Environmental and Social Benefits of Transboundary Water Cooperation:
The North American Great Lakes

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North American Great Lakes

Introduction

History

Benefits

Lessons

Shipping

Drinking Water

Boating & Fishing

Toronto

Chicago

Detroit

Tourism

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# History of Environmental Problem-Solving

## Environmental Problem

<table>
<thead>
<tr>
<th>Year</th>
<th>Problem Description</th>
<th>Transboundary Cooperation</th>
<th>Institutional Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1909</td>
<td>Dams and drainage canals diverting water</td>
<td>Boundary Waters Treaty</td>
<td>International Joint Commission (IJC) created</td>
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<tr>
<td>1972</td>
<td>Nutrients and harmful algal blooms</td>
<td>Great Lakes Water Quality Agreement</td>
<td>IJC empowered, creates Science Advisory Boards</td>
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<td>1978-87</td>
<td>Toxic contaminants</td>
<td>Renegotiation of GLWQA #1</td>
<td>Public gets a formal voice in negotiations</td>
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<tr>
<td>2012</td>
<td>Climate change, species habitat, and invasive species</td>
<td>Renegotiation of GLWQA #2</td>
<td></td>
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</table>
## History of Environmental Problem-Solving

<table>
<thead>
<tr>
<th>Year</th>
<th>Environmental Problem</th>
<th>Environmental Benefit</th>
<th>Social Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1909</td>
<td>Dams and drainage canals diverting water</td>
<td>Minimum water levels to downstream users</td>
<td>International Joint Commission (IJC) created</td>
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<td>1972</td>
<td>Nutrients and harmful algal blooms</td>
<td>Maximum phosphorus concentrations</td>
<td>Cooperation and knowledge generation</td>
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<td>1978-87</td>
<td>Toxic contaminants</td>
<td>Maximum toxic contaminant concentrations</td>
<td>Transparency and accountability; strong NGOs</td>
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<td>2012</td>
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ENVIRONMENTAL BENEFITS EXAMPLE

- Excerpt:
  
  You're glumping the pond where the Humming-Fish hummed!
  No more can they hum, for their gills are all gummed.
  So I'm sending them off. Oh, their future is dreary.
  They'll walk on their fins and get woefully weary.
  in search of some water that isn't so smeary.
  (line removed)

- May be premature since algal blooms have returned
APPROACHES FOR ASSESSING BENEFITS

Environmental benefits
- Ecosystem approach toward assessing environmental health
- Coordinated efforts to cooperate over environmental data collection and publication

Social benefits
- In-depth case studies identifying the factors leading to political, environmental and social success
- Comparative case studies identifying common or uncommon characteristics in this case
LESSONS LEARNED

- **Problem-solving approach is important**
  Science advisory boards developed institutional legitimacy through solution-based assessment

- **Public engagement is critical**
  Public sentiment spurred realization of positive environmental and social outcomes

- **Benefits are not always permanent**
  One-time assessments of benefits do not guarantee sustainability
US EPA Head Lisa Jackson and Canadian Environment Minister Peter Kent sign the updated Great Lakes Water Quality Agreement in 2012