Lake Ontario Basin
Lake Ontario -
An Ecosystem in Transition

Biological Integrity

Chemical Contaminants

Non-Native Species Introductions

Habitat Loss
Total PCB and Mercury Levels in Coho Salmon from the Credit River, 1976-2001

PCB Levels

Mercury Levels
PCB Concentrations in Herring Gull Eggs from Lake Ontario Colonies, 1970 - 1999

Credit: Environment Canada

Credit: John Mitchell
Chemical Contaminants

Emerging Issues:
- New Chemicals (PBDEs)

Management Considerations:
- Trackdown Activities
- Out-of-Basin Sources (upstream, atmospheric)
Non-native Species

- Zebra & quagga mussels have caused the lake to have 2 new impairments:
  - Benthos
  - Nearshore Phytoplankton

- Impacts are:
  - Food web disruption,
  - Displacement of native species
  - Health of fisheries
Lake Ontario Whitefish Abundance

Zebra Mussels invade eastern Lake Ontario

Whitefish CPUE

Diporeia Density

Year

Whitefish data courtesy of Jim Hoyle, OMNR
Diporeia data courtesy of Ron Dermott, DFO
Non-Native Species

Emerging Issues:
- New Invaders (Round Goby, Spiny Water Flea)
- Botulism (Type E)

Management Considerations:
- Changes Irreversible
- Future?
Habitat

- Loss of quality & quantity of habitat areas
- Protection and restoration of habitat
Habitat

Emerging Issues:
- Urban Sprawl
- Agriculture Intensification
- Land Use Changes
- Habitat Fragmentation

Management Considerations:
- Sustainable Development
Signs of Improvement

- Reduction of critical pollutants in fish tissue
- Waterbird populations recovered & reproducing naturally
- Bald Eagle, Lake Trout, River Otter and Mink returning to the basin
Future Challenges