



# SOLEC Indicator

Issue Number 1

## MESSAGE FROM YOUR CO-CHAIRS

Welcome to Day 2! This short summary gives you the highlights of yesterday's sessions - so that you can keep current on the work being done on the SOLEC indicator suite.

Lots was done yesterday - new concepts were developed, collaborations were formed, and the concept of the SOLEC index was wrestled with in true SOLECian tradition.

Our focus today is on "Putting indicators to use". Please see your program for complete details, and visit page 10 of this newsletter for room locations. Also, please give us your thoughts about the conference by completing the comment form in the back. Have a great day.

Harvey Shear  
SOLEC Co-Chair

Paul Horvatin  
SOLEC Co-Chair

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### FIELD TRIPS

Buses leave at 3:30 pm from the Sheraton main entrance

### SOLEC 2000 DINNER

6:00 pm Cash Bar

7:00 pm Sheraton Grand Ballroom

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# The SOLEC Ideas Page

## Snapshot of Feedback on the SOLEC indicators

Nearshore and Open Waters: *We need to clarify the management vision.*

Land: *It was suggested that "artificial coastal structure" and "extent of hardened shoreline" are the same and should be melded together.*

Drinking water: *We need to standardize data collection methods and ensure data availability to get consistent monitoring*

Human Health - Swimming: *There is a need for additional epidemiological research to further define what is a harmful exposure and what other indicator organisms might be considered.*

Coastal Wetlands: *The consortium holds much promise in implementing this set of indicators.*

Societal: *Six new societal indicators were proposed, along with next steps.*

## Thoughts about the index concept...

- There is cautious support among some for geographic (e.g. lake or river) or "thematic" (e.g. fish-food web relationship) indices.
- Others are concerned about oversimplifying a complex situation.
- A pilot index application was suggested to test the concept.
- The value of indices for communication with the public and politicians was recognized, as were the challenges.

## Lunch Time Perspectives

...We lack understanding of the very nature of sustainability - to understand interdependence, we need to shift from the perception of the parts - to the whole.

...Almost all the problems we face in implementing sustainable development take place at interfaces between disciplines - we understand the "cracks" the least.

...We need to design more creative and effective models of environmental governance.

*Paraphrased from Elizabeth Dowdeswell's talk, SOLEC Day 1 Lunch*

What was said about the morning plenary...

"For the first time I understand what we know, where the gaps are, what we have to do."

SOLEC Participant

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# State of the Lakes Indicator Results

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# Indicators

*A snapshot of discussion  
in each breakout room*

## Nearshore and Open Waters (I)

*24 participants, Facilitator Vicki Thomas*

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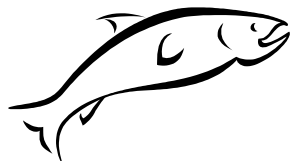
- Indicators need to be customized/reported independently for each lake. Need to have objectives for indicators. Some indicators are too narrow (e.g. DELT needs to cover more than one species in one lake).
- Need habitat/exotics indicators for open lake, nearshore, wetlands, fish/aquatic ecosystem. Need to bring private sector-industry, NGOs, and universities into process, including data sharing.
- Management vision needs to be clarified (e.g. nutrient loading, native versus planted/stocked species, definition of preyfish - natural versus exotics).

## Nearshore and Open Waters (II)

*18 participants, Facilitator Vicki Barron*

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- In general, agreed with the need for all indicators presented and generally about the assessments (e.g. poor, mixed, good) for each of the indicators. Notable exceptions were the indicators for zooplankton and phytoplankton populations. The group concluded that these indicators are essential, however more data is needed to make the indicator more useful.
- Believe that other sources of data can be tapped, and that the SOLEC website is a useful vehicle for doing this (e.g. anecdotal information about hexagenia density).
- Suggestions regarding indicators in general:
  - that each indicator would better be shown with trend information and also an assessment of its “absolute value” or relationship to a “threshold”;
  - and,
  - that graphics should be used to portray the data showing the spatial distribution of the information (e.g. hexagenia recovery in Great Lakes).



What was said about the index concept...

"You could combine all 80 indicators into a single number, and it might not mean a darn thing."

SOLEC Participant

## Land Indicators

*42 participants, Facilitator David Smith*

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- Suggest artificial coastal structure and extent of hardened shoreline are the same and should be melded together.
- Concern was expressed regarding criteria for developing, selecting, and negating indicators. Need clarification of endpoint.
- Groundwater needs to be considered.
- Water level fluctuation impacts (stream flows, impervious area, land conversion) should be added. *Data may be limited to 1980's from NASA - is no new data being generated?*

## Drinking Water

*15 participants, Facilitator Joanna Kidd*

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- There is not much good raw water data. A method for collecting and reporting it needs to be developed.
- Protection of source water needs to be emphasized.
- To get consistent monitoring, we need to standardize data collection methods and ensure data is available.

## Human Health - General

*35 participants, Facilitator Heraline Hicks*

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- Women and especially minorities are less likely to know about fish consumption advisories in the Great Lakes Basin.
- While exposure levels are much lower now than they were 20 years ago, and the effects observed subtler, the fish eaters study being carried out in Oswego, NY is replicating the Jacobsons' Michigan Study findings. More time is needed to determine the long-term significance of these findings.
- Older adults (50+) exposed to PCBs through fish consumption are at risk for neuro-psychological impairment (lower scores of verbal memory & learning).

## Human Health - Swimming Advisories

*23 participants, Facilitator Gary Kohlhep*

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- There is a need to develop consistent and timely monitoring methodologies and protocols with respect to sampling frequencies, methods and analytical procedures, with an emphasis to develop a quantitative rapid *E. coli* assay.
- There is a need for additional epidemiological research to further define what is a harmful exposure and what other

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indicator organisms (virus, etc.) might be considered.

## Coastal Wetlands

*65 participants, Facilitator Tim Henry*

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- The Great Lakes Wetlands Consortium holds much promise to fill wetlands data gaps, to develop a consistent approach to monitoring wetlands and to develop compatible data sets throughout the basin.
- The existing data needs to be viewed within the proper context because:
  - the natural variability and fluctuations of wetlands may or may not affect apparent results;
  - the short-term nature of data sets makes it hard to draw trend conclusions; and
  - it is critical for data consolidation to create any kind of index.
- We still need more and better data and objective endpoints. We cannot (but we should be able to) tell the story well to either decision-makers or the general public.



## Human Health - Fish Advisories

*26 participants, Facilitator Adele Freeman*

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- An education component is an important aspect of communicating the significance of the advisory - people must be made aware of the threat of not eating in accordance with advisories.
- A good approach to a basinwide indicator is to use concentrations and interpretation based on most sensitive population.
- There is still a question about how this overall indicator relates to actual fish advisories in the basin. The SOLEC indicators need to address how jurisdictions interpret the data - maybe in another indicator.

“SOLEC is a success story that needs to be showered in praise”.

Paddy Torsney,  
MP Burlington

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## Societal

*30 participants, Facilitator Suzanne Barrett*

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- The following new preliminary indicators for effects of environment on society (need more discussion) were suggested :
  - economic health (property values);
  - sustainability of resource-based economic sectors;
  - drinking water (costs, use of tap/bottled water/personal treatment devices, perceptions and quality/choices);
  - public access to water bodies (quantity, quality);
  - Human health and reproduction (fertility, population, increase/decrease, obesity in children); and
  - eagles (native ceremonies, symbol of ecosystem health).
- Next steps to prepare for SOLEC 2002 - recommendation to the SOLEC committee:
  - Form workgroup to (i) decide on societal indicators, (ii) allocate leadership for reporting;
  - Involve broad based group (including social scientists and economists);
  - Review global literature first, re-name the indicators later; and
  - SOLEC 2000 participants provide more input via the website.

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# More Detail on the Index Concept

## *Key themes from breakout room discussion*

### General comments

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- Indices may be useful, provided:
  - more than one are used to describe ecosystem effects;
  - they have a geographic focus (e.g. Detroit area or lake) but not used to integrate over the lakes;
  - must know who you are communicating the value of the index to;
  - combining indicators should be done on a “theme” basis (e.g. fish-food web relationship, pollutant loading for water quality, or trophic status); and,
  - must be defensible and meaningful, the user must understand the basis for the index.
- Need to be careful about definitions of index, and selection of indicators should recognize linkages.
- Biological data is notable by its absence.
- Need “position” to leverage peer review of indicators.
- We need to link indicator development with the Great Lakes priority places.



### Caution with oversimplifying

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- Good to have understandable indices that clearly express trends but there is the danger of oversimplifying complex issues.
- Has some sense for politicians and public opinion, however concern for abstract nature of index.

“If you mix apples, pears, bananas and grapes, then what will you get besides fruit salad?”

SOLEC Participant



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## Engagement, participation, and communication

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- Connect community resources to SOLEC.
- Need to engage decision makers and legislators.
- Need more involvement between SOLEC events.
- Need someone leading the process, managing the process, coordinating, ground truthing data. This needs to happen now.
- Need a forum for getting together to continue discussion.
- Indices are an approach that is a useful communications tool for decision makers and the public.
- We need a communications strategy that parallels the development of the wetlands indicators development.
- Support idea of a data management workshop with trepidation regarding commitments of resources.
- A number of databases are available - we need a centre to collect this list of databases and how they can be accessed.
- Develop a public-oriented pilot index for on-line and/or paper publication.



## Suggestions regarding specific indices

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- Need indices reflecting community conditions.
- Enter indices about drinkability, fishability, and swimmability.

## Comments on scale

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- Possibly develop indices by geography (nearshore versus wetlands versus open lake versus tributary).

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## Day 2 Breakout Room Locations

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### 3<sup>rd</sup> Floor - Plenary Room Level

Ecological Indices	Webster A
Shoreline Biodiversity Investment Areas	Webster B

### 2<sup>nd</sup> Floor - One Level Down

Hamilton Harbour AOC: Commitment the Key to Success	Albion C
Launching & Maintaining an Urban Ecosystem Initiative	201
Leveraging Resources for Environmental Results	205
Collection & Analysis of Monitoring Data	202
Volunteer Recruitment & Retention	206
Determining Priority Conservation Places	Albion B
Wild Rice Ecology & Management	Albion C

## A BIG THANK YOU TO ALL THE RECORDERS AND FACILITATORS

*Our Recorders were:* Michael Russ, Dave Cowgill, David R. Barna, Philip Gehring, Dan Hopkins, Robert Beltram, Bill Spaulding, Carolyn O'Neill, James Schardt, and E. Dujovny

*Facilitators are noted against the session highlights.*