

ehabilitation is not usually the first word that comes to mind when considering mining or material extraction. However, rehabilitation is a significant part of the requirements for aggregate extraction in Ontario.

Under the legislative and regulatory environment in Ontario, when aggregate companies identify areas for material extraction, they are required to include a detailed plan for site rehabilitation after aggregate extraction has taken place. Rehabilitation means the restoration of the site to its former use, if possible, or changing the site to another use or condition that is compatible with the surrounding land.

Though minimum standards for rehabilitation exist as part of the provincial requirements and are identified on all licensed pit and quarry site plans in Ontario, **CBM Aggregates (CBM)** strives to achieve higher-quality rehabilitation. Whether by encouraging biodiversity or restoring productive farmland, these efforts are geared toward promoting uses that blend with the surrounding landscape.

Aggregate companies often face community challenges when a new extraction site is identified. Residents typically are unaware of the interim nature of an aggregate operation and the

benefits that will be realized when rehabilitation fully occurs. In many cases, residents don't even understand restoration efforts are required at all. Local communities can be anxious and generally unhappy with the prospect of an extraction site in their neighborhood.

Enter **Glenn Harrington**, who was a founding partner and principal landscape architect at Harrington McAvan Ltd. For over 40 years, the firm has specialized in landscape architecture, earth sciences, and biology, with a focus on stream and wetland restoration and rehabilitation projects. Over his career, Glenn was widely known for his innovative approach to environmental landscape design and his skills as a facilitator in the public participation process.





"Over the years, Glenn and I crossed paths on several stream erosion control projects that various municipalities were supporting," says Warren H. Yerex, retired supervisor of aquatic resources for the Grand River Conservation Authority. "His expertise was in innovative bank stabilization and channel stability, essentially redesigning stream channels to reduce bank erosion and improve aquatic habitat."

Glenn had a knack for respectfully educating objectors about the benefits of site restoration to help companies gain approval for aggregate licences. He treated all people—from municipal and agency staff to the public—with kindness as he represented his clients' positions, spreading the value of soil bioengineering and landscape and rehabilitation design. By giving respect and providing science-based education, he also gained respect from these audiences, which typically are hard to win over

"In most dealings with proposed gravel extraction, typically there is anxiety, mistrust, and general acrimony. The public does not like large land use change, especially in their quiet rural landscape," Yerex says. "As a reviewer, I watched, admired, and worked with Glenn Harrington for many years as he persevered for his clients in gaining approval for gravel licences."

As an expert in innovative bank stabilization and improvement to aquatic habitat, Glenn worked with CBM on many projects as both parties aligned on their desire to see rehabilitation taken to the next level. One project they worked together on was the Cannington Pit, located in Brock Township, Durham Region, Ontario.

The Cannington Pit was close to Glenn's heart. In fact, Glenn loved the site so much that he purchased it in 2015, dubbing the area "Harrington Glen." He planned to spend his retirement there, working the fields, canoeing, fishing, rambling, and sharing the bounty of his land.

Unfortunately, Glenn passed away before restoration was complete, but his commitment to rehabilitation—specifically at the Cannington Pit—will always be remembered.

CBM Partnership with Glenn Harrington on Restoration Efforts at the Cannington Pit

In 1996, Cannington Pit received a licence to operate through the Ministry of Natural Resources and Forestry (MNRF). Sand and gravel extraction began in the late 1990s and the pit operated intermittently, supplying material to CBM's nearby Sunderland Pit and to Brock Township for local road projects. In 2020, the last truckload of gravel left the pit.

CBM worked with Glenn Harrington to rehabilitate the site. Under his guidance, progressive rehabilitation occurred at the pit and uniquely included a number of specific rehabilitated end uses on the property, including agriculture, open natural habitat, reforestation, and pond/wetland creation.



Rehabilitation Timeline

2013: CBM teamed up with Glenn to establish a wetland plant seed bank along the pond's northern shoreline. A variety of native littoral zone species were successfully planted. Over time, the planted species became established and naturally populated other parts of the pond.

2015: The pond was stocked with locally sourced minnows in the spring.

2016: Glenn oversaw an agricultural progressive rehabilitation project on the former plant site, which consisted of contouring the land to direct and control the flow of runoff water, installing 6 inches of topsoil, and three years of additional soil management. Surveys determined a healthy population of minnows was established. Rainbow and brown trout were stocked in the pond in the fall.

2017: Glenn constructed a shallow spawning area along the west pond shoreline in the summer. Later that year, he planted oak acorns to create oak savanna habitat. Tallgrass prairie herbaceous species were seeded in pockets along the northern shoreline

2019: CBM staff worked with Glenn to build wetland plant boxes and plant flowers along the shoreline in the spring. Around the same time, Ethics Tree Creations planted 12,000 seedlings that thrive in wet areas and are effective at soil stabilization and erosion control. Additional species were planted to encourage diversity and create an early succession forest.

2020: The southwest pond slope was cut to a 3:1 grade, capped with topsoil, and seeded in the spring. Boulders and tree stumps were strategically placed in mounds for wildlife habitat. Ethics Tree Creations planted 8,410 trees along the east slope.

2021: CBM staff completed a fisheries assessment of the minnow population in late summer. Results found a healthy variety of minnows, along with crayfish and bullfrog tadpoles.

2022: Ethics Tree Creations planted an additional 5,000 trees. The final rehabilitation project began in the fall and involved cutting and backfilling the northwest slope to a 3:1 grade and naturalizing the adjacent pit floor. A bonded fiber matrix, hydroseed, and fertilizer mix was applied to the slope and floor. Hydroseeding was used due to its excellent results in stabilizing slopes, minimizing erosion, and accelerating vegetation growth. Another fisheries assessment was completed, finding a healthy rainbow and brown trout population

2023: CBM Aggregates was granted a licence surrender in the fall by the MNRF, meaning it had met or exceeded the criteria outlined in the approved site plans.

Throughout this time CBM was recognized by the Ontario, Stone, Sand and Gravel Association (OSSGA) on multiple occasions, receiving awards for Progressive Rehabilitation at the Cannington Pit.

Glenn's Legacy Lives On

During his career, Glenn was widely known as an expert in his field and recognized by many industry associations. In 2020, he was recognized by OSSGA, receiving the Associate Member of the Year Award. He was a recipient of the Ontario Association of Landscape Architects (OALA) Carl Borgstrom Award for Service to the Environment and the OALA Pinnacle Award for Landscape Architectural Excellence.

Glenn passed away on May 5, 2021, but will always be remembered as an advocate for environmental restoration, as well as a wonderful father, grandfather, partner, and friend. He was an activist, gardener, farmer, traveler, carpenter, designer, igloo builder, and paddler—and is missed dearly by his family, friends, and community. But his legacy lives on in the thriving "Harrington Glen."



