

Restorative remediation – using brownfields to bring nature back into our urban environments

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Ever since the industrial revolution, city officials and planners have tried to re-establish a balance between the work opportunities and revenue that industry and commerce can provide in cities, and the healthy living conditions which the natural environment has been providing to humans since the dawn of our civilization. Unfortunately, there is still today a significant lack of green spaces in our modern cities. On the other hand, there is no shortage of degraded, derelict land which sits idle for extended periods, often in the very hearts of our urban landscapes. In Canada, it is estimated that there are 20 000 to 30 000 brownfields awaiting redevelopment. Many of these sites have only low levels of residual contamination on much of their surface area.

We at SuRF Canada feel that there are unexploited opportunities that lie in urban brownfields. Whether as a permanent or temporary solution, it is possible to leverage the untapped ecological potential of these sites with urban micro-forests. It has been amply demonstrated, most notably by the work of Japanese botanist Akira Mirawaki, that it is possible to quickly restore native forests on degraded soils. This new way of looking at management of contaminated land goes beyond sustainable remediation. In recent years it has become increasingly evident that simply avoiding or reducing negative impacts is no longer sufficient, that negative impacts must be reversed or compensated by positive impacts. The United Nations has declared that urgent action is required to curb the loss of biodiversity and soil ecosystem degradation. Restorative restoration enables the reversal of these destructive trends.

The benefits of this restorative remediation approach are many, and include: increased urban biodiversity, CO₂ capture, reduction of contaminant mass, improved health and well-being of city dwellers, support of research and education initiatives, prevention of soil erosion and dust, creation of new organic soil and increase of surrounding land value. The incentives for landowners to choose this approach include: cost savings on vegetation maintenance, positive impact on public relations, company reputation and branding.

These kinds of multi-stakeholder projects should be participative in nature, with a focus on the local community. They can benefit from the expertise of remediation specialists, urban planners, botanists, ecologists and social scientists, who will work together to not only remove contaminants from soil and groundwater, but to contribute to the fight against climate change and loss of biodiversity, by restoring natural habitat in a place where they can have a huge impact on peoples' lives.

A great example of this approach is the Corktown Commons project, [show](#)cased by our friends at the Canadian Brownfields network [ADD URL](#).

Do you have a brownfield to greenfield case study that you would like to share with the SuRF community? Write to us at tbd@surf.ca.