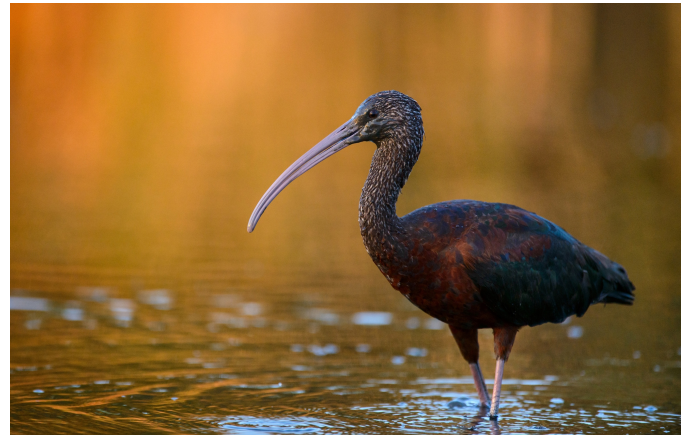


## *Understanding leads to comprehensive remediation strategies.*

Screening-level Risk Assessment

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### Challenge

The Sculthorpe Marsh, located along the Lake Ontario shoreline at Port Hope, is a productive and valued wetland connected locally to the Port Hope Waterfront Trail and regionally to the Great Lakes Waterfront Trail. Historical activities in the area resulted in metals accumulating in the sediments and soil of the marsh. To follow up on recommendations from an Environmental Assessment Study Report, the Port Hope Area Initiative (PHAI) was required to assess the risk from these metals and prepare an appropriate remediation strategy for the marsh.

The challenge was to maintain the productivity of the marsh while minimizing potential adverse effects associated with the physical removal of contaminated sediment.

### Background.

The Environmental Assessment Study Report noted that sediment removal associated with a remediation plan would likely reduce productivity, and that the marsh might take up to 10 years to recover. To address community concerns and minimize stress on the marshland ecosystem, PHAI contracted EcoMetrix to complete a human health and ecological risk assessment to guide a remediation strategy for the marsh. Stakeholders were consulted at different phases during the project and their inputs were used to guide additional studies at the site.

### Project

As a first phase, we completed a screening-level risk assessment. This phase confirmed that the community could continue to frequent the marsh without experiencing elevated health risk, and identified an area of the marsh where the health of ecological communities was likely affected by elevated metal levels in sediments.

Consultation with stakeholders, prompted additional sampling and analysis, including sediment toxicity testing and benthic community evaluations, to inform the next steps of remediation planning.

A risk-based approach was then used to derive site-specific clean-up criteria for the marsh sediments based the results from sediment toxicity testing and benthic community evaluations. The objectives of the clean-up criteria were to protect riparian wildlife and avoid benthic invertebrate toxicity. The clean-up criteria allowed us to focus clean-up activities on a small area of the marsh, where they were needed to reduce risk. The risk-based approach to developing a remediation strategy for the marsh maximized social and ecological benefits while minimizing potential adverse ecological effects associated with conventional remediation practices.

### Outcome

Don Hart, Senior Risk Assessor, stated that *“EcoMetrix used a robust risk assessment methodology, supported by consultation with stakeholders, and an understanding of ecological conditions specific to the Sculthorpe Marsh, to guide development of a remediation strategy for this valued wetland”*.

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EcoMetrix Team:

Donald Hart, Brian Fraser



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