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Running out of gravel and rock

But what is the true state of our aggregates resources? *By Gord Miller*

Some people say we are facing a crisis in this province — that by 2010 we will run out of aggregates to feed our growing economy. But Ontario has no shortage of sand, gravel, and rock. You have to wonder whether this is an attempt to force access to lands already protected by land use planning decisions.

In my 2002/2003 annual report to the Ontario Legislature, I recommended that the Ministries of Natural Resources and Transportation collaborate on a strategy for conserving our aggregates resources. This strategy should consider both road construction and the need to conserve aggregate resources.

What is the situation today? Are we really in a demand crunch? It's true that Ontario's demand for aggregate is large, equalling more than one-third of the annual aggregate production for Canada. However, the Ministry of Natural Resources (MNR) has no accurate picture of what is happening in terms of demand. The last serious look at that was in 1992 when the ministry published a "State of the Resource Report" on aggregates in southern Ontario.

MNR does have figures on production — it exceeded 160 million tonnes in 2001. But it does not have figures for consumption, nor does it have an up-to-date picture of what kind of aggregates are being used, or how and where they're being used in Ontario. Nor do we know how much can still be extracted from existing pits and quarries. There are approximately 2,800 licensed aggregates pits and quarries in Ontario. Unfortunately, often we don't even know what is still there to extract or how well they are run — because we aren't keeping an eye on them. Until 1997, MNR inspectors were required to inspect each aggregate site annually. With the budget cutbacks of the late 1990s, however, inspection has fallen off dramatically.

That leads us to some fundamental questions: Do we need to develop more new "green field" quarries in ecologically sensitive locations such as the Niagara Escarpment or the Oak Ridges Moraine? Or should we examine carefully what remains in existing quarries so we can maximize what we can get out — and put back into operation pits that are already licensed but not currently in production? The last two options make sound economic and environmental sense. But if we don't inspect sites to know what's there, it's hard to make a rational decision.

Moreover, in order to reduce the demand for "virgin" aggregate, shouldn't Ontario become a leader in the reuse and recycling of materials in road construction? Ministry of Transportation specifications allow for the reuse of reclaimed aggregates, concrete and asphalt. The specifications also allow for the use of by-products, including materials such as crushed glass or ceramics. Highly urbanized areas generate significant volumes of non-virgin materials, such as crushed concrete, that could be used in road construction. However, estimates suggest that only 3 per cent of Ontario's aggregate consumption is supplied by non-virgin materials, in great part because of lack of incentive. In some European jurisdictions, the substitution of non-virgin materials is supported by taxation policies — taxes can range as high as several dollars levied on each tonne extracted. Ontario has no such policy to conserve and sustain the resource — levying only 6 cents per tonne.

As important, do the aggregates need to come from new sites on the Niagara Escarpment, the Oak Ridge Moraine or the Greenbelt? There is the argument that when aggregates come from sources close to the demand, the cost and the pollution associated with trucking are minimized. There is some truth to this, but the equation must also include the costs of the environmental impacts and land use conflicts connected with aggregate extraction. Alternatives exist: we already move large quantities of aggregates from Manitoulin Island to southern markets by water, a cheap and minimally polluting option. And although we must recognize there are sensitive lands in northern Ontario as well, surely there must be far more opportunities in central and northern Ontario to extract aggregates that could be shipped by rail or water — with fewer land use conflicts and environmental impacts. There is so-called "waste rock" available, already extracted as a by-product of the mining industry.

The Greater Golden Horseshoe is expected to have 4 million more people by 2031. This growth will necessarily require new infrastructure — and that will require the use of large amounts of aggregates. But do those materials need to be made up of virgin aggregates? It all boils down to the choices we still have time to make. We can accept the argument that we have no choice but to truck aggregates from sources close to growth centres. We can choose to make no effort to control demand, or to look at the pits and quarries we already have, or to use recycled materials. But if we make these choices, we must resign ourselves to the conversion of thousands more hectares of the Niagara Escarpment, the Oak Ridges Moraine, or the Greenbelt to pits and quarries that will not be completely used — nor rehabilitated for decades.

Or we can choose to use fewer aggregates, to optimize the licensed quarries we already have, to reuse and recycle materials, and seek alternate sources of aggregates brought in by rail and water. These choices would probably cost a little more. But the landscape we leave behind would be different. It is our choice, our legacy, and future generations will judge us by it.

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