SUMMARY OF SENIOR MANAGERS' SESSION
SOLEC 2002

This document summarizes the outcomes of a special session for senior level managers held on October 16, 2002 as part of the 2002 State of the Lakes Ecosystem Conference in Cleveland, Ohio. This document is was prepared by the Great Lakes Commission, which served as co-organizer of and facilitator for the session.

Two questions were presented to the participants. All participants were invited to respond to each question. Section I includes the specific questions and the responses/commentary associated with each. Section II lists the general themes identified through the participants' comments. Section III document includes recommended action items to be pursued by SOLEC organizers, as appropriate, in follow-up to the comments made by the managers. Section IV is a list of those who attended the session.

I. Questions Presented to Managers

A. Question One: To what extent do you rely on ecological indicators in pursuing your management responsibilities?

1) In the Lake Erie Basin, the reliance is significant as demonstrated by the use of indicators in the Lake Erie Protection and Restoration Plan.

2) All managers need some form of indicators to guide their decision making efforts.

3) The U.S Fish and Wildlife Service, in partnership with the Great Lakes Fishery Commission, is in the process of developing and using indicators to guide their initiatives.

4) In developing indicators, it is important to focus first on the question that needs to be answered by the indicator.

5) Indicators are used in First Nations/ Tribal management and decisionmaking efforts. In some cases, these indicators already exist thanks to the work of other agencies and organizations. In other instances, the indicators are developed internally.

6) The International Joint Commission is charged with evaluating progress under the Great Lakes Water Quality Agreement. Indicators of chemical, physical and biological integrity are relevant for that purpose.

7) The selection of indicators should focus on advancing our ability to determine drinkability, fishability and swimmability within the Great Lakes ecosystem.

8) Ongoing environmental protection and resource management programs at the state, provincial and federal levels also feed the development of ecological indicators.

9) Indicators are fundamentally important for managers in priority-setting exercises.

10) Indicators are important in assessing progress in achieving the stated ecosystem objectives for Lakewide Management Plans.

11) Indicators are also important is assessing progress with Areas of Concern cleanup, and can be used in conjunction with benchmarks along the way, as well as with cleanup end points.

12) It is presently unclear as to the extent that indicators are employed in decisionmaking at the senior manager levels.

13) Indicators have utility in informing risk-based to prioritization of protection, prevention and response activities.

14) A number of SOLEC indicators have been employed in the Lake Ontario Lakewide Management Plan development process. They have been found to be reliable, with some revisions needed to address lake-specific needs. Also, the suite of indicators used may need to be augmented by additional indicators.

15) Criteria for the development and use of indicators should include the following: they should identify emerging issues; help set priorities among existing programs; and help monitor ecological responses to human activities, including remediation, mitigation and related environmental management efforts. The current suite of SOLEC indicators offers a considerable amount of information that is useful in this regard.

16) Indicators provide a particularly critical role in helping managers understand the ecological implications of their decisions; and in helping them to select and apply the most appropriate management tools.

B. Question Two: What needs to be done to maximize the use of ecological indicators in your management. responsibilities?

1. The broader goals of indicator implementation-to determine whether we can eat the fish, drink the water and swim in the water need to reflect the variety of issues facing Great Lakes managers, such as invasive species.

2. Managers need a greater understanding of the linkages between indicators and existing (e.g., mandated and funded) program areas.

3. There needs to be a way to prioritize the SOLEC indicators for implementation.

4. It is important to remain cognizant of the full potential of Great Lakes ecological health (e.g., historical health) and not develop complacency around low-thresholds as a result of current ecological conditions (e.g., "mixed-improving").

5. A post-SOLEC forum for mangers to discuss SOLEC findings would be valuable.

6. There is a need for more monitoring programs to assess the ecological condition of the Great Lakes.

7. Indicators should be easily understood by managers as well as the general public and should be easily measurable.

8. Findings from implementing indicators should be used to change performance partnerships and redirect federal and state funds where they are most needed.

9. Most management institutions represent jurisdictions or have mandates that do not correspond to the Great Lakes basin; stronger partnerships and improved institutional arrangements among agencies and organizations are needed to develop and implement indicators on a basinwide scale.

10. Ecological indicators need to be understood and supported by the public.

11. A well-defined trajectory endpoint for each indicator will facilitate implementation.

12. The significance of indicators needs to be elevated to the management level where associated directives can ensure their implementation. Having indicators at multiple scales that are agreed upon by all Great Lakes states and provinces are important first steps.

13. Gaming (i.e., _____) the use of indicators concurrent with their development could be an important mechanism for advancing indicator implementation. (game = operations research)
14. Having high level managers on the SOLEC steering committee can ensure the effective development and implementation of ecological indicators.

15. Communicating the significance of indicators at the Lake or State/Provincial level will help garner greater public and political support

16. Indicators only as good as programs that support them; they need to be part of mandated/funded programs and their significance must be communicated to legislators.

17. The significance of ecological indicators might best be communicated to legislators and the press in the form of a story that provides a context.

18. There needs to be a systematic communications/outreach plan to inform and educate elected officials about ecological indicators.

19. It is important to demonstrate to the public and elected officials how indicators allow for the measurement of reduction and/or elimination of harmful chemicals.

20. Conveying the link between ecological indicators and human health will help broaden the understanding of and garner support for indicators.

21. Indicators should be quantitative.

22. The existing suite of indicators may need expanding to address the many scales of ecological health, from community structure metrics to specific species in need of rehabilitation.

23. To avoid duplication, SOLEC should be the central clearinghouse for all Great Lakes indicator information.

24. It is important to be able to refine indicators based on a better understanding of management decisionmaking processes.

25. Managers' need a process to evaluate existing priorities in order to adapt to emerging Great Lakes needs and issues, including indicator development and implementation.

26. "Fishable, swimmable, drinkable" are easy concepts to help rally public support for ecological indicators, but may be different from what decisionmakers need.

27. Institutional barriers present a significant obstacle to ecological indicator development and implementation; there needs to be agreement among jurisdictions and agencies for common sampling/data collection and analytical methods across jurisdictions.

28. Ecological indicators could be better "packaged" for public use/understanding around the issues of "drinkable," "fishable," and swimmable."

29. Indicator development and implementation process should be a dynamic one that allows for and encourages innovation.

30. Managers need to be cautious of becoming adapting to "poor" or otherwise less than optimum ecological conditions; the desired state of the Great Lakes ecosystem or its various components must be carefully considered

31. A long-term perspective is important in developing and implementing ecological indicators. Mangers should be careful not to drop some indicators that don not have obvious or immediate benefit or applicability.

32. Ecological indicators can be implemented within existing monitoring programs such as the Lake Ontario Cooperative monitoring program.

33. Ecological indicator development in the Great Lakes can benefit from integration with other indicator development activities in Norht America.

34. The scientific findings from SOLEC must be presented to senior managers (e.g., via BEC).

II. General Themes

1. Outreach and communication on SOLEC ecological indicators
   a. To the public
   b. To legislators

2. The Importance and Relevance of Ecological Indicators

3. Processes for incorporating indicators into management responsibilities
   a. Funding
   b. Mandates
   c. Prioritization/ranking
   d. Review and evaluation

4. Examples of Indicators at Work Around the Basin
   a. Indicator development among individual agencies/organizations
   b. Indicator implementation among individual agencies and organizations

5. Overcoming institutional barriers to development and implementation of basinwide indicators
   a. Within existing agencies and organizations (e.g., management, prioritization, funding)
   b. Coordination among agencies and organizations
   c. Basinwide leadership

6. Developing indicators that are:
   a. Easily understood
   b. Easily communicated to the public
   c. Easily communicated to legislators/policy makers
   d. Measurable
   e. Can be implemented within existing programs/mandates
   f. Responsive to short, medium and long-range ecosystem objectives

III. Recommendations

1. SOLEC organizers should develop a coordinated outreach and communication strategy to legislators and the public. This strategy should include web-based and hard-copy publication of SOLEC materials (e.g., indicator background papers, workshop proceedings, etc.), press releases and executive summary materials. Materials may have to be tailored to the specific audience (e.g., general public, legislators).

2. A comprehensive SOLEC web site is needed that includes information on status and progress on all of the SOLEC indicators (including draft materials).

3. There needs to be a process for sharing experiences with indicator development and implementation among Great Lakes agencies and organizations and for learning from and improving programs and practices based on those experiences.

4. Processes are needed to incorporate SOLEC ecological indicators into existing policies and programs. Some form of prioritization may be needed to assist managers with this, such as a method for organizing indicators by ecological scale or organizational implementation.

5. Leadership and funding is needed to overcome institutional and financial barriers to developing and implementing basinwide ecological indicators. Although indicators may be developed and/or implemented within individual jurisdictions, there needs to be a way to evaluate their implementation in the basin as a whole.

6. There is also need for a process to evaluate indicators to ensure that they are
   a. Responsive to short, medium and long-range ecosystem objectives;
   b. Easily understood
   c. Easily communicated to legislators, managers and the public
   d. Measurable
   e. Are being or can be implemented within existing programs

IV. List of Attendees SOLEC 2002 Senior Managers' Session

Ms. Lori Boughton
Pennsylvania Dept. of Environment Protection
Office of the Great Lakes

Mme. Mimi Breton
Environnement Canada
Direction générale régionale

Mr. Kelly Burch
Pennsylvania Dept. of Environment Protection
Northwest Regional Office

Mr. Bill Carr
Ministry of Economic Development and Trade
Office of International Relations and Protocol

Dr. John Cooley
Department of Fisheries and Oceans
Central and Arctic Region

Mr. Ken Cullis
Ontario MNR

Mr. Mario DelVicario
U.S. EPA Region 2

Mr. Danny Epstein
Environment Canada
Environmental Protection

Mr. Michael Goffin
Environment Canada
Great Lakes Corporate Affairs

Mr. John Goss
Indiana Department of Natural Resources

The Rt. Honorable Herb Gray
International Joint Commission
Canadian Section

Mr. Gary Gulezian
US EPA Region 5
Great Lakes Nat'l Program Office

Mr. Nick Heisler
International Joint Commission
Canadian Section

Mr. Randy Helland
U.S. Coast Guard, Ninth Coast Guard District

Mr. Michael Hoff
U.S. Fish & Wildlife Service
Fisheries Division

Rick Huress
Transport Canada

Mr. David Ladd
Michigan Department of Environmental Quality
Office of the Great Lakes

Ms. Louise Lapierre
Ministère de l'Environnement du Québec
Direction des Affaires intergouvernementales

Mr. Henry Lickers
Mohawk Council of Akwesasne

Mr. Simon Llewellyn
Environment Canada
Environmental Conservation

Ms. Lori Kaplan
Indiana Dept. of Environmental Management

Mr. John Mills
Environment Canada

Mr. Dennis Schornack
International Joint Commission

Mr. Bill Meads
Natural Resources Canada, Canadian Forest Service
Great Lakes Forestry Centre

Ms. Patty O'Donnell
Grand Traverse Band of Ottawa & Chippewa Indians

Mr. Thomas Skinner
US EPA Region 5

Mr. Sam Speck
Ohio DNR

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