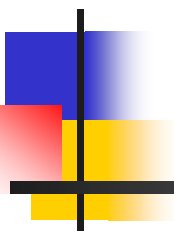


# Prognosis for the Great Lakes



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ENERGY 2100:  
*Making the Lakes Great*  
April 22-23, 2008

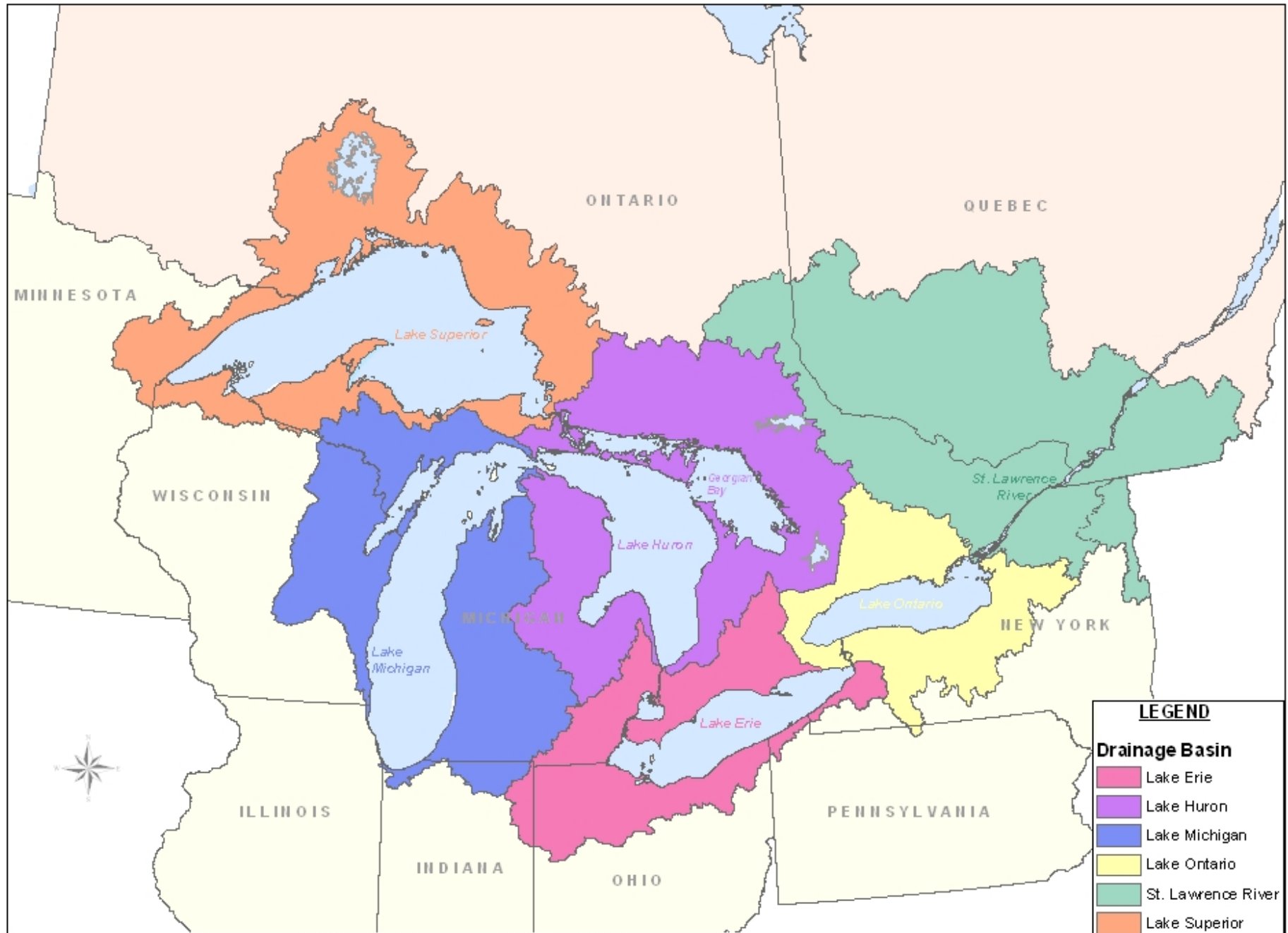
Rick Findlay  
Pollution Probe



# A Message from the Emperor!

The Republic of the  
Great Lakes-  
Saint Lawrence  
Sustainability Region





# Great Lakes Basin

0 35 70 140 210 280 Kilometers



This map is for illustrative purposes only. Do not rely on this as a precise indicator of feature locations.  
 Published 28 June 2005.  
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# Presentation Outline

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- The Republic – an Introduction
- The Prognosis
- A Vision for the future



# The Republic – an Introduction

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## ■ **Environmental Assets:**

- The Great Lakes contain 22.8 Quadrillion litres (6 Quadrillion gallons)
- About 20% of world's fresh surface water – but only 1% is renewed each year
- Single hydrologic system; 10,000 miles of shoreline
- 1200 miles from head of Lake Superior to the mouth of Lake Ontario
- Rich diversity of fish, wildlife and plant species



## Introduction (Cont'd )

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- **Social Assets:**
- A vast middle class
- 20 of the world's top-ranked 100 universities
- Great cities: Chicago, Detroit, Toronto, Montreal, Quebec City
- The Republic is home to about 118 million people – 36% of the population of Canada and the United States



## Introduction (Cont'd )

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- **Economic Assets:**
- An economy rivaling nations:
  - Second largest economic unit in the world
- The region generates more than a third of the domestic product of Canada and the U.S.
- Slumping investments in basic R&D, innovation, infrastructure
- Region's economy is in transition from king of the factory economy to ???



# Presentation Outline

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- The Republic – an Introduction
- **The Prognosis**
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# The Great Lakes: A vital resource

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- A unique economic, social, environmental and cultural community
- A dynamic political and economic history with shared values and institutions
- A vital global hub of activity
- A challenge for the sustainable future

# BUT!

## Are we on a Sustainable Path?

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- Unsustainable use of energy
- Serious concern over impacts of biofuels on GL basin water resources
- Climate change impacts and adaptation
- Degradation of the nearshore zone
- Decline in zooplankton populations
- Coastal wetland and habitat loss
- Threats to drinking water – pharmaceuticals and personal care products
- Aquatic alien species



## And:

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- Chemical contamination from mercury and other toxic substances
- 40 Areas of Concern in GL and 15 zips in Quebec
- Land use practices; air deposition
- Hydrologic alterations
- Loss of natural resiliency
- Overstressed infrastructure



# Leading to:

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- A loss of buffering capacity in the nearshore areas – damaged self-regulating mechanisms
- Anoxic/hypoxic zones – Lake Erie
- Rapid disappearance of amphipods that are the building blocks of the ecosystem
- Multiple sources of extreme stress leading to:
  - Non-linear changes
  - A tipping point – ecosystem breakdown
  - Important consequences for human well-being and sustainability



# Managing Shared Waters

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- Canada and the U.S. have 100 years experience in managing the shared waters of the Great Lakes St Lawrence River Basin
- 1909 - Boundary Waters Treaty
- 1972 – Great Lakes Water Quality Agreement – 1978, 1987
- Canada-Ontario Agreement
- Charter Annex Agreement(s)
- 2007 – Do we have a shared vision?



# Presentation Outline

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- The Republic – an Introduction
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# Do we have a shared vision?

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- Need a fresh, bi-national Great Lakes initiative, built on past progress
- Need to protect and improve the ecosystem integrity of the Great Lakes Basin for future generations
- Need a positive, progressive, prevention-oriented forward-looking view towards future sustainability



# A New Approach is needed

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- New approaches, partnerships and institutions are needed
- A re-energized, positive, forward-looking Great Lakes agenda that focuses on water
- But addresses the ecosystem, community and economic sustainability of the region



# A new Vision for the Great Lakes

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## **VISION:**

- The Great Lakes and St. Lawrence River region is one where people, the environment, economy and cultures are healthy and thrive for generations to come.

## **MISSION:**

- The people of the region will act as stewards to use and enjoy their natural treasures in ways that care for and improve them.



# Goals for the Vision

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- Social
  - Education, Health, Engagement
- Environmental
  - Natural environment, Built environment, Adaptation to change
- Economic
  - Business climate, Employment, Infrastructure

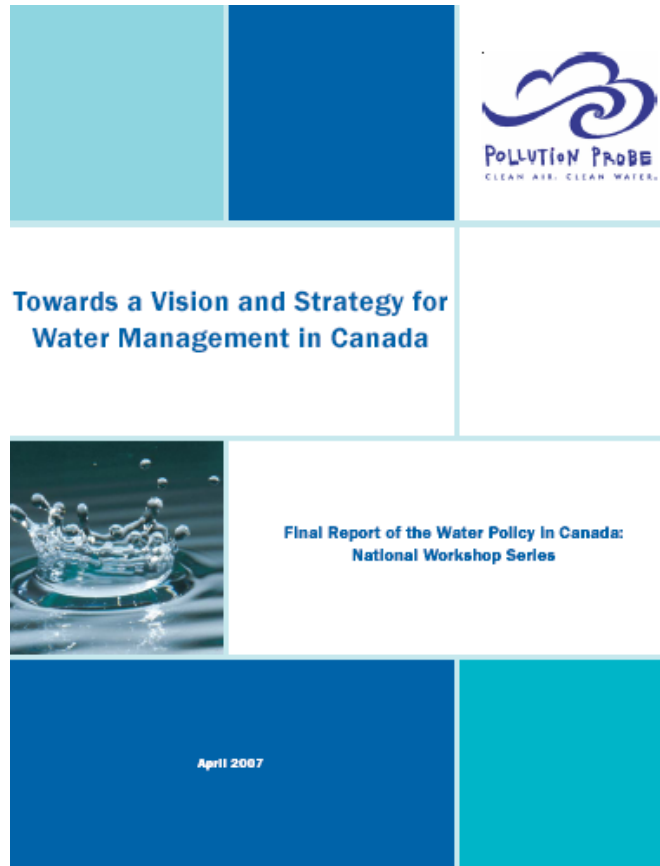


# Conclusion: there is an emerging Vision for the Region, based on:

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- Recognition of the multiple, cumulative, changing stresses on the Lakes and River
- Government commitment, accountability, sufficient financial resources
- Citizen engagement, education
- Everyone doing their part to protect an awesome global asset for which we have shared responsibility

# And, there is an emerging vision, in Canada





# The last word

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- Energy and Water are the 2 fundamental life-sustaining commodities
- We must have an integrated, sustainable approach to developing and managing our shared energy and water resources, starting with a shared vision of the “new” **Great Lakes St Lawrence River Sustainability Region** and it’s future
- The world needs our leadership and the opportunities are huge