

Review of the
State of the Lakes Ecosystem Conference



1998
Buffalo, NY



1996
Windsor, ON



1994
Detroit, MI

Prepared for:

Environment Canada
United States Environmental Protection Agency

Prepared by:

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Annex I Review of Terms of Reference

EXECUTIVE SUMMARY

This report presents the findings of a review of the State of the Lakes Ecosystem Conferences (SOLEC). This review was undertaken by an independent review team, Ecologistics Limited, for Environment Canada (EC) and the United States Environmental Protection Agency (EPA). It includes a brief description of SOLEC, a summary of the review approach and methodology, review findings, and recommendations.

The scope of the review was binational. Information was gathered from governments, agencies, organizations and individuals in Canada and the United States. The review methodology was designed to address three themes: Primary Objectives of SOLEC, Effectiveness of SOLEC, and SOLEC's Program Management.

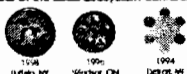
The review found that the primary objectives of SOLEC are still relevant, although some minor modification to their wording could improve relevancy to actual conference outcomes. Individual conferences are well organized and succeeded in meeting their stated objectives. SOLEC has contributed to increasing awareness of environmental issues and challenges within the Basin. However, there is ambiguity concerning how SOLEC fits in with other initiatives in the Basin, particularly Lake-wide Management Plans. To date, SOLEC has not significantly addressed the effectiveness of government programs in achieving results under the Great Lakes Water Quality Agreement. The focus on developing a comprehensive suite of indicators should improve the ability to evaluate the effectiveness of government actions in the future.

The principal recommendation from the review calls for the development of a strategic plan and vision for SOLEC. This plan would:

- review the primary objectives of SOLEC;
- clarify the role and expectations of SOLEC (and indicators development) with respect to other initiatives and programs in the Basin, particularly LaMPs;
- lay out the expected outcomes or goals for SOLEC with respect to the Great Lakes Water Quality Agreement reporting requirements; and,
- develop a framework for planning future conferences to ensure that conference objectives and tangible outcomes are linked to the vision.

Other recommendations focus on increasing the engagement of non-government and municipal stakeholders at the conferences, and on putting a greater emphasis on collecting feedback from conference participants to determine more conclusively the utility of the conference and conference materials in managing the ecosystem.

State of the Lakes Ecosystem Conference



1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report presents the findings of a review of the State of the Lakes Ecosystem Conferences (SOLEC). This review was undertaken by an independent review team, Ecologistics Limited, for Environment Canada (EC) and the United States Environmental Protection Agency (EPA). It includes a brief description of SOLEC, a summary of the review approach and methodology, and review findings and recommendations. Annexes containing the findings from the two lines of inquiry - interviews and a limited literature review - are included.

1.2 PURPOSE OF THE REVIEW

Following SOLEC 1998, the Great Lakes Binational Executive Committee (BEC), which has oversight responsibility for SOLEC, requested that a review of SOLEC be undertaken. John Mills, Canadian Co-Chair of BEC stated, "it is appropriate at this stage to do a third party review of how well SOLEC is meeting its objectives and how well it fits into the mosaic of Great Lakes activities. We need to look at how SOLEC fits in with the International Joint Commission's biennial meetings and make sure they are compatible and work together" (Young and Stadler-Salt, 1999).

The intent of this review is to determine the degree to which participants in SOLEC believe it is achieving the expected results and to use this feedback as a basis for helping to determine its future direction.

1.3 REVIEW APPROACH AND SCOPE

The review was directed by Great Lakes and Corporate Affairs Branch, Environment Canada in conjunction with representatives from EPA. The role of these groups was to establish the terms of reference and provide assistance and feedback regarding the overall direction, methods and scope of the review. The terms of reference were produced by EC and EPA and approved by BEC. Ecologistics Limited conducted the review within these terms of reference. The terms of reference are located in Annex 1.

The scope of the review was binational. Information was gathered from governments, agencies, organizations and individuals in Canada and the United States. The review methodology was designed to address three themes:

- Primary Objectives of SOLEC;
- Effectiveness of SOLEC; and
- SOLEC's Program Management.

Specific issues addressed by the review are described below.

1.4 REVIEW ISSUES

The following issues are identified in the terms of reference as the central questions to be addressed in the review.

- **Primary Objectives of SOLEC**

Issue 1: Are the four primary objectives still relevant?

Issue 2: Do the objectives complement the Parties' (EC's and EPA's) program results?

Issue 3: Should SOLEC's objectives be modified to maximize its contribution and, if so, what modifications are required?

- **SOLEC's Effectiveness**

Issue 4: Did SOLEC 94 meet its objective of assessing the state of the lakes against a set of broad based ad hoc indicators and did this objective support SOLEC's primary objectives?

Issue 5: Did SOLEC 96 meet its objective of determining the state of the nearshore ecosystem and the human impacts on it and did this objective support SOLEC's primary objectives?

Issue 6: Did SOLEC 98 meet its objective to begin the process of establishing a comprehensive, easily understood suite of indicators that will represent the state of major ecosystem components across the whole Great Lakes basin and did this objective support SOLEC's primary objectives?

Issue 7: Has SOLEC had an impact on decision-makers such as agencies and industry?

Issue 8: Has SOLEC evolved to meet changing priorities?

Issue 9: Are changes required to maximize SOLEC's effectiveness and, if so, what changes are required?

- **SOLEC's Program Management**

Issue 10: Does SOLEC engage program management/staff effectively?

Issue 11: Is clear guidance and direction given to presenters and participants involved in the conferences?

Issue 12: Is BEC or the Co-chairs effectively involved in key decision-making?

Issue 13: Are changes required to maximize SOLEC's efficiency and, if so, what changes are required?

1.5 REVIEW METHODOLOGY

Several methodological tools were employed to address all aspects of the review issues. The two lines of inquiry were interviews and a limited literature review.

1.5.1 INTERVIEWS

Personal or telephone interviews were conducted with representatives of the following groups as determined by the Project Authority and Ecologistics Limited:

- SOLEC participants who have attended at least two conferences;
- SOLEC paper authors/presenters;
- SOLEC Steering Committee (SSC);
- Binational Executive Committee (BEC); and
- Non-returning participants of SOLEC.¹

Three separate survey instruments were developed to address the review issues: 1) main interview guide, 2) management and administration interview guide, and 3) non-returning participant guide. The main guide was administered to general SOLEC participants, people who prepared and/or presented papers at SOLEC, and SSC and BEC members. The management and administration guide was administered to members of SSC and BEC. The non-returning participants guide was administered to people who attend attended one SOLEC, but did not attend subsequent events.

Each interview guide was developed for use during personal or telephone interviews. The guides were designed to be sufficiently robust that they could also be used as questionnaires. The intent was to provide respondents with the option of answering the

¹ A non-returning participant is defined as an individual who attended only one SOLEC and did not return to subsequent events, although invited to do so.

questions at their leisure and then returning the guide to the consultants. The interview guides are presented in Annex II.

A total of 50 individuals were suggested for interviews. Given the limited timeframe for the review, the list was prioritized to 40 in an attempt to ensure that interviews would be conducted with key representatives. The following table provides a summary of the different categories of respondents who participated in the review.

Respondent Category	Interviews Conducted
SOLEC Steering Committee	11
Binational Executive Committee	3
SOLEC participants attending at least two conferences	15
SOLEC paper authors/presenters	3
Non-returning participants	8
Total	40

Scheduling conflicts and individual availability were the main reasons that not all of the suggested interviews were completed.

The findings and recommendations contained in this report are based largely on the data collected and analyzed through the interview process. Interview results are presented in Annex III.

1.5.2 LITERATURE REVIEW

A limited literature review was conducted. It was not the purpose of this review to assess the accuracy, appropriateness or general content of conference papers and proceedings from individual events. Consequently, the literature review focused on references to SOLEC in other reports, primarily from the IJC. A limited number of internal memoranda and e-mail correspondence were also reviewed. Results of this line of investigation are contained in Annex IV.

2.0 PROFILE OF SOLEC

2.1 BACKGROUND

The State of the Lakes Ecosystem Conferences (SOLEC) are hosted by Environment Canada and the United States Environmental Protection Agency on behalf of the two countries. The conferences are held biennially in response to a reporting requirement arising from the Great Lakes Water Quality Agreement (GLWQA). SOLEC is intended to provide a broad forum for the exchange of scientific-based information on the condition of the Great Lakes. A main goal of the conferences is to engage a large and diverse range of people in governments, industry and the not-for-profit sector who make decisions that affect the lakes. Conferences have been convened in 1994, 1996 and 1998. Preliminary planning is underway for SOLEC 2000.

SOLEC was established as a working group under the auspices of the Binational Executive Committee to meet the following objectives:

- 1) Provide information on the state of the Great Lakes ecosystem for the purposes of strengthening decision making and management within the Basin.
- 2) Develop support for an integrated system of environmental information to direct plans and programs.
- 3) Provide information on the existing Great Lakes strategies and build cooperative actions needed to strengthen and implement them.
- 4) Provide a forum for improved communication and network building within the Basin.

The following sections provide overview descriptions of each of the three conferences held to date.

2.2 SOLEC 94

The first State of the Lakes Ecosystem Conference was held October 26 to 28, 1994 in Dearborn, Michigan. Its purpose was to assess the state of the lakes against a set of broad-based indicators. Six working papers and an integration paper were developed for discussion at the conference, then revised after input from conference participants.

The six background papers for this conference were:

- A Changing Great Lakes Economy: Economic and Environmental Linkages;
- Effects of Great Lakes Basin Environmental Contaminants on Human Health;
- Aquatic Community Health of the Great Lakes;
- Toxic Contaminants;

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- Aquatic Habitat and Wetlands of the Great Lakes; and
- Nutrients: Trends and System Response.

The revised papers formed the basis for the State of the Great Lakes Report - 1995.

2.3 SOLEC 96

The second State of the Lakes Ecosystem Conference was held November 6 to 8, 1996 in Windsor, Ontario. The objective of this conference was to examine the state of the nearshore ecosystem and the human impacts on it. The conference examined the condition of the nearshore ecosystem in terms of the health of aquatic and terrestrial communities, as well as physical, chemical and biological environments. Potential stressors including exotic species and human activities together with associated socioeconomic aspects were also reported. The state of knowledge on these issues was addressed, including an evaluation of the existing information base.

Five background papers were prepared for the conference:

- Nearshore Waters of the Great Lakes;
- Coastal Wetlands of the Great Lakes;
- Land by the Lakes: Nearshore Terrestrial Ecosystems;
- Impacts of Changing Land Use; and
- Information and Information Management.

In order to link together the issues raised in the various background papers an integration paper was prepared. All papers were finalized after comments received through the conference were incorporated. Subsequently, the State of the Great Lakes Report - 1997 was produced.

2.4 SOLEC 98

The third State of the Lakes Ecosystem Conference was held October 21 to 23, 1998 in Buffalo, New York. The objective of this conference was to begin the process of establishing a comprehensive and easily understood suite of indicators that would represent the state of major ecosystem components across the Basin. The 94 and 96 conferences had both developed ad-hoc indicators based on expert opinion. These indicators provided subjective assessments of the lake ecosystem condition in terms of good, fair, and poor ratings.

With SOLEC 98, the Parties wanted to establish a consistent suite of indicators that would objectively represent the state of the lakes as prescribed in Annex 11 of the GLWQA. These indicators would be used every two years as a basis for reporting

achievements under the Agreement. It was recognized that the core set of indicators for SOLEC would draw upon and complement indicators being developed for Lakewide Management Plans (LaMPs) and Remedial Action Plans (RAPs).

Presentations were made at plenary sessions that introduced conference participants to the proposed core set of indicators. Indicators were presented and discussed for broad components of the ecosystem including: open waters; nearshore waters; coastal wetlands; nearshore terrestrial; land use; human health; and stewardship. The conference also focused on Biodiversity Investment Areas (BIA). BIAs were first suggested at SOLEC 96. Other presentations included a retrospective look at the development of the 1987 GLWQA protocol and a review of the Parties' commitments under the GLWQA.

Since SOLEC 98, the SSC has continued to revise and refine the proposed set of indicators. Version 3 of "Selection of Indicators for Great Lakes Basin Ecosystem Health" was released as a draft for review in May of 1999 (Bertram and Stadler-Salt, 1999).

2.5 PROFILE OF SOLEC PARTICIPANTS 94, 96, 98

The following table summarizes the participants from each SOLEC according to their country of origin and the sector they represented.

Average attendance at the three conferences was 412. Federal governments (Canadian and US) had the largest representation with approximately one-third of all participants. Provincial and state governments comprised the next largest participant group, averaging approximately 14% of participants. Municipal representation grew from 2% in 1994 to approximately 20% in 1998. Combined, government (including IJC representatives) participants comprised an average of approximately 60% of all participants across the three conferences.

Within the non-governmental sector, industry had the largest representation (approximately 9%), followed by academia and research groups. In aggregate, participation by non-governmental groups has been increasing since 1994. Both SOLEC 96 and 98 had twice as many non-governmental representatives in attendance as did SOLEC 94.

SOLEC 96 had the largest registered attendance of all three events for both government and non-government representatives.

Participant Profiles - SOLEC 94, 96 & 98

Participation By Country:						
	94		96		98	
	Number of Delegates	Percent	Number of Delegates	Percent	Number of Delegates	Percent
Canada	109	33%	216	45.0%	171	40.00%
United States	157	48%	263	55.0%	253	59.25%
Mexico	N/A	N/A	3	0.1%	1	0.25%
Sweden	N/A	N/A	N/A	N/A	1	0.25%
Lithuania	N/A	N/A	N/A	N/A	1	0.25%
Not Specified	61	19%				
TOTAL	327	100%	482	100%	427	100%
Participation By Sector:						
	94		96		98	
	Number of Delegates	Percent	Number of Delegates	Percent	Number of Delegates	Percent
Federal Government	112	34%	123	25.6%	154	36.07%
Prov./State Government	45	14%	74	15.4%	60	14.05%
Municipal Government	5	2%	45	9.2%	19	19.00%
Quasi-Government/IJC	30	9%	44	9.1%	32	7.50%
Industry	32	10%	39	8.1%	30	7.00%
Academia/Research	15	5%	30	6.2%	38	8.90%
Recreation/Wildlife/Conservation/Fishing	4	1%	37	7.6%	18	4.20%
Environmental Groups	13	4%	23	4.8%	20	4.68%
Public Advisory	4	1%	11	2.3%	10	2.34%
Professional Assc./Societies	3	1%	10	2.1%	N/A	N/A
Foundations	2	1%	8	1.7%	N/A	N/A
Native/Aboriginal	4	1%	7	1.5%	10	2.34%
Health	3	1%	4	0.8%	5	1.17%
Media	2	1%	N/A	N/A	4	0.94%
Agriculture	2	1%	3	0.6%		0.47%
Other	4	1%	23	4.8%	25	5.85%
Unknown	47	14%	1	N/A	N/A	N/A
TOTAL	327	100%	482	100%	427	100%

3.0 REVIEW FINDINGS

The following section provides a summary of the review findings. Findings are organized by review themes and issues. Results are based primarily on information collected through the interviews. More detailed information is presented in the Annexes.

3.1 PRIMARY OBJECTIVES OF SOLEC

- *The primary objectives of SOLEC remain relevant, but minor modifications could improve relevancy.*
- *The primary objectives of SOLEC are complementary to EC and EPA's program results.*

Are the four primary objectives still relevant?

SOLEC's primary objectives were approved by the BEC in 1992. The review concluded that these objectives remain relevant. The objectives are fundamentally sound and are relevant to pursue in the context of basin-wide ecosystem planning and monitoring. The majority of the people interviewed felt that the objectives continue to be relevant to the current situation in the Basin. The review of IJC reports found only supportive comments with respect to the continued relevance of SOLEC's primary objectives.

Should SOLEC's objectives be modified to maximize its contribution and if so, what modifications are required?

Notwithstanding the continued relevancy of SOLEC's primary objectives, some modifications might be considered to increase or improve relevancy. A majority of people who participated in the formal interviews were of the opinion that some modifications to the objectives were in order.

Not all respondents made definitive suggestions for modifications. Of those making suggestions, less than half thought that modifications should be made to Objectives 1, 2 and 3. Only a few respondents thought that changes should be made to Objective 4.

Suggestions are provided on an objective by objective basis below.

Objective 1

Provide information on the state of the Great Lakes ecosystem for the purpose of strengthening decision making and management in the Basin.

The quality of the data and its unbiased presentation at SOLEC are of premium value to the conference participants. There is real value in the science of SOLEC. SOLEC is viewed as separate and distinct from some of the value-laden rhetoric and debates that occur in the context of general public discourse about environmental issues within the Basin. A comparison to the IJC biennial meetings was noted by a number of people interviewed. This value could be institutionalized into the conference's primary objectives by explicitly stating that the 'information' be "science-based." This change would also provide an explicit direction and expectation for the outcome of each conference.

A few participants in the review specifically noted that Objective 1 should include some reference to the GLWQA. Others felt that the link to management and decision-making was perhaps overstated, i.e., it is hard for a "conference" format alone to affect behaviour.

Objective 2

Develop support for an integrated system of environmental information to direct plans and programs.

Only a few suggestions were made for revising Objective 2. These centered on the proactive portion of this statement related to the words "to direct." It was felt that this was not being accomplished and that these words might be misleading. It was suggested that the word "assist" might be more appropriate.

A small number of people interviewed noted that this objective was already being addressed at the LaMP level.

A few respondents thought this objective needed to be strengthened by making reference to specific management objectives and/or outcomes, and the development of ecosystem/environmental "trend" data should be explicitly stated.

Objective 3

Provide information on existing Great Lakes strategies and build cooperative actions needed to strengthen and implement them.

Few specific changes were suggested for this objective. While fundamentally relevant, this objective has received very little explicit attention at the conferences. However, many people interviewed acknowledged that this objective was perhaps the most difficult to address. A focus on programs and their impacts may be useful for future conferences.

One respondent suggested, given current institutional arrangements, that this objective needs to be seriously re-examined to determine if SOLEC is the correct mechanism for implementation. Another respondent suggested that the “will” for implementing this objective needs to come from the BEC.

Objective 4

Provide a forum of improved communication and network building within the Basin.

No specific modifications or changes were suggested for increasing the relevancy of Objective 4.

General Comments on Objectives

A few general comments were offered in respect to SOLEC’s primary objectives. The first concerns how SOLEC fits in with other initiatives in the Basin. Many people interviewed during the course of the review indicated that there is considerable confusion, particularly at the local and lake-level, on how SOLEC fits functionally and institutionally with LaMPs and RAPs. It was observed that work at the lake-level will ultimately be required to implement the data collection needed for SOLEC indicators. Indicators are currently being developed through LaMPs largely independent of the SOLEC initiative. The role of SOLEC vis a vis other programs and initiatives in the Basin should be clarified.

The four primary objectives of SOLEC are stated in broad and general terms. There is prescriptive language pertaining to decision making, ecosystem management and program integration. As a consequence, disparate expectations for the conference have been formed by many of the participants and stakeholders throughout the Basin. For some, SOLEC is perceived largely as an information provider. It is the only dedicated avenue currently available for the provision, review and dissemination of basin-wide scientific data on the state of the Basin ecosystem. It is viewed as a “tool” and a “forum” and it is left to the discretion of the participants to use this tool in their work once they leave the

conference. Others expect SOLEC to be more than an information and data provider. For these individuals, SOLEC is viewed as the main vehicle for the coordination and reporting on binational activities in surveillance and monitoring for the Basin. In the absence of discrete and measurable objectives and outcomes for the conference and its products, there will continue to be differing viewpoints among conference participants and others as to the relevance, success and effectiveness of SOLEC.

Do the objectives complement the Parties' (EC's and EPA's) program results?

SSC and BEC respondents indicated that the four primary broad objectives of SOLEC complement the program results of US EPA and Environment Canada. Only one person interviewed from these groups did not think that SOLEC's objectives were complementary.

SSC and BEC respondents were also asked to comment on the degree to which SOLEC fulfilled reporting requirements under the Great Lakes Water Quality Agreement. It was acknowledged by almost all respondents that SOLEC was never intended to be a single vehicle to address all of the reporting requirements of the Parties under the Agreement. When all of the requirements of all of the annexes to the GLWQA are considered, it is difficult for a single reporting mechanism to satisfy them completely.

The conferences have, by design, not particularly focused on program elements. Many respondents saw this as the most significant gap with respect to GLWQA reporting. Non SSC and BEC members interviewed during the review also observed this. This is a future direction currently under strategic consideration and development by the SSC. Incorporation of a focus on program reporting at future events will address a deficiency noted frequently throughout the review.

3.2 EFFECTIVENESS OF SOLEC

- ***SOLEC 94, 96, and 98 have been successful in meeting their respective objectives.***
- ***SOLEC has evolved to meet changing priorities.***
- ***Some organizations are using information from SOLEC in planning and priority setting. However, SOLEC would be more useful to organizations if effectiveness was increased.***
- ***SOLEC could be more effective if it was more closely linked to Great Lakes programs, including planning, information sharing, data collection, and communication.***
- ***Some sectors are under-represented at SOLEC.***

Did SOLEC 94, 96 and 98 meet their objectives and did these objectives support SOLEC's primary objectives?

The conference-specific objectives for each event were:

SOLEC 94: to assess the state of the Lakes against a set of broad-based ad hoc indicators;

SOLEC 96: to determine the state of the nearshore ecosystem and the human impacts on it;

SOLEC 98: to begin the process of establishing a comprehensive and easily understood suite of indicators that will represent the state of major ecosystem components across the whole Great Lakes basin.

Individual conferences have done a good job of meeting their objectives. Participants interviewed from each of the three conferences, including non-returning participants, almost unanimously reported that the conferences met the objectives set.

Additional respondent perspectives on the merits of individual conferences are presented in Annex II.

Non-returning participants generally perceived SOLEC to be a well-organized event. They indicated that it had been held in accessible locations, and that environmental data of sufficient quantity and quality had been presented. No one from this group stated that any aspect of conference organization, content, or format had influenced their decisions to not attend subsequent SOLECs.

Has SOLEC had an impact on decision-makers such as agencies and industry?

The majority of respondents interviewed indicated they felt that SOLEC had impacted their organization. For example, some agency and industry representatives indicated that they are using SOLEC information in their planning and priority setting.

The conferences have not systematically addressed program impacts or evaluation. There is currently no mechanism in place to assess the degree to which SOLEC is impacting decision making and priority setting. The modus operandi of the conference format has been to provide information, and to encourage discussion and networking. Program modifications are left to individuals and agencies to pursue independently. A focus on agency responses and planning during break out sessions, including, recommendations for action and follow-up, would assist in addressing this issue.

Has SOLEC evolved to meet changing priorities?

SOLEC (and the SSC in particular) has been successful at adapting the conference programming and agenda in response to changing environmental and ecosystem priorities in the Basin.

The SSC has been effective in focusing the themes of each conference. SOLEC 94 concentrated largely on the open water ecosystem where the most reliable trend data was available at the time. SOLEC 96 brought an appreciation of the nearshore zone and the human impacts (including land use and socioeconomic considerations). The SSC has also been very successful at integrating emerging issues into the conference in a scientific and credible manner. Examples of these issues include, exotic species, land use impacts and Biodiversity Investment Areas (BIA).

Are changes required to maximize SOLEC's effectiveness and if so what changes are required?

The review of effectiveness is divided into three areas: primary objectives, stakeholder engagement, and conference process and outcomes.

Primary Objectives

The review found SOLEC's primary objectives to still be largely relevant since their inception in 1992 (see Section 3.1). The review also focused on trying to ascertain the effectiveness of SOLEC in achieving these objectives.

Taken collectively, the four primary objectives have been achieved to some degree. The majority of people interviewed during the review support this statement. Less than a quarter of those interviewed felt that the objectives had not been achieved. The Great Lakes Science Advisory Board questioned the degree to which SOLEC is

There is ambiguity in the role of SOLEC within the broad context of Great Lakes programs and initiatives. There is a perceived lack of coordination and integration between SOLEC and LaMPs in particular. This ambiguity is equally apparent in Canada and the US. While LaMPs focus on lake specific initiatives, there nonetheless appear to be considerable overlap between basic categories of activities with SOLEC. The LaMPs are developing lake wide management plans. Although at different stages of completion, lake wide plans are based on a set of measurable ecosystem objectives and associated indicators designed to quantitatively measure the progress toward achieving specific objectives. A parallel indicators exercise has been initiated by the IJC. SOLEC's role, particularly in relation to LaMPs and other indicator projects in the Basin, needs to be clarified. Increasing the amount of dialogue and input from the LaMPs and in pre-conference planning should be encouraged.

A major success of SOLEC has been its role as an integrator and provider of quality scientific data. An examination of the primary objectives suggests that SOLEC should be doing more than this. During a number of the interviews it was noted that there did not appear to be much continuity between conferences. Participants were left with a "so what" feeling at the end of the event. Integration of reporting on government programs would help to set the information provided in the context of ecosystem management actions and priorities. Similarly, the production of action items and recommendations for follow-up at the end of the conference would help provide a focus and continuity between events.

A clear theme in the above comments is that respondents are looking to SOLEC to take a stronger stance in addressing program issues. Integrating and coordinating the data and the process of SOLEC with monitoring and surveillance programs in the Basin would contribute to this. The literature review revealed a similar opinion coming from the IJC's Science Advisory Board in 1996.

Several respondents also commented on the role of BEC with respect to SOLEC. It was perceived that BEC, as the primary binational institution for the Parties to discuss coordination and integration of Great Lakes programs, should take a more active role in priority setting for SOLEC.

The non-returning participants group echoed some of general observations noted above. Half of the non-returning group respondents perceived a lack of connectivity between the data presented at SOLEC and policy/program planning and impacts. Others want to see more strategic direction or change arising from SOLEC. These people feel that "next steps" are missing at the end of each conference. The conference is perceived to be only "information out" with no obvious strategizing and little integration for the future.

The value of SOLEC as a communication vehicle should not be underestimated and should be exploited. However, a strategic vision of how SOLEC fits into the broader

context of Great Lakes management, decision making and priority setting is missing and should be developed.

3.3 SOLEC'S PROGRAM MANAGEMENT

- ***The planning and execution of SOLEC events are successful, including the provision of clear guidance to the authors of papers and presenters***
- ***The SOLEC Steering Committee is seen as effectively managing the organization and delivery of the conference***
- ***BEC may want to consider a more active role in setting direction for SOLEC***

Does SOLEC engage program management/staff effectively?

SOLEC delivers high quality, peer reviewed information in a professional manner. A significant amount of time, energy and resources go into producing the papers, preparing and rehearsing presentations and finalizing the documents following the conference input. The successful integration and production of this material requires the effort and cooperation of many individuals and organizations. The level of effort expended by any one organization or individual varies considerably from one conference to the next, recognizing that the federal governments carry the bulk of the workload. Involvement ranged from personal time and effort to direction of significant organizational staff resources. Activities included the preparation of background papers and documents, as well as conference organization and general administration in addition to SSC and BEC responsibilities.

The review examined the allocation of staff and other resources to SOLEC and whether or not value was being achieved from these resource commitments. A strong majority of individuals involved in preparing papers or managing staff resources for SOLEC tasks believed that value was being achieved relative to level of involvement. There were, however, a variety of reactions to the question. Some respondents perceived little sustained impact and benefit following the conference. Others felt that staff time and effort, although significant relative to competing interests, were well directed and the products and process were easily justified.

Is clear guidance and direction given to presenters and participants involved in the conferences?

SOLEC does a very good job of providing paper presenters and conference attendees with clear guidelines, direction and expectations for their participation. Paper presenters are required to rehearse presentations with conference organizers. People interviewed during the review consistently gave high ratings and praise to the planning and execution of the events.

successfully reporting on the state of the lakes ecosystem while it was praised in the Eighth IJC biennial report (see Annex III).

Respondents were asked to rate the degree to which they felt that each individual SOLEC objective was being achieved. Objectives 1 and 4 received high achievement ratings. Objective 4 received the highest overall rating. Objectives 2 and 3 were less favorably rated. Up to one third of respondents rated these objectives as not being achieved. Similar trends were reported in the delegates' survey from SOLEC 98 (Young and Stadler-Salt, 1999).

In summary, SOLEC appears to do a particularly good job of providing information and being a forum for communication and networking. It is less effective at generating support for integration of information for program planning, and not very effective at reporting on how management should adjust existing programs and strategies.

Stakeholder Engagement

The size of the conference appears to be optimal. Fewer attendees would not provide the necessary cross-section of stakeholders and many more would make the organization of the working sessions difficult or unmanageable. The stated target audience goal for the conference is "to reach a large audience of people in all levels of government, corporate, and not-for-profit sectors who make decisions that affect the lakes" (Bertram and Stadler-Salt, 1999). Many respondents praised SOLEC organizers for their attempts at getting a broad cross-section of participants to attend.

Organizational demands and logistics of a breakout session format reinforce the importance of controlling, to some degree, conference attendance. The "by invitation only" attribute is not seen as limiting broad participation. The invitation list for each conference is quite extensive (i.e., in the order of a few thousand people). Given the target audience, attendance was not perceived as being overly exclusive.

As noted in Section 2.5, participation the conference is dominated by federal government representatives and less so by provincial and state government representatives. Stakeholders perceived as being generally under represented at the conferences included local/municipal representatives, Tribes and First Nations, and industry. While the participation of some of these groups has increased at specific conferences, it was generally felt that they were under represented.

A limiting factor for some stakeholders (not-for-profit organizations and some municipalities) may be the travel costs associated with attending the conference. The effectiveness of engaging some of these stakeholders would likely increase if provision was made from a special fund to cover a portion of their travel expenses.

The “public” was identified by BEC in 1992 as one of the stakeholders to be engaged at the conference. If the public is defined as the average citizen within the Basin, rather than as being represented by not-for-profit organizations or municipal sector representatives, clearly this group is not effectively represented. One way to more effectively engage the general public in SOLEC is via the news media. Consideration should be given to strategically increasing the media coverage of the event (e.g., through press releases, a designated press room area at the conference, targeting media science and environment reporters, and/or coverage and broadcast by a Canadian Public Affairs Channel (CPAC) crew or a specialty channel). In addition, each SOLEC could develop a communications plan or strategy.

The review did not find any compelling evidence to suggest that SOLEC should become an open forum. This function and opportunity is largely available through the IJC biennial meetings and other avenues. SOLEC is as a science-based working meeting on the Great Lakes basin ecosystem. Participants are provided with materials in advance and are expected to review the material and come to the event to undertake constructive work during the breakout sessions. Ensuring that participants receive background materials well in advance of the conference to allow for adequate review could enhance the effectiveness of the event.

The degree to which the conference is reaching the target audience was identified as an issue during the review. The concern was that the conference is not reaching the high level managers and decision-makers in government who actually have “influence” over programs and priorities. Concern was also expressed that there is a need to be more effective in reaching the local level (e.g., municipal/regional and industrial) decision-makers. These groups have extensive involvement with, and influence on specific actions that affect the Great Lakes Basin ecosystem (e.g., sewage systems, industrial discharge, land use planning, shoreline development, etc.). These two groups are included in the SOLEC invitation list, but are not perceived as being well represented at the conference. In order to increase their participation, these groups should be targeted using a more proactive approach.

Conference Process and Outcomes

During the course of the review, input was sought regarding suggested changes or modifications to SOLEC that would assist in making the process and outcome more relevant and useful to Great Lakes ecosystem management.

The primary focus of SOLEC is now on the development of indicators for tracking and reporting on the state of the ecosystem across the Basin. Every two years, trends in these indicators would be reported on at SOLEC. During the course of the review it was suggested that a two-year reporting horizon would not be long enough to measure reportable changes in most parameters at the basin scale. An alternative put forward for consideration was to maintain the two year cycle but focus reporting on individual lakes and connecting channels.

Non-returning participants indicated that nothing related to conference management or implementation had influenced their decisions to not attend events.

Is BEC or the Co-chairs effectively involved in the key decision-making?

SSC Co-Chairs are considered quite effective in SOLEC management and decision-making. Key decisions about SOLEC appear to be made largely within the SSC structure with reporting back to BEC. Several people interviewed suggested that BEC is not very active in providing direction or prioritization to SOLEC planning. These respondents suggested that BEC needs to exert a stronger presence in SOLEC planning. This participation is seen as essential to achieve greater integration with basin programs and to strengthen effectiveness reporting under the GLWQA. It was also suggested that effort is needed to address issues of coordination and implementation effectiveness, and that it would be useful for BEC to take a more active role in doing so.

Are changes required to maximize SOLEC's efficiency and if so what changes are required?

With a membership of over thirty people, the SSC membership is considered to be very large. However, this was acknowledged as necessary to ensure that there would be proper opportunity for representation of a diverse range of stakeholders. Despite its size, the SSC appears to function quite efficiently. A core group of 6-8 people led by the SSC Co-Chairs assume the majority of the tasks. This is a manageable number for implementing the conference program and coordinating the logistics of each event.

SOLEC is generally viewed as being efficiently run. The organization of individual conferences received praise from the majority of people interviewed. The production of the daily conference newsletter was noted as being extremely valuable. The "by invitation only" format of the conference was seen as positive and necessary to keep the conference focused on science-based issues.

SOLEC administers conference specific evaluation questionnaires to delegates, to which the response rate is very low. For example, only 32 people completed the general SOLEC 98 Delegates Survey (Young and Stadler-Salt, 1999). This type of survey can be a useful and cost-effective method of measuring program performance, including input to planning and direction setting for future events. More efficient mechanisms are needed for increasing the response rate of this survey. Some ideas include: devoting a small portion of the conference to completing the survey, revising the format of the questionnaire, or distributing it via electronic mail to SOLEC participants.

The review asked people to put forward suggestions that might help improve the delivery of the next SOLEC. Many participants in the review did not have specific

suggestions for improving future events due to their high degree of satisfaction with the status quo. The suggestions put forth can be grouped as conference duration, breakout sessions and conference structure.

Conference Duration

Both ends of the spectrum are represented in suggestions concerning the length of the conference. Some feel that the event is too drawn out and could be shortened. The final day of the conference was singled out as being the least productive. The converse opinion is that the conference should be lengthened. This group of people indicated that the current format and duration does not allow enough time to adequately explore the complex nature of many of the issues that are tabled, particularly during the breakout sessions. The time issues are twofold. In some instances, it is felt that too much time is spent in the break-out session bring people up to a common level of understanding of the topic. When this occurs, there is not enough time left to tackle more substantive issues. Conversely, some people expressed frustration at break out sessions where an excessive amount of time is sometimes spent on minute details. This precluded a broader discussion of the issues.

Break-out Sessions

Breaks out session are generally viewed as being run efficiently. During the review, a few people did express some frustration at individual breakout sessions they had attended. Items that caused frustration included situations where the facilitators did not have a sufficient command of the topic area to effectively moderate the session for the benefit of all interests present. In other instances it was felt that the facilitator was so familiar with the session theme that he/she did not effectively represent alternative views in the summary reporting.

Conference Structure

Networking and informed information exchange is one of the significant benefits of the conferences according to a strong majority of people interviewed. However a few people felt that the conference was excessively structured. Not enough free/social time was prepared to be built into the schedule to encourage spontaneous interaction with colleagues. For these people, SOLEC is the one time where they get to know and interact with people from different parts of the Basin working on similar issues. Spontaneous and social interaction is seen, as equally valuable in exchanging information and ideas as are the structured sessions and event.

When asked if they would consider attending a future SOLEC, the majority of the non-returning participants interviewed said they would. Most of the respondents in this group viewed the conference as an excellent binational summary of activities in the Basin. SOLEC is viewed as a good venue for exposure to new issues such as climate change and ecosystem impacts. It was rated as doing a good job of "catalyzing" basin-

wide issues and providing a forum for the dissemination of research results and for networking opportunities among a fairly broad base of stakeholder interest.



4.0 RECOMMENDATIONS

Based on the results of the review the following recommendations are presented for consideration by the Binational Executive Committee and the SOLEC Steering Committee.

1. SSC and/or BEC should develop a strategic plan or vision for SOLEC. This vision should:
 - review the primary objectives of SOLEC;
 - clarify the role and expectations of SOLEC (and indicators development) with respect to other initiatives and programs in the Basin, particularly LaMPs;
 - lay out the expected outcomes or goals for SOLEC with respect to the Great Lakes Water Quality Agreement reporting requirements; and
 - develop a framework for planning future conferences to ensure that conference objectives and tangible outcomes are linked to the vision.
2. An effort should be made to increase the relative number of representatives from certain sectors at future SOLEC events. Groups such as Aboriginal groups, non-governmental environmental organizations, and municipal/regional governments could be reimbursed for a portion of their travel expenses. A more proactive approach to gaining participation from high-level decision makers, particularly those at the local level would also be beneficial.

Raising the profile of SOLEC through media coverage would assist in attracting participants. In addition, it would help to engage and inform the general public. This could be accomplished through the development of a communications strategy or plan for each conference, and through press releases, a designated press room area at the conference, targeting media science and environment reporters, and/or coverage and broadcast by a Canadian Public Affairs Channel (CPAC) crew or a specialty channel.

3. The degree to which SOLEC influences decision-making is unclear. Thus, results in terms of Great Lakes benefits are difficult to identify. A cost-effective initiative in this regard could be a more extensive survey of conference participants. This could be incorporated into a revised delegate survey at the next event.

In addition, the production of action items and recommendations for follow-up at the end of each conference would assist in addressing and influencing program issues.

4. The administration process for conference-specific questionnaires should be modified so that information on SOLEC can be collected more effectively on a

conference-by-conference basis. This could be accomplished by devoting a small portion of the conference to completing the survey, revising the format of the questionnaire, or distributing it via electronic mail to SOLEC participants.



5.0 REFERENCES

Environment Canada and US EPA, 1998. SOLEC: The State of the Lakes Ecosystem Conference. <http://www.cciw.ca/solec/what-is.html>

Swerhun, Nicole and The LURA Group. 1997. State of the Lakes Ecosystem Conference 1996 Conference Proceedings. Report prepared for the SOLEC 98 Steering Committee.

Young, Maggie and Nancy Stadler-Salt. 1999. State of the Lakes Ecosystem Conference 1998: Conference Proceedings. Report prepared for the SOLEC 98 Steering Committee.

Completed versions of all SOLEC papers, presentations, proceedings and other reports are available on the Internet at <http://www.cciw.ca/solec/intro.html> or www.epa.gov/glnpo/solec.

List of Acronyms Used in the Report

SSC	SOLEC Steering Committee
BEC	Binational Executive Committee
SOLEC	State of the Lakes Ecosystem Conference
GLWQA	Great Lakes Water Quality Agreement
IJC	International Joint Commission
RAP	Remedial Action Plan
LaMP	Lakewide Management Plan

ANNEX I

REVIEW OF THE STATE OF THE LAKES ECOSYSTEM CONFERENCE

REVIEW TERMS OF REFERENCE

SOLEC REVIEW PLAN

Background

The State of the Lakes Ecosystem Conferences (SOLEC) are hosted by the U. S. Environmental Protection Agency (EPA) and Environment Canada (EC) on behalf of the two Countries. These conferences are held every two years in response to one reporting requirement of the binational Great Lakes Water Quality Agreement. The conferences are intended to report on the state of the Great Lakes and to integrate scientific information on a basin wide scale. One major purpose is to reach a large audience of people in the government (at all levels), corporate and not-for-profit sectors who make decisions that affect the Lakes.

Objectives of the Review

The objectives of the Review are 1) to determine the degree that SOLEC is achieving the expected results and 2) to confirm its future direction.

SOLEC Primary Objectives

1. Provide information on the state of the Great lakes ecosystem for the purpose of strengthening decision making and management in the Basin.
2. Develop support for an integrated system of environmental information to direct plans and programs.
3. Provide information on existing Great Lakes strategies and build cooperative actions needed to strengthen and implement them.
4. Provide a forum of improved communication and network building within the Basin.

(BEC, June 1992)

Scope/Issues

- SOLEC's Primary Objectives
 1. Are the four primary objectives still relevant?
 2. Do the objectives complement the Parties' (EC's and EPA's program results?

3. Should SOLEC's objectives be modified to maximize its contribution and if so, what modifications are required?
- SOLEC's Effectiveness
 4. Did SOLEC 94 meet its objective of assessing the state of the Lakes against a set of broad based ad hoc indicators and did this objective support SOLEC's primary objectives?
 5. Did SOLEC 96 meet its objective of determining the state of the nearshore ecosystem and the human impacts on it and did this objective support SOLEC's primary objectives?
 6. Did SOLEC 98 meet its objective to begin the process of establishing a comprehensive, easily understood suite of indicators that will represent the state of major ecosystem components across the whole Great Lakes basin and did this objective support SOLEC's primary objectives?
 7. Has SOLEC had an impact on decision-makers such as agencies and industry?
 8. Has SOLEC evolved to meet changing priorities?
 9. Are changes required to maximize SOLEC's effectiveness and if so what changes are required?
 - SOLEC's Program Management (EC and EPA management/staff)
 10. Does SOLEC engage program management/staff effectively?
 11. Is clear guidance and direction given to presenters and participants involved in the conferences?
 12. Is BEC or the co-chairs effectively involved in the key decision making?
 13. Are changes required to maximize SOLEC's efficiency and if so what changes are required?

Timetable

The Review is to be completed by June, 1999. The contractors portion should be completed by May, 1999.

Approach

- Interviews: BEC representatives, key clients, Government officials, decision-makers.
- Analysis of conference review sheets.
- Examination of papers produced.

Report Distribution

- BEC members

Estimated Cost

- \$20K Cdn