ONTARIO STONE, SAND & GRAVEL ASSOCIATION

ROCK TALK

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OSSGA
ONTARIO STONE, SAND & GRAVEL ASSOCIATION
Essential materials for building a strong Ontario

BEE-ING GREEN: POLLINATOR CONSERVATION & ECOLOGY IN RECLAIMED PITS & QUARRIES

A bumble bee approaches a flower to gather resources

The rehabilitation of pits and quarries post extraction is an important consideration in any aggregate operation. The variety of land uses following the exhaustion of aggregate resource extraction is extensive, and agriculture and conservation goals for decommissioned lands are strong within the Ontario aggregate industry. A wide variety of best practices for rehabilitation related to conservation have been set out by The Ontario Aggregate Resources Corporation (TOARC) in a recent report called "Best Practice Guidelines for Aggregate Rehabilitation Projects: Extracting the Benefits for Species At Risk and Rare

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Water Works: OSSGA Holds 1st Source Water Protection Workshop

The Ontario Stone, Sand & Gravel Association (OSSGA) has been involved in the development of the provincial government's source water protection planning initiative from its inception.

In keeping with this tradition, on October 27, OSSGA hosted a highly successful Source Water Protection workshop at Mississauga's Radisson Plaza Hotel, including OSSGA representative Source Protection Committee members and alternates, members of OSSGA's Board Taskforce on Water and Eyes and Ears Committee, non-OSSGA aggregate representative Source Protection Committee members, Ministry of Natural Resources Aggregate Section staff and Ministry of the Environment (MOE) Source Protection Programs Branch staff.

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Habitats".

Recommendations range from re-creating or enhancing a number of habitat types and programs, to improving or creating habitats for species at risk, to various agricultural and recreational uses that are ecologically responsible. The creation of such habitats as tallgrass prairie and wetlands, which have been heavily degraded in Ontario since European settlement, are a focus of the report. Lands scheduled for rehabilitation provide unique opportunities for plant and pollinator conservationists to develop best-management practices for the conservation of ecosystems in our rapidly changing landscape, which is becoming more urbanized, while providing a venue for fundamental ecological research that can be applied to conservation, agriculture and forestry. There is potential for the Ontario aggregate industry to play a strong role in research relevant to our food security, the conservation of wild species and defending the ecosystem services that support us all.

In the summer of 2009, planning and research began at Waynco Ltd. (a subsidiary of Nelson Aggregate Co.) in Cambridge, which was nearing the final stages of rehabilitation. Although the soil has not yet been replaced on this site, there is considerable vegetation regrowth, and sampling of pollinators occurred throughout the season.

At two-week intervals, a team of researchers from the Canadian Pollination Initiative (CANPOLIN), a NSERC-funded research network based at the University of Guelph, carried out sampling on the property.

CANPOLIN is a multi-year, nationwide initiative that brings together several dozen researchers in a variety of fields related to pollination.

A series of methods were used to capture pollinators, including Malaise traps, trap nests and yellow and blue bee bowls. Malaise traps are effective samplers of flying insects, taking advantage of their tendency to move upward when a barrier is encountered. When a flying insect strikes the partition in the centre of the trap, it moves upward and is ultimately collected in the trap head. Trap nests provide sites that are attractive to bees and wasps that nest in holes, which can later be identified

Waynco property, Cambridge, which is scheduled for rehabilitation

Yellow bee bowl at the Waynco property, Summer 2009

Photos: © A. McGraw-Alcock


Malaise trap (Eastview, Guelph)

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when the young insects emerge. Bee bowls trap and preserve insects that are attracted to colour, such as those that pollinate flowers (most notably bees, but also many wasps and flies).

Future plans for this site include developing a large-scale experiment that will enable comparing pollinators associated with different types of plant communities over the long term (of rehabilitation) to determine which land-use strategies maximize both the diversity and health of the pollinators and the ecosystem as a whole.

Bees have made headlines over the past few of years. The mystery of the Colony Collapse Disorder (CCD), which afflicts honey bees, has left many people considering the important role these pollinators play in our lives.

More than just producers of honey and wax, bees play a tremendous role in the plant agriculture industry, which sustains us by fertilizing crops that produce edible fruits, nuts and seeds.

Without pollinators, many of the countless wild plants that abound in our forests, fields and cities would be unable to reproduce, which, in turn, would drastically change biological communities and affect the ability of ecosystems to provide us with basic needs, such as clean air, water and wildlife habitat.

Honey bees, however, are only a small part of the story. There are approximately 800 species of bees known in Canada - not to mention the unrecorded number species of flies, wasps, beetles and other insects that fulfill the critical role of pollination for flowering plants.

Many of these pollinators are in decline due to a number of reasons, including habitat loss, pesticide use, pollution, invasive plants, etc.

Conserving the wide variety of Canadian pollinators and understanding the roles they play is a vital environmental issue of our time.

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Trap nest