



RECEIVED OCT 28 1992

SM

ATLANTIC STATES LEGAL FOUNDATION, INC.

October 21, 1992

Dear Friend of Lake Ontario:

Next month in Buffalo, New York the Bi-National Ecosystem Objectives Work Group Subcommittee on Lake Ontario Stewardship Indicators will hold a public workshop. The workshop is for review and critique of draft reports that describe and interpret four stewardship indicators.

Under a grant agreement from the United States Environmental Protection Agency, this office is handling preparations for the workshop that will be held on November 19, 1992 at the Raddison Hotel (4243 Genesee Street) near the Buffalo Airport. Due to the tight time constraints we have concentrated on extending invitations to the workshop via telephone rather than by surface mail. Thus someone from this office may have spoken to you already about the workshop and asked you to participate. If this letter is the first word you have received about the workshop, please consider it your personal invitation to join us for the workshop.

It is not necessary that you have special technical expertise to participate in the workshop. Rather, it is more important that you have an interest in the Lake and some general sense of the problems and challenges faced by Canada and the United States in providing responsible stewardship for Lake Ontario. The workshop will be limited to approximately forty (40) participants.

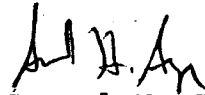
The Indicators Subcommittee will also hold a meeting on Friday morning (November 20) at the Raddison to revise the indicator reports based upon the input from the previous day and to plan for the development of additional indicators. If you would like to join the subcommittee for that meeting, please indicate that on the enclosed form.

Please consider joining us for this important workshop. Funding is available to cover reasonable transportation costs as well as meals for the day. If you will need overnight accommodations please let us know. By completing and returning (preferably by FAX at 315-475-6719) the enclosed registration form, we will register you for the workshop and will send you the draft reports on the four indicators that will be reviewed at the workshop.

If you have questions about the workshop, please feel free to call me at 315 475-1170.

Thank you for your interest.

Sincerely,

A handwritten signature in dark ink, appearing to read 'S. H. Sage', is written over the printed name.

Samuel H. Sage
President

enclosures

TENTATIVE AGENDA
Public Workshop on Lake Ontario Stewardship Indicators
November 19, 1992

Registration	8:00 a.m.-10:00 a.m.
Coffee and Danish	9:00 a.m.-10:00 a.m.
Introduction	10:00 a.m.-10:10 a.m.
Overview of WQA and LAMP	10:10 a.m.-10:25 a.m.
Ecosystem Objectives & Indicators	10:25 a.m.-10:40 a.m.
Update on Other Subcommittees	10:40 a.m.-11:00 a.m.
Stewardship - General Overview	11:00 a.m.-11:15 a.m.
BREAK	11:15 a.m.-11:30 a.m.
Overview of Indicators:	11:30 a.m.-Noon
-Toxicant Use in Manufacturing	
-Access to Decision-Making	
-Citizen Environmental Activity	
-Corporate Volunteerism	
-Public Perception	
-Other Indicators	
General Discussion of Indicators	Noon - 12:30 p.m.
LUNCH	12:30 p.m.-1:45 p.m.
Objectives/Questions/Future Directions	1:45 p.m.-3:00 p.m.
Breakout Sessions (to work on Indicator of choice)	3:00 p.m.-5:00 p.m.
RECEPTION	5:00 p.m.-6:00 p.m.
Working Dinner & Adjournment (continuation of work on specific indicators and other indicators)	6:00 p.m.-8:00 p.m.

FRIDAY-NOVEMBER 20TH

Committee and others to work on revisions/format/future work	9:00 a.m.-Noon
---	----------------

REGISTRATION FORM
for the
Public Workshop on Lake Ontario Stewardship Indicators

November 19, 1992

Raddison Hotel at the Buffalo Airport
4243 Genesee Street
Buffalo, New York 14225
716-634-2300

Yes! Please register me for the Lake Ontario Stewardship Indicators workshop in Buffalo, New York on November 19, 1992.

NAME: _____

AFFILIATION _____

ADDRESS _____

TELEPHONE _____

FAX _____

Estimated Travel Costs: _____

I will be traveling via:

Car _____ Train _____ Plane _____ Other _____

Overnight accommodations needed? Yes _____ No _____

Do you plan to stay for the Friday morning (November 20th) meeting of the Subcommittee? Yes _____ No _____

Please return this form (by mail or FAX) to:

Atlantic States Legal Foundation
658 West Onondaga Street
Syracuse, New York 13204
FAX: 315-475-6719

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: OCT 5 1992

SUBJECT: EOWG Stewardship Indicator Subcommittee, Developments & Meeting

FROM: Joel O'Connor *Joel O'Connor*

TO: Subcommittee Membership

On September 16th I presented a briefing on our L. Ontario stewardship indicators to management of EPA Region II's Water Management Division. Two major concerns were expressed. It is important for authors of the indicators to understand WMD management concerns, and act on the concerns before our public presentations.

The principal concern expressed was how each indicator would influence or enable some action by one of the "Four Parties": EC, Ontario MOE, U.S. EPA and NYS DEC. WMD management emphasized that each indicator must influence (1) implementation of the Lake Ontario Toxics Management Plan, (2) the developing Lakewide Management Plan (LAMP), or (3) an action of one of the Four Parties. With two exceptions, my brief presentations of the indicators did not convince WMD management of their utility (because the remaining indicators' influences on agency actions were not clear enough).

It was also emphasized that the indicators must truly deal with stewardship issues. The linkage to stewardship must be clear.

As I have emphasized, documentation of the indicators should be aimed at the informed public. I believe the Subcommittee gained consensus on this, and I see no reason to alter this public focus. Obviously, however, we should also be very attentive to perceived agency needs. So, I urge all stewardship indicator authors to specify clearly and specifically how their indicators could influence actions of one or more of the Four Parties, as noted above. Also, indicator descriptions should be clear as to the stewardship issues addressed. These specific but succinct statements must be included in indicator descriptions well in advance of our November 20-21 Workshop. Consider, in your statements of influence on agency actions, linking your indicator to the strong pollution prevention and sustainable development initiatives of the Four Parties.

I will need full descriptions of each indicator, including the above-mentioned "action influencing" statements, by the end of October. If you have any questions about this important issue, please call me at 212-264-5356 (Fax 212-264-4690).

Please prepare for our next Subcommittee meeting, October 14 at the Atlantic States Legal Foundation, 658 W. Onondoga St., Syracuse (Tel: 315-475-1170).

cc: Paul Bertram, GLNPO
Trefor Reynoldson, CCIW
Susan Bloss, EPA, Niagara Falls

SM

RECEIVED OCT 30 1992

**ATLANTIC STATES
LEGAL FOUNDATION, INC.**

October 21, 1992

Dear Friend of Lake Ontario:

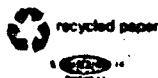
Next month in Buffalo, New York the Bi-National Ecosystem Objectives Work Group Subcommittee on Lake Ontario Stewardship Indicators will hold a public workshop. The workshop is for review and critique of draft reports that describe and interpret four stewardship indicators.

Under a grant agreement from the United States Environmental Protection Agency, this office is handling preparations for the workshop that will be held on November 19, 1992 at the Raddison Hotel (4243 Genesee Street) near the Buffalo Airport. Due to the tight time constraints we have concentrated on extending invitations to the workshop via telephone rather than by surface mail. Thus someone from this office may have spoken to you already about the workshop and asked you to participate. If this letter is the first word you have received about the workshop, please consider it your personal invitation to join us for the workshop.

It is not necessary that you have special technical expertise to participate in the workshop. Rather, it is more important that you have an interest in the Lake and some general sense of the problems and challenges faced by Canada and the United States in providing responsible stewardship for Lake Ontario. The workshop will be limited to approximately forty (40) participants.

The Indicators Subcommittee will also hold a meeting on Friday morning (November 20) at the Raddison to revise the indicator reports based upon the input from the previous day and to plan for the development of additional indicators. If you would like to join the subcommittee for that meeting, please indicate that on the enclosed form.

658 West Onondaga Street, Syracuse, New York 13204-3757 315-475-1170 FAX 315-475-6719

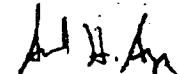


Please consider joining us for this important workshop. Funding is available to cover reasonable transportation costs as well as meals for the day. If you will need overnight accommodations please let us know. By completing and returning (preferably by FAX at 315-475-6719) the enclosed registration form, we will register you for the workshop and will send you the draft reports on the four indicators that will be reviewed at the workshop.

If you have questions about the workshop, please feel free to call me at 315 475-1170.

Thank you for your interest.

Sincerely,



Samuel H. Sage
President

enclosures

REGISTRATION FORM
for the
Public Workshop on Lake Ontario Stewardship Indicators

November 19, 1992

Raddison Hotel at the Buffalo Airport
4243 Genesee Street
Buffalo, New York 14225
716-634-2300

Yes! Please register me for the Lake Ontario Stewardship Indicators workshop in Buffalo, New York on November 19, 1992.

NAME: _____

AFFILIATION _____

ADDRESS _____

TELEPHONE _____

FAX _____

Estimated Travel Costs: _____

I will be traveling via:

Car _____ Train _____ Plane _____ Other _____

Overnight accommodations needed? Yes _____ No _____

Do you plan to stay for the Friday morning (November 20th) meeting of the Subcommittee? Yes _____ No _____

TENTATIVE AGENDA
Public Workshop on Lake Ontario Stewardship Indicators
November 19-20, 1992

Registration	8:00 a.m.-10:00 a.m.
Coffee and Danish	9:00 a.m.-10:00 a.m.
Introduction	10:00 a.m.-10:10 a.m.
Overview of WQA and LAMP	10:10 a.m.-10:25 a.m.
Ecosystem Objectives & Indicators	10:25 a.m.-10:40 a.m.
Update on Other Subcommittees	10:40 a.m.-11:00 a.m.
Stewardship - General Overview	11:00 a.m.-11:15 a.m.
BREAK	11:15 a.m.-11:30 a.m.
Overview of Indicators:	11:30 a.m.-Noon
-Economic Enhancement	
-Government Access	
-Water Flux	
-Population Density	
-Other Indicators	
General Discussion of Indicators	Noon - 12:30 p.m.
LUNCH	12:30 p.m.-1:45 p.m.
Objectives/Questions/Future Directions	1:45 p.m.-3:00 p.m.
Four Breakout Sessions (to work on Indicator of choice)	3:00 p.m.-5:00 p.m.
RECEPTION	5:00 p.m.-6:00 p.m.
Working Dinner & Adjournment (continuation of work on specific indicators and other indicators)	6:00 p.m.-8:00 p.m.

FRIDAY-NOVEMBER 20TH

Committee and others to work on revisions/format/future work	9:00 a.m.-Noon
---	----------------



ecology and environment, inc.

BUFFALO CORPORATE CENTER

368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

International Specialists in the Environment

SM
NOV 12 1992

MEMORANDUM

TO: All Subcommittee Members

FROM: Susan Bloss *SLB*

DATE: 11/05/92

SUBJECT: October 14, 1992 Draft Stewardship Indicator Subcommittee Meeting Minutes

Enclosed are the draft minutes from the October 14, 1992 Stewardship Subcommittee meeting. Please note that the next subcommittee meeting is Friday, November 20, 1992, at the Radisson Hotel, Genessee Street, directly across the street from the Buffalo Airport.

Please bring your comments to the next meeting.

MEETING SUMMARY

EOWG Stewardship Indicators Technical Subcommittee

Atlantic States Legal Foundation
Syracuse, New York
October 14, 1992

Participants: Joel O'Connor, Steven Kulick, Susan Mihayli, Sam Sage, Lester Milbrath

Public Comment Workshop:

A draft agenda for the workshop was distributed (see attached). The agenda was modified slightly:

Overview of two indicators	11:30 a.m.-12:30 p.m.
Lunch	12:30 p.m.-1:30 p.m.
Overview of remaining two indicators	1:30 p.m.-2:30 p.m.
Objectives/Questions/Future Directions	2:30 p.m.-3:00 p.m.

Suggestions for invitees included:

Senator John Sheffer, Hank Nowak, Bill Hoyt's son (who has assumed his duties), John Westendorf, a representative from the Center for Environmental Education, Bill Bross, Bonnie Soley, the Great Lakes staff person from the League of Women Voters, Ron _____, Ken Sherman, Barry Boyer, a representative from Great Lakes United, Maragaret Wooster, Neil Schmidt, Jo Anne Elsworth, Fran Ettinger, and the Eagle Project Director, Ms. Caldwell.

Anyone with additional suggested invitees should provide that information to Sam Sage.

Paul Bertram and Trefor Reynolds have indicated that they are willing to attend the workshop. Joel will contact them to request that they provide an overview of EOWG, and he will contact Charlie Zafonte and Griff Sherbin to request an overview of the Lakewide Management Plan (LAMP).

Possible items to for a pre-workshop mailing include drafts of the indicators, a summary of ecosystem objectives materials, and possibly summary materials on the Lake Ontario and Niagara River Toxics Management Plans.

A new title for the workshop has been suggested. The title will be:

Lake Ontario Stewardship Indicators Feedback Workshop.

New Membership:

There has been tremendous flux in the Subcommittee's membership and there is a need to fill openings that now exist. Rosemary O'Leary, a professor at the Maxwell School in Syracuse, has been suggested as possible member. Anyone with new member suggestions should provide that information to Joel.

Discussion of Indicator Descriptions for Feedback Workshop:

Louise Knox - Access to Decision Making

While Louise could not be in attendance for the meeting, she is planning on presenting this indicator at the workshop. Ideally, perceived access will be measured in the public survey and this indicator will measure frequency and quality of access. There is still a question as to whether the indicator will measure access as initiated by the public or by the agencies. There is also a question as to how the indicator will account for an increase in access due to crisis management.

"Frequency of Public Involvement" and "Frequency of Interaction Among Agencies " were suggested as an alternate titles, but others remarked that frequency does not imply quality, and it is more important to measure efficacy of access.

A concern exists that because the indicators are not traditional "measurements," the information they provide may be ignored or minimized by decision makers who are looking for hard numbers that do not involve inference. To maximize utility, it will be important for this indicator (as well as the others) to reduce the length of inference, have a clear endpoint, and some indication of the expected scale.

An early draft of this indicator stressed interaction between sectors rather than access. The Water Management Division (WMD) has expressed its desire for an indicator that will provide information to influence agency actions.

These concerns will be transmitted to Louise.

Sally Lerner - Citizen Activity on Great Lakes Basin Issues

Again, this is an indicator that needs to be re-examined in light of the WMD's request for guidance on decision making. Early drafts do not flow as smoothly as needed to for presentation at the workshop, and there are still some questions regarding definitions that require attention. Sally will be returning to Canada on October 18, 1992 and Joel will work with her to finalize the presentation.

Joel O'Connor - Toxicant Use In Manufacturing

There is concern that this indicator will not measure stewardship unless there is an effort to distinguish activities carried out by legislative requirement from those that are voluntary

efforts on the part of industry. The release of toxics is the result of combined behaviors. A reduction in toxics release might simply mean that industries have shifted production and are now polluting Mexico.

The scale of the indicator is the total amount of toxicants used in manufacturing.

George Werezek - Corporate Volunteerism

The indicator would measure an increase in voluntary waste management. Questions that need to be considered include:

Are reduction programs in place?

Which materials are being reduced?

By how much?

Which groups of manufacturers will be captured by the indicator?

Sam Sage - Water Flux Indicator

Several aspects of this indicator remain in question. Comments included:

The possibility of letting the COE handle the question of water flux since they collect water level information.

A concern that consumption, not water level, is the important information to gather, and this could be acquired from water intake facilities. Sam replied that such information would not be accurate since older infrastructure, like Syracuse's, loses much of the water before it reaches consumers.

Joel O'Connor suggested that the goal of the indicator should be to inform the public of the consequences of plans to divert water. Education may be valuable to counteract superficially attractive appeals to divert water and use compensation for lake cleanup.

After discussion, the Subcommittee decided to not develop this indicator further.

Lester Milbrath/Jennifer Rae - Public Perception Survey

Lester and Jennifer met with Janet Hatcher Roberts and Barbara Knuth to discuss the proposed survey. Minutes of this meeting are included. Barbara and her Cornell facility will take over responsibility for performing and justifying the survey. She will assume Lester's position on the Subcommittee and make the presentation at the workshop. With good design, the survey could yield a lot of useful data and easily generate information for several indicators. The survey tentatively has a sample size of 8000.

The marginal cost of adding additional group questions is small. Finding samples will be simple since there are already institutions from which you can purchase lists. If the investigators use environmental directories as a sampling basis, perhaps some survey funds could be used to maintain those directories. Barbara's facility already has all the equipment

necessary to carry out the survey.

If good records are kept, it will be possible to return every five years to the same individuals. Attrition in the group can be rounded out with new samples. Following individuals will allow us to also see the differences in those who have been sampled throughout the survey versus new additions.

The real concern of the Subcommittee should be "selling" the survey. The Subcommittee needs to raise the awareness within the agencies that they can not act or respond properly if they do not understand the behavior and inclination of the public.

The Great Lakes Protection Fund and Health and Welfare Canada are two likely sponsors of the survey that should be solicited. Ideally, it would also be good to get industry, local government, and interest groups to provide backing for the survey. With enough backing, the survey could start in the Lake Ontario basin and include another Great Lake every year.

Lester will contact Barbara and have her include these concepts in her workshop presentation materials. Lester will also have Barbara draft a clear rationale for the survey. A clear rationale is crucial to selling this project to both the agencies and the public.

It will also be important to have someone at the workshop who can explain the difference between a survey and a poll. People are generally suspicious of the validity of information gathered in polls.

Other considerations in planning the survey are efforts to include second homeowners in the basin, and identifying people who use the basin but do not live here, such as out-of-state fishing license holders. They may or may not be important constituents for soliciting Great Lakes program support. There are approximately 5000 out-of-state license holders.

Discussion of Public Comment Workshop:

A summary sheet of potential indicators that have not yet been fully investigated because no one has expressed an interest in developing them will be prepared for the workshop. The sheet will be a starting point for discussion of future work for the Subcommittee. Joel will prepare this sheet.

Indicator authors should include in their write-ups:

- An approximate timeframe for the measurement of the indicator and preparation of the summary information.

- The proposed timeframe for updating the indicator information, if necessary.

- Resources necessary for completing all work.

At the end of the workshop, a package will be assembled to give to our parent, EOWG. It will contain a description of the planned indicators, an implementation plan, and a distribution

plan for the agencies and other groups. It is not known at this time if EOWG will create an overall indicator report for public review.

Areas for Additional Work:

There are other potential indicator topics that have not yet been explored. For example, no indicator exists for land use. A land use indicator might look at the number of acres under protection, the number of acres moving from an undeveloped state to a developed state, and visa versa. The real estate industry keeps very detailed statistics on this type of data. Sue Mihayli will contact Sarah Miller to discuss this potential indicator as well as the municipal behavior indicator.

Another potential indicator might be a budget assessment indicator. This indicator would examine the stewardship implication of government expenditures, and their changes over time.

Other suggested indicators might look at the number of homes basin wide receiving sewer services and local zoning activities.

Sam will continue to look at toxic release inventory information as the basis for an indicator.

MEETING MINUTES/SYNOPSIS: LAKE ONTARIO STEWARDSHIP INDICATORS

September 23, 1992
Fort Erie, Ontario

Janet Hatcher Roberts, Barbara Knuth, Lester Milbrath, Jennifer Rae

I. BACKGROUND AND INTRODUCTION

Our meeting was intended to build on the 4-page piece prepared by L. Milbrath, "Thinking about stewardship for the Lake Ontario ecosystem", and the 2-page piece by J. Rae, "Public perceptions of risks - discussion, Sept. 7, 1992." The agenda included discussion of (1) potential survey design and implementation procedures for a survey related to stewardship indicators in the Lake Ontario ecosystem, and (2) discussion of concepts and topics to be covered in such a survey and the manner in which the concepts and topics could be operationalized (measured).

II. STEWARDSHIP INDICATORS SURVEY DESIGN AND IMPLEMENTATION

We discussed possible options for survey design and implementation, including mail and telephone surveys. We decided an approach patterned after the standard operating procedures used by the Human Dimensions Research Unit in the Department of Natural Resources at Cornell University would be appropriate. This approach includes a 4-wave mailing (cover letter and questionnaire; reminder letter; reminder letter and replacement questionnaire; reminder letter) and a telephone survey with a sample of nonrespondents from the mail survey. This approach may be modified for the sample of key leaders from the Lake Ontario policy community (e.g., wave 1 may consist of a FAX to the leader, with wave 2 following with a letter and questionnaire).

Two major sampling approaches will be needed, one to sample general public audiences, the other to sample key leaders in federal, state, and local governments, the business community, environmental organizations, education, and research institutions. A general public sample may be purchased (e.g., Survey Sampling, Inc.). A list of key leaders will be compiled with assistance from selected informants (e.g., Ken Shephard from the Niagara Institute, Niagara-on-the-lake; Susie Washington in Calgary, environmental consultant). As discussed in earlier Milbrath memo, sample would be of sufficient size to ensure completed replies from 1,000 public members in Ontario, 1,000 public members in New York, 200 business leaders in Ontario, 200 business leaders in New York, 200 environmental leaders in Ontario, 200 environmental leaders in New York, 200 scientists in Ontario, 200 scientists in New York, 200 educators in Ontario, 200 educators in New York, and government from each country to consist of 100 appointed local, 100 elected local, 100 elected county, 100 appointed county, 100 elected state/provincial, 100 appointed state/provincial, 100 federal (700 government from each country). The total final target of respondents would be 2,300 from each country (4,600 total). To achieve that number of completed replies, we would have to draw a sample of about 8,000 people who would be asked to participate (assuming an approximate 60% response rate overall).

To develop the sample, a definition of the Lake Ontario ecosystem of interest must be adopted. We decided using the "watershed" definition discussed at earlier meetings would not be appropriate (e.g., such a definition excludes Buffalo, yet Buffalo community certainly has important stakeholders in Lake Ontario ecosystem management issues). We agreed that our definition (on which to base the survey samples) would include "any political jurisdiction that is 1/2 or more in the Lake

Ontario watershed" would be included in the sampling frame, and further, that the Lake Ontario watershed under this definition would include the Niagara River watershed.

Because of the binational and multiple agency involvement in the Stewardship Indicators project, we emphasized the importance of clear, close, and frequent communications with governments and sponsors at all stages of the Stewardship Study. We will build into the project timeline and study design collaborative development and review of draft survey instruments, development of data analysis plans, data interpretation, report writing, and information dissemination.

We agreed that the stewardship research project should be contracted through Cornell University, for several reasons. The University has the capability to conduct such research, and the Human Dimensions Research Unit is nationally known for social science research on environmental issues. Contracting through Cornell University would help avoid institutional approval problems that might lead to undesirable delays in project implementation. A contract may help avoid some of the time delays that would occur in securing approvals for a survey from the numerous governments that would be involved.

III. STEWARDSHIP INDICATORS CONCEPTS AND OPERATIONALIZATION

Several sources of information with potential examples of how to operationalize indicators of Lake Ontario stewardship were discussed. These included the "healthy communities" study, the OECD report, and the Dunlap/Gallup study (Survey of Planetary Health), and the Milbrath Niagara Frontier study. The Survey of Planetary Health was noted as potentially very appropriate as a base on which to build for comparability and envisioning trends. (Hatcher Roberts will distribute information on these as available, and on other Canadian studies, to Knuth, others as needed; Hatcher Roberts, Rae, and Knuth should contact Dr. Riley Dunlap, Dept. of Sociology, Washington State University, Pullman, WA 99164 USA for copy of Survey of Planetary Health.) Other lists of concepts for the stewardship study include the Milbrath and Rae writings referenced in (I.) above.

We discussed general information needs that could be met through the stewardship study, including: identification of factors that motivate stewardship; identification and measurement of actions that reflect stewardship; assessment of intentions to take stewardship actions; and assessment of barriers that prevent stewardship. Perceived barriers are important to identify, so we can interpret why stewardship intentions are not always carried out (and to counter arguments that "people do not care"), and offer suggestions as to how barriers to stewardship might be removed or lessened.

The conceptual framework for the stewardship study would have four major components: (1) motivators of stewardship; (2) intentions to engage in stewardship; (3) stewardship actions and behavior; and (4) barriers to stewardship. Analysis of sociodemographic influences on each of the components would be included. Milbrath's earlier list (see memo noted in (I.)) was incorporated into this discussion.

- (1) **Stewardship Motivators.** These include (a) values and normative beliefs placed on personal and family health; ecosystem health, natural vs. artificial systems; perceived responsibilities to be stewards; perceived responsibilities to future generations; potential benefits from Lake Ontario; religious beliefs; and (b) knowledge and perceptions about the quality of the environment and the

current condition of Lake Ontario; the uses of Lake Ontario; the Lake ecosystem; risks and problems associated with Lake Ontario; personal concern that something be done to restore the Lake; relationship of Lake Ontario ecosystem quality to stewardship behavior; global biospheric problems and relationship to Lake Ontario; and (c) information sources about Lake Ontario. [See Dunlap study re: measure of concern that something should be done, and concerns about global biosphere problems; see Niagara Frontiers study re: values people assign to the Lake.]

(2) Stewardship Intentions. Includes analysis of what people would like to do to fulfill their stewardship responsibilities; willingness to devote money, time, political support, and share jurisdictional authority for improvement and management of Lake Ontario ecosystem. (see Niagara Frontiers study re: willingness of people to act)

(3) Stewardship Behavior. Includes analysis of what people are doing to fulfill their stewardship responsibilities, how often. Includes topics such as consumption levels, waste disposal, land use activities, ways people use the Lake and frequency of use.

(4) Barriers to Stewardship. Involves analysis of perceived reasons why personal behaviors do not equal intentions. Barriers include sociodemographic and economic characteristics, knowledge of stewardship and the Lake Ontario ecosystem, and other elements from each of the other major components of the study. Other barriers may include elements such as perceived access to decision-making structures and processes.

(5) Sociodemographic and Economic Characteristics. These would include income, employment, family status, length of residence in community, regional mobility, age, gender, education, etc. Format for gathering these data should be coordinated for comparability with U.S. and Canadian statistics.

Specific topics covered to some extent in the existing Krewski/Burnett (HWC) survey included perceived risk, personal and general knowledge, assessment of sources of information on risk, confidence of sources of information on risk, industry/agency responsibility for risk protection, effectiveness of organizations in protecting health, attitudes, behavior and conservation activities, socioeconomics. Topics missing from that effort included importance people assign to the Great Lakes ecosystem, how people use the lake, value of these uses, willingness to share institutional authority with other jurisdictions, and leadership perceptions of public opinion. (provided by Rae)

As noted earlier, key leaders in the Lake Ontario policy community will be an important part of this study. Key leaders will be asked to respond to the stewardship indicators survey from their own perspective, to allow assessment of stewardship perceived by leaders. In addition, key leaders will be asked to indicate how they believe "the public" will respond to key questions from the stewardship survey. With this information, we will be able to identify discrepancies that exist between public opinions and the perceptions of public opinion held by leaders in the Lake Ontario policy community. For logistical reasons, we will likely place these questions (perceptions of public opinion) immediately following the corresponding questions about the key leader's opinion.

[To fill in background information, Hatcher Roberts will send Knuth information about the history of the Binational Ecosystem Objectives Workgroup, the

Stewardship Committee, the OECD report on indicators of sustainable development, and other relevant items.]

IV. DRAFT COST ESTIMATE FOR STEWARDSHIP INDICATORS SURVEY

These figures are draft (1993 U.S. dollars), for discussion purposes only, and are based on assumptions that the research project will be conducted through Cornell University. Other assumptions include a sample size of 8,000, time needed for interagency review and coordination of survey instruments and draft reports, and assistance with sample selection.

Salaries	
Principal Investigator	\$ 10,000
Research Support Specialist	25,000
Research Aide	12,000
Administrative Assistant	6,000
Fringe Benefits (36%)	19,080
Purchase of sample	2,000
Supplies (cover stock, paper, envelopes, postage, etc.)	14,400
Printing and photocopying	7,200
Computer expenses	3,000
Telephone	5,000
Travel	3,500
Total Direct Costs	107,180
Indirect Costs (59%)	63,240
Total Costs	\$170,420

NOTE: This is draft budget for Lake Ontario Stewardship Indicators research project. A Great Lakes Basin-wide indicators research project would not be 5 times this cost, because many of the activities would not have to be done anew once completed for one lake. For example, salaries include design and pretest of questionnaire, design of coding and analysis procedures. These elements would not have to be created again for other lakes once in existence for Lake Ontario. As a rough estimate, add in \$70,000 for each additional lake to be surveyed (assuming initial sample size of 8,000 per lake). For entire Great Lakes Basin, rough estimate of cost would therefore be \$450,420.

V. UNRESOLVED QUESTIONS

1. Funding for this project should be pursued jointly through several potential sources and sponsors. We did not discuss who these might be.
2. What is the potential connection of this (and related) Great Lakes initiatives to the U.S. goals of Health 2000?

Registration	8:00 a.m.-10:00 a.m.
Coffee and Danish	9:00 a.m.-10:00 a.m.
Introduction	10:00 a.m.-10:10 a.m.
Overview of WQA and LAMP	10:10 a.m.-10:25 a.m.
Ecosystem Objectives & Indicators	10:25 a.m.-10:40 a.m.
Update on Other Subcommittees	10:40 a.m.-11:00 a.m.
Stewardship - General Overview	11:00 a.m.-11:15 a.m.
BREAK	11:15 a.m.-11:30 a.m.
Overview of Indicators:	11:30 a.m.-Noon
-Ecnomic Enhancement	
-Government Access	
-	
-	
-Other Indicators	
General Discussion of Indicators	Noon - 12:30 p.m.
LUNCH	12:30 p.m.-1:45 p.m.
Objectives/Questions/Future Directions	1:45 p.m.-3:00 p.m.
Four Breakout Sessions (to work on Indicator of choice)	3:00 p.m.-5:00 p.m.
RECEPTION	5:00 p.m.-6:00 p.m.
Working Dinner & Adjournment (continuation of work on specific indicators and other indicators)	6:00 p.m.-8:00 p.m.

FRIDAY

Committee and invitees to work on format/future work	9:00 a.m.-Noon
---	----------------



RECEIVED NOV 13 1992

ATLANTIC STATES
LEGAL FOUNDATION, INC.

TO: Indicator Workshop Invitees
DATE: November 4, 1992
RE: Postponement of Scheduled Workshop

We regret to advise you that the Workshop on Lake Ontario Stewardship Indicators, originally scheduled for November 19-20, 1992 in Buffalo, New York has been postponed indefinitely.

As someone involved in Great Lakes issues, you are no doubt aware that the language of the Great Lakes Water Quality Agreement requiring an ecosystem approach to management of the lakes continues to present difficulties in interpretation and in implementation. We must bring the regulatory agencies on board with respect to managerial utility of the indicators.

As a result of this need, the workshop originally scheduled for later this month has been postponed. Our hope is that the workshop can be rescheduled once these issues have been resolved. We plan to invite you then and we will be in touch with you as developments warrant.

658 West Onondaga Street, Syracuse, New York 13204-3757 315-475-1170



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

SM

DATE: NOV 5 1992

SUBJECT: Postponement of November Workshop on Stewardship Indicators;
Subcommittee Meeting Still Scheduled for November 20

FROM: Joel O'Connor *Joel O'Connor*

TO: Subcommittee Membership

NOV 12 1992

You should have notification by now from the Atlantic States Legal Foundation that our public workshop, originally scheduled for November 19-20, 1992, **has been postponed indefinitely.** I hope that we will be able to set a new date for the public workshop at our next meeting. **The Subcommittee will meet, as originally planned, on November 20, 10:00 to 3:00, at the Radisson Hotel, Buffalo (directly across the street from the Buffalo Airport). The Radisson phone number is: 716-634-2300.**

The Public Workshop was postponed because EPA, Region II wishes assurance that the indicators presented publicly will directly influence actions of the Four Parties to the Lake Ontario Toxics Management Plan (Environment Canada, Ontario Ministry of the Environment, U.S. EPA and NY State Department of Environmental Conservation). Assurance is desired that indicators presented publicly, at whatever stage of development, will be managerially useful to one or more of the Parties. I am continuing efforts to provide this assurance, and will report on my progress at our Nov 20th meeting.

Our criteria for useful stewardship indicators have explicitly required that they "evoke action." However, to date, this criterion referred to action by the public, the private sector, or governments (not just environmental agencies of government). We must now consider a requirement that useful indicators influence, directly, actions of the Four Parties (including influences on the Lake Ontario Toxics Management Plan or the prospective Lake Ontario Lakewide Management Plan). I have tried to outline how each of the indicators we are considering could directly influence the Parties. The attached summary, "Stewardship Indicators Under Development and Being Discussed . . .," is my attempt at this. Indicators are classified as "under development" or "being discussed." A brief description of each indicator (in parentheses) follows each indicator name. The following paragraphs outline how the indicators could influence actions of the Parties. This process resulted in changed definitions for some indicators, and elimination of others that would not seem to clearly influence the Parties. This summary had to be prepared quickly, allowing for only minimal Subcommittee input via phone. The summary must, of course, be reviewed and modified by the Subcommittee. Please bring your comments on the attachment to the Nov 20 meeting, or mail them to me.

At least half of the Nov 20 meeting will be devoted to (1) reclarifying our terms of reference and criteria for useful indicators, and (2) ensuring a process for orderly and efficient conduct of the Subcommittee's charge. Drs. Paul Bertram and Trefor Reynoldson, Co-chairs of the EOWG, and Charles Zafonte, Chief, Niagara Frontier Program Office, expect to attend the meeting and help us resolve these issues.

Following resolution of the issues above, I would like to critically assess the utility of one or two individual indicators. This will require clear definition of several considerations:

- * what the indicator really indicates
- * the indicator scale(s) and endpoint(s)
- * specific utility of the indicator, to whom
- * additional utility of component measures of the indicator
- * resources needed to illustrate the indicator
- * realistic schedule, given specified resources, for illustrating the indicator
- * rough schedule and resources needed to apply the indicator in practice.

Please call me (212-264-5356) if you would like to make such a presentation at our next meeting.

I appreciate your patience with the recent confusion surrounding our activities. Our Nov 20 meeting should point the way to definition and development of even more valuable stewardship indicators.

Attachment

cc: Paul Bertram, GLNPO
Trefor Reynoldson, CCIW
Susan Bloss, EPA, Niagara Falls

**Stewardship Indicators Under Development
and Being Discussed by the
Subcommittee on Lake Ontario Stewardship Indicators
of the
Bi-National Ecosystem Objectives Work Group**

November 1992

Indicators Under Development

1. Effectiveness of Interactions Among the Public, Industry and Governments. (The indicator is being designed to indicate the effectiveness with which public interest groups, industry and governments interact with regard to Lake Ontario issues. Interaction will embrace access to information, lobbying channels, openness to suggestion/comment from other sectors, degree of cooperation, and ability to influence decision making. Key members of the three sectors will be surveyed to assess the frequency and quality of their interaction with particular offices/agencies.)

Recognizing that more effective interactions among governments, the private sector and the public are necessary for more responsible stewardship, the indicator could highlight specific opportunities for improvement. Barriers to cooperation and information exchange are often cited as constraints on environmental programs, particularly multi-agency programs such as the Lake Ontario Toxics Management Plan (LOTMP). For example, inadequate communication of an agency's rationale for an action might be identified as the readily correctable cause of public reluctance to follow agency guidance. Some such barriers should be identified, and sometimes attenuated, through regular use of this indicator. Of course, even very effective interaction may be of minimal value in very polarized situations.

2. Toxics Inventory. (The summarization and interpretation of geographic distributions and fates of toxicants from manufacturing as compiled under Sec. 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (Toxics Release Inventory), under similar legislation being implemented by Canada, and under other Federal and State/Provincial agency authorities, including the Clean Water Act, Clean Air Act, and the Resource Conservation and Recovery Act. Interpretations will focus on the achievements and the opportunities to improve stewardship through waste reduction and pollution prevention. This indicator will not assess toxicant fates apart from toxicant releases during manufacturing processes. Additional, often larger, sources of toxicant loss can be partially understood through interpretations of the related indicator, **Toxicant Usage in Manufacturing.**)

The Toxicant Release Inventory provides useful data on U.S. releases of 302 toxicants to the environment, and toxicant transfers across state lines. This indicator could provide the Parties with estimates, independent of existing toxicant mass balance estimates, for spatial differences and temporal changes in specific toxicant releases to specified media from manufacturing and storage sites. Knowledge of exceptional loadings not detected by existing programs would be valuable

refinements of mass balance estimates of the LOTMP and the prospective Lake Ontario LAMP.

3. Toxicant Usage in Manufacturing. (The indicator summarizes reliable, existing data on the spatial distribution of toxicant usage in manufacturing. The indicator captures the predominant sources of toxicants used throughout the Lake Ontario Basin, based upon U.S. and Canadian manufacturing statistics, and the quantities of toxicants used by individual categories of manufacturing. In addition to toxicant losses from manufacturing processes, the indicator estimates the toxicants lost to the environment from use, disposal and breakdown of manufactured products. It is an aggregate indicator of "potential" pollution. In order to be directly useful in toxic waste management, indicator values must be partitioned into particular chemical losses to specified media and regions.)

It seems likely that indicator values can be partitioned, with expert assistance, into specific chemicals and classes of chemicals to help validate conventional LOTMP mass balance models, and to extend the numbers of toxicants tracked by the models. Such chemical-specific loading estimates would be inexpensive to make, and would be more accurate but less precise than conventional estimates based on chemical analyses of effluents and environmental media. Similar partitioning should be helpful in focusing pollution prevention and toxicant recycling programs.

4. Corporate Volunteerism. (The indicator summarizes results of volunteer, corporate pollution prevention activities: 33/50 Program in the U.S., Canadian Chemical Producer's Association "Responsible Care Program," Canadian Accelerated/Reduction and Elimination of Toxic Substances Emissions, and similar programs evolving within the Basin.)

The indicator would quantify voluntary toxicant loading reductions from specified (generally large) industries throughout the Basin. The documented successes and failures of industry programs should highlight opportunities for toxics control by the LOTMP and the prospective Lake Ontario LAMP.

5. Environmental Volunteerism. (The indicator estimates the total number of volunteer hours devoted to environmental activities [environmental cleanup, information gathering and exchange, lobbying, etc.] The extent of such activities indicates the extent to which people are willing to contribute to betterment of the environment, and will be prone to support or influence political and private sector action to ensure environmental quality.)

The aggregate hours of volunteer effort is only a broad indication of stewardship activity, but the extent of particular activities is also recorded (e.g., education, monitoring, advocacy, restoration, and RAP participation). A major rise or fall in the indicator might well trigger agency concern about causes of the change. Even without such a change, however, understanding of the intensity of specific kinds of volunteer activity would help indicate the strengths and weaknesses of the Parties' policies and programs. A better understanding of activities and concerns of local groups will make it easier for the Parties to form partnerships with the public.

Indicators Being Discussed

6. Public Response to Government Leadership. (The indicator summarizes the degree of public response to specific requirements or recommendations by the Parties, e.g., compliance with fish advisories, adherence to land use plans, and guidance regarding disposal of toxicants and products containing toxicants.)

This indicator could assure the Parties about how effectively the public is cooperating in important waste and land management programs.

7. Government Response to Lakewide Needs. (The indicator would clarify governmental financial actions and policies, comparing them with Lakewide needs in management plans of the Four Parties. Selected features of recent budgets, tax policies, subsidies and land use policies -- of Federal, State/Provincial, county and municipal governments -- will be portrayed in simple terms, interpreting stewardship priorities in terms of expenditures and incentives through taxation, subsidy and land use decisions.)

Financial and land use decisions by governments strongly influence essentially every effort to exploit or protect the Lake Ontario Basin. Yet summaries of these decisions, across all levels of government, do not seem to be available. Such summaries could indicate the effectiveness of governmental responses to needs identified by the LOTMP and the prospective LAMP for Lake Ontario. In addition, the broad environmental priorities of Basin governments could be clarified by this indicator. Knowledge of these aggregate financial decisions, and their trends, could benefit LOTMP implementation strategies and the prospective LAMP. For instance, broad knowledge of toxic management program budgets could indicate opportunities for efficiencies among regional and Lakewide programs.

8. **Degree of Public Access.** (The indicator would document public access to the Lake shore and its urbanized tributaries, comparing access to land use and land use plans.)

The ease and intensity of public access to particular habitats are expected to be important considerations in the prospective Lake Ontario LAMP. Excessive public access can be degrade some habitats, but appropriate access enhances environmental education and a sense of stewardship.

9. **Public Stewardship, Motivations and Actions.** (Based upon a public survey, the indicator would provide information on four components of stewardship: 1) motivation for responsible stewardship, 2) intentions, 3) behavior, and 4) barriers to stewardship. These survey results would be interpreted relative to the social and economic status of the respondents. Key environmental leaders [in governments, business, etc.] would also be surveyed to gain their perceptions.)

The sort of rigorous survey discussed would provide the Parties with reliable information on how the public acts on environmental issues, and what social barriers tend to constrain responsible stewardship. This understanding of the values, actions and concerns of the public would enable more effective collaboration between the Parties and the public.

Population density in the Lake Ontario Basin was originally considered as a possible stewardship indicator. Population density is one of the two dominant factors generally recognized as degrading natural ecosystems. The density of people is an indicator of many things (land development, BOD and toxicant loadings, habitat quality, etc.). However, in contrast to the indicators, no particular values of population density, per se, have stewardship significance. So, population density will be used only to help interpret other indicators, particularly: **Toxicant Usage in Manufacturing; Effectiveness of Interactions Among the Public, Industry and Governments; Municipal Behavior; Degree of Public Access; and Government Response to Lakewide Needs.**

file: INDSUM.1