

Development of a rehabilitation strategy over multiple subwatersheds to support the implementation of large-scale development projects in regulated Redside Dace Habitat

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The Seaton Community is located entirely within the City of Pickering, Regional Municipality of Durham and encompasses approximately 3,000 hectares of land. The Natural Heritage System (NHS) occupies approximately 53% of the Seaton Community and lies within parts of the West Duffins Creek (Whitevale Creek) and East Duffins Creek (Ganatsekiagon Creek, Urfe Creek and Brougham Creek) subwatersheds. The Ganatsekiagon, Urfe and Brougham Creek systems are regulated for Redside Dace (*Clinostomus elongatus*), a protected species under the *Endangered Species Act* (2007; ESA).

The Seaton Community will ultimately contain a range of residential, mixed-use and employment uses including upgraded and new linear infrastructure, integrated with the NHS. To support the implementation of servicing, road networks, watercourse crossings, stormwater management ponds and other development infrastructure over several subwatersheds, numerous authorizations under the ESA will likely be required. As such, a Comprehensive Aquatic Framework has been developed to rehabilitate several areas throughout the subwatersheds (e.g., barrier removal, pond decommissioning, large-scale channel rehabilitation, and riparian habitat expansion projects), to support recovery planning priorities for Redside Dace and help meet requirements of the ESA. The comprehensive strategy includes over 30 rehabilitation opportunities, largely directed at supporting the protection and recovery of Redside Dace, but is also intended to support the enhancement of other geomorphic, aquatic and terrestrial resources within and connected to the Seaton Community.

The presentation will review the existing stressors within the watercourse systems, anticipated impacts to regulated habitat, selection of opportunities for rehabilitation and a discussion on the development of a comprehensive strategy that acknowledges the fundamental geomorphic, aquatic and terrestrial linkages in natural channel ecosystems. The approach to the comprehensive strategy reflects on-going consultation with the Ministry of Natural Resources and Forestry (MNRF) to address requirements under the ESA and the systematic implementation of rehabilitation projects in the Seaton Community.

Biography

Imran Khan, Msc., P.Geo., is a senior geomorphologist at Beacon Environmental. He has over 17 years of combined research and work experience related to geomorphology, which he has applied to numerous projects throughout Ontario. He utilizes a practical, problem-solving approach to manage and support channel and habitat rehabilitation, hazard delineation, and sediment transport modelling projects. In addition to his consulting commitments, Imran is an advocate of continued research and innovation in the field of applied geomorphology.

Emily Funnell, is a Resource Management Supervisor with the Ontario Ministry of Natural Resources and Forestry, in the Aurora District office. She has worked with the Ministry for 8 years, with a focus on management of fish and wildlife, natural heritage, and species at risk. Emily brings over 10 years of direct experience working on Redside Dace recovery, ranging from habitat rehabilitation and monitoring to development and implementation of policy and regulations. Emily continues to emphasize the role of strategic partnerships to support the recovery of species at risk in Ontario.