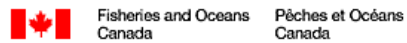
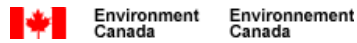


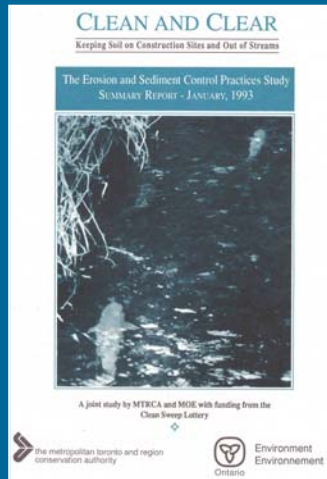
## EROSION and SEDIMENT CONTROL INITIATIVES



## Erosion and Sediment Control Ministry of Natural Resources 1989 Technical Guidelines

- 40 micron soil particle size
- Considered impractical to trap soil particles < 40 microns
- Temporary sediment basins be sized based on 125m<sup>3</sup>/ha (e.g. dry pond)

## Erosion and Sediment Control Practices Study



TRCA, MOE (January, 1993)

### Key Recommendations:

- Municipalities should adopt and enforce Top Soil Preservation or Erosion and Sediment Control By-Laws;

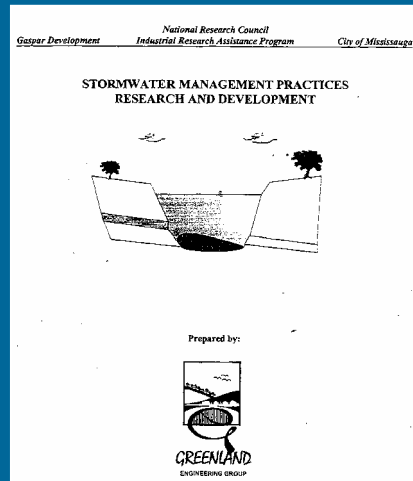
### Province should:

- Develop a Model By-Law
- Carry out monitoring to ensure compliance with new By-Laws;
- Reallocate staff and funds at MNR and MOE to better enforce and prosecute under Federal Fisheries Act and OWRA;
- Encourage the development of training courses for contractors, consultants and regulatory agencies.

## TRCA Erosion and Sediment Control Guidelines for Construction - 1994

- Temporary Structural Measures (i.e. ponds, silt fences etc.)
- Erosion Control using Vegetative Practices (i.e. hydroseeding etc.)
- Instream Construction Practices (i.e. cofferdam)

## Stormwater Management Practices Research and Development



Mississauga, et. al. (January, 1997)

### Key Finding:

- 100% of soil particles within the study area < 40 microns.

## Urban Construction Sediment Control Study

### Key Recommendations:

- Temporary sediment ponds should be sized based on 125 m<sup>3</sup>/ha active storage and 125 m<sup>3</sup>/ha permanent pool storage or the ultimate pond criteria (e.g. Level 1 protection and 25mm rainfall runoff).
- Monitor the effectiveness of current temporary sediment ponds
- Investigate the development of improved sediment pond sizing criteria based on receiving water targets.
- Sediment ponds should be cleaned when the permanent pool is half full of sediment
- Prepare a "model" Erosion and Sediment Control By-Law
- Encourage manufacturers to develop improved products (e.g. filter fabric for < 40 microns)
- Encourage use of interceptor swales adjacent to valley and stream corridors
- Training workshops

TRCA, Greenland International Inc. (April, 2001)

## Terrafix NON-WOVEN GEOTEXTILES

- Removes particles >50 microns
- Designed to re-direct flow not filter flow



## Investigation to Develop an Improved Sizing Approach for Sediment Control Facilities

- Literature review of impacts on fish habitat (i.e. Concentration-Duration of Exposure)
- Evaluation of modelling approaches to simulate erosion and sediment control within construction sites

DFO, TRCA, Clarifica Inc. (March, 2002)

## Model Erosion and Sediment Control By-Law

- Erosion and sediment control plan requirements
- As-built erosion and sediment control plan (i.e. document changes)
- Monitoring protocol
  - Timing of ESC measures
  - Frequency of inspection
  - Record of maintenance
- Temporary Sediment Ponds should be sized based on 125 m<sup>3</sup>/ha active and permanent pool storage or 25mm rainfall runoff and Level 1 Protection.
- Temporary sediment ponds should be checked minimum annually and cleaned after 5% reduction in TSS Removal Efficiency
- Model by-law requires updating due to changes to the Municipal Act.

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TRCA, Clarifica Inc. (April, 2002)

## Sediment Control Pond Monitoring Study

*prepared by*  
**James Li**  
**Ryerson University**  
**March 2003**



Overview of the pond

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Ryerson University

## Preliminary Assessment for Improved Design Criteria for Construction Sediment Control Ponds

- Development of a methodology for modelling sediment control ponds to predict their sediment removal performance

Prepared by  
Clarifica Inc.  
Our File: IR01-0001  
March 2003

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TRCA, Clarifica Inc. (December, 2002 Draft) (March, 2003 Final)

## 2003 Initiatives

- Continue monitoring effectiveness of temporary sediment ponds
- Performance analysis and development of improved sizing criteria
- Update model Erosion and Sediment Control By-Law
- Promote adoption of Model By-Law
- Develop Erosion and Sediment Control Standards
- Define roles and responsibilities
- Outcomes of workshop