

16 Blandford Lane
Fairport, NY 14450
October 31, 1991

Mr. Joel O'Connor
US EPA, Region 2
Water Management Division
26 Federal Plaza
New York, NY 10278

Dear Joel:

Your letter of October 10, 1991 provided an excellent summary of the stewardship effort to date and clearly defines a base for further action. My only comment is that stewardship, to be effective, must be active rather than passive. An emphasis on results is important and I believe that the suggested indicators on page two of your letter tend toward this action bias.

Building on what you have, I believe that some overall structure to the process would help in identifying specific indicators. I see a two phase approach with each phase composed of three levels. The phases are:

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| Phase I | The reduction or elimination of current stressors. |
| Phase II | The avoidance of future problems. |

At this time existing stressors provide a sufficient agenda. However, the future state of stewardship must move to one of avoidance; problems occur at a rate faster than they can be solved.

With this in mind, I believe that the following three levels of indicators could be applied to each phase:

1. STRESSOR IDENTIFICATION - A solid scientific foundation for action.
2. ACTION PLANS TO RELIEVE OR REMOVE STRESSORS - Specific action that must be taken to achieve results.
3. RESULTS - Completion or measurable progress in the implementation of action plans.

While the above is a fairly basic approach, I find it to be helpful in focusing on the structure and flow of how indicators can be identified. Environmental education, economics, values and the criteria you outlined may be easily incorporated into this framework. An example of how this might work is shown on the attached page.

Finally, progress toward indicator goals must be clearly communicated. Behavior modification begins with showing people what is needed and how they are doing in achieving goals. If an indicator cannot be represented by a clear and concise chart or graph it may have limited value.

I appreciate being made a part of this effort and hope I can help in some way.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Bruce".

Bruce L. Cady

STEWARDSHIP INDICATORS

STRESSOR IDENTIFICATION:

1. DATA - How much do we know about the watershed and aquatic habitats of Lake Ontario? How many inflows and outflows are adequately quantified? How much data are needed for "complete knowledge" of the ecosystem?

The best measure here is progress made toward moving the present state of data to a desired future state.

2. EFFORT - How many studies, proposals, investigations etc. are completed each year? How many public dollars are spent? How many private dollars are spent? How many human and material resources are applied (capital, labor)?

Dollars and resources are always good measures. However, value added to stewardship must be monitored and controlled.

ACTION PLANS:

1. FORMULATION - How many people are involved in translating data to plans (individuals, groups)? How many public and private dollars are devoted to planning? How large is the gap between stressor identification and plan formulation (time and quantity)? How many plans are prioritized?
2. IMPLEMENTATION - How many people are involved in translating plans to action? How large is the gap between required and available resources? How many plans are being implemented? What is breakdown of plan implementation on a priority basis? How many media articles, programs or events make progress visible to the public?

The overall measure here is to quantify the translation of data into plans.

RESULTS:

1. COMPLETED PLANS - How many plans are completed vs backlog? What is the degree of success (goals, objectives achieved)?
2. ECOSYSTEM IMPROVEMENT - How much have toxic effluents been reduced? How many acres of wetland have been added? How many miles of watershed streams/rivers have we improved? How much has aquatic plant and animal diversity increased? How many people work regularly to improve the ecosystem? How much has water quality improved (toxins, nutrients, trophic state)?

This is the bottom line of stewardship. However, the indicators at this level must be connected to the other two levels of Identification and Action.