



BIOLOGICAL INTEGRITY

5th Biennial State of the Lakes Ecosystem Conference
October 16th-18th, 2002 Cleveland, Ohio

CONFERENCE PROGRAM

“Biological integrity is the capacity to support and maintain a balanced, integrated and adaptive biological system having the full range of elements (the form) and processes (the function) expected in a region’s natural habitat.”

- By James R. Karr, modified by Douglas P. Dodge

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Greetings from the SOLEC 2002 Conference Co-Chairs

Paul Horvatin and Harvey Shear

Welcome to the 5th Biennial State of the Great Lakes Ecosystem Conference, sponsored by the Governments of Canada and the United States. Our conferences are designed to be interactive, to maximize delegate discussion and scientific feedback, and to provide insight into emerging trends.

This year, SOLEC will present the most comprehensive assessment yet of the state of health of the Great Lakes Basin Ecosystem. We are proud to be reporting on the assessments provided from 45 indicators. Clear trends can be identified in the state, pressure and response assessments.

Since SOLEC 2000, significant development work has taken place. A candidate set of Biological Integrity indicators will be presented on Day 2. Further groundbreaking work has been done on the land-based indicators: agriculture and forestry. And, a new suite of indicators is proposed for consideration to assess groundwater health. The new groupings of societal response indicators are cutting edge, when it comes to assessing community contribution to improving the health of the system.

This year's conference will go a long way to answering the public's prevailing questions: Can we eat the fish? Can we drink the water? Can we swim in the Great Lakes? Is the air healthy to breath? And, the opportunities and challenges that lie ahead.

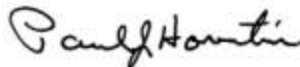
After listening to all the presentations, we invite you to review the organizers' work, and enhance their findings with your insight and knowledge. Your knowledge will inform the Governments' State of the Lakes Report to be produced in the summer of 2003.

Your participation in SOLEC 2002 represents an important contribution to our efforts to meet the goals of the Great Lakes Water Quality Agreement. We look forward to working with you over the next three days.

Sincerely,



Harvey Shear
Co-Chair



Paul Horvatin
Co-Chair

Relax after a busy Day 2 at the SOLEC "Soirée" featuring a presentation on the Cuyahoga RAP and Success Story Award Presentations - 6pm - Sheraton City Centre Hotel

Check out the displays presented by the SOLEC 2002 Success Story Award recipients and participating agencies - Cleveland Convention Center Hall D

Congratulations to this year's recipients:

- Chicago Wilderness
- Humber Bay Shores Projects
- Lachine Rapids Coordinating Committee
- National Council for Air and Stream Improvement, Inc. - Eastern Wildlife Program
- Nicolet Hardwood Corporation
- Springfield Township, Oakland County Michigan

DAY 1: Reporting on the State of the Great Lakes

This year's Day 1 events focus on highlighting the current state of the Great Lakes Basin Ecosystem, the pressures impacting on the health of the system and the challenges and opportunities for improving the state of the system for the future. As always, we will build on what we have learned in the past. With more information and experience than ever before, we will reflect on how this latest science-based information can help improve management decisions in the future. SOLEC 2000 featured 35 indicator assessments, this year the number of reported indicators has grown to 45!!!!

Morning plenary:

- Reporting on the State of the Ecosystem – Can we **EAT** the fish? Can we **SWIM** in the water? Can we **DRINK** the water? Can we **BREATHE** the air?
- What are the pressures on the current state of the Great Lakes Ecosystem?
- Management Implications – What can we do to improve the state of the ecosystem?

These sessions will challenge you to think about new strategies for protecting the integrity of our Great Lakes Basin Ecosystem.

Afternoon Breakout Sessions:

- Indicators? What is this all about? – To find out more check out the Implementing Indicators session.
- Grab-a-Java, get to know some of your Great Lakes comrades and catch up with old friends.
- GET A MIND WORKOUT! – Participate in the afternoon breakout sessions where we will harvest your knowledge and ideas to evaluate the latest indicator assessments and determine possible management implications of the results. There is an indicator session for every interest, the hard part will be deciding which to attend.
- This year's Day 1 Breakout Session topics are:
 - Human Health
 - Open and Nearshore Waters
 - Coastal Wetlands
 - Land and Land Use
 - Unbounded / Under development

DAY 2: Indicator Development Day

In the morning plenary, biological integrity is the headliner, with presentations on new indicators, emerging issues and ideas for protecting the biological integrity of the Great Lakes Basin Ecosystem. We will hear stories about two fantastic efforts to restore biological integrity.

NEW & IMPROVED: Indicators for measuring the State of the Lakes will be presented in the second half of the plenary.

EFFICIENT PRODUCTION, LESS CO₂, ENVIRONMENTAL EDUCATION: These are just some of the HOT TOPICS considered in the societal response indicator set. The societal suite represents ways of measuring the diverse areas of action in our daily activities that can enhance the health of the lakes.

EXPANDED HORIZONS: SOLEC takes an ecosystem approach to Great Lakes reporting, which means the work has been broadened beyond the lakes themselves to the entire watershed; into streams & rivers, groundwater, farmland, forests, urban areas, you name it! A flavor of the proposed new indicators for Groundwater, Agriculture and Forestry will be presented.

Agenda At-A-Glance

Tuesday, October 15th, 2002 – Evening Reception

5:00 p.m. – 7:00 p.m.	Evening Reception – An evening of networking hosted by the Great Lakes Commission. Finger foods & refreshments will be provided. Sheraton Cleveland City Centre Hotel East Ballroom, 6 th Floor
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DAY 1 Morning – Wednesday, October 16th, 2002 – State of the Great Lakes

Plenary: GREAT LAKES ECOSYSTEM: STATE, PRESSURES, CHALLENGES & OPPORTUNITIES – Exhibition Hall D, Cleveland Convention Center	
10:00 a.m.	Welcome & Introductions – Tom Skinner, U.S. Environmental Protection Agency Overview of SOLEC 2002 – Harvey Shear, SOLEC Co-Chair, Environment Canada State of the Ecosystem – Jan Ciborowski, University of Windsor Ecosystem Pressures – Donna Myers, U.S. Geological Survey, Ohio Challenges and Opportunities – John Gannon, U.S. Geological Survey Management Implications – John Mills, Environment Canada Mayor's Welcome – Mayor Jane Campbell, City of Cleveland Charge to Participants – Harvey Shear, SOLEC Co-Chair, Environment Canada
12:30 p.m.	Lunch – Sheraton Cleveland City Centre Hotel, Grand Ballroom, 6 th floor

DAY 1 Afternoon – Wednesday, October 16th, 2002 – Indicator Assessments

1:30 p.m.	Intro to Indicators Session – Paul Bertram, U.S. Environmental Protection Agency Room: 205C
2:00 p.m.	Breakout sessions – Indicator Assessments & Management Implications Cleveland Convention Center <ul style="list-style-type: none"> ▪ Human Health Room: 205A ▪ Open and Nearshore Waters Room: 205B ▪ Coastal Wetlands Room: 202 ▪ Land and Land Use Room: 210 ▪ Unbounded/Under development Room: 204
5:00 p.m.	Day 1 Adjourns

DAY 2 Morning – Thursday, October 17th, 2002 – Indicator Development

Plenary: BIOLOGICAL INTEGRITY & SOCIETAL RESPONSE – Exhibition Hall D, Cleveland Convention Center	
8:30 a.m.	Highlights from Day 1 – Paul Horvatin, SOLEC Co-Chair, U.S. Environmental Protection Agency Developing Biological Integrity Indicators – Doug Dodge, SOLEC Steering Committee Canadian Biological Integrity Case Study – Patrick Colgan, Royal Botanical Gardens U.S. Biological Integrity Case Study – Wendy Hinrichs Sanders, Great Lakes Forest Alliance
9:45 a.m.	BREAK
10:15 a.m.	Societal Response – Laurie Payne, <i>Lura</i> Consulting / Environment Canada Groundwater, Agriculture & Forestry – Norm Grannemann, U.S. Geological Survey Charge to Participants – Paul Horvatin, SOLEC Co-Chair, U.S. EPA
11:30 am	LUNCH – Sheraton Cleveland City Centre Hotel, Grand Ballroom, 6 th Floor <ul style="list-style-type: none"> ▪ Keynote address by International Joint Commission Co-Chairs: Dennis L. Schornack & The Rt. Hon. Herb Gray

THE SOLEC 2002 MEAL PACKAGE INCLUDES:

- Breakfast on Thursday, Oct. 17th & Friday, Oct. 18th Lakeside Pavilion, Cleveland Convention Center
- Lunch on Wednesday, Oct. 16th & Thursday, Oct. 17th Sheraton City Centre Hotel, Grand Ballroom
- Dinner on Thursday, Oct. 17th Sheraton City Centre Hotel, Grand Ballroom
- Refreshment Breaks

Agenda At-A-Glance

DAY 2 Afternoon – Thursday, October 17th, 2002 – New & Cross cutting Indicators

Concurrent Sessions on New Indicators – Cleveland Convention Center	
These sessions will run once from 12:45 to 5:15	<ul style="list-style-type: none"> ▪ Biological Integrity Room: 205B With biological integrity as this year's theme, the biological integrity workshop is sure to be a hot session. Participants will test the validity of the proposed biological integrity indicator set. ▪ Groundwater Room: 205A A two-part interactive session will focus on developing the groundwater indicator set from a physical/chemical perspective then from a biological perspective.
These sessions will run twice at 12:45 and at 3:15	<ul style="list-style-type: none"> ▪ Societal Response Room: 204 Societal action is one of the most efficient and effective means of protecting the health of the Basin. Help figure out how to report societal response to ecosystem pressures. ▪ Forestry Room: 209 Canadian Forest Service and Great Lakes Forest Alliance representatives will present 12 proposed forestry indicators. ▪ New Agriculture Indicators Room: 201 Check out this session that focuses on new indicators of Sustainable Agricultural Practices, namely Nutrient Management and Integrated Pest Management. ▪ Developing Indices Room: 206 This discussion will focus on index development using the proposed Canadian Biodiversity Index as an example.
2:45 p.m.	Break
These sessions will run once at 3:15	<p>Concurrent Sessions on Cross-Cutting Issues</p> <ul style="list-style-type: none"> ▪ Endocrine Disrupting Chemicals Room: 202 A distinctive panel will present updates on the state of the science and investigations into endocrine disruption research activities. ▪ Traditional Ecological Knowledge Room: 208 Back by popular demand, delegates have the opportunity to learn how naturalized knowledge systems are used in ecological systems. ▪ Ecological Data Trends Room: 203 This panel discussion will share experience gained through Great Lakes ecosystem monitoring program research, planning, and implementation with a focus on enhancing trend determination. ▪ Atmospheric Indicators Room: 210 This presentation will feature a review of selected air quality indicators from the current SOLEC suite and propose an additional indicator for consideration.
6:00 p.m.	<p>Cash Bar & Dinner Sheraton Cleveland City Centre Grand Ballroom, 6th Floor</p> <ul style="list-style-type: none"> ▪ Success Story Presentations ▪ Slide show on the Cuyahoga River RAP

DAY 3 Morning - Friday, October 18th, 2002 – Focus on Individual Lakes

Plenary: LAKES, RIVERS AND FISHERY REPORTS Exhibition Hall D, Cleveland Convention Center	
8:30 a.m.	<p>Recap Day 2 & Overview of Day 3 – Harvey Shear, SOLEC Co-Chair, Environment Canada St. Lawrence – Martin Jean, St. Lawrence Centre, Environment Canada Lake Ontario/Niagara River – Rimi Kalinauskas, Environment Canada Lake Erie/ Detroit River–Lake St.Clair Ecosystem – Dan O’Riordan, U.S. EPA Lake Huron – Jim Bredin, Michigan Department of Natural Resources Lake Huron Fisheries – Dave Reid, Ontario Ministry of Natural Resources</p>
10:00 a.m.	BREAK
10:30 a.m.	<p>Lake Michigan – Bob Kavetsky, U.S. Fish & Wildlife service Lake Superior – John Marsden, Environment Canada Lake Superior Fisheries – Ken Cullis, Ontario Ministry of Natural Resources</p>
12:00 p.m.	Conference Summary – Environment Canada & U.S. Environmental Protection Agency
	SOLEC 2002 Adjourns

SOLEC has proposed some new indicators, often as a result of your ideas and suggestions. These will be discussed and evaluated in Day 2 breakout sessions. Day 2 sessions focus on the latest ideas for an even more comprehensive, ecosystem based assessment of the state of the Lakes

Day 2 afternoon breakout sessions gets us involved in indicator development in the newest SOLEC indicator suites. As well, the afternoon features excellent sessions on crosscutting issues. The discussions will be centered on this year's conference theme, biological integrity.

- **Biological Integrity**
- **Societal Response**
- **Groundwater**
- **Forestry**
- **Agriculture**
- **Developing Indices**
- **Endocrine Disruptor Chemicals**
- **Traditional Ecological Knowledge**
- **Ecological Data Trends**
- **Atmospheric Indicators**

DAY 3: Focus on Individual Lakes

In the morning plenary, seven presenters representing each of the Lake Basins and River Systems will present the state of each system and the pressures on basin biological integrity.

- **St. Lawrence** – Martin Jean, of the St. Lawrence Centre will present information on wetland loss, municipal effluent discharge and other challenges facing this unique ecosystem.
- **Lake Ontario** – Reduction in contaminants in edible fish tissue, rapid urbanization and loss of agricultural land are just a few of the highlights of the Lake Ontario assessment as presented by Rimi Kalinauskas.
- **Lake Erie/Detroit River – Lake St. Clair Ecosystem** – The central Lake Erie “dead zone” is a big topic of discussion once again. Dan O’Riordan will discuss this and much more on the state of these systems.
- **Lake Huron** – No longer the “Forgotten Lake”, Jim Bredin will tell us how Lake Huron is in relatively good health, but is facing increasing pressures that are concerns for the future health of the system.
- **Lake Huron Fisheries** – Fisheries are a big part of life in the Lake Huron basin, Dave Reid will present an overview of Lake Huron Fisheries and some of the primary concerns in protecting the long term viability of fishery such as the ongoing development of offshore areas.
- **Lake Michigan** – Lake Michigan has been in the news lately due to expectation that Asian carp will soon invade the Lake. There is a lot more to hear about and Bob Kavetsky will fill us in.
- **Lake Superior** – Lake Superior is the healthiest of the Great Lakes basins and many community-based activities are in place to protect the system, but, as John Marsden will tell us, ecosystem pressures, such as new species introductions through ballast water exchange, are threatening the health of the system.
- **Lake Superior Fisheries** – Lake Superior fisheries continue to be in good shape, however, Ken Cullis will tell us about emerging issues that are putting stress on the fishery. Of particular concern is the recent rise in sea lamprey populations.

HELPFUL INFORMATION

- **Sheraton Cleveland City Centre Hotel – (216) 771-7600 Fax: (216) 771-5129**
- **Conference Office – Room E112, Lakeside Pavilion, Cleveland Convention Center**
- **Media Room – Room E111, Lakeside Pavilion, Cleveland Convention Center**

EXTRA! EXTRA!

Pick up your daily edition of the “SOLEC Indicator” at the Registration Desk in The Sheraton, in the Conference Office, and in the Plenary Room, Cleveland Convention Center Exhibition Room D, Thursday and Friday morning before the plenary session.

SOLEC STEERING COMMITTEE

The SOLEC Steering Committee members represent a wide variety of agencies from around the Great Lakes:

**Council of Great Lakes Industries
Environment Canada
First Nations and Tribes
Great Lakes Commission
Great Lakes Fishery Commission
International Joint Commission
Michigan Department of Environmental Quality
Natural Resources Canada (Canadian Forest Service)
New York State Department of Environmental Conservation
Ontario Ministry of Agriculture, Food & Rural Affairs
Ontario Ministry of Environment
Pennsylvania Department of Environmental Protection
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Geological Survey
U.S. National Park Service**

SOLEC LOGISTICS TEAM

**Case Western Reserve University
Cuyahoga Remedial Action Plan
Environment Canada
Lura Consulting
Northeast Ohio Areawide Coordinating Agency
US Environmental Protection Agency Region 5**

SOLEC 2002 REFERENCE MATERIALS

- **Biological Integrity White Paper**
- **Implementing Indicators Paper**
- **Great Lakes Indicators White Paper**

Cuyahoga River & Remedial Action Plan

The Cuyahoga River, which flows through Cleveland to Lake Erie, was once famous for the fire that occurred on the river in 1969. Now, the Cuyahoga River is well known as a designated American Heritage River, and as an area in which significant progress has been made to restore beneficial uses.

Since the Cuyahoga River RAP Coordinating Committee and the Cuyahoga River Community Planning Organization were formed in the late 1980s, the Cuyahoga RAP has had a number of successes including: stream stewardship initiatives, fish and fish habitat studies, stream bank restoration and ongoing plans to address beneficial use impairments.

Though much remains to be done, the Cuyahoga RAP will continue to draw on strong community involvement and public-private partnerships to work toward removing the Cuyahoga River from the list of Areas of Concern.

ARRIVE EARLY? GOT SOME TIME BEFORE YOU HEAD HOME?

WHY NOT CHECK OUT SOME OF THESE WAY COOL CLEVELAND ATTRACTIONS?

Cleveland Metro Parks System



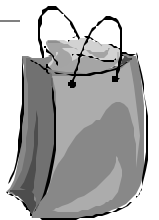
Maps: Cleveland Metro Parks: (216) 351-6300

Nicknamed the Emerald Necklace, this system consists of 2000 acres of park space that roughly surrounds the Greater Cleveland Area. Take a walk, jog or bike ride along Lake Erie, around the Cleveland Metroparks Zoo or elsewhere around Cuyahoga County.

Public Square & Terminal Tower

Shopping hours: 10:00am – 8:00 pm, 50 Public Square (216) 623-4750

All of the City's main streets lead to the Public Square, a four-quadrant park at the heart of downtown. At its center, Public Square is home to Terminal Tower, an office, retail and entertainment complex and Cleveland's most famous landmark.



Rock and Roll Hall of Fame and Museum

1 Key Plaza, 1-888-764-ROCK, Hours: 10:00 am to 5:30 pm daily



The Nation's premier music gallery features rock artists from the 50s to present day idols. Beatlemania is currently taking place at the museum with a special exhibit dedicated to the late John Lennon.

Great Lakes Science Center

601 Erieside Avenue, (216) 694-2000 <http://www.glsc.org/index.php3>

Hours: 9:30 am to 5:30pm daily Adult admission: \$7.95 and up.

The Great Lakes Science Center holds over 350 hands on exhibits including the Great Lakes Environment floor. There is an OMNIMAX theater in the museum, call to get movie listings.



Participants are encouraged to visit the SOLEC web site to keep up to date on SOLEC activities.
www.binational.net