

Abstract Submission
To
The Society for Ecological Restoration - Ontario Chapter
and
The Canadian Land Reclamation Association

**Practical Considerations and Lessons Learned in the Reclamation/Restoration
of Habitat as a Component of Site Development**

This paper will explore the practical considerations and lessons learned in the reclamation/restoration of habitat as a component of site development. The discussion will be initiated with generalized information progressing to a more detailed and technical discussion of the use of the BioMAP technique to improve the reclamation/restoration effort.

There is an increasing interest in, and opportunity to, incorporate reclamation and restoration activities into development and redevelopment projects. However, this presents a variety of challenges, not the least of which is convincing the developer of the benefits of doing so.

The benefits to the developer of incorporating restoration into a development proposal include:

- greater acceptance of the project by the public and approval agencies
- using the net gain approach to obtain approvals for a project which might otherwise be unlikely to proceed
- public relations and promotional potential
- aesthetic considerations

For example, we recently worked on a project involving a major mall expansion. The mall was serviced by inground sewage systems which occupied a substantial acreage of valuable commercial land. This land could be “freed up” for commercial development and parking by putting in place a sewage treatment plant discharging to surface waters. In exchange for receiving approval to do so the developer agreed to retrofit the mall with stormwater quality control as well as improve an existing wetland and create new fish habitat on site. Although the developers primary motivation related to obtaining development approvals, the potential public relations were quickly realized with plans to introduce interpretive trails and a brochure describing the restoration and habitat creation efforts.

Once the developer has been convinced of the benefits of incorporating restoration works into the project, the challenges have however only begun. Some of the considerations and problems we have encountered include:

- the sensitivity of the project engineers to your objectives and the techniques utilized
- the contractor's experience, or lack thereof, and understanding of your objectives
- timing of construction activities in relation to biological considerations
- the lack of information concerning techniques for particular habitats or species
- lack of familiarity by the approval agencies with the restoration techniques
- acceptability by municipal representatives
- lack of biological and physical materials to accomplish the job
- unexpected and detrimental site conditions, particularly on previously developed sites
- effectively targeting and monitoring success of restoration/rehabilitation efforts

On this latter point we have recently increased our use of a particular technique for aquatic ecosystems. This technique is the BioMAP program which has the following advantages:

- determining system health and establishing priorities
- utilizing existing data basis to establish a historic or potential performance level
- monitoring the success of the restoration effort

As a biological assessment and monitoring tool BioMAP has a number of strengths. The assessment of stream or shoreline health is based on the living community, rather than a sub-set of indicator species or chemical/physical parameters. As a group, benthic invertebrates are excellent indicators of water and habitat quality because they are relatively long lived, sedentary and are subject to the full rigor of environmental stresses throughout their life cycles. BioMAP indices are sensitive to change, they exhibit little seasonal variation, and are therefore excellent tools for establishing baseline or "benchmark" conditions and monitoring trends over time. A multi-metric approach can be applied to determine the nature of factors that are acting in concert to shape the living community of the stream or shoreline.

These strengths make BioMAP a valuable tool in the restoration/reclamation of aquatic ecosystems.

Michael Wynia, MCIP, RPP, Partner
Krystawyn Environmental Consulting
Box 79, NewLowell, Ontario
L0M 1N0

705-424-2871

Chris Jones, B.Sc.
Chris Jones Biological Monitoring
R.R.#1 Schomberg, Ontario
L0G 1T0

905-936-5547

Reclamation and Restoration of Settled Landscapes

September 27th – 30th, 1998
Markham, Ontario

PROCEEDINGS

Hosted by the

SOCIETY FOR ECOLOGICAL RESTORATION
Ontario Chapter

and the

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Canadian Land Reclamation Association
Box 61047, Kensington P.O.
Calgary, Alberta
T2N 4S6

Society for Ecological Restoration, Ontario Chapter
Environmental and Resource Studies Program
Trent University
Peterborough, Ontario K9J 7B8

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