Indicators of Ecosystem Change - Science and Society.

Paul Bertram[1] (bertram.paul@epamail.epa.gov) and N. Stadler-Salt[2].[1] U.S. Environmental Protection Agency, Great Lakes National Program Office 77 West Jackson Blvd., Chicago, IL 60604 and [2] Environment Canada - Ontario Region Office of the Regional Science Advisor, 867 Lakeshore Road, Burlington, ON L7R 4A6.

The adequacy of a collection of indicators about Lake Erie depends on the user's perspective. Ecosystem researchers and environmental managers may require different types of data and information. Indicators selected for the State of the Lakes Ecosystem Conferences (SOLEC) are intended to assess the overall state of the Great Lakes basin ecosystem, not necessarily to answer research questions. Traditional sciences (e.g., physical, chemical, biological) are generally applied to measure ecosystem components. Human activities and decisions that affect the Great Lakes, however, are influenced by societal factors such as the economy, housing, recreation opportunities, aesthetics, etc., in addition to environmental concerns. The SOLEC indicator list contains both science-based and social elements. It can be sorted and rearranged to form subsets that suit individual perspectives. From the perspective of the Lake Erie basin, an assessment of the environmental compartments may be appropriate, e.g., air, water, land, biota, humans. Human-related concerns might be better represented along the lines of issues (e.g., toxics, nutrients, exotic species, habitat) or the IJC desired outcomes (e.g., fishability, drinkability, swimmability, elimination of persistent toxic substances). An information management system will be important to integrate the traditional science understanding of the Great Lakes ecosystem with the social factors that influence human activities.