

## **‘Bridging the Gap’: TRCA’s Restoration Opportunities Database as a Potential Compensation Bank**

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Toronto and Region Conservation (TRCA) has a long history of implementing ecological restoration programs that strengthen the health of natural systems in the Greater Toronto Area, including tree planting, wetland creation, and natural channel restoration. TRCA has developed an effective approach to restoration planning to assess and select appropriate sites for implementation. This Restoration Opportunities Planning (ROP) approach is rooted in hydrology, based on site-specific conditions, type of opportunity and severity of threat/impairment to natural system function. Stream ROP assessments identify specific impairments to the aquatic environment (e.g., morphologic issues, failing culverts, etc.), along with proposed treatments (e.g., bank stabilization, channel realignment, etc.). TRCA’s Integrated Restoration Prioritization (IRP) framework, which consolidates watershed data and compares discrete areas based on different parameters and thresholds, further complements ROP to prioritize restoration reaches that will provide the greatest benefits to watershed health. This framework is proving to be a valuable method for identifying successful stream restoration activities across TRCA’s jurisdiction. For example, the Alfred Kuehne Stream Restoration Project in Brampton involved approximately 1 km of highly eroded and failing concrete lined watercourse within a highly urbanized setting that was restored using natural channel principals and floodplain enhancements.

Policy and legislation, in general, is starting to put more emphasis on Compensation Banking as a way to reduce overall net loss of ecological features which provide critical ecological goods and services. This can be achieved through the establishment of functional habitat prior to impacts requiring compensation. This new direction has led to a need for mechanisms to assist in the streamlining of approvals, and strategic planning of compensation measures to address ecological priorities and specific targets. Through the ROP process, thousands of stream restoration sites are being catalogued across the jurisdiction in TRCA’s Restoration Opportunities Database. This Database can provide an effective means for conveniently selecting priority natural channel compensation measures in order to address various regulatory requirements, not only for TRCA, but also partner municipalities, other government organizations, as well private developers and landowners. For example, TRCA has implemented a variety of stream restoration projects to assist with Endangered Species Act Overall Benefit requirements for the Hwy 407 Extension. Moving forward, the ability for more of these opportunities to be implemented for compensation on an ‘as required’ basis as well as implementation in advance to establish a ‘compensation bank’, are important considerations in realizing the full potential of the Database.

## **Biography**

Joel Smith has been working for TRCA since 2014 on a variety of habitat restoration projects, with a primary focus on aquatic habitat. He has been responsible for the planning and design, and implementation of those projects. Prior to TRCA, Joel worked as an Aquatic Biologist with a private consulting firm completing impact assessments, mitigation plans, and restoration plans. Joel's Academic achievements include a Bachelor of Science (Honours) Degree in Biology from Trent University in 2007, and a Fish and Wildlife Technology Diploma from Fleming College in 2005.

Andrew Ramesbottom graduated from Trent University with a Bachelor of Science (Honours) Degree in Environmental Science and Biology in 2006. He gained environmental laboratory experience immediately out of school and has been working with TRCA Restoration Projects since 2008 in various roles such as field labourer, crew lead, and site supervisor. Currently, Andrew is a Project Manager where he is responsible for managing a team that delivers wetland, stream, riparian, shoreline and terrestrial restoration projects in Peel and Toronto. Andrew has managed the development and collection of data for the TRCA Restoration Opportunities Database and worked with a team to create the Integrated Restoration Prioritization tool.