Societal Responses and Challenges

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Unites States Geological Survey
# Pressures Impacting Major Issues

## Major Issues

<table>
<thead>
<tr>
<th>Major Pressures</th>
<th>Edible Fish</th>
<th>Drink</th>
<th>Swim</th>
<th>Breathe</th>
<th>Ecosystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-native Species</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Contaminants &amp; Pathogens</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Habitat Alteration</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
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</table>

- Edible Fish
- Drink
- Swim
- Breathe
- Ecosystem
## Societal Influences on Pressures

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<tbody>
<tr>
<td>Urban Density</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Solid Waste Generation</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Energy Consumption</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Water Use</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Light and heat signals detected by satellite sensors
Population Density, Lake Superior Watershed, 1990 - 91
Average Per Capita Solid Waste Disposal in Ontario and Minnesota (Tonnes/person)
Recycling Tonnages in Ontario
Average Per Capita Solid Waste Generated, Disposed, Recycled; Ohio, 1999 - 2000
## Influences on Pressures

### Major Pressures

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<tr>
<td>Mass Transportation</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Brownfield Redevelopment</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Place- Based Stewardship</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Sustainable Agriculture</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

Chicago - CTA
Milwaukee
Detroit - DDT
Cleveland
Duluth
Buffalo
Gary
Rochester
Erie
Toledo
Chicago - NIRCRC
Saginaw
Green Bay
Detroit - SMART
Ontario “Go Transit” System’s Ridership, 1965-1998
Brownfields Redevelopment
Land Trusts in the United States
Great Lakes Basin, 1930-2000

Year
Number of Land Trusts
0 20 40 60 80 100 120

Great Lakes Basin, 1930-2000

Land Trusts in the United States Land Trusts in the United States

The graph shows the number of land trusts in the U.S. and the U.S. Great Lakes Basin from 1930 to 2000. The y-axis represents the number of land trusts, and the x-axis represents the years. The data is represented by bars, with the green bars indicating the total U.S. land trusts and the red bars indicating the U.S. Great Lakes Basin land trusts. The graph indicates a significant increase in the number of land trusts in both regions, particularly from the 1970s onward.
FY2001 Conservation Systems Planned

Total Acres
- 0
- 1 – 5000
- 5001 – 10000
- 10001 – 25000
- 25001 – 75000
Peer-Reviewed Environmental Farm Plans in Ontario

No. Peer-Reviewed Plans

Time

Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02
Management Challenges:
Habitat Alterations

- Encourage place-based stewardship activities
Management Challenges:
Habitat Alterations

- Control suburban sprawl; minimize human habitation impacts
Management Challenges: Habitat Alterations

- Identify, protect, rehabilitate critical habitats, both aquatic and terrestrial
Management Challenges: Contaminants and Pathogens

- Emphasize Agricultural Best Management Practices
Management Challenges: Contaminants and Pathogens

- Foster contaminant reducing activities: mass transit; energy efficiency; recycling,
Management Challenges: Contaminants and Pathogens

- Encourage brownfield redevelopment
Management Challenges: Non-Native Species

- Understand relationships between economic well-being and increased threat of introducing non-native species
Management Challenges: Non-Native Species

- Prevent non-native species introductions
Management Challenges:
Non-Native Species

- Continue non-native species control programs such as for sea lamprey