in investing activities	(1,759,647)	(2,259,801)
CASH FLOWS FROM FINANCING ACTIVITIES		
Funds reinvested by the Crown [note 1]	775,753	768,973
Expenditures incurred in meeting the Trust purposes	(836,562)	(574,173)
Cash provided by (used in) financing activities	(60,809)	194,800
Net decrease in cash during the year	(1,000,611)	(783,164)
Cash and short-term investments, beginning of year	1,999,607	2,782,771
Cash and short-term investments, end of year	998,996	1,999,607
SUPPLEMENTARY CASH FLOW INFORMATION		
For the Year ended December 31	2007 \$	2006 \$
Cash received from interest	714,423	731,670

*See accompanying notes



Schedules of Rehabilitation Costs for the Rehabilitation Fund

2007

For the Year ended December 31

\$

PROJECT NUMBER	PROJECT NAME	PAID OR PAYABLE
07-01	G.M.C. Sand and Gravel Ltd. Pit, County of Brant	96,701
	Education	
	Rehabilitation Manual	5,973
	Student Rehabilitation Design Competition	4,649
	Rehabilitation Tour Puslinch Township	1,000
	Tendering, consulting and other	465
		108,788

*See accompanying notes

2006

For the Year ended December 31

\$

PROJECT NUMBER	PROJECT NAME	PAID OR PAYABLE
06-01	Willis Pit, District of Kenora	525
	Education	
	Rehabilitation Manual	22,199
	Student Rehabilitation Design Competition	3,672
	Rehabilitation Tour City of London and surrounding area	1,000
	Tendering, consulting and other	1,726
		29,122

*See accompanying notes

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

For the year ended December 31		2007 \$
PROJECT NUMBER	PROJECT NAME	PAID OR PAYABLE (Recovered)
05-26	MacKay Pit, County of Leeds&Grenville	10,600
05-27	Tessier Pit, Stormont, Dundas&Glengarry County	995
05-28	Vander Bijl Pit, Stormont, Dundas&Glengarry County	3,953
06-13	Cataraqui Conservation Authority Pit, County of Leeds&Grenville	13,752
06-14	North Dundas Township Quarry, Stormont, Dundas&Glengarry County	9,381
06-15	Clark Pit, Dufferin County	39,490
06-18	Roehner Pit, Simcoe County	425
06-19	Seiling Quarry, County of Leeds&Grenville	360
06-26	Grein Pit, Grey County	3,300
07-01	Pfeffer Pit, Grey County	10,227
07-02	Bentley Pit, Dufferin County	30,800
07-03	Boulter Pit, Grey County	62,560
07-04	Evans Pit, Grey County	45,661
07-05	Toth Quarry, Haldimand County	17,736
07-06	Christensen Quarry, Haldimand County	41,910
07-07	Dawkins Pit, Wellington County	7,180
07-08	Koeslag Pit, Wellington County	24,500
07-09	Martin Pit, Wellington County	18,374
07-11	Stephens Pit, Wellington County	18,660
07-12	Bennett Pit, Wellington County	13,877
07-13	Scott Pit, Wellington County	37,776
07-14	Ross Pit, Huron County	1,077
07-15	MacDonald Pit, Hastings County	15,799
07-16	Hardy Pit, Hastings County	45,260
07-17	Morrison Pit, Grey County	30,240
07-18	Fogels Pit, Grey County	5,400
07-19	Kuhl Pit, Grey County	10,400
07-20	Cook Pit, Grey County	90,585
07-21	Hierons Pit, Grey County	11,530
07-23	Thompson Pit, Grey County	16,870
07-24	Frey Pit, Grey County	19,740
	Research costs	
	Mineral Aggregate Conservation – Recycling & Reuse Report	44,203
	Recycling & Reuse Report Recoveries (MNR)	(27,605)
	University Guelph–Biodiversity & Stability-Restoration of Quarries	21,000
	Savanta Inc. – Species at Risk Best Practice Guidelines	54,278
	Species at Risk Best Practice Guidelines Recoveries (MNR)	(27,000)
	Tendering, consulting and other	4,480
		727,774

*See accompanying notes

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

For the year ended December 31

2006
\$

PROJECT NUMBER	PROJECT NAME	PAID OR PAYABLE (Recovered)
05-03	Mackay Pit, County of Leeds&Grenville	3,214
05-19	Hamilton Conservation Authority Quarry, City of Hamilton	(2,743)
06-01	Thompson Pit, Dufferin County	12,680
06-02	McLean Pit, Dufferin County	19,250
06-03	Squirrel Pit, Dufferin County	12,490
06-04	Downey Pit, Dufferin County	19,750
06-05	Moors Pit, Dufferin County	6,500
06-06	Pomeroy Pit, Dufferin County	18,500
06-07	Matthews Pit, Dufferin County	9,700
06-08	Rubow Pit, Simcoe County	9,750
06-09	Pennie Pit, Simcoe County	27,250
06-10	Goncalves Pit, Simcoe County	16,250
06-11	Karsch Pit, Simcoe County	6,093
06-12	Bosomworth Pit, Simcoe County	32,250
06-13	Cataraqui Conservation Authority Pit, County of Leeds&Grenville	18,642
06-14	North Dundas Township Quarry, Stormont, Dundas&Glengarry County	26,853
06-15	Clark Pit, Dufferin County	365
06-16	Pointon Pit, Dufferin County	15,500
06-17	Wilkinson Pit, Simcoe County	15,984
06-18	Roehner Pit, Simcoe County	7,075
06-19	Seiling Quarry, County of Leeds&Grenville	52,271
06-20	Lawless Quarry, County of Leeds&Grenville	9,100
06-22	Rivest Pit, Grey County	13,250
06-23	Osborne Pit, Grey County	13,766
06-24	Coke Pit, Grey County	14,166
06-25	Mackay Pit, Grey County	9,915
06-26	Grein Pit, Grey County	12,750
06-27	Martin / Hanley Pit, Grey County	24,424
06-28	Winters Pit, Grey County	33,313
06-29	Marshall Pit, Grey County	10,600
06-30	Hoover Pit, Lennox and Addington County	3,900
	Research costs	
	McMaster University – Calcareous wetland rehabilitation	48,821
	University Guelph – Connecting opportunities & solutions	14,717
	Tendering, consulting and other	8,705
		545,051

*See accompanying notes

Notes to Financial Statements

December 31, 2007

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 an additional \$6,693 will be refunded when the Crown so directs. 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.



Notes to Financial Statements

December 31, 2007

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

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

Measurement Uncertainty

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 & software	3 to 5 years
Furniture and fixtures	5 years
Vehicles	3 years

Financial Instruments

Effective January 1, 2007, the Trust adopted retrospectively CICA handbook Section 3855 and Section 3861 which establishes standards for recognizing, measuring and disclosure of financial instruments. Under the new standard, all financial assets, including derivatives, must be classified as "held-for-trading", "held-to-maturity", "available-for-sale" or "loans and receivables" and all financial liabilities, including derivatives, must be classified as either "held-for-trading" or "other liabilities". All financial instruments are initially measured at fair value and for those classified as held-for-trading, they are subsequently measured at fair value on the Trust's Statement of Financial Position while financial instruments 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:

The Trust has designated its cash and short-term investments as held for trading. Short-term investments are considered highly liquid investments purchased with an initial maturity of three months or less. The carrying values of cash and short-term investments are a reasonable estimate of their fair value due to their short-term maturity.

Due from Licensees and Permittees and interest and dividends declared receivable are classified as loans and receivables.

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

The Trust accounts for its investments on a trading 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.

Accounts payable and accrued liabilities, due to Licensees and Permittees, wayside permit deposits and due to governments are classified as other financial liabilities.

For the prior comparative period, short-term investments were recorded at cost. Long term investments were at cost, unless a permanent decline in value was anticipated, at which time the investment would be recorded, on an aggregate basis, at their market value at the year end date (see Note 3).

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 income in the current period.

New Accounting Pronouncements

Recent accounting pronouncements that have been issued

but are not yet effective, and have a potential implication for the Trust, are as follows:

Cash Distributions

CICA Handbook Section 1540, Cash Flow Statements, has been amended to require additional disclosures where cash distributions are made in accordance with a contractual obligation for cash distributions. The revised requirements are effective for interim and annual financial statements for fiscal years ending on or after March 31, 2007. The Trust is currently evaluating the impact of the adoption of this change on the disclosure within its financial statements.

Capital Disclosures

CICA Handbook Section 1535, Capital Disclosures, requires disclosure of an entity's objectives, policies and processes for managing capital, quantitative data about what the entity regards as capital and whether the entity has complied with any capital requirements and, if it has not complied, the consequences of such non-compliance. This standard is effective for interim and annual financial statements relating to fiscal years beginning on or after October 1, 2007. The Trust is currently assessing the impact of the new standard.

Financial Instruments – Disclosures and Presentations

CICA Handbook Section 3862, Financial Instruments – Disclosure, increases the disclosures currently required to enable users to evaluate the significance of financial instruments for an entity's financial position and performance, including disclosures about fair value. CICA Handbook Section 3863, Financial Instruments – Presentation, replaces the existing requirements on the presentation of financial instruments, which have been carried forward unchanged. These standards are effective for interim and annual financial statements relating to fiscal years beginning on or after October 1, 2007. The Trust is currently evaluating the impact of the adoption of these changes on the disclosure and presentation within its financial statements.

Notes to Financial Statements

December 31, 2007

3. CHANGE IN ACCOUNTING POLICY

On January 1, 2007, the Trust retrospectively adopted, without restatement of prior periods, CICA handbook Section 3855, "Financial Instruments – Recognition and Measurements" and Section 3861 "Financial Instruments – Disclosure and Presentation". The effect of adoption of these standards was an increase in Trust Funds of \$2,306,382 to reflect the unrealized gains on the remeasurement of investments held-for-trading at fair value as at January 1, 2007.

4. INVESTMENTS

Investments consist of the following:

	2007		2006	
	Fair Value	Cost	Fair Value	Cost
	\$	\$	\$	\$
Bonds				
Government of Canada	2,878,265	2,832,142	2,170,048	2,116,006
Corporate	1,136,540	1,149,258	1,290,142	1,279,232
Non-Convertible Preferred	40,500	48,620	168,954	162,333
Canadian Equities	1,549,372	750,882	2,452,608	1,089,318
Foreign Equities	3,767,892	3,826,301	2,971,142	2,511,135
Pooled Funds	8,173,837	7,743,039	7,894,014	7,482,502
	17,546,406	16,350,242	16,946,908	14,640,526

The Government of Canada bonds bear interest at rates ranging from 3.75% to 5.25% per annum [2006 – 3.75% to 5.70%] with maturity dates ranging from January 25, 2008 to June 15, 2017.

The corporate bonds bear interest at rates ranging from 3.93% to 6.45% per annum [2006 – 3.93% to 6.45%] with maturity dates ranging from February 18, 2010 to June 30, 2015.

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:

	2007 \$	2006 \$
Interest income	702,185	692,656
Dividends	216,732	190,479
Realized Capital gains [net]	928,926	792,379
Foreign exchange loss [net]	(10,707)	(25,741)
Other income	1,362	1,758
	1,838,498	1,651,531

Investment income of the Rehabilitation Fund includes interest earned on Aggregate Resources Charges collected on behalf of the Minister of \$269,985 [2006 - \$241,181].

5. CAPITAL ASSETS

Capital assets consist of the following:

	2007			2006		
	Cost \$	Accumulated depreciation \$	Net book value \$	Cost \$	Accumulated depreciation \$	Net book value \$
Computer equipment and software	162,549	82,099	80,450	131,595	70,982	60,613
Furniture and fixtures	103,649	89,687	13,962	104,055	84,162	19,893
Vehicles	88,511	58,458	30,053	88,511	28,954	59,557
	354,709	230,244	124,465	324,161	184,098	140,063

6. COMMITMENTS

The Trust has entered into a number of Research Funding Agreements. The future annual payments, in aggregate and over the next four years, are as follows:

	\$
2008	299,619
2009	22,155
2010	7,710
2011	7,260
	336,744



Auditor's Report

To the Shareholder of
The Ontario Aggregate Resources Corporation

We have audited the balance sheet of **The Ontario Aggregate Resources Corporation** as at December 31, 2007 and the statement of operations and retained earnings for the year then ended. These financial statements are the responsibility of the Corporation's management. 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 plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Corporation as at December 31, 2007 and the results of its operations and cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

BDO Seminary LLP

Chartered Accountants,
Licensed Public Accountants

Hamilton, Ontario
February 8, 2008.





Balance Sheet

As at December 31	2007	2006
	\$	\$
ASSETS		
Cash	1	1
Due from Aggregate Resources Trust	122	89
	123	90
LIABILITIES AND SHAREHOLDER'S EQUITY		
Liabilities		
Due to Ontario Stone, Sand & Gravel Association	122	89
Total liabilities	122	89
Shareholder's equity		
Share capital		
Authorized and issued, 1 common share	1	1
Retained earnings	—	—
Total shareholder's equity	1	1
	123	90

*See accompanying notes

On behalf of the Board:


Director


Director

Statement of Operations and Retained Earnings

For the Year ended December 31

	2007		
	Rehabilitation Fund	Abandoned Pits and Quarries Rehabilitation Fund	Total
	\$	\$	\$
EXPENSES			
Salaries and employee benefits	454,205	150,337	604,542
Board expenses	14,096	—	14,096
Professional fees	88,112	5,810	93,922
Data processing	24,508	5,545	30,053
Travel	27,459	49,857	77,316
Communication	31,214	11,270	42,484
Office	23,177	6,109	29,286
Office lease, taxes and maintenance	40,192	18,402	58,594
Insurance	4,664	2,360	7,024
	707,627	249,690	957,317
Recovery of costs	(707,627)	(249,690)	(957,317)
Net income for the year	—	—	—
Retained earnings, beginning of year	—	—	—
Retained earnings, end of year	—	—	—

*See accompanying notes

For the Year ended December 31

	2006		
	Rehabilitation Fund	Abandoned Pits and Quarries Rehabilitation Fund	Total
	\$	\$	\$
EXPENSES			
Salaries and employee benefits	387,981	113,035	501,016
Board expenses	11,326	—	11,326
Professional fees	118,435	5,320	123,755
Data processing	49,333	2,178	51,511
Travel	20,451	27,102	47,553
Communication	23,231	13,748	36,979
Office	22,152	3,164	25,316
Office lease, taxes and maintenance	38,941	17,197	56,138
Insurance	4,625	2,962	7,587
Government recoveries	(22,090)	(3,887)	(25,977)
	654,385	180,819	835,204
Recovery of costs	(654,385)	(180,819)	(835,204)
Net income for the year	—	—	—
Retained earnings, beginning of year	—	—	—
Retained earnings, end of year	—	—	—

*See accompanying notes

Notes to Financial Statements

December 31, 2007



1. FORMATION AND NATURE OF OPERATIONS

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 \$18.1 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.

New Accounting Pronouncements

Recent accounting pronouncements that have been issued but are not yet effective, and have a potential implication for the Corporation, are as follows:

Capital Disclosures

CICA Handbook Section 1535, Capital Disclosures, requires disclosure of an entity's objectives, policies and processes for managing capital, quantitative data about what the entity regards as capital and whether the entity has complied with any capital requirements and, if it has not complied, the consequences of such non-compliance. This standard is effective for interim and annual financial statements relating to fiscal years beginning on or after October 1, 2007. The Corporation is currently assessing the impact of the new standard.

Financial Instruments – Disclosures and Presentations

CICA Handbook Section 1535, Capital Disclosures, requires disclosure of an entity's objectives, policies and processes for managing capital, quantitative data about what the entity regards as capital and whether the entity has complied with any capital requirements and, if it has not complied, the consequences of such non-compliance. This standard is effective for interim and annual financial statements relating to fiscal years beginning on or after October 1, 2007. The Corporation is currently assessing the impact of the new standard.

3. LEASE COMMITMENTS

The future minimum annual lease payments in aggregate and over the next two years are as follows:

	\$
2008	63,890
2009	47,910
	111,800

Notes to Financial Statements

December 31, 2007

4. 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.

5. CHANGE IN ACCOUNTING POLICY

On January 1, 2007, the Corporation retrospectively adopted, without restatement of prior periods, CICA Handbook Section 3855, "Financial Instruments - Recognition and Measurement" and Section 3861, "Financial Instruments - Disclosure and Presentation". There was no effect on the financial statements as a result of the adoption of these standards.





The Ontario Aggregate Resources Corporation

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