

MNR Program Staff Report
Application for Review under the Environmental Bill of
Rights
File No. R2004014

April 22, 2005

**MNR Program Staff Report of
S. 61 EBR Review Request - File No. R2004014
Related to the Need for an
Aggregate Resources Conservation Strategy**

Introduction:

In accordance with section 61 of the *Environmental Bill of Rights* (EBR), two residents in Ontario who believe that a policy, Act, regulation or instrument should be amended, repealed or revoked may apply to the Environmental Commissioner of Ontario (ECO) to request a review.

On February 1, 2005, the Ministry of Natural Resources (MNR) received an Application for Review - File No. R2004014, submitted under the terms of section 61 of the EBR from the office of the ECO.

In their application, the applicants requested that the MNR undertake a review of certain aspects of the *Aggregate Resources Act* (ARA) and the regulations claiming that there is a need to develop and implement a comprehensive strategy for the management and conservation of the province's aggregate resources.

MNR staff recommends a determination that the public interest does not warrant a review in MNR, in response to this request. This report was prepared to assist MNR in determining whether the public interest warrants conducting a review in MNR in response to this request.

Scope of Review Request:

The review applicants have requested a review of the existing policy, Act and regulation with respect to:

- Part VI of the ARA regarding rehabilitation;
- Ontario Regulation 244/97 with respect to fee structure applied to aggregate resources; and
- Development standards (urban design and infrastructure) and building codes.

The review applicants have also requested a review of the need for a new policy with respect to a provincial conservation strategy for aggregate resources, as outlined on pages 34 and 35 of a report, entitled "Rebalancing the Load: The need for an aggregate conservation strategy for Ontario", that was attached to their submission.

The applicants claim the following:

- There is an emerging crisis regarding aggregate supply in southern Ontario, and a growing conflict between aggregate extraction and other land uses;
- Need to modify the Provincial Policy Statement (PPS) made under the *Planning Act* to provide a better balance between aggregate extraction and other land-use priorities;
- Need to assess aggregate transportation options for transporting aggregate over long distances including rail and water transport;
- The province’s policy of attempting to guarantee perpetual access to primary aggregate resources before all other land-use policy objectives;
- The province’s aggregate resources management policies and legislation, in its present form, does not reflect a sustainable approach and fails to balance aggregate extraction against natural heritage, agricultural land, source water protection and other land use priorities that may serve the greater public interest;
- Little has been done to ensure the effective use of the resources, through using secondary materials as substitutes or implementing alternative approaches to urban design (settlement patterns) and infrastructure;
- Without a conservation strategy, the province will face increasingly intense challenges to the legitimacy of its efforts to facilitate the development of aggregate resources;
- The province lacks publicly available information on current or projected demand for and uses of aggregates;
- Lack of progressive rehabilitation; and
- MNR needs to adopt measures to address the backlog of unremediated aggregate extraction sites.

The report appended to the application states that an effective conservation strategy should include the following elements:

- The provision of publicly available assessments of supply and demand, including the potential for alternative sources of aggregate material (e.g. construction wastes, mine waste rock, municipal solid waste stream materials) to replace virgin aggregate, and impacts on demand for changes in infrastructure, building design and more compact urban development patterns;
- The imposition of higher charges (tax) for extraction;
- The reduction of the need for primary aggregates;
- The removal of barriers to the use of recycled materials;
- The establishment of requirements for the use of recycled materials in public projects;
- The establishment of targets for reduced use of primary aggregates;
- The establishment of controls on the disposition of potential substitutes for primary aggregates;
- The adoption of policies to promote less road dependent urban developments; and
- The completion of a life-cycle assessment of aggregate transportation options including rail and marine transport.

Background:

To assist in understanding the context for the consideration of this EBR application for review, a background section is included to outline the ministry's aggregate resources program, work completed to date related to the development of a conservation strategy, and the current aggregate fees.

Aggregate Resources Program

The Aggregate Resources Program has the following objectives:

- to minimize adverse impacts of aggregate operations on the environment and contribute to ecological sustainability by administering the ARA;
- to effectively influence municipal land use planning decisions under the *Planning Act* to help ensure that:
 - o aggregate resources are protected and made available, and
 - o existing aggregate operations are protected from incompatible land uses;
- to ensure Ontarians receive a fair return for use of Crown-owned aggregate resources; and
- to promote aggregate resource conservation (substitute, reduce, re-use, recycle).

The review applicants are concerned primarily with the first and fourth objectives, to minimize adverse impacts of aggregate operations on the environment and to promote aggregate resource conservation. In addition, the applicant's report has also raised concerns related to the other program objectives.

The ARA applies to all aggregate extraction on Crown land throughout the province and to private land in areas of the province that are "designated" by regulation. There are approximately 2800 pits and quarries under licence on private land in designated areas and 3200 aggregate permits on Crown land. In addition, there are approximately 6,900 abandoned pit and quarry sites listed within the Management of Abandoned Aggregate Properties (MAAP) program database and of those 2700 are considered candidate sites for restoration (only 70 are rated by TOARC as high priority sites) (MAAP 2003 Annual Report).

Aggregate Resources Conservation Strategy Committee

Gord Miller, Environmental Commissioner of Ontario (ECO), in his 2002-2003 Annual Report, recommended that MNR and the Ministry of Transportation (MTO) collaborate on a conservation strategy. The ECO also recommended that this strategy be developed with public consultation, and should consider both road construction needs and the need to conserve aggregate resources. In response to the ECO's recommendation, a committee, comprised of representatives from the MTO, MNR and the Ministry of the Environment (MOE), was established to examine options and develop a draft strategy. To date, preliminary discussions have been held although a draft document has not been finalized.

Current Annual Fees and Royalties

PRIVATE LANDS	CROWN LANDS
◆ Licence & Wayside Permits	◆ Aggregate Permits
◆ \$0.06 per tonne or	◆ \$100.00 annual fee + royalty where applicable
◆ \$100.00 minimum for a Class B	
◆ \$200.00 minimum for a Class A	

The current annual licence fee of \$0.06 per tonne, is due by March 15th of each year based on the previous year's production.

The fee is disbursed as follows:

- a) \$0.04 per tonne to the lower-tier municipality;
- b) \$0.005 per tonne to the upper-tier municipality;
- c) \$0.005 per tonne to the Aggregate Resources Trust; and
- d) \$0.01 per tonne to the Crown.

Fees have not been increased in over 14 years and similarly, royalties for Crown aggregate has not been increased for nearly 30 years. The funds distributed to municipalities are not directed to any particular use and are not designed to replace existing road improvement funding sources. They are to be used to help offset some of the adverse impacts of pit and quarry operations on the local communities where the resource is extracted.

Consideration of the Application:

Subsection 67 (2) of the EBR explains how applications may be considered in order to determine whether the public interest warrants a review in the ministry of the matters raised in the application. The Ministry has considered:

1. the ministry statement of environmental values;
2. the potential for harm to the environment if the review applied for is not undertaken;
3. the fact that matters sought to be reviewed are otherwise subject to periodic review;
4. any social, scientific, or other evidence that the minister considers relevant;
5. any submission from a person who may be directly interested in the review who has been notified about the review;
6. the resources required to conduct the review; and
7. any other matters the minister considers relevant.

This report addresses each of these seven items in determining whether the public interest warrants a review, as requested, in the ministry.

1. MNRs Statement of Environmental Values

When reviewing this application, MNR considered its Statement of Environmental Values (SEV). The aggregate resources program is designed to contribute to the goal and objectives of the ministry and is consistent with the Statement of Environmental Values.

The ARA and the aggregate resources program support the following objectives of the SEV:

- ensure the long-term health of ecosystems;
- to ensure the continuing availability of natural resources for the benefit of the people of Ontario;
- economic development must be environmentally sustainable;
- the restoration and rehabilitation of degraded environments; and
- to protect natural heritage and biological features of provincial significance.

The legislative authority in the ARA to both require rehabilitation and enforce those requirements is already established. The ARA requires aggregate licence applications to undergo a comprehensive process of review in order to anticipate and prevent negative environmental impacts. A pending review under the EBR will determine whether additional amendments to the Act should be recommended (see consideration 7 - A Related EBR Review).

The establishment of the existing Aggregate Resources Conservation Strategy committee, in response to the recommendation of the ECO, is also consistent with MNR's SEV.

2. The potential for harm to the environment if the review applied for is not undertaken

There is no potential for harm to the environment if a review is not undertaken for the following reasons:

- a) MNR has already made a commitment to undertake a review (i.e. EBR File No. R2003008 – in progress) regarding many of the same issues raised by the current applicants with respect to rehabilitation (Part VI of the ARA), lack of available resource information and rehabilitation of revoked or abandoned sites by TOARC (see consideration 7 - A Related EBR Review).
- b) MNR has already committed to participate in the development of a conservation strategy, in collaboration with the MOE and MTO. The applicants have raised additional issues, which require the participation from additional ministries. MNR will seek the involvement of any additional ministries, as required.

- c) MNR believes that the fundamental design of the ARA and the specific legislative authorities of the Act provide a solid foundation for achieving the purpose of rehabilitating aggregate sites. The initial approval process to obtain a new licence/permit involves an extensive public and environmental review process.
- d) In addition, to the ARA, there are other federal and provincial legislative and policy tools available to ensure the protection of the environment including, but not limited to, the following:

- Fisheries Act
- Ontario Water Resources Act
- Environmental Protection Act
- Planning Act
- PPS
- Greenbelt Act
- Niagara Escarpment Planning & Development Act
- Oak Ridges Moraine Conservation Act
- Endangered Species Act

3. The fact that matters sought to be reviewed are otherwise subject to periodic review

The implementation of the ARA and ultimately the success of the ARA are matters of on-going review by policy staff in the aggregate resources program. Internal periodic reviews are a part of on-going business. Adjustments are made, where possible, including legislative amendments through “good government” Bills.

MNR is already committed to participate in the development of a conservation strategy, in collaboration with other provincial ministries (i.e. MOE, MTO) and has participated in preliminary discussions to develop such a strategy. As part of this discussion, changes to Ontario Regulation 244/97 as it relates to the licence fee structure and incentives to ensure the effective use of aggregate resources will be considered for possible recommendation to the Lieutenant Governor in Council.

MNR is currently undertaking a similar review (see consideration 7 - A Related EBR Review).

4. Any social, scientific or other evidence that the minister considers relevant

Ontario’s population is growing by over 160,000 people per year. The Greater Golden Horseshoe alone is projected to grow by an additional 3.7 million people by 2031. The per capita consumption of aggregates is between 12 and 14 tonnes per year.

This could mean that an additional 2 million tonnes of aggregates will be required every year to keep up with the public demand for the resource. That public demand is in the form of new roads, schools, hospitals, houses and businesses. There is also demand for aggregate resources by the manufacturing sector to produce steel, vinyl, glass, paint, paper, pharmaceuticals, fertilizers, cement, and landscaping products. Even with enhanced aggregate conservation measures (recycling, etc.) and growth management initiatives, the demand for aggregates will continue to grow.

Ontario has benefited from aggregate resources that are proximally accessible thereby providing affordable infrastructure and housing costs. The 1992 “Aggregate Resources of Southern Ontario – a state of the resource study” done for MNR by Planning Initiatives Ltd. and Associates concluded that parts of Ontario, including the Greater Toronto Area (GTA), were facing a critical situation in terms of licenced supply. Since the study was prepared, this situation has not improved in the GTA, with depletion of supplies significantly outpacing the licencing of new sources. For example, since 1974, only one new licence for a quarry has been issued within Halton Region. The APAO reports that in the last 12 years, the ratio has been 3:1 (tonnes depleted: new tonnes licenced).

In considering the issuance of a new aggregate licence, MNR, or the Ontario Municipal Board, must balance a number of planning, environmental, economic and social matters, as specified under section 12 of the Act.

Aggregate Policy Objective

The applicants position that the province’s policy is to guarantee perpetual access to primary aggregate resources before all other land-use policy objectives is unfounded and was not substantiated with any evidence. New applications under the ARA must undergo a rigorous environmental review and are closely scrutinized by government ministries, municipalities and the public. Recent legislative and policy changes, such as the new PPS, Greenbelt Plan, Niagara Escarpment Plan, Oak Ridges Moraine Conservation Act, and government initiatives with respect to source water protection also contradicts their position. It is an accurate statement that government policy advocates close to market sources but not to the detriment of all other land uses or the environment. The policy objective is intended to lessen environmental impacts by greenhouse gas emissions (Trucking 130 m. tonnes an extra 1 km emits an additional 87 tonnes of airborne pollutants (nitrogen oxide, carbon monoxide, volatile organics)), minimize social disruption (e.g. traffic gridlock) and to reduce the financial cost to taxpayers (government consumes 50% of the aggregate). These impacts will be magnified as distance from the market is increased. Failure to adhere to this basic principle could result in serious consequences, both financial (cost of aggregate, impacts to roads, etc.) and environmental in nature. The Pembina Institute report does not adequately consider Ontario’s growth (see growth rates below) and the environmental consequences of increased long distance haulage of aggregate.

Transportation of Aggregate

The applicants report concluded that southern Ontario is well-served, by rail and marine transportation infrastructure that could be used for the purpose of transporting aggregate over long distances. The 1992 “Aggregate Resources of Southern Ontario – a state of the resource study” done for MNR by Planning Initiatives Ltd. and Associates refutes this statement and summarizes rail and water transport, as “although cheaper, have only small networks which are unlikely to be expanded.” The state of the resource study concludes that “it seems unlikely Canada’s major railways take enough initiative to encourage growth in aggregate movement by rail for the following reasons: lack of existing rail connections to sites; the rail system is inflexible and new routes are expensive; and the costing rules are burdensome...” Water transport is constrained by the lack of navigable waters contiguous to present supply sites and the 3-month winter closure (260 day season). This situation does not appear to have changed since the study was prepared.

The 1980 Mineral Aggregate Transportation Study done for MNR by Peat, Marwick and Partners and M.M. Dillion Ltd. concludes that transporting the perceived problem to faraway locations is not an environment improvement, just the opposite. The aggregate would then need to be reloaded onto trucks and moved to the final destination from locations along the water front. The trucking issue will now be transferred from the countryside to the water front. Although both these reports are somewhat dated, circumstances have not substantially changed.

Jurisdictional Comparison

The report appended to the application cites the strategies of other jurisdictions (i.e. United Kingdom, Denmark and Sweden) which they allege encourages aggregate conservation by reducing the overall demand for aggregate resources and maximizes the substitution of alternative material. Initiatives referenced include the imposition of an aggregate levy (e.g. UK - £1.60 (\$3.73 CAD) per tonne), raw materials tax and waste tax (Denmark), grants for recycling facilities (Denmark), establishing guidelines setting targets for aggregate extraction and the use of alternative materials, and the creation of a sustainability fund (UK). The approaches identified within the report may be considered in the development of a conservation strategy for Ontario.

The European countries selected by the report are geographically smaller in comparison with Ontario and their growth rates are much lower (United Kingdom - 0.2%, Denmark - 0.3%, Sweden - 0.3%, Ontario - 1.3%, GTA - 2.0%). A higher growth rate correlates with greater demand for aggregates and consequently, a lower proportion of recycled materials are to be expected. In addition, climatic variations in Ontario create the need for higher quality and quantities of aggregate resulting in higher per capita consumption of aggregate.

Industry representatives who reviewed the Pembina Institute’s report and data sources when it was released to the public, commented that it appears Sweden’s experience was selectively quoted, however, the Pembina Institute’s report does talk

about their desire to shift from sand and gravel to stone (not reduce aggregates in total). In addition, the report concluded that there is an 82% reduction in the consumption of sand and gravel between 1984 and 1998. However, the tax was only introduced in 1996. Most of the change occurred before the extraction tax was introduced. The following excerpt is taken directly from the Pembina Institute's source (<http://www.economicinstruments.com/default.asp>). It shows that the correlation between the tax and changes in demand are quite uncertain.

"Figures obtained from the NRA clearly show a dramatic decline in sand and gravel usage for Sweden overall, from 82% in 1984 to 40% by 1998. There was a larger percentage reduction (i.e. 6%) since the tax was introduced in 1996, than the corresponding 2 year period from 1994 to 1996. This may indicate an impact of the tax, although without a year-on-year analysis this may simply reflect the ongoing downward trend. The table does appear to confirm the general view in Sweden that aggregates manufacturers were actively considering diversifying out of gravel extraction both before and as the tax came into effect."*

* National Roads Authority

Recycling

In 1992, Ontario was viewed as a leader in recycling for North America. A representative from the company John Emery Geotechnical Engineering Limited (JEGEL), who prepared, for MNR, the 1992 publication "Mineral Aggregate Conservation Reuse and Recycling", believes that this is still the case. JEGEL also indicated that there is 100% "in place" recycling occurring and there have been recent innovations to increase the amount of recycling at the job site. The Greater Toronto Airport Authority's efforts to recycle the old Terminal 1 building is another excellent example of a leading edge project in Ontario. Historic problems in using steel slag in hot mix asphalt have been resolved and Dofasco now re-uses its steel slag in the steel production process. There have been many Ontario success stories. Where aggregate specifications limit the use of industrial by-products, other markets are being found.

MTO stated in the ECO's 2002-03 annual report that *"Highway Standards are mature and reflect international standards that must ensure the safety of the driving public. Updates to construction materials standards are typically incremental in nature and developed with scientific, social, economic and environmental consideration in mind. The heavier demands imposed by traffic requires greater use of skid-resistant aggregates.....MTO encourages and permits the use of recycled materials. Specifications permit their use within the appropriate engineering and environmental limitations....Durability and environmental concerns discourage many of the initiatives."* For example, a potential concern with utilizing some sources of mine waste rock is acid leachate.

Municipalities are responsible for close to 90% of the roads within the province and use approximately 70 million tonnes per year in Ontario. Municipalities are responsible for the construction and maintenance of roads within their jurisdiction and commonly adopt the Ontario Provincial Standard Specifications (OPSS)

standards. However, neither MTO nor MNR have the mandate to dictate to municipalities how to build their roads. The OPSS have been changed to allow crushed glass and ceramics (15%), Portland cement concrete (100%) and some types of slag to be used as aggregate. The aim is to allow maximized use of recycled products with due consideration to engineering and economic needs and limitations imposed by technology. It is unlikely that aggregate specifications can be changed further to use less aggregate without impacting long-term performance and safety of the roads. MTO currently does not mandate recycling but only encourages its use in tendering contracts.

The 1992 publication “Mineral Aggregate Conservation Reuse and Recycling” concluded that: *“The contribution of waste and by-products use and recycling is significant to resource and landfill consideration. However, it will continue to have only a small (3 to 5 percent) overall impact on Ontario’s aggregate requirements given the already high usage (66 percent) of the available waste and by-products of suitable technical quality within economic transportation distance.”*

A lot of recycling is occurring at the job (“in place”) which is not captured in the statistics.

With projected increases in demand for aggregate resources due to a growing population, it would be optimistic to expect resource conservation measures to fully offset increased demand for aggregates. Storage locations and processing can create additional issues around increasing the life span of a pit or quarry site and the impacts of double trucking materials.

In addition to the foregoing, MNR and MTO remain committed to increasing resource conservation measures which will be addressed in the conservation strategy.

5. Any submission from a person who received a notice under s.66 (or is otherwise aware of the matters raised in this application for review)

No submission has been received from additional persons in the context of this EBR review request. However, MNR is aware that the ECO has also identified concerns with the amount of rehabilitation being completed and the need for a conservation strategy with reference to this in the ECO 2002/2003 annual report.

The APAO and consultants acting on their behalf are aware that there is a pending EBR review request and have expressed an interest in addressing the allegations and conclusions cited within the report. While MNR is aware of the interest by these groups, their input has not been solicited as part of the consideration process regarding this application for review.

6. The Resources required to conduct the review

Periodic reviews of existing programs and the costs associated with those reviews are part of MNR's ongoing business practices and business planning. Significant human and fiscal resources may need to be committed in the development and implementation of a conservation strategy by MNR and other participating provincial ministries and/or stakeholders. The resources required to conduct a review related to such a conservation strategy are determined based on the terms of reference (e.g. details for the process, who will participate and the timing) for the review. MNR believes that an additional review of the ARA with its associated costs in response to this application for review is unnecessary at this time.

7. Any other matters the minister considers relevant

A Related EBR Review:

MNR is currently undertaking a review under the EBR (EBR File No. R2003008) of the Aggregate Resources Program.

The applicants had requested a review of the ARA with respect to:

- the purpose of the Act to "require the rehabilitation of land from which aggregate has been excavated";
- section 48 (Part VI) of the Act regarding rehabilitation; and
- section 6.1 of the Act regarding the Aggregate Resources Trust.

The review applicants had identified the following concerns:

- statistics show that rehabilitation over the past ten years is being exceeded by newly disturbed area, therefore, the intent of the Act is not being met;
- rehabilitation security deposits are required as an incentive system to promote rehabilitation; and
- the partnership arrangement with The Ontario Aggregate Resources Corporation (TOARC) violates MNR's SEV pledge for openness to the public.

The results of this review are still pending.

MNR's Legislative Authority to Review

Some of the matters raised by the applicants are beyond the control and legislative authority of the ARA or the mandate of the MNR's Aggregate Resources Program and therefore, can not be addressed by MNR. For example, any matters pertaining to the development standards and building codes (i.e. design of buildings, infrastructure and settlement patterns), municipal waste disposal fees/taxes, grants and/or financial incentives for recycling facilities.

Conclusion and Recommendations

Ontario is viewed as one of the leaders in recycling for North America and there have been many success stories. Ontario remains committed to building on this success.

MNR Aggregate Resources Program staff is currently participating on a committee, in collaboration with the MTO and MOE, to develop a provincial conservation strategy for aggregate resources.

Some of the matters raised by the applicants are beyond the control and legislative authority of the ARA or the mandate of the MNR's Aggregate Resources Program and therefore, can not be addressed by MNR. For example, any matters pertaining to the development standards and building codes (i.e. design of buildings, infrastructure and settlement patterns), municipal waste disposal fees/taxes, grants and/or financial incentives for recycling facilities. This matter was referred back to the office of the ECO for consideration. Secondly, in light of recommendations made in the Pembina Institute's report for consideration of additional matters beyond MNR's mandate, there may be a benefit to broadening the scope of the membership of the existing conservation strategy committee and include additional ministries (e.g. Ministry of Municipal Affairs, Ministry of Public Infrastructure Renewal, Ministry of Northern Development and Mines, Ministry of Finance) in order to address the additional matters raised. MNR should encourage these other ministries to participate on the committee.

MNR expects that the conservation strategy will be developed in an open and transparent manner and this may be achieved by allowing the public and/or stakeholders to participate in the initial development of the strategy. However, it is the responsibility of the committee, not solely MNR, to determine how the public will participate in the process. It is recommended that the ministry advise the applicants on how they may participate, once the committee has made this determination.

MNR disputes the applicants' claim that the province's policy is to guarantee perpetual access to primary aggregate resources before all other land-use policy objectives. New applications under the ARA must undergo a rigorous environmental review and are closely scrutinized by government ministries, municipalities and the public. Recent legislative and policy changes, such as the new PPS, Greenbelt Plan, Niagara Escarpment Plan, Oak Ridges Moraine Conservation Act, and government initiatives with respect to source water protection also contradicts their position.

The report appended to the application has not recognized some of the findings from previous studies prepared for MNR, such as, the 1992 Aggregate Resources of Southern Ontario - A State of the Resource Study and the 1992 Mineral Aggregate Conservation Reuse and Recycling Study prepared for MNR. Furthermore, some of the conclusions within the applicants' report (e.g. the correlation between the extraction tax and changes in demand) are uncertain.

MNR is undertaking an EBR review dealing with similar issues with respect to rehabilitation (Part VI of the ARA), lack of available resource information and rehabilitation of revoked or abandoned sites by TOARC. The results of this review are still pending. The applicants should be provided with information on the outcome of the review once the review has been completed.

MNR Program staff has carefully reviewed the submission from the applicants and determined that the public interest does not warrant a review in MNR, in response to this request.