

ABOUT THE ONTARIO STONE, SAND & GRAVEL ASSOCIATION



Visit ossga.com to download this publication, or ask for a copy through admin@ossga.com or 905.507.0711.

The Ontario Stone, Sand & Gravel Association (OSSGA) is a non-profit industry association representing nearly 300 sand, gravel, and crushed stone producers and suppliers of valuable industrial products and services. Collectively, our members supply a significant majority of the approximately 164 million tonnes of aggregate used on average each year to build and maintain Ontario.

OSSGA works in partnership with government and the public to promote a safe and sustainable aggregate industry, contributing to the creation of strong communities in the province.

AGGREGATES BUILD ONTARIO – FIND OUT MORE!

How much stone, sand and gravel is produced in Ontario? What is it used for? How is it helping to build and renew critical public infrastructure? Find out more in *Aggregates Build Ontario*, an informational brochure from the Ontario Stone, Sand & Gravel Association.

For ongoing information on how the Ontario aggregate industry is helping to build Ontario, subscribe to our bi-annual magazine, *Avenues* (visit ossga.com/subscribe).





Cover photo: Frog in Japanese Garden Guelph Arboretum. Photos at left: The University of Guelph Arboretum, site of a former gravel pit.

All three photos © Hay123.5 / Wikimedia Commons.

The OSSGA Bronze Plaque was presented to the University of Guelph Arboretum in October 1996. Originally a five-hectare gravel pit, this rehabilitation project is unique in that it was created to serve as a tool for research and education, helping determine which tree and shrub species are best suited for different aggregate rehabilitation projects. The aim of this project is to improve future aggregate rehabilitation projects. The site also remains a wildlife habitat and a wonderful green space for the community.

CLEARING THE AIR

Last year, Ontario's stone, sand and gravel industry extracted more than 150 million tonnes of aggregate in Ontario. That's a lot of material.

Our customers are the Province of Ontario, municipal governments, building developers and construction companies. Together, we are *literally* helping Ontarians build communities from the ground up: from roads to highways, to hospitals, schools and houses. At the Ontario Stone, Sand & Gravel Association (OSSGA), we're proud to say our members are engaging in these projects in the most responsible, thoughtful and technologically-sophisticated ways in history.

As an industry, we are dedicated to being the model, and the voice, of environmental sustainability and stewardship. Our members are committed to the consistent application of best operating standards and to the environmentally responsible use of resources.

This is more important today than ever before. Why? Because infrastructure investment is expected to significantly grow in the coming years. The Ontario government (our largest customer) has promised \$130 billion in spending over 10 years and Prime Minister Trudeau won the last federal election largely on the promise of infrastructure investment.

The time has come. To fix our roads, fix our bridges and fix our sewers.

And that's a good thing.
Infrastructure spending brings with it job creation, economic growth, and the promise of a brighter future. And of course, more aggregate.

What many Canadians don't know, is how strong the link is between infrastructure investment and the need for stone, sand and gravel. Consider this, it takes 250 tonnes of aggregate to build the average house, 15,000 tonnes were used to build your local hospital and 18,000 tonnes to build one kilometres of highway.

Where we choose to source the aggregate that builds our communities has consequences. One of the ways the industry strives to be responsible is to ensure that aggregate material is sourced as close to an active project as possible.

Trucking gravel from long distances is expensive – both in terms of money and greenhouse gas emissions. Every extra kilometre is a cost to society. Supply needs to be close-to-market, so it is vital that producers and communities work together to ensure a balanced approach to meeting the stone, sand and gravel needs of Ontarians.

We know that the public often has concerns about the aggregate industry. There is a lot of misinformation out there.



What better place to clear the air than in the 2015 Report to Ontario's Communities. This year's report features some of the award-winning projects OSSGA members have championed in property rehabilitation and community relations, as well as facts on aggregate and water, and our ongoing work to protect wildlife and endangered species.

Take the time to read this report and you'll see the industry differently. We're looking forward to working with all of our partners to help provide the essential materials for building a strong Ontario, now and in the future.

James Gordon

Chair,

Ontario Stone, Sand & Gravel Association

COMPLETING THE LIFE CYCLE OF AN AGGREGATE PIT





Above top: Outstanding
Achievement in Property
Rehabilitation Award winner,
CBM's Sugarbush Pit in London.
Above: Great Blue Heron.
Opposite page: Top: Tree
planting at Sugarbush Pit in
2008. Bottom: Sugarbush Pit
in London.

The aggregate industry is unique in that once production is finished the land can be rehabilitated to other uses. That's why we say that aggregate is an 'interim use of land'. It's not forever, and once the extraction is finished, the land is returned to a state which is complementary to the surrounding landscape. Sometimes this can be a swimming area, parkland, agriculture or, as in the case with this year's winner of the Outstanding Achievement in Property Rehabilitation Award, a naturalized space featuring a mix of upland and wetland areas. Let's talk a little bit about the award...

Many people don't realize that the aggregate industry is one of the most highly regulated in Ontario. More than 25 pieces of legislation and regulation ensure the protection of people and the natural environment. And we're proud to say that our members strive for even more.

The Outstanding Achievement in Property Rehabilitation Award is presented to licensed sites that demonstrate their rehabilitation goes above and beyond the minimum requirements outlined by the Ministry of Natural Resources and Forestry's Provincial Standards.

Last year's winner, presented in February 2015, was CBM Aggregates – A Division of St. Marys Cement Inc. (Canada), for its Sugarbush Pit in London, Township of West Nissouri. The goal of CBM Aggregates' award-winning progressive rehabilitation project was to return Sugarbush Pit to a naturalized state featuring a mix of upland and wetland areas.

The 9.7-hectare Sugarbush property is owned by the Upper Thames River Conservation Authority (UTRCA), which has leased the property to CBM Aggregates since 1983. The material extracted from the pit was used to supplement St. Marys' ready mix operation. Slopes were seeded to establish a quick ground cover to prevent erosion. A pond occupies 2.7 hectares of the property. Shortly after seeding in 2008, CBM, along with the UTRCA and six school groups from the Upper Thames area, participated in planting over 2,000 woody and 5,000 aquatic plants.

Today, the site has clearly been rehabilitated to a natural state with aquatic vegetation taking hold within the wetland and fringe areas, and strong evidence of colonization by native and non-native vegetation on upland areas adjacent to the wetland feature. Upland woody shrubs included many native species such as Ninebark, Nannyberry and Dogwood species, of which many were noted as

having evidence of use by local fauna. The wetland feature and surrounding area are being used by a variety of wildlife species, with evidence of Osprey nesting, regular White-tailed deer sightings, and observations of Mallards and Great Blue Heron on-site. The gradual slopes surrounding the wetland and gravel/stone substrate provide good nesting for several turtle species.





CONTRIBUTING TO COMMUNITY LIFE



Keeping the lines of communication open between aggregate operators and communities has never been more important. The more the community gets involved and understands local operators, the more we can work together to ensure the most responsible sourcing of aggregate to serve the growing needs of Ontarians.

OSSGA member operators like to talk about themselves as 'visit ready'. They welcome the opportunity to host tours at their pits and quarries. Many have advisory panels, distribute regular newsletters and hold regular meetings with municipal officials and community leaders.



Top left: OSSGA's 'visit ready'
members such as Walker
Aggregates' Duntroon Quarry
welcome tours. Left and above:
CBM's Aberfoyle Pit hosts
community activities such as tree
planting and fishing.

WHAT'S HAPPENING IN YOUR COMMUNITY?

Waterford Sand & Gravel Ltd. Vinemount Meadows Stoney Creek

A new lease agreement between the Hamilton Naturalists' Club (HNC) and Waterford Sand & Gravel protects 65 acres of land for the next 24 years. Vinemount Meadows is located just north of Waterford's Vinemount Quarry in Stoney Creek above the escarpment. It rests in the midst of an incredibly important bird breeding and watching area just south of the Niagara Escarpment. Waterford will supply \$20,000 in services and materials to assist the HNC with habitat improvements on the property. The site includes a Peregrine Falcon's nest which marks the third nest for the endangered species in Hamilton. In 2014, three young peregrines were born at the local nest site.

CBM Aggregates – A Division of St. Marys Cement Aberfoyle Pit Township of Puslinch

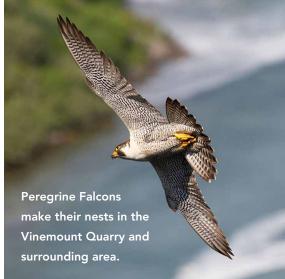
A former OSSGA Award of Excellence recipient, CBM Aggregates' Aberfoyle pit is always working to strengthen its neighbour relations. It achieves noise reductions through the use of berms, trees, noise audits and trucking policies, and controls dust emissions and traffic safety with comprehensive policies and site maintenance. Furthermore, Aberfoyle staff participate in a number of community events, including Wellington County's



Green Legacy tree planting program, environmental clean-ups, its CBM Fishing Derby, and other local initiatives. They also lead site tours and educational programs for a wide range of community guests and students. These events and more are communicated through numerous publications and Aberfoyle's page on the St. Marys Cement's website.

Dufferin Aggregates – A Division of CRH Canada Group Inc. Flamboro Quarry City of Hamilton

Flamboro Quarry prioritizes neighbour relations through its support of community programs, open communication and consistent monitoring of site operations. In addition to implementing noise, dust control and traffic safety measures, the effects of its blasting are minimized through its Blasting Beyond Compliance program and ongoing feedback from its neighbours. Other site initiatives



include equipment and site upgrades and proactive measures such as its 2012 Flamboro Quarry Neighbour Wells Project. Further goodwill is generated through material and financial donations to local groups and organizations, including the Canadian Children's Programs, Interval House and East Hamilton Lions Club, among many others. Last year, it donated armour stone to the creation of an outdoor classroom at the local Fred A. Hamilton Public School in Guelph.



Lafarge Canada Inc.

– A member of LafargeHolcim Caledon Pit Town of Caledon

Dust control measures, traffic plans and noise reduction strategies are among Caledon Pit's ongoing efforts to forge strong relationships within its community. Beyond this, staff volunteer their time for road clean-ups, events like Caledon
Day and the Annual Conservation
Gala, and educational programs
like Stay Safe: Stay out of Pits and
Quarries. The pit is also a strong
supporter of local sports teams and
causes. One highlight is its popular
Caledon Pit Run, which it launched
in 2012 with Aecon Group Inc. to
give community members a unique

opportunity to enjoy a five-kilometre trail run or a children's one-kilometre fun run through the active pit and participate in tours, demonstrations, kids activities and fundraising events. Proceeds from the event go to different charities each year. The Caledon Pit Run raised \$22,000 for the Headwaters Health Care Foundation.



Lafarge Canada Inc. – A member of LafargeHolcim Woodstock Quarry Township of Zorra

Woodstock Quarry makes being a good neighbour a top priority. Trees and large berms reduce noise and keep the site aesthetically pleasing, while regular road treatments, site maintenance and safety programs minimize dust and uphold staff and guest safety. Beyond its gates, Woodstock supplies donations, materials and volunteers to numerous community groups and initiatives, including Scouts Canada's Scoutrees program and the Domestic Abuse Services of Oxford. Staff also participate in





local events and on-site tours, and welcome community members through its gates for yearly open houses and on-site activities.

Walker Industries - Walker Aggregates Inc. Ridgemount Quarries Stevensville

Community relations takes precedence at Ridgemount Quarries. Staff regularly consult with surrounding residents to make sure all steps are being taken to minimize the effects of its blasting, and its RidgeRock newsletter keeps its community informed on all quarry news. Other efforts, such as site upgrades, noise-reducing reversing systems, and regular maintenance keep the site safe and aesthetically pleasing as well. Within its boundaries, Ridgemount Quarries has played host to training exercises for the Canadian Armed Forces and weekly digs with the Delaware Valley Paleontological Society. Beyond its borders, employees give their time to events like Walker Industries'

Touch a Truck fundraiser for children's literacy programs. Ridgemount Quarries also donates to local causes such as Habitat for Humanity and EquineAbility.

Photos opposite page: Top left:
Lafarge Canada Inc. and Aecon
Construction and Materials
Limited run an annual Caledon
Pit Run to raise funds for charity.
Bottom: Lafarge Canada Inc.
partners with Scouts Canada for annual tree plantings at Lafarge
properties across Ontario,
including the Woodstock Quarry
in Zorra Township.

in Zorra Township.

Above left: Walker Aggregates'
Ridgemount Quarries participated
in the company's Touch a Truck
fundraiser for children's literacy
programs. Above right: Walker
Aggregates instituted special dust
control measures for its kitty litter
plant at Vineland Quarries.

NOISE, DUST, TRAFFIC AND VISUAL AESTHETICS

Operators are listening and putting in place new programs to reduce common complaints. From traffic enforcers to noise-reducing screens, to noise and dustcontaining megadomes to tree planting, OSSGA operators want to work with communities as partners. OSSGA members are proud of their relationships with local host communities. Together we are building better communities by creating local opportunities and developing thriving neighbourhoods Ontarians call home.

Photo by Mark Browning





Bank Swallows are listed as Threatened on the Species at Risk in Ontario List.

CREATING AND PROTECTING BANK SWALLOW HABITATS

The Bank Swallow is a small white and brown songbird with a distinctive dark breast band. It can be distinguished in flight from other swallows by its quick, erratic wing beats and its almost constant buzzy, chattering vocalizations.

In June, 2014 the Bank Swallow was listed as Threatened on the Species at Risk in Ontario List. In 2015, OSSGA's Species at Risk (SAR) taskforce was given the opportunity to work with the Ministry of Natural Resources and Forestry (MNRF) to help it understand industry operations and provide specifics on compatible and incompatible activities in Bank Swallow habitats that are created in pits and quarries. This resulted in the release by MNRF of a General Habitat Description (GHD) in July 2015. Operators use the GHD and the OSSGA Bank Swallow Fact Sheet to ensure they are not harming Bank Swallows.

Bank Swallows are attracted to pits and quarries. They build nests in stockpiled product or banks – particularly liking sand or silty sand.

WHAT OPERATORS ARE DOING TO PROTECT BANK SWALLOWS:

Pre-planning begins in March to late April (or mid-May north of Sudbury) by altering working faces and stockpiles to prevent harassment or harm to Bank Swallows. These areas are managed throughout the breeding season to make these potential nesting sites unattractive.

OTHER WAYS THAT OPERATORS HELP:

Provide alternate nesting sites in an inactive portion of pits or quarries by setting aside pre-existing suitable habitat or creating new habitat in inactive area(s) before the breeding season (this is done by creating vertical faces of 70 degrees or more in piles or banks).

Operators also discourage Bank Swallows from nesting in areas that will be excavated over the breeding season by contouring faces to have a less vertical slope (either by sloping off or piling material on the face to create a slope that is less than 70 degrees).

Operators devote time at the end of the work day to remove vertical faces so that Bank Swallows don't begin to build in these faces overnight or over a weekend.

Operators carry out activities that are compatible with Bank Swallow habitat in pits and quarries according to the habitat categories identified in the Ministry's General Habitat Description.

BIODIVERSITY AWARD HONOURS EFFORTS TO PROTECT ONTARIO'S FLORA AND FAUNA

RECOGNIZING ACHIEVEMENT IN BIODIVERSITY CONSERVATION

At first glance, a sand or gravel pit may not seem a likely place to find innovation in biodiversity. But look beyond the piles of sand and gravel and you'll soon discover the enormous care Ontario's aggregate producers take to ensure biodiversity.

As stewards of Ontario's aggregate resources, aggregate producers work hard to be good neighbours and land stewards by implementing conservation and stewardship activities. The OSSGA Biodiversity Award honours members for their contribution to sustaining biodiversity through species protection, habitat improvement and sustainable land use activities, and for conserving biodiversity in a way that goes well beyond regulatory standard practices.

Each eligible project must demonstrate one or more of how it engages people, reduces threats, enhances resilience and improves knowledge, in keeping with Ontario's Biodiversity Strategy. Entries are judged by members of provincial environmental nongovernment organizations (ENGOs), including members of the Ontario Biodiversity Council.

Presented in February 2015, this year's winner of the inaugural OSSGA Biodiversity Award was



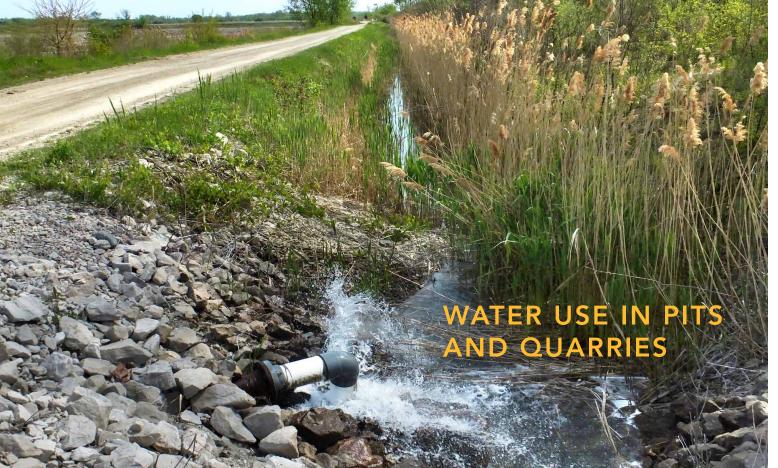
Dufferin Aggregates for their Biodiversity Indicator and Reporting System (BIRS) pilot project. The BIRS was developed by the International Union for Conservation of Nature (IUCN) in partnership with Holcim.

The BIRS was designed as a simplified scientific tool for monitoring biodiversity by assessing the condition and extent of habitats at an extraction site using ecological features within the habitats as key performance indicators of the level of biodiversity.

The BIRS allows a company to establish a baseline biodiversity level at a site and then use this to measure how operations are affecting habitats each year.

The system also helps sites determine the effectiveness of both biodiversity mitigation and quarry/pit rehabilitation measures.

Biodiversity is the variety of life on Earth. It includes all living things and the ways in which they interact with one another and their environment. Simply put, biodiversity is life.





Top: Clean water being discharged back into the environment. Bottom:
A river/stream habitat at the site of Dufferin Aggregates'
Milton Quarry.

Aggregate operators are primarily water managers, and not water consumers.

To understand how water is managed, it helps to understand that pits and quarries come in three major categories, and each uses water a bit differently.

The first category, representing the majority of sites, is where sand, gravel and rocks are extracted from above the water table, so the operations do not reach far down enough to have any impact on the water table. With these operations, water is used to wash fine particles from the extracted gravel or stone, and then the water is recycled in a closed-loop system and used over and over again. Very little water is lost.

The second category of sites is where sand and gravel is dredged from below the water table. In these types of operations the water stays where it is, only the sand and gravel is removed. Years of monitoring these operations have shown no impact to the water table.

The third kind of operation is a rock quarry. In this case, the water may have to be pumped out of the quarry so that blasting and digging can be done safely. However, water is not consumed in the operation, but discharged onto the surrounding surface where it filters back into the ground or is sent to nearby rivers or lakes.

Quarries that operate below the water table are required by law to mitigate impacts to nearby sensitive features – such as wells, streams and wetlands. Once extraction is complete, these sites become lakes or new important wetlands.

One final note: No chemicals are involved in the extraction or processing of aggregate materials.

AGGREGATE RECYCLING ONTARIO (ARO)

OSSGA is one of eight provincial associations that support ARO and its 17 producer members with a mission of increasing the use of recycled aggregate in Ontario. Recycled aggregate contributes to sustainable use of aggregate resources – environmentally, socially and economically.

In 2015, ARO initiated research by the University of Waterloo Civil Engineering Department's CPATT (Centre for Pavement and Transportation Technology) into the use of recycled aggregate in granular B, type II (a sub-base granular aggregate product restricted to primarily quarried bedrock). In-kind support was provided by Lafarge Canada Inc., Steed and Evans Limited, Nelson Aggregate Co., R. W. Tomlinson Limited, Cruickshank Construction Ltd. and Golder Associates Ltd. with financial support from the Ministry of Transportation.

A formal request has been made to Ontario Provincial Standards (OPS) for Roads and Public Works to amend Ontario Provincial Standard Specification (OPSS) 1010 to allow the use of recycled aggregate in this product.

Best practices and quality plan guides have been developed by ARO for member producers to produce to a high standard. A facility certification system using third-party accredited engineers is currently being considered.

ARO continues to work with other organizations to promote greater use of recycled aggregates, including the Municipal Engineers Association, the Ontario Good Roads Association and individual municipalities.

Visit ARO's website at:

http://aggregaterecyclingontario.ca.



OSSGA – RESOURCES FOR AGGREGATE ENVIRONMENTAL MANAGERS

In 2015, OSSGA released
The OSSGA Environmental
Management Guide,
intended to help OSSGA
Members continue to
formalize the structure
and organization of
the management of

environmental aspects at a pit or quarry, and to emphasize the practical tools available to facilitate environmental management. OSSGA also held its second Environmental Management at Pits & Quarries Workshop discussing noise, dust, permits to take water, recycled aggregates, environmental law and more. The range of topics and regulations that must be understood to effectively manage the environmental aspects of a site is far reaching, and growing every day. **OSSGA** producers work diligently all year to ensure they meet and exceed the environmental compliance requirements at their sites.

*source: www.Ontario.ca







OSSGA

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Essential materials for building a strong Ontario

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