



Monitoring
“The Big Picture”
in Carolinian Canada

**Jarmo Jalava, Director of Ecosystem Recovery
Carolinian Canada Coalition**

**Ecosystem Recovery Forum
Royal Botanical Gardens
November 5, 2013**



...it's about more than forests

Carolinian Life Zone

Two UNESCO World Biosphere Reserves

Niagara Escarpment



Long Point



Carolinian Life Zone

Globally “Important Bird Areas”



POINT PELEE



RONDEAU



Critical wetlands and waterways



Rare prairies and savannahs



Freshwater dune systems



Southern, specialized, endemic & rare flora and fauna



And, of course, forests





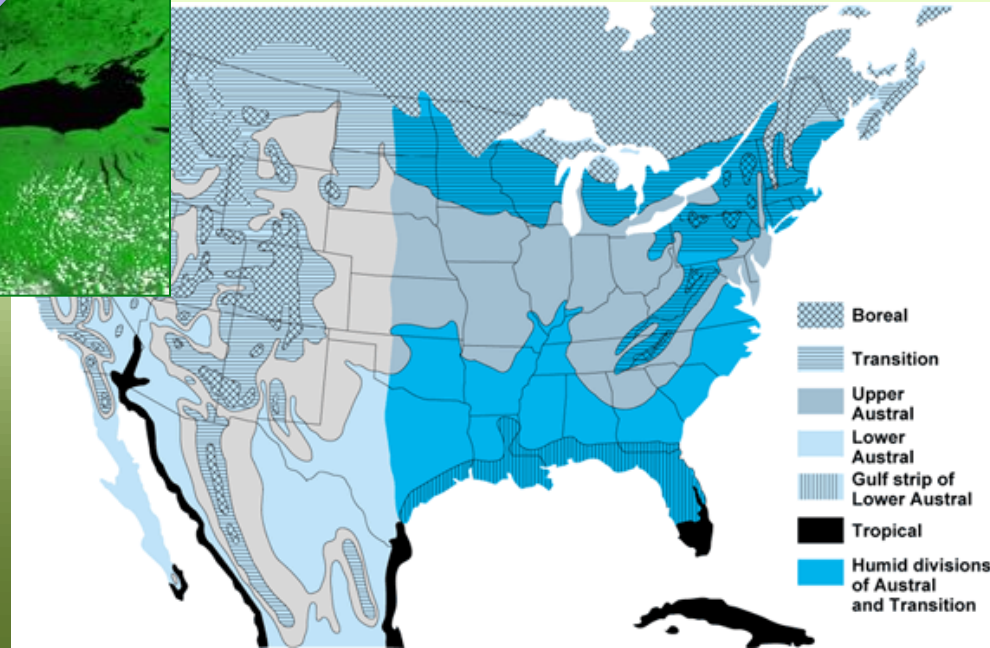
Carolinian Life Zone

0.25% of Canada



>40% of Canada's plants
>50% of birds
>66% of terrestrial reptiles

Our most biologically diverse ecological region





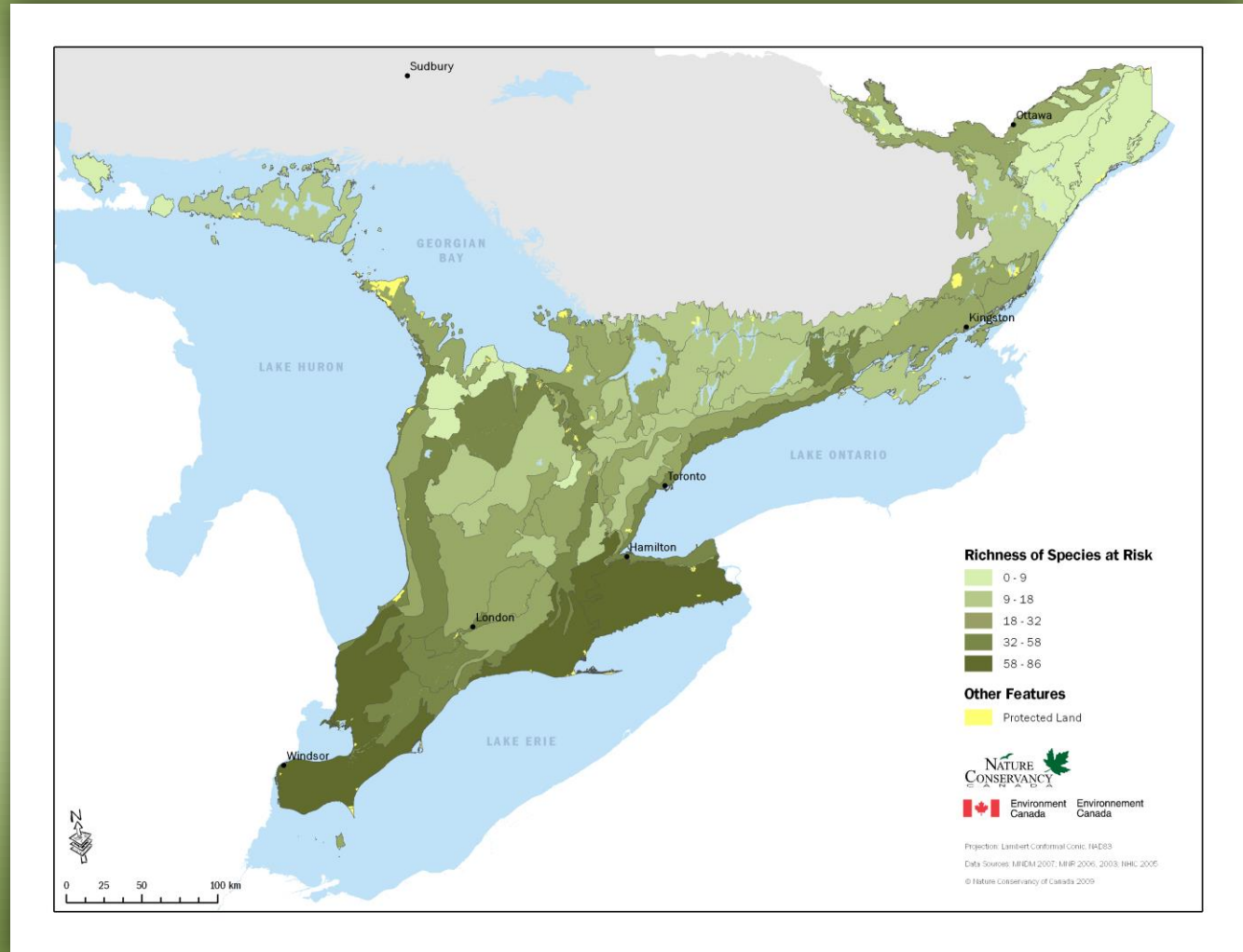
Carolinian Life Zone

25% of Canada's human population



Provincial / National Hotspot

- > 160 Species At Risk (SAR)
- 77% of Ontario's total
- 25% of all Canadian SAR



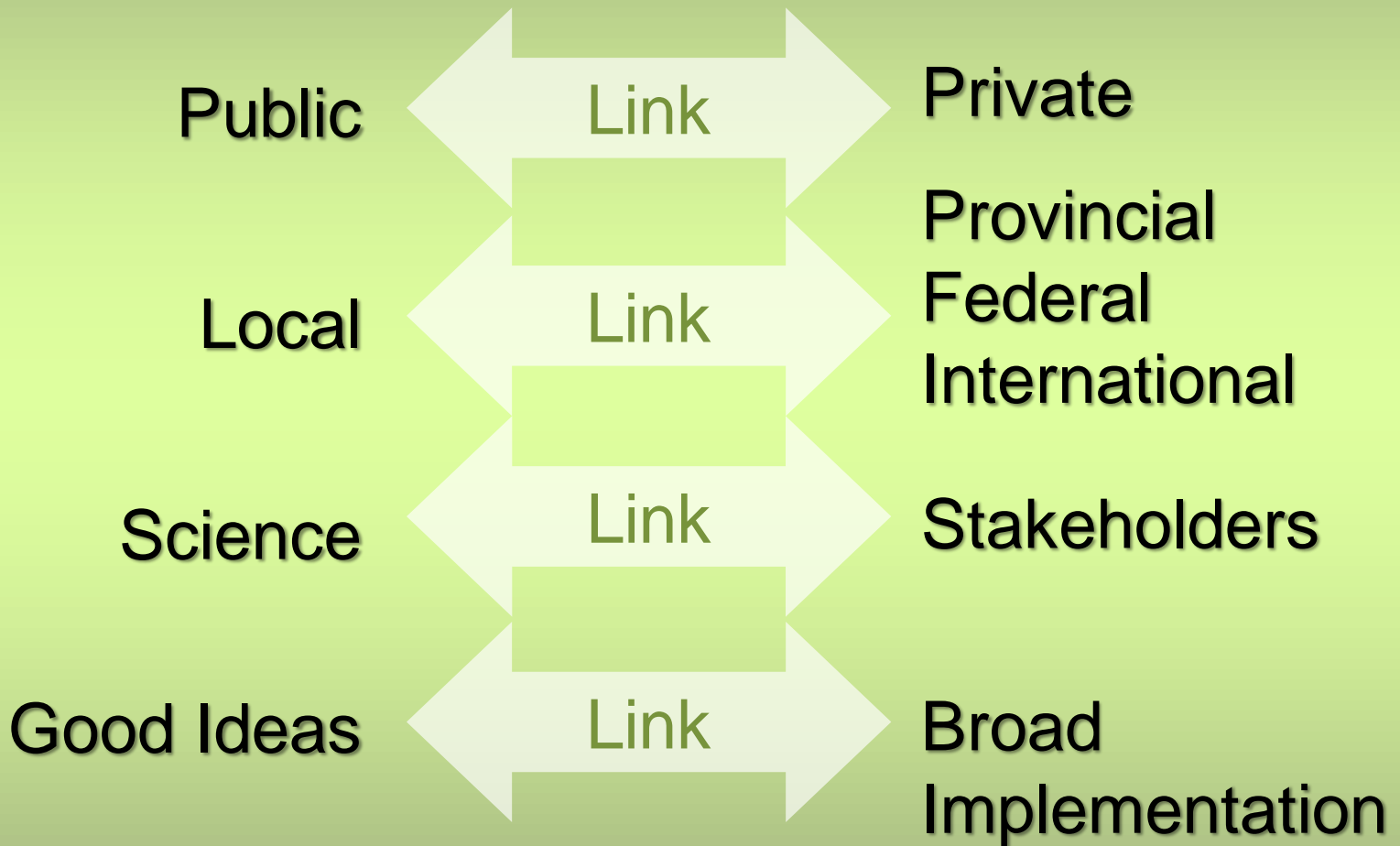


Carolinian Canada Coalition

- Established in 1984 with 38 “Signature Sites”
- Registered charity representing government and private sectors.
- **Mission: To protect and restore natural heritage in the Carolinian Life Zone for healthy, sustainable landscapes through stewardship, cooperation and research.**



Carolinian Canada Connects



Collaborating for a Healthy Ecoregion

Carolinian Canada

Policy input

*Events, road show, publications,
web site, webinars*

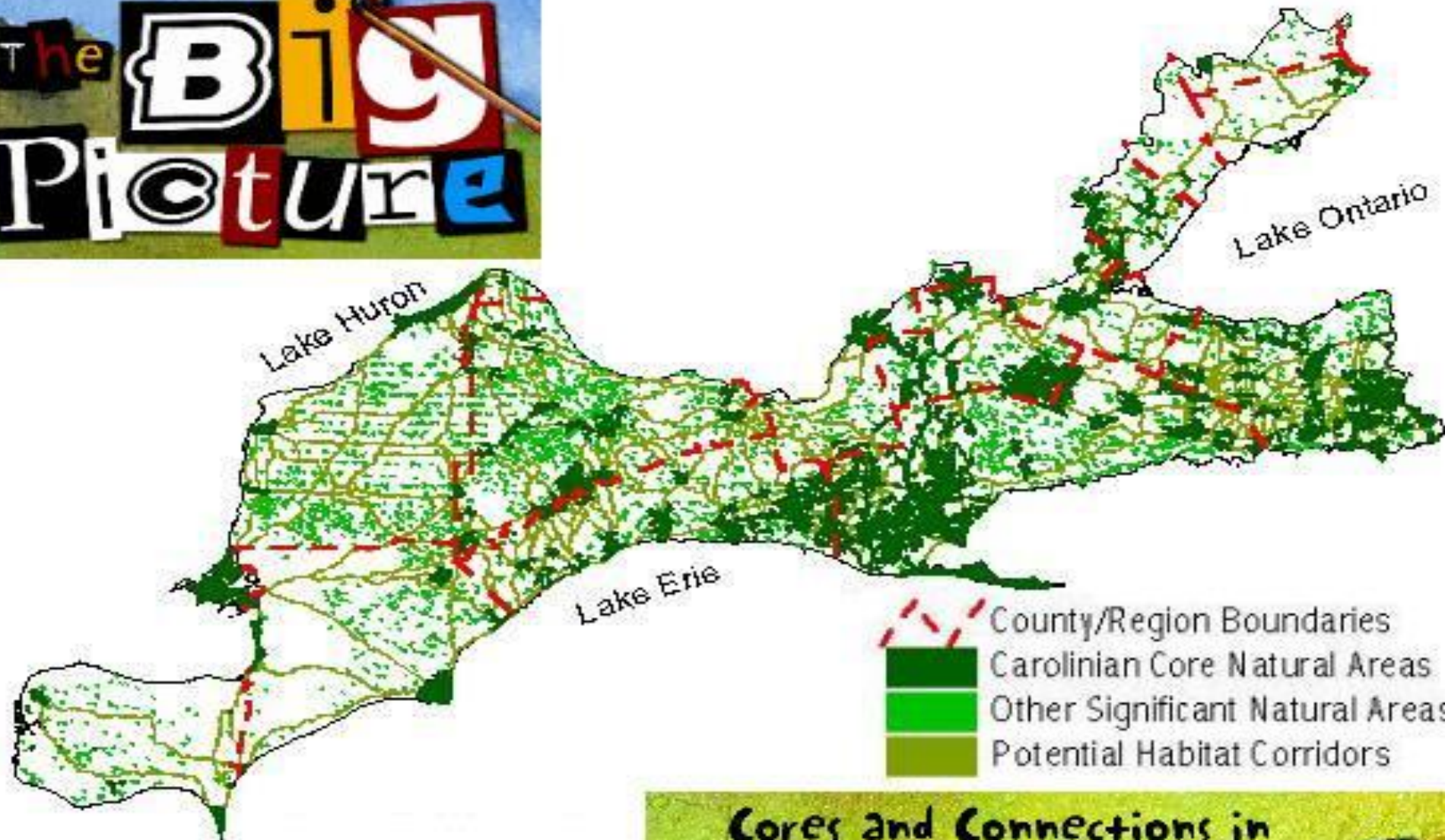
*SAR teacher's kit, student internships,
youth SAR camps*

Erie Coastal Stewardship Eco Trail

“Landowner Leaders” & “Grow Wild!”



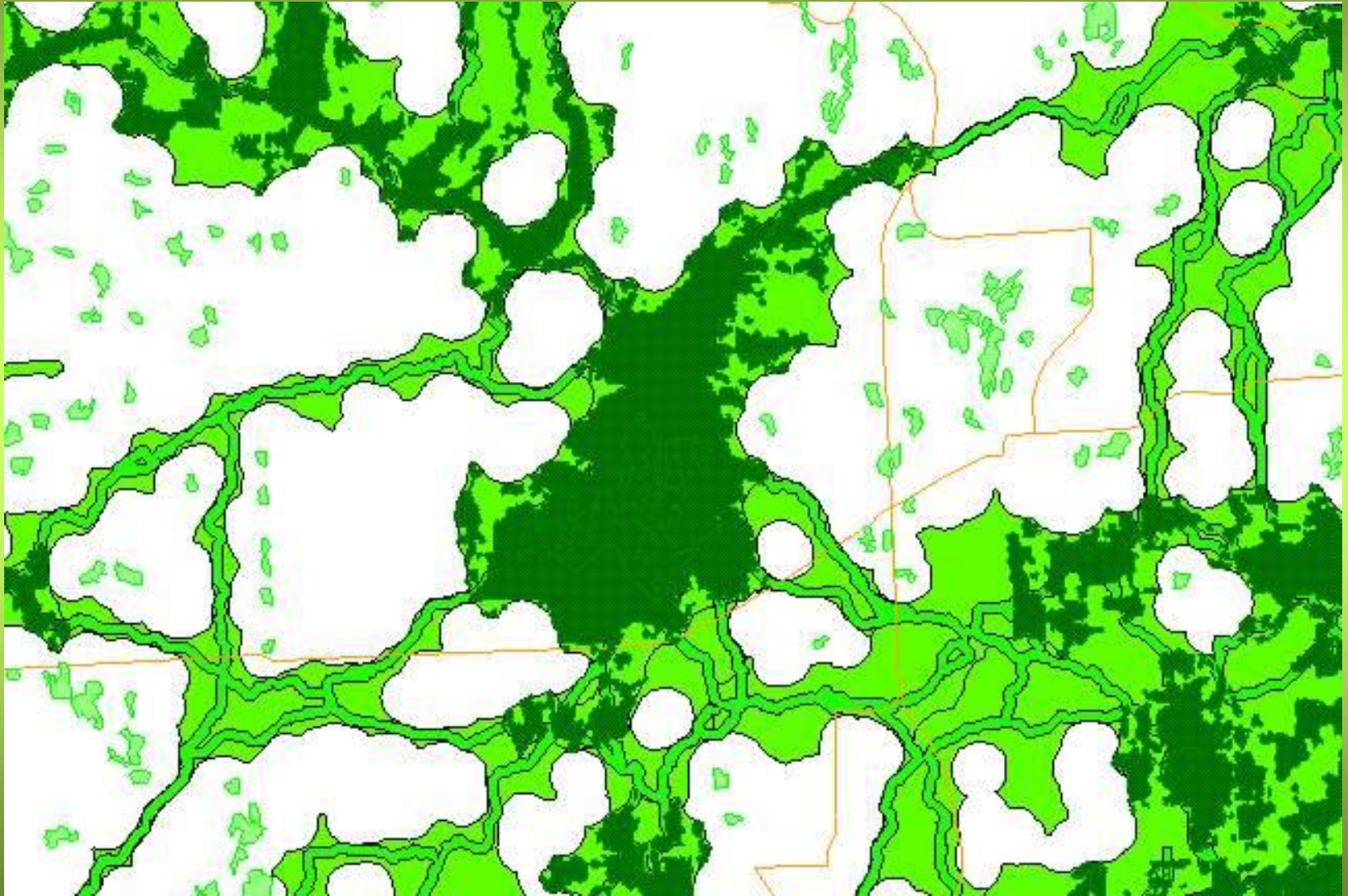
CC Big Picture Vision → ON Greenway



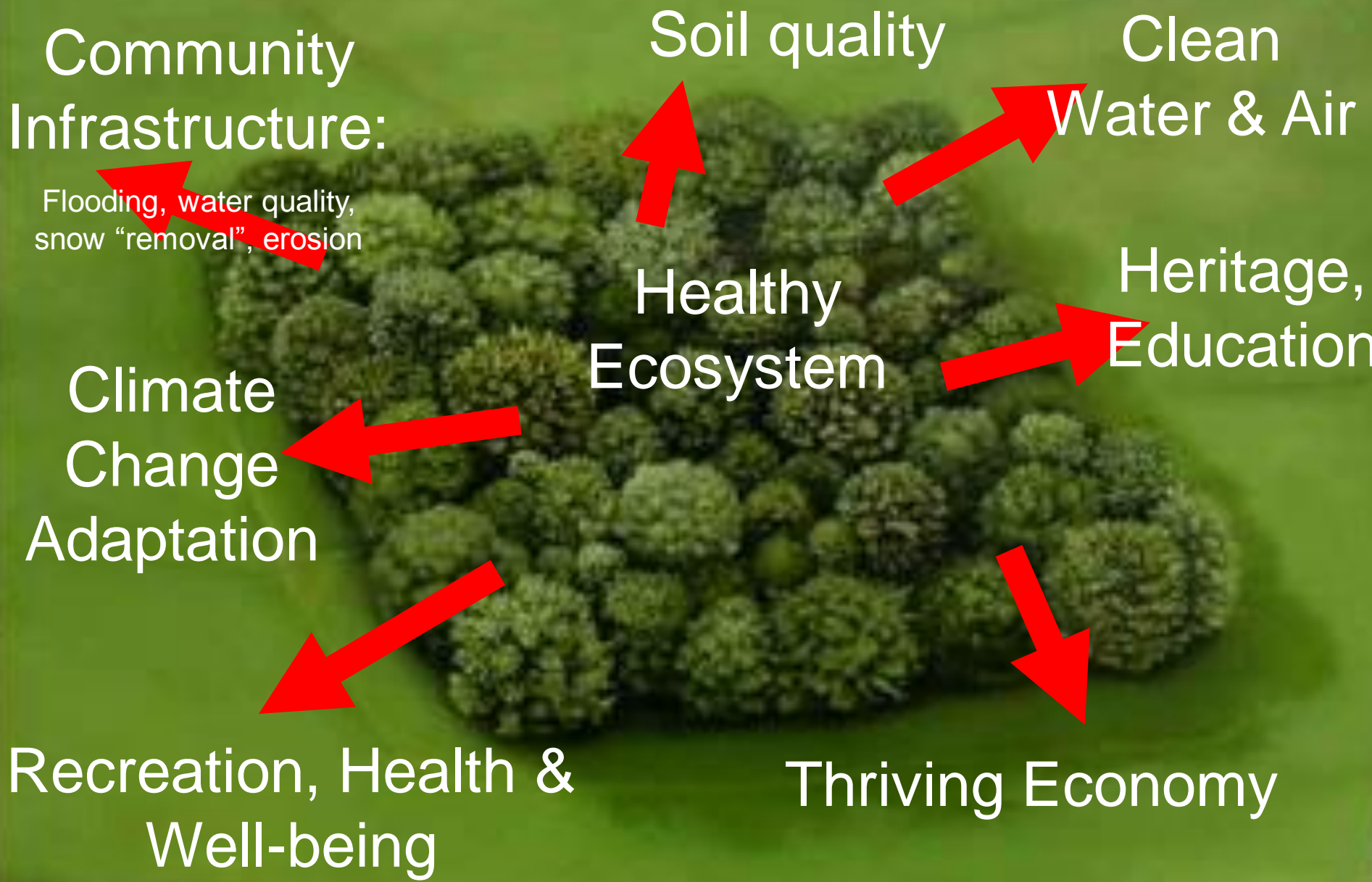
Cores and Connections in
Carolinian Canada



Community Safety Net



Cost-Effective Investment?



Community
Infrastructure:

Flooding, water quality,
snow "removal", erosion

Soil quality

Clean
Water & Air

Healthy
Ecosystem

Heritage,
Education

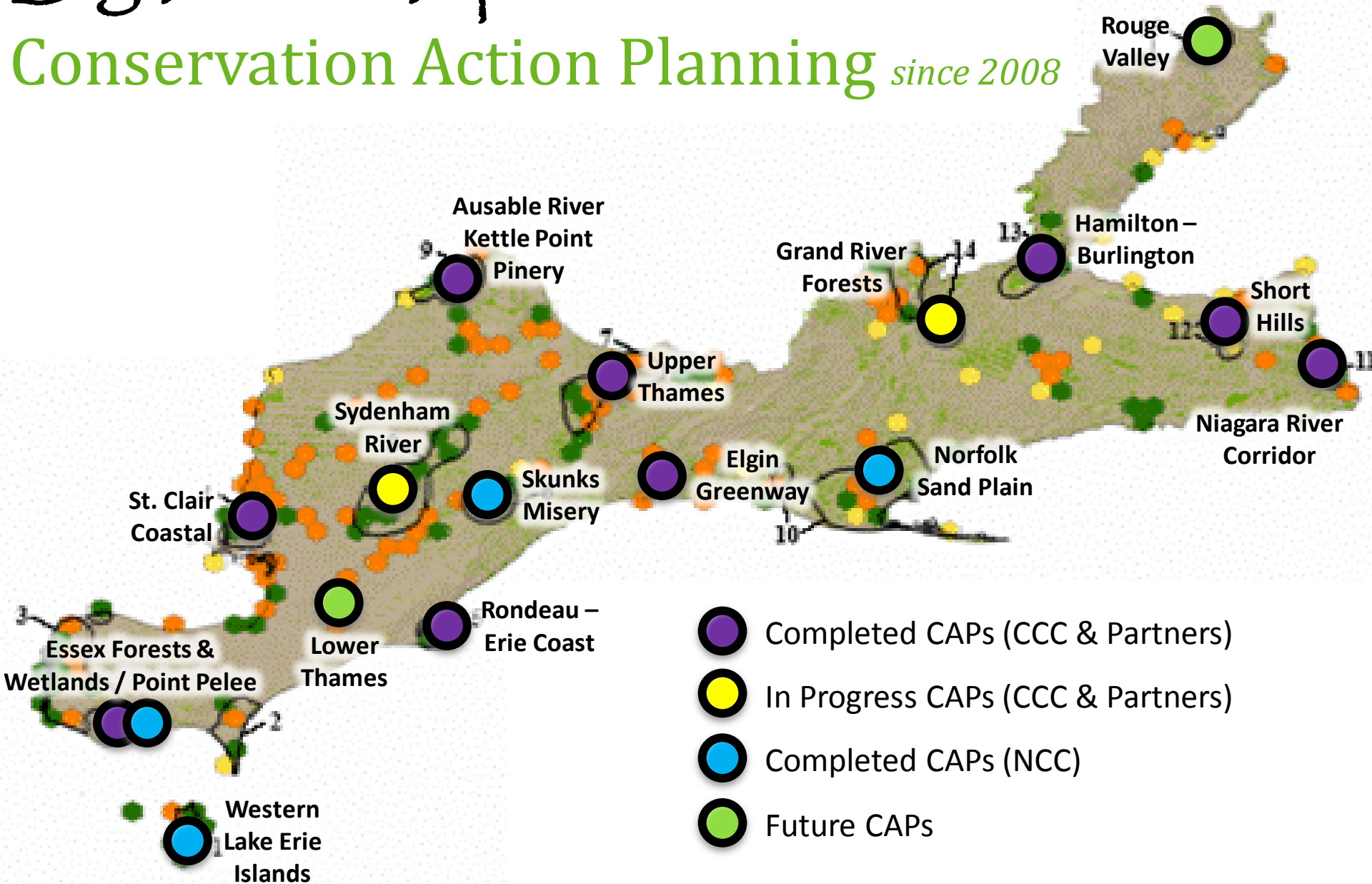
Climate
Change
Adaptation

Recreation, Health &
Well-being

Thriving Economy

Big Picture Implementation

Conservation Action Planning *since 2008*



Conservation Action Planning



1. Conceptualize

- Define planning purpose and project team
- Define scope, vision, targets
- Identify critical threats
- Analyze the conservation situation

2. Plan Actions and Monitoring

- Develop goals, strategies, assumptions, and objectives
- Develop monitoring plan
- Develop operational plan

3. Implement Actions and Monitoring

- Develop work plan and timeline
- Develop and refine budget
- Implement plans

4. Analyze, Use, Adapt

- Prepare data for analysis
- Analyze results
- Adapt strategic plan

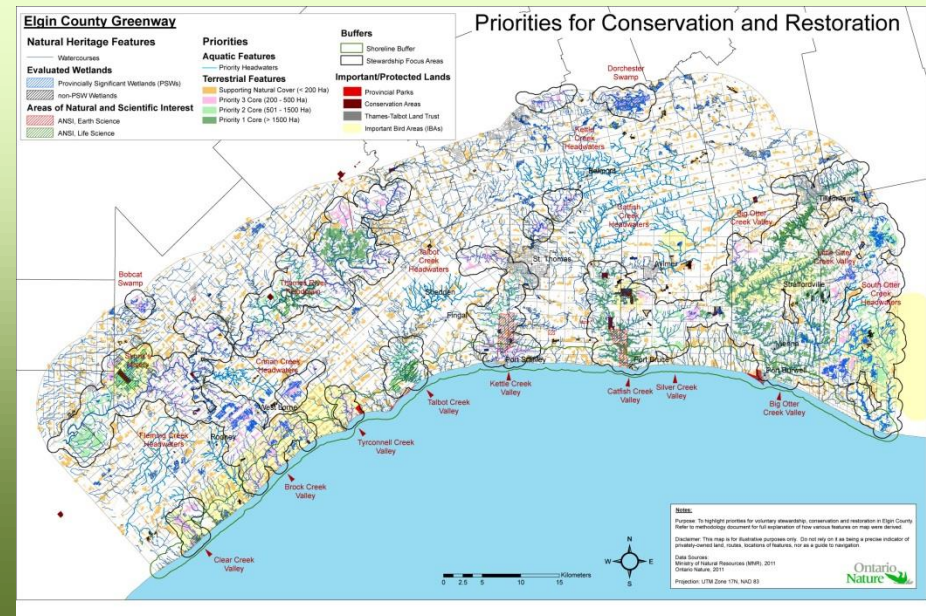
5. Capture and Share Learning

- Document learning
- Share learning
- Create learning environment

Conservation Measures Partnership Open Standards

Carolinian Canada's role

- To facilitate the development of Conservation Action Plans (CAPs)
- To help coordinate, build partner capacity and find resources for CAP implementation
- To monitor and evaluate



Carolinian Canada's CAP partners



- More than 100 organisations have contributed to the development and implementation of CAPs in Carolinian Canada
- \$\$\$ millions in in-kind implementation of CAPs
- And GROWING!

Carolinian Canada CAPs

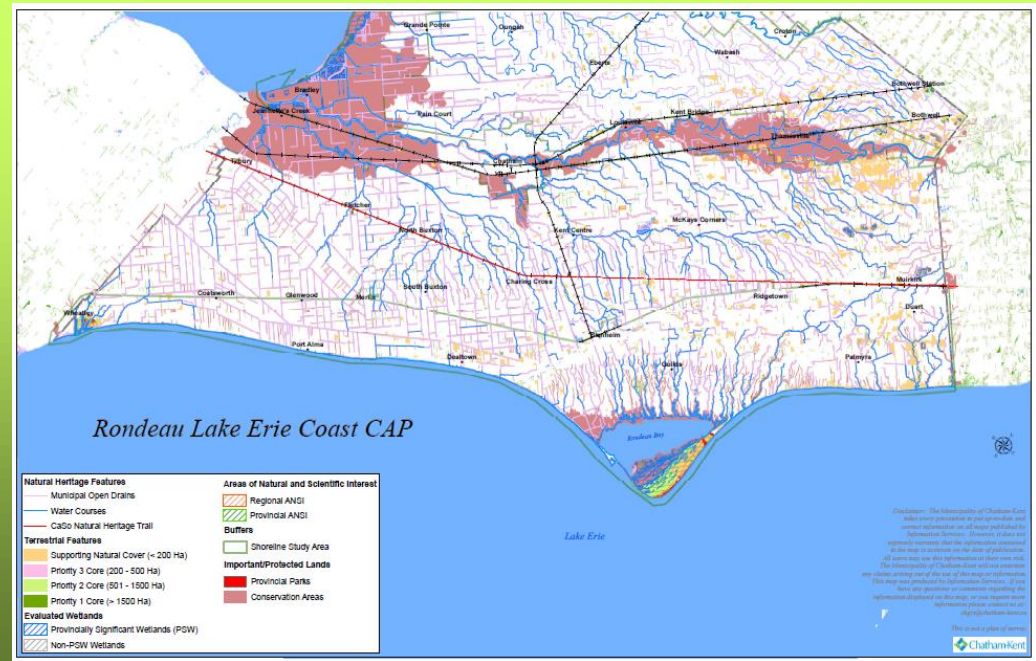
Recovery In Action: Chatham-Kent

Rondeau – Lake Erie Coast

Lake St. Clair Coastal

Sydenham River

& (hopefully) Lower Thames



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Chatham-Kent CAP Themes

Outreach and education

Policy development and implementation

Restoration, Eco Trails, CASO

“Landowner Leaders” & incentives

Innovative drain maintenance

Broad community support



Carolinian Canada: CAP Monitoring

- **“Key Ecological Attributes”** (e.g., water temperature, extent of forest interior, extent of invasives)
- **Annual monitoring report**
- **Upcoming *Miradi* innovations**



Questions

- **Are we investing our precious conservation efforts and dollars in the right actions and right places?**
- **Are we seeing net gains or net losses?**



What do we MOST need to monitor?

BOBOLINK

- THREATENED
- Legally protected



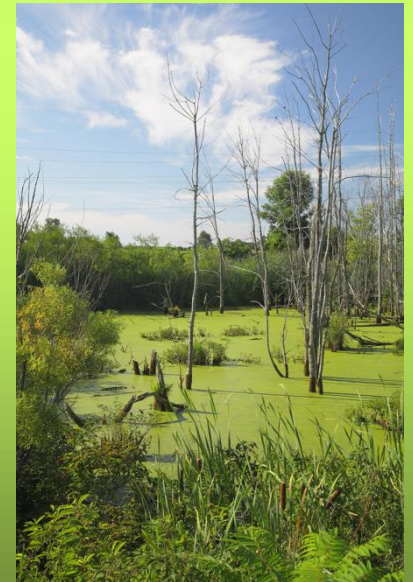
BROAD BEECH FERN

- SPECIAL CONCERN
- No legal protection
- Population trend UNKNOWN



ECOLOGICAL ATTRIBUTES & PROCESSES

- Water quality
- Peak flows
- Extent of forest interior
- Presence of characteristic communities
- Disturbance regimes
- Connectivity
- Indicator species, functional guilds
- Species assemblages



- How do we monitor **MOST EFFECTIVELY**?



- How do we make results **ACCESSIBLE**?





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How to best monitor the **BIG PICTURE?**

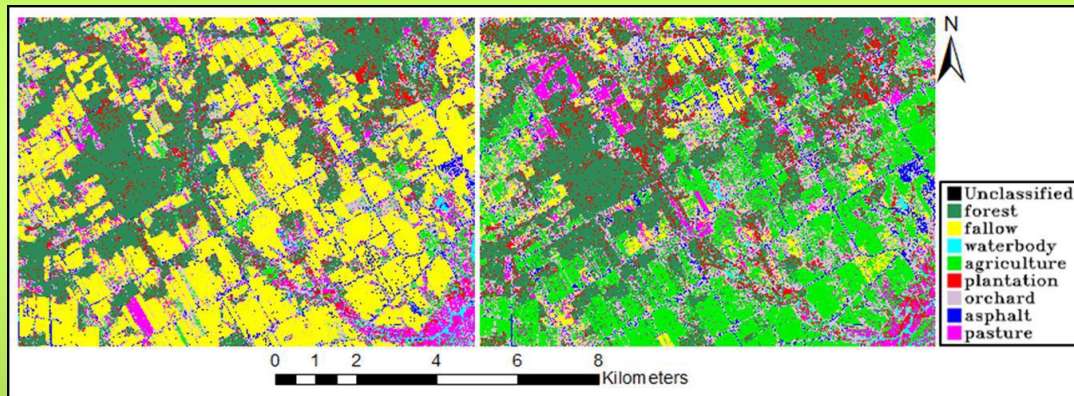
- Pollution, contaminants
- Invasives
- Climate change impacts
- Land cover and land use trends





Carolinian Canada: Big Picture monitoring

- Carolinian Student Internship / U. of Waterloo:
Norfolk land cover trends analysis



- CC Science Advisory Committee to explore and recommend efficient ways to monitor landscape trends



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MONITORING at FINER SCALES

- Individual Sites
- Species
- Citizen science programs
- Natural Heritage Inventory (Elgin CAP)

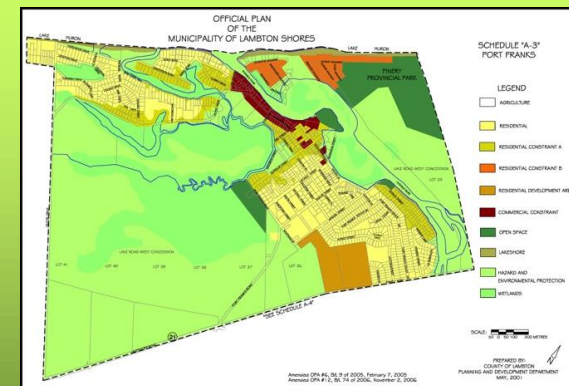




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MONITORING PEOPLE

- Stewardship efforts
- Policies & their effectiveness
- Public health “benefits”
- Ecological goods and services
- Public attitudes & engagement



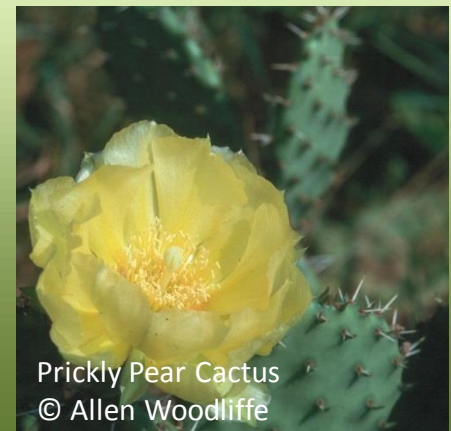


People spend less and less time in nature. Get outdoors! Become familiar with the diversity of your own local natural areas.

Most people can recognize around 1,000 corporate logos and slogans, but fewer than 10 native plant species.



Prothonotary Warbler
© Allen Woodliffe



Prickly Pear Cactus
© Allen Woodliffe



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Humans are capable of massive environmental destruction, yet humans are also capable of Big Picture restitution.

Think of the onslaught on the lands and waters that has occurred since Europeans arrived.

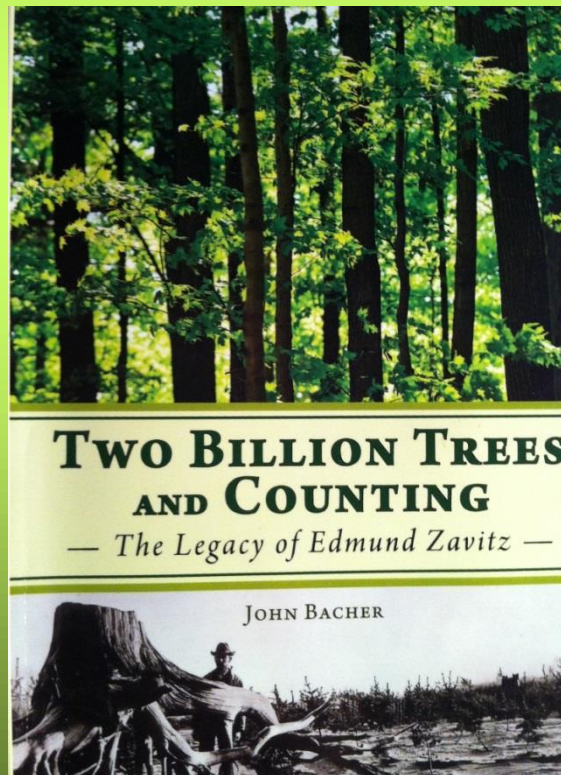


Yet this has been countered to some extent in the past 100 years with:



“Big Picture” Thinking & Action

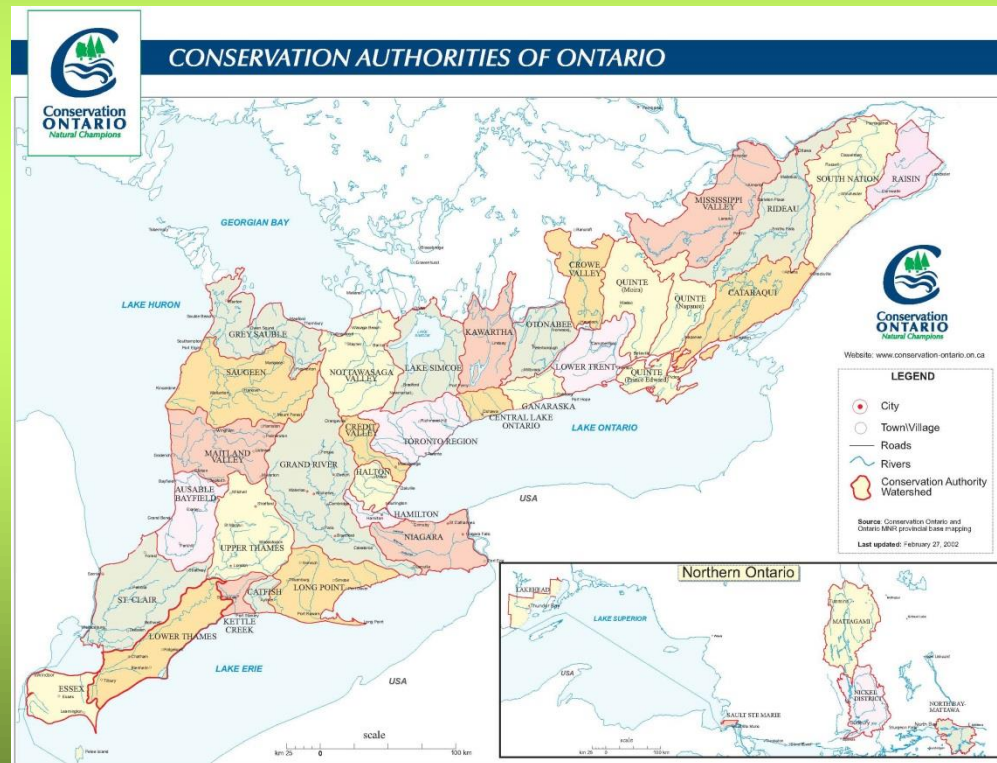
- Since the early 1900’s: the planting of more than 2 billion trees in southern Ontario, led initially by one man, Edmund Zavitz.





“Big Picture” Thinking & Action

- The Conservation Authorities Act 1946 leading to the essential work our 38 C.A.s do today.





“Big Picture” Thinking & Action

- Our network of parks and protected areas starting with Algonquin in the late 1800s.
- Species At Risk Act, Endangered Species Act
- Major progressive planning innovations: The Niagara Escarpment, Oak Ridges Moraine, municipal NH systems planning.
- All the great stewardship, restoration and land protection by countless private conservation groups: NCC, DU, ToF, ON, WHC, land trusts, etc.



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Achieving

THE BIG PICTURE VISION

may seem far-fetched, even impossible.

But if we look at the scale of past achievements, we can see that

“BIG” IS POSSIBLE.



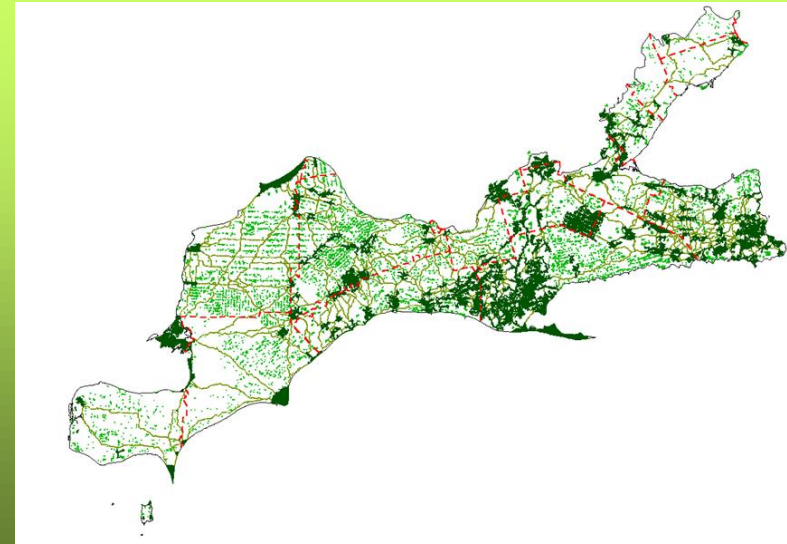
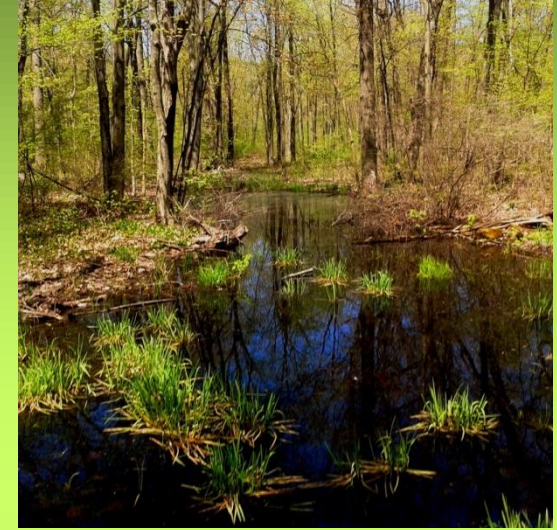
Carolinian Canada

Can smart monitoring help us realize the

BIG PICTURE VISION

of resilient, functioning

landscapes and ecosystems?





...for future generations...





Thank you! / Miigwetch! / Merci!

- **All our 100+ partners & RBG**
- **Conservation Coaches Network & The Nature Conservancy (U.S.)**
- **Our Board of Directors**
- Photos: Upper Thames River Conservation Authority, Allen Woodliffe, Essex Region Conservation Authority, Niagara Restoration Council, Jane Bowles, Scott Gillingwater, Cathy Quinlan, David d'Entremont, Evergreen
- **Our Funders:**



Environment
Canada

Environnement
Canada



CAROLINIAN
CANADA
COALITION



*Collaborating
for a
Healthy Ecoregion*

caroliniancanada.ca