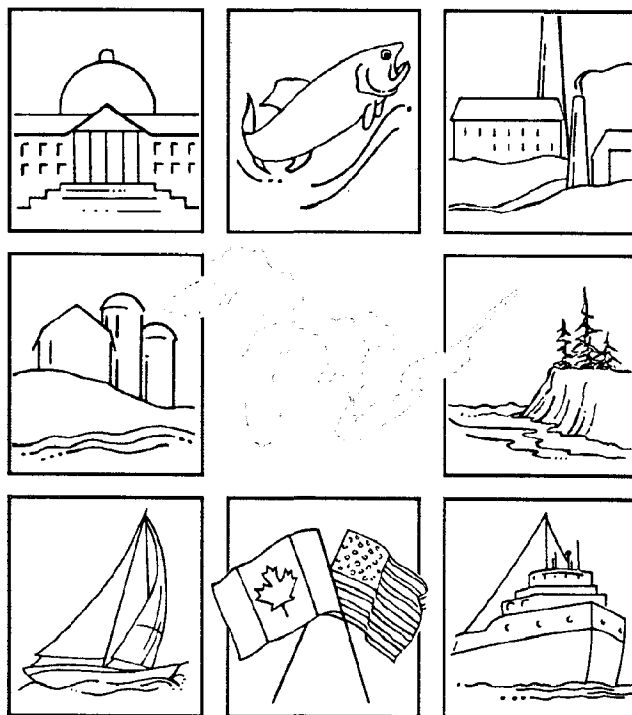


HD1695.G7D68 1987



Institutional Arrangements for Great Lakes Management

Past Practices and Future Alternatives

An Executive Summary

Michael Joseph Donahue, Ph.D.

November 1987

Michigan Sea Grant College Program
MICHU-SG-87-200E

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ABOUT THE AUTHOR

Michael J. Donahue is a former Sea Grant researcher and is a student of Great Lakes organizations and policy development. His study, titled Institutional Arrangements for Great Lakes Management: Past Practices and Future Alternatives, is the culmination of an intensive multi-year effort while a Research Associate at The University of Michigan in 1984-86.

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The views, findings and recommendations expressed in this document are those of the author in his capacity as a Sea Grant researcher and should not be attributed to those of any past or present employer or institution discussed within.

ACKNOWLEDGMENTS

A note of appreciation is extended to the Michigan Sea Grant College Program for its financial support of this study and to The Center for the Great Lakes and the Great Lakes Commission for contribution of "in-kind" services. Appreciation is extended also to the members and staffs of the International Joint Commission, Great Lakes Fishery Commission, Great Lakes Commission, Council of Great Lakes Governors, and the former Great Lakes Basin Commission for their cooperation and assistance in providing information, reviewing draft material and study elements and expressing an interest in resultant findings and recommendations.

The study document was submitted as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Urban, Technological and Environmental Planning in The University of Michigan. Acknowledgment is therefore in order for members of the author's dissertation committee, including Professor William B. Drake (Chairman) and Professors Jonathan W. Bulkley, George F. Francis, and Katherine P. Warner.

This publication is a result of work sponsored by the Michigan Sea Grant College Program, Project No. #R/RP-2 with Grant No. #NA85AA-D-SG-045 from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce; and funds from the State of Michigan. The U.S. Government is authorized to produce and distribute reprints for government purposes notwithstanding any copyright notation appearing hereon.

PREFACE

The decade of the 1980s has witnessed a re-birth (or perhaps reconfirmation) of a regional environmental ethic and a new-found appreciation of the contribution of the Great Lakes to the region's economy. A sense of regionalism - a shared interest among and between the Basin's state, provincial and federal jurisdictions - has re-emerged in unprecedented strength and placed Great Lakes resource management and economic development considerations high on the policy agenda of the region's leaders.

This re-emergent "regional consciousness" has, in turn, prompted concerted attention toward the "institutional ecosystem" for Great Lakes management. A sense of immediacy has been brought to bear on a long-standing yet long-ignored need - a need to understand the roles, responsibilities and interactions of publicly funded, multi-jurisdictional organizations; to assess their individual and collective ability to address resource management needs; and to devise alternative means of strengthening this Great Lakes "institutional ecosystem."

Presented within are key excerpts from an exhaustive study to address these pressing needs. This Executive Summary provides a summary overview of the full report text, with a primary emphasis on findings and recommendations for strengthening the Great Lakes "institutional ecosystem." Institutions of principal focus include the International Joint Commission; Great Lakes Fishery Commission, Great Lakes Commission, and Council of Great Lakes Governors.

The reader will find this Executive Summary of value as an overview of study objectives, methodology, findings and recommendations. Chapter Eight is excerpted from the full text and presents a set of baseline goals and objectives for Basin management and generates a checklist of structural and operational characteristics for institutional design. This information provides the framework for a subsequent detailed assessment of the strengths and weaknesses of the collective and individual institutional approaches to Basin management.

Chapter Nine is the culmination of the research effort, and is also excerpted from the full text. Four scenarios for institutional revision are offered on a continuum between acceptance of the status quo and outright elimination of present arrangements in favor of a new and substantially different one. The merits of each scenario are discussed and an extensive series of recommended actions is presented. The chapter is followed by an Epilogue suggesting a research agenda for further work in this area.

The intent of this Executive Summary is to present the region's policy makers and opinion leaders with a concise listing of recommendations for strengthening the structure and operation of the regional institutions identified earlier. The reader is urged, however, to consult the full text for the historical perspective and analytical framework from which the recommendations emerge. The Appendix presents a detailed review of the contents of the full report.

It can be argued with confidence that the "window of opportunity" for positive institutional change has seldom been open wider. Rising political interest in critical regional issues and the emergence of an informed and active public have generated the requisite momentum to secure desired change. There is, however, a critical missing element which, left unaddressed, renders this momentum meaningless. This element has three components: a clear articulation of present institutional inadequacies; a sense of desired direction in institutional revision; and a strategy for securing acceptance and implementation of those revisions. It is the intent of this study - via the Executive Study and full text - to shape this missing element.

For a copy of the Full Report, contact Michigan Sea Grant College Program, 2200 Bonisteel Blvd, Ann Arbor, MI 48109 (313/764-1138). Ask for publication number MICHU-SG-87-200T and send a check or money order for \$20.00. Additional copies of this Executive Summary can also be obtained for \$6.00.

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SUMMARY OVERVIEW

INSTITUTIONAL ARRANGEMENTS FOR GREAT LAKES MANAGEMENT: PAST PRACTICES AND FUTURE ALTERNATIVES

Background

The magnitude and complexity of the Great Lakes system and its socio-economic attributes are exhibited in terms of governance as well. The Great Lakes system is a shared, multi-purpose resource used and managed at every level from municipalities to the international arena. Two federal governments, eight states and two provinces share the Basin. Literally hundreds of governmental entities are charged with the management of some aspect of the resource, including municipalities, county health boards, state departments of natural resources, over a dozen federal agencies (U.S. and Canadian) and several regional and international bodies as well. The latter two possess important coordinative, policy development and catalytic functions in the operation of this "institutional ecosystem." Principal among them are the International Joint Commission, the Great Lakes Commission, the Great Lakes Fishery Commission and the Council of Great Lakes Governors.

The role of regional (i.e., multi-jurisdictional) institutions - in the Great Lakes Basin and elsewhere - has historically been an evolving and often uncertain one. They tend to exist rather uncomfortably in the system of federalism, and as mechanisms of the political jurisdictions, tend to be devised and instituted with political expediency and inadequate sensitivity to goal setting and development of measures of success. This observation is particularly true in the Great Lakes Basin, where a long-standing yet poorly articulated sense of dissatisfaction with its regional institutions is observed and, yet, little attention has been paid to the systematic and comprehensive review of regional resource management needs and the institutions required to provide for them.

In the past several years, numerous developments have emphasized the need for such a review:

- o The continuing maturation of the "ecosystem approach" concept for Great Lakes management. Resource managers are becoming increasingly aware of the interrelatedness of the Great Lakes and the concomitant need for an integrated, systems-oriented management approach. This has prompted a rethinking of traditional management approaches reliant upon issue-specific authority and political jurisdictions.
- o The accelerated movement and dynamic nature of the institutional ecosystem for Great Lakes management. In the United States, the "new federalism" philosophy has seen state assumption of many

research, regulatory and planning functions once undertaken and/or funded by the federal government. Concurrently, we observe an unprecedented level of activity in regional government (e.g., formation of the Council of Great Lakes Governors and the Great Lakes Environmental Administrators) and the business, citizen and private foundation sector (e.g., formation of The Center for the Great Lakes and Great Lakes United). As the various agencies and organizations attempt to define or redefine their respective roles, an understanding of the existing institutional network and associated needs is imperative.

- o The nature of interstate and international issues emerging in the Great Lakes region. The region's jurisdictions are being confronted with increasingly complex economic and environmental challenges of a regional nature. Transboundary air pollution, toxic contamination, and Seaway maintenance and expansion are but a few. Addressing them requires a careful examination of the institutional arrangements currently or potentially available on a binational scale.
- o The political context in which resource management problems are defined and addressed. Given the jurisdictional complexities of Basin resource management, the institutional network does not simply address problems and issues; it also can redefine, ignore, create, solve or exacerbate them. For this reason, an understanding of this network - its strengths, weaknesses and potential - is as critical as understanding the problems and issues themselves.

A growing recognition of these and related concerns was expressed at the June 1982 Governors' Water Resources Conference on Mackinac Island. By unanimous action, the Great Lakes governors and premiers passed a resolution recognizing that present institutional arrangements for binational cooperation - such as the Great Lakes Commission and International Joint Commission - "need to be strengthened" to effectively address current issues.

These developments form the impetus for this study entitled, "Institutional Arrangements for Great Lakes Management: Past Practices and Future Alternatives."

Methodology

The thesis upon which this investigation is premised is as follows:

The evolution of effective institutional arrangements for Great Lakes management has been hampered by an inadequate understanding and analysis of past and present regional institutions and their respective roles in addressing Basin needs. As a consequence, we find a resultant failure to incorporate positive attributes into the establishment of new management institutions or the revision of existing ones. A systematic review of the evolution of past and present institutional arrangements will facilitate the identification and analysis of management strategies and organizational characteristics that hold promise for Great Lakes management. They can

then be integrated into new or existing institutional arrangements to enhance Great Lakes management capabilities. The corresponding goal is to encourage the orderly and informed evolution of the Great Lakes "institutional ecosystem," and in so doing, advance both the efficiency and effectiveness of regional resource management efforts.

A systematic review and analysis of the evolution of past and present institutional arrangements for regional resource management in the Great Lakes Basin was conducted in the interest of attaining five objectives supportive of this goal. The objectives are:

- 1) To provide an historical perspective on the form and evolution of past and present institutional arrangements for regional resource management as well as examine the range of approaches employed in the United States and Canada;
- 2) To identify organizational characteristics and management strategies associated with those institutions that may have current or potential applicability to institutional arrangements in the Great Lakes region;
- 3) To explore the linkages between the components of the Great Lakes "institutional ecosystem" and identify alternate means for strengthening them;
- 4) To develop a list of guidelines, parameters and organizational criteria that might be considered the essential components of a viable institution or set of institutions; and
- 5) To design alternative institutional arrangements which might be incorporated into, replace, or otherwise augment existing arrangements to encourage the orderly and informed evolution of the Great Lakes institutional ecosystem.

To meet these objectives, four principal information sources were incorporated into the study methodology; the literature (theoretical and applied); personal interviews with selected individuals with professional interests or responsibilities in regional resource management; a questionnaire survey administered to a broad selection of same; and observation and analysis of relevant institutions.

The nine tasks associated with this methodology were pursued sequentially as follows:

- 1) Literature search and review - theoretical and applied - with an emphasis on case studies and institution-specific analysis;
- 2) Selection of institutions for review;
- 3) Development of a methodology for analysis of selected regional resource management institutions and their programs;
- 4) Identification and systematic review and analysis of selected Great Lakes management institutions and their interrelationships;

- 5) Identification and systematic review and analysis of selected institutional forms and existing institutions in other geographic areas with potential applicability to Great Lakes management needs;
- 6) Structure and conduct of interviews with selected individuals with professional interests or responsibilities in Great Lakes Basin management;
- 7) Administration of survey questionnaires to a broad group of regional resource management professionals to further refine output of interviews;
- 8) Specification of guidelines, parameters and organizational characteristics with potential applicability to the Great Lakes institutional ecosystem and its attendant components; and
- 9) Design and justification of alternative institutional arrangements for Great Lakes resource management.

Findings and Recommendations

While study findings and recommendations focus ultimately on this latter task - design and justification of alternate institutional arrangements - the study yielded an array of findings in other critical areas as well. Presented below is a synopsis:

A. The Search for the "Ideal" Institutional Arrangement for Great Lakes Management

It is found - in both the literature and the opinions of practitioners - that there exists no "ideal" institutional arrangement at present, nor have specifications for a comprehensive prototype arrangement been brought forward for serious consideration. Constraints in the search include: an historical superficial attention to fundamental Basinwide resource management goals and needs by resource managers; divergent philosophies (i.e., lack of consensus) within the Great Lakes constituency; the uniqueness (physical and political/jurisdictional) of the Basin; the absence of a benchmark for assessing institutional adequacy; and the inadequacy of evaluative mechanisms for assessing institutional performance and effecting change.

B. A Rationale for the Complexity of the Great Lakes Institutional Ecosystem

The study documents the complexity of this institutional ecosystem through the inventory and analysis of its component parts and the interactions among them. The notion of a complex system as an unequivocally inefficient one is rejected, and a rationale for the complexity presented. Causal factors include the physical characteristics of the Basin's hydrologic system; the multiple-use properties of Basin resources; the complex interface between hydrologic and political boundaries; the adaptation of the institutional framework to "new knowledge;" and the inherent nature of governmental behavior in a resource management setting. The latter includes a tendency toward institutional inertia; a preoccupation with

"newness" (i.e., the political appeal of creating new institutions as opposed to addressing the inadequacies of existing ones); an historical proclivity toward "crisis response" management; and the experimental nature of regional resource management.

C. Essential Parameters for Regional Resource Management Institutions

A social research and development methodology was systematically applied to the literature to elicit consensus findings as to regional resource management parameters essential for effective institutional structure and operation. Forty-nine "application concepts" were generated, addressing the following areas: management philosophy; participatory management; management functions; role of the management entity in the institutional ecosystem; physical jurisdiction; breadth of authority; membership/constituent relations; and compatibility of form and function. These application concepts were presented as a theoretically and operationally sound "checklist" to guide institutional design and revision.

D. An Assessment of Alternate Institutional Forms

An extensive literature review and series of case study analyses yielded a total of fifteen generic institutional forms for prospective application in a Great Lakes management setting. While recognizing that all forms are not distinct and variations between them do occur, the following listing was found to reflect the range of institutional forms presently available for consideration: 1) interstate compact; 2) federal-state compact; 3) state-foreign power compact; 4) interstate council/commission; 5) federal/state commission; 6) international treaty/convention/agreement; 7) federal regional council; 8) federal regional agency; 9) basin interagency committee; 10) intrastate special district; 11) single federal administrator; 12) international commission; 13) international court; 14) federally chartered or private corporation; and 15) nongovernmental organization. The preponderance of these forms were drawn from the U.S. literature; associated institutional forms in Canada for regional resource management were referenced as appropriate under these general headings.

Each of these generic forms was investigated to provide: 1) a description of key structural and operational characteristics; 2) a brief history and present status of the development of the institutional form; 3) an examination of the strengths and weaknesses on the basis of specified criteria; 4) an assessment of potential applicability to Great Lakes management (singly or in combination with other forms); and 5) likelihood of being implemented given present institutional arrangements and the political/procedural aspects of institutional change.

When examined in its totality, this "universe" of generic institutional forms yields a series of observations pertinent to the Great Lakes management effort. Those of particular significance include:

- 1) It is clear, as many authors have concluded, that there is no single institutional form indisputably capable of accommodating all Great Lakes management needs in and of itself. Rather, a collectivity of forms must be utilized, or a variation of existing forms

developed which incorporates the positive attributes of many into one.

- 2) Despite the omnipresent dissatisfaction which has accompanied the evolution of institutional forms in the Great Lakes region, such forms are actually quite advanced when compared to those developed in other regions. In many respects, the Great Lakes region has been an innovator in "experimenting" with some of the "stronger" institutional forms (e.g., compact, international commission, treaty/convention/agreement). Hence, the value of an introspective examination of institutional evolution should not be discounted; it is at least as enlightening as an analysis of institutional arrangements in other regions.
- 3) Despite their structural rigidity and often limited mandates, most institutional forms do exhibit substantial operational flexibility. For example, the structure of a given institution may forbid formal binational membership, yet informal arrangements might be developed to the point that structural limitations are but an inconvenience (as opposed to an insurmountable obstacle) to Basinwide management activity.
- 4) The generic institutional forms reviewed can be assembled on a continuum ranging from the formal and highly structured mechanisms (e.g., compacts, international commissions, treaties/conventions/agreements) to those of a more informal and loosely structured nature (e.g., federal regional council, basin-interagency committee, nongovernmental organization). From a comparative standpoint, the former tend to be long-standing, well-established, somewhat routinized and comfortably settled into a "niche" in the institutional ecosystem which dictates their operation and areas of emphasis. The latter tend to be shorter-lived; flexible (and sometimes uncertain) in assuming their institutional niche; adaptive to emerging needs; and more reliant upon the motivation of their members than established reputation in advancing the regional resource management effort. While both extremes on this continuum are found to have characteristics applicable to the Great Lakes management effort, the likelihood of implementation (for political reasons) is heavily skewed toward the latter.
- 5) Despite their distinct traits, certain strengths and weaknesses tend to emerge repeatedly when the various institutional forms are analyzed. For example, most lack: co-equal, U.S.-Canadian representation; autonomy in carrying out resource management functions; broad, inter-jurisdictional representation (domestic or binational); public participation mechanisms; incentive systems for active membership involvement; binding authority; and a comprehensive planning function. Conversely, most provide: a forum for information exchange; a sensitivity to transboundary, Basinwide or regional concerns; consensus building mechanisms; a degree of flexibility in addressing emerging needs; and advisory, research and coordinative services to member jurisdictions. While no single institutional form embodies all the positive attributes, it appears

that an "institution building" exercise drawing from the various forms available would be a significant contribution to the Basin management effort.

- 6) When the various generic institutional forms are examined in light of an appropriately derived set of the institutional parameters or "application concepts," their prospective contributions to the Basin management effort are found to be varied. For example, based on the strengths/weaknesses cited:
 - a) The federal regional agency, intrastate special district, and single federal administrator forms are found to be entirely inappropriate as lead institutions in a binational basin management setting, and of questionable value as supporting ones.
 - b) The interstate compact, interstate council/commission, federal-state compact, federal/state commission, federal regional council and Basin interagency committee forms do exhibit desirable characteristics for Basin management, but their domestic emphasis makes them more appropriate as supporting, rather than lead institutions.
 - c) The state-foreign power compact and international treaty/convention/agreement devices do hold promise as a framework for binational Basin management, provided, of course, that they authorize the establishment of an appropriate institutional form.
 - d) The international court concept has no applicability as a lead management device, but may be of value as a "last resort" mechanism should other institutional mediation efforts fail.
 - e) Nongovernmental institutions provide essential support services and monitoring and catalytic functions, but due to their nature, are not candidates for a leading role in Basin management.
 - f) The international commission form, based on a treaty or agreement, is the preferred candidate for a lead institution role, provided that it reflects the various institutional strengths interspersed throughout the other institutional forms identified.

These findings, coupled with the inventory/analysis of generic institutional forms, provide an appropriate baseline reference source for subsequent analysis of those forms presently employed in Great Lakes resource management.

E. Perspectives on Great Lakes Institutional Arrangements and Needs - The Personal Interview Approach

A series of twenty, in-depth personal interviews were conducted with leading Great Lakes policymakers and opinion leaders to elicit attitudes

and ideas associated with present arrangements and potential alternatives. Among others, consensus findings included:

- 1) the "mixed" performance of the collectivity of Great Lakes management institutions and predominant strengths and weaknesses determining that performance;
- 2) the marginal responsiveness of these institutions to present and emerging management needs;
- 3) the complementary nature of goals across institutions but the attendant absence of the required linkages;
- 4) the inadequacy of institutional activity in the areas of Basin research and planning, data gathering and analysis, and regional advocacy, among others; and
- 5) the relative satisfaction with fundamental institutional missions, with a view toward extensive refinement (by incremental means) of present arrangements.

Findings also addressed the relative strengths and weaknesses of the four institutions focused on (the International Joint Commission, Great Lakes Commission, Great Lakes Fishery Commission and the Council of Great Lakes Governors), and key management functions and structural/operational characteristics warranting integration into the institutional framework.

F. Perspectives on Great Lakes Institutional Arrangements and Needs - The Survey Questionnaire Approach

A survey questionnaire was administered to a cross section of individuals associated with the Great Lakes management effort, augmenting the personal interviews and yielding: a perspective on the adequacy of the overall management effort; an assessment of the mandates and functions of individual institutions; thoughts on characteristics of the "ideal" institutional arrangement; and the means by which these characteristics might be incorporated into the present framework. Key findings elicited from the 109 survey respondents include:

- 1) Views on Existing Great Lakes Institutions and Institutional Arrangements
 - a) Present institutional arrangements for Great Lakes management were viewed as less than satisfactory by approximately 70% of respondents, with the preponderance finding the arrangements to be marginal at best.
 - b) Although duplication of effort and conflicting goals among these regional institutions are not perceived as significant problems, most respondents (75%) believe that current levels of coordination and cooperation are inadequate.
 - c) While the overall adequacy of management functions pursued by the collectivity of Great Lakes institutions might best be

termed as "marginal," the strongest areas consisted of policy development, impact assessment and coordination. Pronounced weaknesses were found in monitoring/surveillance, public participation/education and enforcement.

- d) Dissatisfaction with present institutional arrangements centers around perceptions of too many institutions; fragmentation of authority; poor inter-institutional coordination; and a tendency toward "turf protection."
- e) With regard to perceptions of individual institutions and their missions, 71% of all survey respondents with an opinion found the performance of the Great Lakes Fishery Commission to be satisfactory. Other figures were: International Joint Commission - 44%; Council of Great Lakes Governors - 31%; Great Lakes Commission - 30%.
- f) Duplication of effort among Great Lakes institutions was found to be of concern to just over 20% of the respondents; most had "mixed" opinions or viewed the various mandates as "complementary."
- g) Organizational strengths and weaknesses (of both a structural and operational nature) were identified for each of the four institutions of principal concern - with respect to their potential in addressing the breadth of Great Lakes management needs. Results for each institution, in order of frequency, are as follows:

International Joint Commission

Strengths include: binational membership; technical capability; firm legal framework (i.e., Boundary Waters Treaty of 1909, Great Lakes Water Quality Agreement of 1978); sense of "history" (i.e., firmly established); prestige and positive public profile; Basinwide orientation and subscription to the "ecosystem approach;" joint consideration of U.S. and Canadian concerns; consensus building vehicle; and independence and impartiality.

Weaknesses include: lack of authority for program initiation, implementation or regulation; lack of initiative and follow through; politicized appointment and decision-making process; staffing/funding inadequacies; lack of state representation; failure to exercise full authority under existing mandate; and inconsistent and inadequate leadership.

Great Lakes Commission

Strengths include: co-equal state representation; value as a coordinative device; legal authority under the Great Lakes Basin Compact; use for interstate advocacy; staff capability and dedication; and ability to address a broad range of economic development and environmental issues.

Weaknesses include: limited mandate and absence of implementation authority; inadequate Canadian representation; limited state interest and support; inconsistent/inadequate state involvement and leadership; unclear direction at membership and staff levels; lack of follow-through and impact; inability to achieve consensus; low public profile and level of support; singular focus on issues; poor caliber or inappropriate selection of commissioners; and staffing/funding inadequacies.

Great Lakes Fishery Commission

Strengths include: Basinwide orientation; binational participation; technical capability; clear focus and manageable mandate; record of accomplishment (i.e., sea lamprey eradication); and staff dedication.

Weaknesses include: narrow mandate and focus; narrow focus within fishery management (e.g., preoccupation with sea lamprey control, production rather than habitat management orientation); low profile among the public and resource management community; inadequate funding base; lack of implementation and management authority; and focal point for "turf battles" among cooperators.

Council of Great Lakes Governors

Strengths include: high level representation and decision-making authority; political "clout;" high public and media profile; quick response capability; forum for interstate coordination.

Weaknesses include: lack of defined plan of action; lack of continuity and follow-through; lack of co-equal representation by all Basin states; politicized nature; inadequate staff size and expertise; inadequate coordination with other regional institutions; absence of statutory authority; actual/potential turnover in membership and staff; and absence of full Canadian representation.

- 2) Views on Desired Great Lakes Institutions and Institutional Arrangements
 - a) Given the opportunity to design the "ideal" regional institution, most respondents would select a binational compact commission with an appointed state, provincial and federal membership; a Basin-oriented jurisdiction; and a comprehensive management focus with some autonomy but accountable to member jurisdictions. Management functions would be broad based, with special emphasis upon Basin planning, regional policy development, coordination, data collection, impact assessment and research/issue analysis.
 - b) A small majority of respondents (55%) favored a centralized institutional arrangement in which all principal management functions were consolidated into a single lead entity. The balance found a decentralized, multi-institutional approach to be more desirable.

- c) Issue areas of relevance to the desired institution, in order of selection, include: water quality; water quantity; levels and flows; air quality; fish and wildlife; and coastal zone management.

Those with lower rankings include: drainage; flood plain management; soils; geology; and forest/vegetation.

- d) A small majority of respondents (53%) preferred allocation of management functions by level of authority (e.g., one institution responsible for regulation and enforcement, another for planning). The balance exhibited a preference for allocation by resource area (e.g., one responsible for fisheries, one for water quality).

3) Means to Implement Change

- a) In an "ideal" sense, consolidation or major revision of existing agencies is the preferred approach to institutional change (50%) followed by incremental change to existing agencies (23%) and creation of new institutions (18%), among others. Given political realities, however, incremental change was viewed as most realistic (76%), followed by consolidation of existing agencies (10%) and creation of new institutions (3%). Almost 10% of respondents believe that political realities prohibit any type of change at the present time.
- b) Prevailing obstacles to institutional change, listed in order of frequency include: resistance by political jurisdictions unwilling to sacrifice autonomy; lack of political will; funding/resource constraints; resistance by existing regional institutions and uncertainty over institutional needs.
- c) Suggested structural and operational revisions to the four institutions of concern focused on the areas of membership/co-operator arrangements; appointment process; authority; coordination/integration; administration; scope of concern; and institutional status. (Refer to text for detailed discussion of suggested revisions within each category.)

4) Miscellaneous Questions

- a) Responses yielded no single institution which the majority viewed as capable of serving as a "prototype" for addressing Basinwide resource management needs. The now-defunct Great Lakes Basin Commission was identified by 13% of the respondents, followed by the International Joint Commission and the Delaware River Basin Commission. However, the 67 responses were scattered over 38 institutions.
- b) The desirable characteristics commonly associated with this range of institutions included: research capability; broad

issue orientation; firm legal basis and broad authority; co-ordinative/consensus building forum; long-term planning and a standard of professionalism.

- c) Respondents identified 226 present and emerging resource management needs in the Great Lakes Basin. Assembled into nine resource categories, they are as follows in order of frequency: water quantity management; water quality management; toxic/hazardous waste management; institutional/policy needs; maritime concerns; air quality; coastal zone/land resource management; economic development; and ecosystem management. Of the above, the most frequently mentioned issue was that of Great Lakes diversion and consumptive use, followed by concern over toxic contamination of the resource.

G. Recommendations for Institutional Revision

The literature review, personal interviews, questionnaire survey and analysis of the four principal Great Lakes institutions yielded an extensive listing of individual and collective institutional strengths and weaknesses. Based on this listing (presented in detail in text), a series of recommendations are developed and categorized within four scenarios for institutional change.

Scenario One: Preserving the "Status Quo" -- This option calls for the continuation of the long observed "natural evolution" of the institutional ecosystem; an evolution influenced by a progression of discrete events and issues as opposed to concerted "outside" manipulation of the institutional structure. This option is rejected on the basis of historical observation; a regional institutional environment which resists substantive positive change; and the sheer magnitude of the Basin management task and its political, social, environmental and economic aspects.

Scenario Two: An Incremental Approach to Institutional Change -- This option accepts the fundamental legitimacy of existing institutional arrangements and advocates a series of modest operational and structural revisions to bring these arrangements in line with Basin management needs. Recommendations for the collective institutional effort (i.e., the four regional institutions of concern) include, for example:

- 1) Endorse a common set of goals and objectives for the use, management, and protection of the resources of the Great Lakes Basin.
- 2) Establish a framework for information exchange and joint action. Hold periodic "summit" meetings of key regional institution staff/officers to prepare and cooperatively implement a joint strategy.
- 3) Establish a regional information collection, storage and retrieval system.
- 4) Create a framework to monitor and coordinate Great Lakes research activity; identify and prioritize needs; and allocate responsibilities.

- 5) Generate inter-institutional support for a Great Lakes Information Referral Center.
- 6) Designate inter-institutional liaisons as a means to strengthen linkages.
- 7) Formalize an Interagency Personnel Agreement process to facilitate staff exchange among Great Lakes institutions and state/provincial federal agencies.
- 8) Establish intra-institutional evaluation processes for periodic use in assessing progress in achieving objectives and guiding necessary revisions in structure and/or operation.

Recommendations for individual institutions, numbering several dozen, are focused largely in the areas of priority setting; Basin planning; establishing internal evaluation mechanisms; broadening public input; establishing lines of accountability to, and expectations of member political jurisdictions; applying principles of ecosystem management to program activity; reviewing and exercising all organizational capabilities under mandate; assessing organizational resource requirements; strengthening inter-institutional linkages; clarification of roles vis-à-vis other institutions; strengthening the binational focus; and others.

These and other options are offered as the appropriate first steps in desired institutional change, as they are viewed as largely politically acceptable and implemented with a relative minimum of institutional disruption, economic cost and time requirements.

Scenario Three: Institutional Change Through Substantive Revision -- This option, while accepting the fundamental legitimacy of current arrangements, calls for sweeping operational and structural revision to better address identified management needs. Among numerous others, recommendations include:

- 1) A federal/state counterpart to the Canada-Ontario Agreement for binational water quality management.
- 2) Formal and co-equal provincial affiliation with the Council of Great Lakes Governors and the Great Lakes Commission.
- 3) Amendment of the Great Lakes Basin Compact to provide Great Lakes Commission membership with some level of standard setting, regulatory and enforcement capability.
- 4) A comprehensive planning mandate for the International Joint Commission.
- 5) An operational merger of the Council and Great Lakes Commission which leaves the compact intact yet integrates staff and individual programs.

- 6) An international Great Lakes Agreement which broadens the Water Quality Agreement focus, the role of the International Joint Commission Great Lakes Regional Office, and recognizes state/provincial roles in carrying out the terms of such an Agreement.

These and other recommendations are offered as positive steps to augment and expand upon the incremental recommendations presented earlier. The substantial political obstacles to implementation are recognized, however, as are the economic costs, time delays and institutional disruption involved with many.

Scenario Four: Dramatic Single Step Revision -- This scenario calls for elimination of the present institutional ecosystem in favor of a new and significantly different arrangement. The "ideal" institution for Great Lakes management is presented; a binational treaty organization with an appointed state, provincial and federal membership; a Basin-oriented jurisdiction; a comprehensive planning and management focus with standard setting and limited regulatory and enforcement powers; and a staff with some autonomy but accountable to member jurisdictions. Management functions are broad based, with special emphasis on Basin planning, policy development, coordination and data collection. Provided within the overall institutional framework are state, provincial and federal caucuses.

This institutional option is presented as a hypothetical one, recognizing the political obstacles associated with its development. However, it serves as the embodiment of desired characteristics, and as such is offered as a benchmark for guiding and evaluating less dramatic revisions.

The recommendations within these scenarios are presented to regional policy makers as a means to systematically strengthen an institutional arrangement presently incapable of addressing current and emerging issues in a fully effective and efficient manner.

SECTION THREE: ALTERNATE INSTITUTIONAL ARRANGEMENTS FOR GREAT LAKES MANAGEMENT

Introduction

At this point, it is important to emphasize that all preceding discussion has had a decided emphasis upon the description, interpretation and analysis of institutional activity in Great Lakes management. Any presumption of institutional inadequacy - at either the individual or collective institutional level - was studiously avoided from the outset. Rather, areas of strength and weakness emerged through the examination of the literature; input from personal interviews and interpretation of responses from a broad-based survey of regional policymakers and opinion-leaders. These sources also provide the means to construct a set of guidelines, or benchmark, for use in the design, evaluation and refinement of a given institution or set of institutions.

As will be discussed, one of the many consensus findings which emerged from earlier analysis pertains to the evolutionary nature of regional resource management and the need for Great Lakes jurisdictions to overcome the constraints which have thwarted its maturation. One such constraint, for example, is the historical inability of political jurisdictions to translate the tenets of the "ecosystem management approach" into institutional process. Wendall and Schwann (1972) explain, "The institutional labyrinths that seemed perfectly logical as they were designed over the years were suddenly seen as clearly inadequate when the environmental issue emerged. Public policy officials have a new "ecological" approach to resource problems. Natural resource and pollution problems are seen to interact in ecological systems requiring common governmental solutions." This, and other findings and observations on present institutional arrangements, make it abundantly clear that nurturing the status quo will serve only to compromise the region's potential and the use and protection of its resources. Cadieux (1979), in fact, provides a most appropriate theme for the final chapters of this study in stating that "We should be considering new arrangements which will respond to present challenges, build on proven techniques and institutions and combine or blend them with new ones which will serve our present and future requirements."

This section, via its two component chapters, provides a point of transition between the documentation of institutional needs and the adaptation of the present institutional structure to accommodate them. In Chapter Eight, the previous analyses (i.e., literature review, personal interviews, survey questionnaire) are drawn together to elicit summary statements of finding on a individual and collective institutional basis. Based on these findings, a goals and objectives statement to guide Great Lakes institutional activity is offered, as is a "checklist" of desirable structural and operational characteristics.

This information provides the basis for Chapter Nine discussion, in which specific options for structural and operational revision to the present Great Lakes institutional ecosystem are presented under both incremental and comprehensive change scenarios. Recommendations are offered, their rationale presented, and the likelihood of their implementation given political/institutional constraints explored.

The analytical framework and recommendations presented in these closing chapters address the central theme of the study hypothesis, which maintains that the "evolution of effective institutional arrangements" can be aided by the integration of appropriately derived organizational characteristics into new or existing arrangements.

CHAPTER EIGHT

GOALS, OBJECTIVES AND PARAMETERS FOR THE COLLECTIVE INSTITUTIONAL EFFORT: DEVELOPING A BENCHMARK

Introduction

In earlier discussion, several factors which constrain or otherwise complicate the search for the "ideal" institutional arrangement were presented, including: superficial attention by policy makers to resource management goals and needs; the absence of a benchmark for institutional adequacy; and the inadequacy of evaluative mechanisms for assessing institutional performance.

Clearly, any effort to institute or otherwise advocate structural or operational revisions to a given institution in the absence of defined goals is at best ill-advised. Craine (1972) made this point quite clear in his institutional arrangements study for the Great Lakes Basin Commission. Some years earlier, the Water Resources Council (1967) stated that "before a new institutional arrangement is established in any basin, the needs of the basin should be determined and the major outlines of a basin comprehensive plan for the conservation and management of the basin should be clearly seen."

It is further argued that any such revision may be of questionable utility if neither the pre- nor post-revision performance of the subject institution can be adequately evaluated in light of defined goals and objectives. The Federal Council for Science and Technology (1968), in its study of national water resource policy and political institutions, was emphatic in documenting a need "to establish effective means of providing a continuing assessment of institutional effectiveness so that needed changes - particularly in new programs and policies - can be quickly identified." The Council went on to make an observation that remains relevant almost twenty years later: "It is not at all clear that we have the knowledge to implement a program for early and adequate evaluation of institutional performance. It seems abundantly clear that we should develop adequate techniques to accomplish this task."

In recognition of the magnitude of these constraints, they are afforded substantial attention in this chapter, and provide the basis for an analysis of individual and collective institutional approaches to Great Lakes management. Specifically, the chapter seeks to interpret and synthesize information presented in preceding discussion; analyze the overall institutional framework and its component parts; and through identification of attendant strengths, weaknesses and institutional needs, provide a basis for the options presented in Chapter Nine.

Goals for Great Lakes Management: Developing a Context for Institutional Change

As evidenced in earlier discussion and confirmed through personal interviews and the survey questionnaire response, the goals espoused by the four regional institutions of concern are largely compatible; tending to overlap or, at the minimum, complement each other. They are, by and large, broad statements advocating the protection and enhancement of the resource via multi-jurisdictional cooperation. As indicated in Chapter Three and Appendix A, the goal statements of the Great Lakes Commission and Council of Great Lakes Governors bear great similarity in their breadth, focus on an economic development/environmental protection balance; and an emphasis on cooperative state action. The goal statements of the International Joint Commission and Great Lakes Fishery Commission place a primary emphasis on resource management and protection (as opposed to regional economic development), tend to be more explicitly defined, and focus on the international level.

While the compatibility of these various goal statements is fortuitous in the context of the overall Great Lakes management effort, two difficulties are apparent. First, despite this compatibility, a dominant, central theme for the collective management effort does not emerge. Rather, each institution largely formulates its own programs in pursuit of its own goals, either independently or with some nominal level of cooperation and coordination with other institutions. While the relative dearth of cooperative efforts has generally not been shown to foster inefficiency due to duplication of effort, the failure to consolidate already limited resources in pursuit of common objectives does have efficiency and effectiveness implications. A case in point is the observed hesitancy or unwillingness of the Great Lakes Commission (with its technical expertise) and the Council of Great Lakes Governors (with its advocacy influence) to fully join forces in active, vocal representation of the region at the Congressional level.

A second difficulty is the nature of the institutional goals themselves. As noted, they tend to be broad, open-ended and subject to variant interpretations. This is particularly true of the Great Lakes Commission and Council, which are not bound by the specificity of a Great Lakes Water Quality Agreement or Convention on Great Lakes Fisheries. The result is a goal statement which tends to be selectively pursued and programs which defy evaluation because the goal statement does not lend itself to measurement.

The relative compatibility of goals across these institutions presents a substantial yet largely untapped opportunity to enhance the overall regional management effort. The missing element is a single, unifying statement of goals and objectives for the region; a statement which draws from and consolidates those embodied in the individual institutions. Such a statement, cooperatively derived and approved by consensus, would provide the common focus under which all individual institutional goals, objectives and programs would be pursued. Further, it would provide the means by which individual institutions could evaluate their contribution to the overall management effort; determine those areas warranting further attention, and identify opportunities for enhanced effectiveness via

cooperative efforts. Finally, it would demonstrate - to Basin and non-Basin interests - that the Basin jurisdictions and their regional institutions share common convictions and can form formidable alliances to pursue their goals.

Such a statement is not without precedent. In fact, the Great Lakes Basin Plan, prepared under the auspices of the Great Lakes Basin Commission, consisted of a series of policy-oriented elements approved via consensus of its U.S. state and federal member agencies. More recently, the Great Lakes Charter, and in particular the broad management principles embodied within it, has served in such a capacity for the states and provinces. The Great Lakes Toxic Substances Control Agreement, approved by the Great Lakes Governors in mid-1986, with formal provincial adoption forthcoming, serves in a similar capacity.

As envisioned, this statement of management principles would consist of a single goal statement and a series of supporting objectives which include those presently espoused by the regional institutions of concern.

An acceptable goal statement for the collective regional management effort can be derived by reviewing the goal statements of individual institutions in light of comments received via the personal interviews and survey questionnaire responses. The following is suggested:

"To enhance the public health and welfare of Basin residents through: the restoration and maintenance of the integrity of the Basin ecosystem; the orderly development and management of its resources for sustainable and equitable use; and common stewardship via binational, public-private sector partnership."

This carefully fashioned statement is a composite of various concepts embodied in the individual regional institutions, but is more than simply a "sum of the parts." Unlike other goal statements, it rejects the notion of merely "balancing" competing interests. Rather, it recognizes the inseparability of economic development and environmental quality goals. Further, it acknowledges the concepts of ecosystem management, sustainable use and equitable access by the range of resource users. Finally, it embraces the notion of universal stewardship which transcends both national boundaries and agency jurisdictions. Such a generic statement for the collective Great Lakes management effort poses no conflict for individual institutional goals while providing a single focus for all.

Specific objectives under this broad goal statement might best be categorized under the headings of Basin Planning and Management; Resource Development and Promotion; and Intergovernmental Relations. Again turning to existing institutional objectives and those generated via personal interviews, survey responses and related analysis, the objectives presented in Table 22 are offered for consideration.

Recognizing that such a goal and objectives statement must evolve to address emerging needs, and can undoubtedly be embellished upon, it is presented here to provide a fundamental focus for discussion of requirements for institutional design and operation.

TABLE 22

GOALS AND OBJECTIVES FOR GREAT LAKES INSTITUTIONAL EFFORTS

Goal: "To enhance the public health and welfare of Basin residents through: the restoration and maintenance of the integrity of the Basin ecosystem; the orderly development and management of its resources for sustainable and equitable use; and common stewardship via binational, public-private sector partnership."

Objectives:

1. Basin Planning and Management

- a) to restore and maintain the quality of Great Lakes waters and related resources through the development, implementation, promotion and coordination of appropriate programs, practices and technology.
- b) to maintain an updated comprehensive plan for the protection, development and sustainable use of the water and related land resources of the Basin.
- c) to provide a central repository for the collection, storage and analysis of resource data.
- d) to conduct research in support of ongoing management functions and undertake issue analyses and special studies.
- e) to develop environmental standards for Basin-wide application and provide the regulatory and enforcement capability to ensure their attainment.
- f) to maintain a monitoring/surveillance program capable of providing an historical data base on the status of the use and quality of the Basin's resources.
- g) to provide a locus for the avoidance or resolution of disputes among and between resource users and the jurisdictions with resource management responsibilities.
- h) to promote consistency among and coordination of resource management programs and policies pursued by individual Basin jurisdictions.
- i) to educate and inform Basin residents of the nature and consequences of resource use and encourage active involvement in all aspects of the planning and management process.
- j) to acknowledge the ecosystemic nature of the Basin and its resources and pursue management programs reflective of it.

2. Resource Development and Promotion

- a) to provide for environmentally sound regional economic development through programs to facilitate sustainable use and development of the Basin's resources.
- b) to foster, through regulatory, policy and related management efforts, a balance among the various resource user communities.
- c) to publicize and promote, on a domestic and international scale, the Basin's resource-based economic attributes; including among others the Great Lakes/St. Lawrence Seaway; port facilities; water-based trade and tourism; and quality of life attributes.
- d) to stimulate new, environmentally sound regional economic development through the design, implementation and coordination of plans, programs and special studies.

3. Intergovernmental Relations

- a) to provide a forum for interjurisdictional information sharing, issue analysis, program coordination, regional policy development, and promotional and advocacy activities.
- b) to serve as the Basin's spokesman in an active and aggressive advocacy program on issues of concern, directed at appropriate levels of government.
- c) to provide information, research and advisory services to member jurisdictions and other constituents.
- d) to maintain a binding arbitration function on matters referred by the parties (i.e., jurisdictions) to a Basin resource management dispute.
- e) to maintain an updated inventory of ongoing Great Lakes research, establish priorities and recommend areas for additional emphasis.
- f) to maintain an updated inventory of Great Lakes resource management programs, identify strengths and weaknesses and recommend areas for additional emphasis.
- g) to ensure co-equal United States and Canadian representation in all facets of Basin planning, management, policy and coordinative efforts.

Toward a Benchmark for Institutional Design and Operation

Numerous authors in the area of Great Lakes management have proffered listings of the "ideal" characteristics of a regional resource management entity. For example:

- o The Interuniversity Seminar on the Great Lakes coordinated by Francis and Dworsky (1971-72) highlighted the importance of

jurisdictional considerations; enforcement powers; fiscal adequacy; staffing adequacy; administrative discretion; flexibility; visibility; accountability; and structural compatibility.

- o Bilder (1972) calls for the incorporation of "dispute avoidance and adjustment arrangements" into new and existing institutions. He also presents "principles of environmental management" comprised of an institutional sense of environmental responsibility; diverse approaches to diverse problems; the generation and use of "factual knowledge;" predictability; flexibility; lowest level solutions; non-legalistic solutions; and coordination.
- o An International Joint Commission-sponsored workshop on anticipatory planning (1979) called for the creation of a "Basin-wide intelligence operation which monitors changes in ecosystem quality in a number of different ways and exercises surveillance over ongoing activities and new initiatives which tend to impact most heavily on the Great Lakes Basin ecosystem."
- o Allee, Capener and Andrews (1975), in their analysis of basin governance systems, advocate a re-examination of jurisdictional representation, a review of how to internalize the externalities of individual actions; development of an information capacity; the building of consent by facilitating interjurisdictional accommodation; and reconciling local and regional interests.
- o The U.S. Water Resources Council (1967) sets forth criteria which include: regional orientation, project construction capability; financial adequacy; comprehensive planning; flexibility (i.e., evolution and amendment); and an ability to foster inter-jurisdictional cooperation.
- o Hines and Smith (1973) find that operational efficiency of a water management institution is dependent upon the physical dimensions of the hydrologically defined area (i.e., congruity of area and function); flexibility in determining geographic jurisdiction; population density; comprehensive mandate; and local support.
- o Booz, Allen and Hamilton (1970) in a study for the Office of Water Resources Research, identified the following: the formulation, analysis and implementation of a comprehensive range of alternatives; a close relationship between planning and implementation; solution of internal disputes; coordination of private, local, state and federal planning and decisionmaking into a unified basin program; public participation at all stages of the planning/management process; analyze and influence related land and water uses; and operation over a logically complete geographic area.
- o The Environmental Studies Board of the National Academy of Science (1970) presents seven "requirements" for effective environmental management: long-range planning; an early warning (i.e., anticipatory) function; monitoring capability; quick reaction field function; quick reaction analytical function; education and

professional training; and communication between researchers, policymakers and the public.

Any such recommendations, however, must be reviewed with caution. In many cases, they were generated as a reaction to the perceived failings of a single institution (such as the International Joint Commission) and consist primarily of measures to address those failings. Little attention has historically been given to the generation of parameters for the Great Lakes institutional ecosystem in its entirety, or for implementation of the broader set of Basin-wide resource management goals and objectives beyond those espoused by individual institutions. The application concepts presented in Chapter Four constitute a step in that direction in that they reflect consensus findings in the literature as opposed to an assemblage of parochial viewpoints from distinct research efforts. The same can be said for the findings elicited from the personal interview (Chapter Six) and survey questionnaire (Chapter Seven) efforts.

Drawing from these various sources, and interpreting them in light of the aforementioned Basin-wide goals and specific Great Lakes management needs, a checklist of institutional parameters is presented in Table 23. Unlike other efforts of this nature, however, it is designed as benchmark for assessing the collective characteristics of Great Lakes institutions, as opposed to those of only a single institution. This orientation reflects the fact that institutional design and operation is but a means to an end; efficient and effective Basin management. The number of institutions in a given Basin setting, or the allocation of management functions among them, is essentially immaterial if this "end" is achieved efficiently and effectively.

TABLE 23

*CHECKLIST OF INSTITUTIONAL PARAMETERS
FOR GREAT LAKES MANAGEMENT*

STRUCTURAL PARAMETERS

1. Definition of Mandate

- a) Institutional goals and objectives must be consistent with, and supportive of those for the overall Basin management effort.
- b) Objectives should complement those of other institutions while avoiding duplication.
- c) Goals and objectives, where possible, should lend themselves to evaluation to provide indications of progress over time.
- d) The institutional mandate should be specific yet flexible to accommodate emerging management needs.
- e) The mandate should be given a degree of formality and longevity through use of legislation, treaty, compact, articles of incorporation or other legally recognized means.

2. Geographic Area of Concern

- a) Authority should extend throughout the drainage basin of the Great Lakes/St. Lawrence River system.
- b) Acknowledgment of, and sensitivity to the resource management needs of non-Basin portions of Basin jurisdictions should be maintained.

3. Membership

- a) The institutional ecosystem should be consensus-based, and provide equitable membership and voting arrangements for Canadian and United States levels of government, including the two federal governments, eight states and two provinces.
- b) In those instances where institutional membership is appointed, a legislative confirmation system should be instituted, as well as an opportunity for public input throughout the selection/confirmation process.
- c) Representation from the citizen, private sector and sub-state/provincial levels should be secured by providing, through advisory committees or other means, direct access to institution members.

4. Breadth of Authority

- a) Regional institutions should be fully accountable to their membership and responsive to its consensus decisions.
- b) Singly or collectively, regional institutions should have comprehensive authority to address the broad range of resource issues and uses within the confines of the Basin.
- c) While ultimate accountability to political jurisdictions is appropriate, those jurisdictions should vest the regional institution(s) with any and all management functions that can be administered more efficiently and effectively on a Basin-wide rather than political jurisdictional basis.

5. Financing

- a) Appropriations from member jurisdictions should provide the basis for financing institutional operations. Acquisition of public/private grants, donations and contracts is an appropriate supplement provided that the objective pursuit of prescribed goals and objectives is not compromised.
- b) Full participation and voting privileges should be contingent upon a given member jurisdiction's full financial contribution to institutional operations.

6. Staffing Arrangements

- a) Staffing should be conservative, but appropriate for mandated functions.
- b) Detailing of member jurisdiction staff to institutional activities should be vigorously pursued.
- c) An emphasis on staff training and development should be maintained to secure and retain quality staff with a sensitivity for member jurisdiction needs and perspectives.

7. Management Functions

The collectivity of Great Lakes institutions should provide for:

- a) Centralized data collection, storage and analytical capability;
- b) An in-house research or research coordination capability to address/analyze emerging issues;
- c) An extension service capacity to advise, educate or otherwise inform member jurisdictions and constituents of relevant issues;
- d) Regulation and enforcement functions in those areas where centralized, Basin-wide administration is more efficient and effective than individual jurisdictional approaches. At the minimum, a role in recommending environmental quality/resource development standards for uniform adoption is appropriate.
- e) A forum for dispute avoidance, and where necessary, an arbitration/conflict resolution mechanism;
- f) Comprehensive, Basin-wide planning for the protection and development of the resource base;
- g) An in-house monitoring/surveillance capability, or a role in coordinating such among relevant Basin jurisdictions;
- h) Coordination of policies and programs among members jurisdictions and other relevant public and private sector entities with shared interest in management of the resource base;
- i) A public participation program designed to inform, educate and solicit input from interested parties at all stages of the management process;
- j) An advocacy/lobbyist role directed at points of political influence (as appropriate for a given institution), for the purpose of enhancing progress toward stated goals and objectives for Great Lakes management;
- k) A consensus building mechanism providing for regional policy development on issues of concern to member jurisdictions; and

- 1) A special studies function to undertake impact assessments and otherwise address emerging issues.

8. Resource Focus

- a) The resource base in its entirety - the components and interactions among them - should be within the realm of institutional interest.
- b) Principal focus should be directed at those areas of the resource with pronounced transboundary implications (e.g., water quantity; water quality; levels and flows; drainage; aquatic resources; air quality; coastal zone management); their linkages and associated socio-economic issues.

OPERATIONAL PARAMETERS

1. Role in the Institutional Ecosystem

- a) Before a new or revised institution is set in place, a clear demonstration of need must be evident in light of existing institutional capabilities and Basin management goals and objectives.
- b) A new or revised institution must be set in place in such a manner as to avert or otherwise minimize disruption of ongoing institutional activity.
- c) Informal linkages among regional institutions should be fostered to ensure complementary and mutually supportive programs.
- d) institution must display a sensitivity to (and accommodation of) the methods, biases and constraints within which political jurisdictions approach Basin issues.
- e) A sensitivity and responsiveness to the needs of public and private sector entities beyond member jurisdictions should be pursued in recognition of their role in the overall Basin management effort.

2. Pursuit of Mandate

- a) Full authority under institutional mandates should be exercised; selective attention to areas of authority should be pursued only in light of an overriding rationale.
- b) Rigidity in program design should be avoided in favor of institutional flexibility to address emerging issues.
- c) An anticipatory posture should be nurtured to avoid historical "crisis response" management tendencies.
- d) Areas for potential institutional activity should be assessed in light of goals and objectives to ensure their relevance.

3. Membership/Constituent Relations

- a) Responsiveness to the needs of member jurisdictions should be of paramount importance in both day-to-day operations and long-term planning.
- b) The institution should serve as a catalyst for interjurisdictional regional activity, but take every opportunity to credit member jurisdictions for successes achieved.
- c) Informal, interpersonal linkages between the institution's staff and member jurisdiction representatives should be nurtured.
- d) The institution should approach its coordinator/catalyst role subtly, to ensure that member jurisdictions regard it as a mechanism to serve rather than lead them, even if the converse is true in some respects.

4. Stature and Credibility

- a) Objectivity in agenda setting, analyses and policy development must be pursued and a reputation in that area fostered among membership and constituents.
- b) Building institutional support through promotional/public relations activities is essential to institutional stature and credibility; approaches include developing political linkages; utilizing the media to disseminate information; and maintaining a program open and accessible to the interested public.
- c) A sensitivity to Basin-wide priorities in agenda setting and an integrated approach to environmental and economic development aspects should be pursued to ensure a broad support base.
- d) In maintaining an open planning and management process, full disclosure of the rationale behind all decisions - particularly the unpopular and controversial ones - is advised.
- e) The interest and political will of member jurisdictions must be nurtured to maintain support for regional management efforts. Voluntary and compulsory incentive systems should be investigated and applied, as appropriate.

5. Management Philosophy

- a) The ecosystemic attributes of the Basin and its resources should be acknowledged and reflected in planning and management programs.
- b) Long-term planning and pursuit of Basin management goals should not be sacrificed for short-term considerations designed only to enhance the institution's stature.

- c) The institution should be wary of "capture" by special interests and any tendency to compromise its objectivity in pursuit of its mandate.
- d) Coordination of disparate management functions (e.g., planning and implementation) should be pursued at the intra- and inter-institutional level to ensure consistency of approach toward Basin management goals and objectives.
- e) While acknowledging ultimate accountability to member jurisdictions, the institution should exercise some degree of autonomy and discretion in the interpretation and application of stated regional policies.

The differentiation between structural and operational characteristics is a critical one for two principal reasons. First, as discussed in Chapter One, resource management needs cannot be addressed with certainty simply through the passage of legislation, creation of institutions or the development of programs. It is the nature of their application - the translation of goals to action - which is the ultimate determinant of success, however measured. Even an institution with a broad mandate and comprehensive, authoritative power can be rendered ineffective if operational requirements are not met. Conversely, even the most structurally constrained institution can assume a pivotal role in Basin management if its operational requirements are pursued fully and vigorously.

Second, securing operational revisions in a given institutional system, while often difficult, is infinitely easier than securing structural revisions. For this reason, it provides an area of available yet largely untapped opportunity for efforts at institutional change. This is particularly true in light of analyses (see Appendix A) which found substantial variance between activities presently pursued by Great Lakes institutions and those that could be pursued under existing authority.

Because it reflects only those parameters emerging from the study effort, this listing should be construed as comprehensive yet not exhaustive. While additional detail is possible, it can be argued with conviction that an institutional ecosystem reflecting the parameters identified can serve as a model for Basin management.

Statements of Finding - The Collective Institutional Effort

Drawing upon the descriptive analyses presented in Chapter Three and Appendix A, the collective characteristics of the four institutions of concern can be examined in light of the stated parameters to assess their structural and operational adequacy in meeting the goal and objectives statement. This assessment is provided below, highlighting strengths and weaknesses, and providing a focus for the recommended revisions presented in Chapter Nine.

A. An Assessment of Structural Considerations

1) Definition of Mandate

- a) While the individual institutional mandates do not necessarily conflict, an overall Basin management strategy providing a common and central theme for their pursuit does not exist.
- b) The complementary nature of the various mandates is evident, but inadequate coordination among them compromises the potential benefit of joint action. For example, the Basin management effort would benefit from closer Great Lakes Commission/Council of Great Lakes Governors cooperation in the pursuit of interstate initiatives. The Great Lakes Fishery Commission and International Joint Commission share an interest in habitat issues but have demonstrated little historic joint activity in that area. Duplication of effort has not been a significant problem among any of these institutions, but in the absence of more formalized coordinative arrangements, could become an issue.
- c) Goals and objectives for the various institutions do not lend themselves to evaluation, and historically there has been little effort to do so. Institution-specific analyses have been limited at best, and broader Basin-wide analyses virtually nonexistent. Beyond arrangements such as the mandated review of the Great Lakes Water Quality Agreement, evaluative requirements/mechanisms have not been incorporated into institutional design.
- d) Generally speaking, flexibility in management activity is provided in institutional mandates. While management authority is of the "soft" variety, discretion in the selection of issues is substantial. The real issue is that of political will; do the member political jurisdictions exercise the flexibility provided for in institutional mandates?
- e) The institutional ecosystem is well established; it is an ever-changing, dynamic system with many "newcomers," but most principal regional institutions have been in place for decades. The four institutions of concern are based on formal legal authority (i.e., treaty, compact, convention, articles of incorporation) and, as such, lend a sense of permanence and continuity to interjurisdictional resource management considerations.

2) Geographic Area of Concern

- a) While all institutions exhibit a sensitivity to Basin concerns, inadequacies exist in the areas of comprehensiveness and equity of jurisdictional representation. For example, the GLFC and IJC possess a binational, Basin-wide mandate, but their flexibility in responding to the range of management issues is limited by their mandate. The GLC and Council, on the other

hand, possess great flexibility in selecting their issues, but lack the binational focus and equitable U.S.-Canadian representation.

- b) Because all the institutions of concern are membership entities accountable to political jurisdictions, they do exhibit a sensitivity to the resource management needs of non-Basin portions of Basin jurisdictions.

3) Membership

- a) The GLFC and IJC provide for equitable U.S. and Canadian representation. The GLC is clearly lacking in this area, while the Council provides for Canadian representation in selected activities. Other than the IJC, however, none have provided an ongoing forum for discussion and action on a wide range of shared issues.
- b) The appointment process has been widely considered a problem area for all institutions except the Council, where the governors themselves serve as members. A perceived need for a more open nomination/review process for IJC appointees has been articulated by many in the United States, for example. Concerns over the consistency of GLC state appointment processes have long been expressed, as has concern over the stature and participation levels of appointees. The latter concern has been raised with the U.S. Commissioners of the GLFC as well.
- c) Informal avenues for nongovernmental organization input do exist within the process of each institution, but no formal public participation programs are presently active. Similar limitations are experienced by sub- state/provincial government jurisdictions.

4) Breadth of Authority

- a) Accountability of regional institutions to their membership is not an issue - at least not in theory. All have mandated requirements or established procedures governing the selection of issues to be addressed and the nature of any resultant action. In practice, however, institutional priorities can be shaped not only by member jurisdiction attention to Basin management needs, but by passive indifference, turf protection concerns, or desires to focus on areas of ready agreement rather than potential confrontation.
- b) Taken collectively, the institutions of concern do have the authority to address Basin issues in a comprehensive manner; their broad mandates provide for this. However, the extent of this authority is quite limited. With few exceptions, the regional institution itself has no unilateral authority to render binding decisions or exercise regulatory/enforcement functions. Further, there exists no standing requirement that

the broad range of issues be addressed; selective attention to particular issues is the rule rather than exception.

- c) The fact that "hard" management functions are generally not vested in the regional institutions themselves reflects the historic unwillingness of the political jurisdictions to compromise their autonomy.

5) Financing

- a) Appropriations from member jurisdictions are the principal and, in most instances, exclusive means of institutional financing. While such arrangements are viewed as desirable, little emphasis is placed upon alternate funding sources (e.g., grants, endowments, public and private contracts) to augment limited funding levels.
- b) All of the institutions of concern have experienced some level of difficulty in securing contributions from member jurisdictions - even in those instances when the "holdouts" retain an active role in institutional activity. State contributions have been an issue with the GLC and Council; GLFC and IJC concerns have centered around allocation formulas and federal funding levels.

6) Staffing Arrangements

- a) Staffing within and across all institutions is modest at best and generally considered too limited to accomplish prescribed objectives.
- b) The "detailing out" of institutional program activity to member jurisdictions - through their representation on committees and task forces - has been an effective means of augmenting limited staff size. Through their representatives, member jurisdictions of the IJC, GLFC and Council are oriented as much (or perhaps more) toward undertaking work themselves as they are to directing regional institution staff. The GLC, at least in recent years, has been characterized by a comparatively limited level of direct membership involvement in program activity.
- c) With some notable exceptions, the institutions of concern find it difficult to secure and retain the services of highly qualified personnel. In many cases, financial, personal development and promotion opportunities cannot compete with those in other settings; a comparatively high turnover rate and difficulty in attracting and retaining mid-career professionals can result.

7) Management Functions

- a) A centralized data collection, storage and analytical capability is not presently provided for. The present orientation is toward coordination in this area, advocating

consistency and the collection of data for issue-specific purposes rather than broader historical ones.

- b) A research coordination capability exists within each institution although it is practiced only selectively and primarily by the IJC and GLFC. Present in-house research capability is limited primarily to policy research and the assemblage and interpretation of existing data or that collected by other jurisdictions.
- c) The advisory/extension service capability is exercised by all institutions of concern, but in a limited and largely reactive manner. Inquiries are responded to but programs to actively seek out target groups are not provided. Further, these services are oriented toward member jurisdictions and constituents in the policy/management arena rather than the public at large.
- d) Regulatory and enforcement functions within the regional institutions themselves are essentially nonexistent with the exception of quasi-judicial authority vested in the IJC. Recommendatory powers in terms of standard setting are exercised.
- e) All the institutions of concern, by virtue of their existence and operation, provide a forum for interjurisdictional dialogue and therefore dispute avoidance. Formal arbitration/conflict resolution procedures (e.g., voting procedures, Article X of the Boundary Waters Treaty), are largely shunned, reflecting a desire to avoid areas of potential conflict for those in which consensus can be generated. Fundamental differences have historically in many instances been addressed outside the regional institution arena.
- f) Comprehensive planning at the Basin-wide level is not presently pursued by any institution.
- g) The monitoring/surveillance function in terms of water quantity and quality considerations is pursued by the IJC, which has substantial coordinative responsibility in that area. Similar though less extensive activity is pursued by the GLFC for fishery management considerations. Policy and legislative monitoring - at the state, regional and federal level - is a focus of the GLC and Council.
- h) Policy and program coordination is a strength within each institution and among its member jurisdictions. Coordination of such between regional institutions is generally considered to be less than adequate.
- i) A formal, continuing public participation program is not provided for by any of the institutions of concern.

- j) An overt advocacy/lobbyist role for the region is provided for by the GLC and Council. The mandate exists; concern over the extent, effectiveness and direction of such activity is of continuing concern.
- k) Institutional effectiveness in consensus-building is a strength. Even though all institutions of concern have provisions for majority-rule voting, work is almost exclusively accomplished by consensus. This is significant given the fact that the lack of binding authority or enforcement power means that a dissenting jurisdiction is not compelled to comply with any given decision.
- l) All institutions possess a "special studies" function for issues within their area of responsibility. Again, political will to utilize this function for a given issue is the critical concern.

8) Resource Focus

- a) The collective institutional effort does not provide for consideration of the Basin's resource base in its entirety. The institutions of concern either lack a full Basin-wide focus (i.e., GLC, Council) or operate under a mandate with principal consideration of only a subset of the range of resources in the Basin (i.e., GLFC, IJC).
- b) Due to the ecosystemic nature of the Great Lakes and the nature of the region's political and hydrologic boundaries, most institutional activity does focus on issues with transboundary implications.

B. An Assessment of Operational Considerations

The operational parameters presented earlier, by their very nature, might best be described as "abstractions" in comparison to the structural parameters. They are concerned with institutional process and perception and, as such, can introduce an element of subjectivity into any assessment effort. As suggested in earlier discussion, however, operational considerations play a major role in determining the adequacy of institutional performance. Further, adjustments to operational characteristics may provide an effective and politically viable means of achieving institutional change in a prescribed direction.

Presented below is a series of observations on the Great Lakes institutional ecosystem; each corresponds to the similarly identified operational parameter presented earlier. The statements reflect the researcher's observations based upon the interview, survey questionnaire and literature review efforts presented in earlier chapters.

1) Role in the Institutional Ecosystem

- a) Only rarely is a clear demonstration of need established prior to the creation of a new Great Lakes institution or the revision of an existing one. Rather, political expediency, displeasure with an existing institution or other motive is the motivating force. As a consequence, attempts to reconcile responsibilities and needs among institutions is undertaken after the fact rather than in the form of an "institutional feasibility study" prior to any such institutional manipulation.
- b) Temporary disruption of the institutional ecosystem is inevitable upon entry of a new component (i.e., institution), particularly when that component has a broad and flexible mandate. This was certainly the case with the entry of the Great Lakes Basin Commission in the early 1970's and the Council of Great Lakes Governors some ten years later. Minimizing such disruption - perhaps through the aforementioned "institutional feasibility study" approach - has historically been given little consideration.
- c) Informal linkages among the institutions of concern are fostered to an extent at both the staff and membership level. In some respects, the inter-institutional memberships resemble the interlocking directorates observed in corporate structures. Nonetheless, these linkages can be tenuous and have historically been used as an information transfer device rather than a means for extensive cooperative action.
- d) Great Lakes institutions have long exhibited a sensitivity toward, and ability to accommodate the methods, biases and constraints of the political jurisdictions within the Basin. Proficiency in this area is attributable, in large part, to the fact that these institutions draw their authority from and are accountable to these political jurisdictions. Hence, sensitivity and responsiveness to them is a matter of institutional survival. Second, the institutions of concern - as well as their predecessors - have recognized the subtleties of promoting Basin management despite long established political jurisdictional practices.
- e) Great Lakes institutions - both singly and collectively - have failed to provide the means for open and extended interaction of public and private sector interests in their activities. All institutions are proficient at coalition building and each has its following of supporters and critics. In a broader sense, however, public participation programs are conspicuously absent. The last concerted attempt at such was the Public Information Work Group of the Great Lakes Basin Commission.

2) Pursuit of Mandate

- a) As previously documented, Great Lakes institutions, through a process of evolution, actively attend to only a subset of their mandated authority. Selective attention is defensible; a means to allocate scarce resources, focus on areas of expertise, avoid duplicative or marginally effective areas of involvement, and accommodate membership preferences and directives. In practice, however, little attention has been paid to the rationale behind such selective attention, or whether the perceived gain at the individual institutional level is realized at the greater expense of the overall Basin management effort.
- b) Flexibility to accommodate changing priorities is an inherent and often demonstrated operational characteristic in Great Lakes institutions. Generating and directing the political will to exercise such flexibility is the critical consideration.
- c) Advocacy of an anticipatory posture has long been supported by Great Lakes institutions in concept, but organizational resources, the magnitude of Basin problems and institutional tendencies toward the "crises response mode" have limited its application.
- d) Through their membership and staff, institutions constantly screen areas for potential activity, using criteria which include not only an assessment of relevance of goals and objectives, but political pressures, potential gains, institutional advancement and the like. Due to the absence of goals and objectives for the institutional ecosystem as a whole, the screening process is not as responsive to Basin management needs as it could be.

3) Membership/Constituent Relations

- a) Great Lakes institutions have historically been responsive to the needs of member jurisdictions; when those needs can be determined. Difficulties in this area are evidenced by long-standing difficulties of the GLC membership in reaching consensus on priorities; and the unresponsiveness of the federal governments to the recommendations of the IJC. Historically, the regional institutions themselves have found it generally necessary to generate priorities internally for membership consideration rather than serving merely as a vehicle to implement them once identified by that membership.
- b) A number of observers have attributed the downfall of the Great Lakes Basin Commission, in part, to its failure to credit member jurisdictions (rather than itself) for successes achieved. While its closing was, of course, attributable to a presidential Executive Order disbanding all Title II commissions, it has been suggested that this tendency

discouraged member states from organizing vocal opposition to the impending closure. Such a tendency is studiously avoided by the GLFC, and by virtue of their mandates, is not an issue with IJC and the Council. It seems apparent that the GLC could nurture a sometimes indifferent membership with a similar approach.

- c) Informal, interpersonal linkages between the staff and membership of the various institutions are reasonably well developed and, with nurturing, could be invaluable in promoting cooperative efforts.
- d) A similar comment to that in "b" is appropriate. Basin political jurisdictions are willing to support existing institutions provided they remain responsive and accountable to them.

4) Stature and Credibility

- a) The institutions of concern share a positive reputation in terms of technical expertise and analytical objectivity. Experience has shown that perceptions of subjectivity - when they do occur - are often tied to misinformation among constituents. For example, there is a common misperception that the Great Lakes Commission is an "economic development and shipping agency" lacking in environmental responsibilities. Such instances suggest that these institutions might undertake a "marketing" function to publicize and clarify their mandates and explain to their broad constituency the rationale behind their decisions.
- b) Public relations/promotional efforts as a means to enhance stature and credibility receive little attention among the institutions of concern. The one exception is that of the Council, which by virtue of its membership, has inherent media appeal. The Great Lakes Commission has made sporadic attempts to attract coverage - usually in relation to annual/semi-annual meetings - but retains a very low profile and level of recognition. The International Joint Commission does enjoy periodic substantial coverage, often related to issuance of board reports, the conduct of meetings, and high profile issues (e.g., lake levels, toxic contamination problems). The Great Lakes Fishery Commission neither seeks nor receives extensive coverage, preferring a lower profile than that of its cooperating agencies.

Each institution has its distinct public relations/promotional needs, and merely increasing the extent of media coverage is not a panacea. However, it is clear that such coverage does provide significant untested potential in enhancing stature and credibility.

- c) The Council and Great Lakes Commission alone possess a broad mandate for the pursuit of environmental and economic

development concerns. Historically, however, the emphasis has been on balancing two disparate interests rather than recognizing their inseparability. This recognition has taken significant steps forward with the signing and continuing implementation of the Great Lakes Charter.

- d) Due to their "soft management" approach and desire to focus on areas of consensus among their membership, the institutions of concern seldom draw heated debate, and in many cases not even the concerted interest of their constituents. This relative dearth of controversy notwithstanding, none of the institutions can characterize their planning and management processes as "open;" the public is not excluded by policy, but efforts to invite and encourage its involvement are lacking.
- e) Incentive systems for nurturing the interest and political will of member jurisdictions vary widely and at any given time might include turf protection; information acquisition; or a true desire to effect positive change in a cooperative manner. Interest in the various institutions by their respective membership can and does vary widely as a function of the issue at hand or the institution itself. The IJC engenders substantial interest in the region but has characteristically evoked little formal response from the two governments. The level of interest in Great Lakes Commission activities by its membership has varied widely with the issues but has been viewed as a problem on occasion in past years. The Council has been highly selective in setting its agenda and, in so doing, has engendered sustained interest among its members. The Great Lakes Fishery Commission, by virtue of its substantial (and measurable) success, has sustained a high level of interest among its members as well.

5) Management Philosophy

- a) Beyond the language in the 1978 Great Lakes Water Quality Agreement, the "ecosystem approach" is not explicitly identified in institutional mandates. The concept - in some fashion - is pursued more by the IJC and GLFC than the Council or GLC, by virtue of the former's physical/biological resource management responsibilities. The Council and Commission do take into account the broader implications of their actions, but lack any studied effort to apply ecosystem management concepts.
- b) It is clear that long-range planning can be a secondary consideration to present and near-term concerns - even when an institution is vested with planning responsibilities. The GLFC Joint Strategic Plan for Management of Great Lakes Fisheries, as well as the Remedial Action Plan process coordinated by the IJC are notable exceptions. The Council is clearly moving toward a planning mode under certain provisions of the Great Lakes Charter. The Great Lakes Commission maintains a

monitoring and response mode focusing on U.S. federal policy/legislative developments; planning is not an ongoing function.

- c) The danger of institutional "capture" by a given interest group is generally not a problem, given that appropriations are received from member jurisdictions, and the institution is accountable to its membership.
- d) Within any given institution of concern, coordination of disparate management functions is not an issue of great import, given limitations in authority, programs and staff size. Coordination between institutions, however, has been a weakness that has limited the collective Great Lakes management process.
- e) The nature of mandates and established procedures have allowed all institutions of concern to exercise some degree of discretion in interpreting and applying stated regional policies. In many cases, areas of prospective institutional activity are generated from within and brought before the membership for approval. Of principal concern in recent years, however, has been the Great Lakes Commission/Council of Great Lakes Governors relationship. The Commission has found its discretionary activities constrained by its membership's desire to "wait and see" what the Council does before acting. This relationship is presently (and most appropriately) the focus of concerted attention by the two organizations.

Statements of Finding - The Individual Institutional Effort

Having reviewed the collective institutional approach in light of the Great Lakes management goal and objectives generated, a similar review focusing upon individual institutional efforts is appropriate. Again, it is emphasized that this review is not a performance evaluation comparing institutional achievements with mandates. Rather, it is an assessment of the institution's demonstrated structural and operational compatibility with the set of broader goals and objectives presented. As such, it provides the basis for specific recommendations offered in Chapter Nine.

Presented below, on an institution-by-institution basis, is a review of past institutional analyses and a listing of principal strengths and weaknesses generated from the literature; personal interviews, survey questionnaire and researcher analysis in light of the stated institution-wide goals, objectives and parameters. The list of weaknesses for each institution is a selective one, consisting of those whose resolution is likely to lead to substantive positive change, both within the individual institution and more generally, the institutional ecosystem. It is recognized, however, that there is opportunity for improvement in all areas (see listing of parameters), and such opportunities should be pursued in conjunction with those highlighted.

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5 100 1 Donahue, Michael Joseph.

6 245 10 Institutional arrangements for Great Lakes management : :b past practices and future alternatives : an executive summary / :c Michael Joseph Donahue.

7 260 [Ann Arbor, Mich.] : :b Michigan Sea Grant College Program, :c 1987, [c1986].

8 300 130 p. in various pagings : :b ill. : :c 28 cm.

9 440 0 MICHU-SG : :v 87-200E

10 500 "November 1987."

11 504 Includes bibliographical references (p. A-5--A-14).

12 651 0 Great Lakes :x Management.

13 650 0 Ecosystem management :z Great Lakes.

14 710 20 Michigan Sea Grant Program.

OCLC: 17345723 Rec stat: c
 Entered: 19880114 Replaced: 19950418 Used: 19940922

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	F/B: 0	Dat tp: c	Dates: 1987, 1986

1 040 WOY :c WOY :d EEX

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5 100 1 Donahue, Michael Joseph.

6 245 10 Institutional arrangements for Great Lakes management : :b past practices and future alternatives / :c Michael Joseph Donahue.

7 260 [Ann Arbor, Mich.] : :b Michigan Sea Grant College Program, :c 1987, c1986.

8 300 x, 394 p. : :b ill. : :c 28 cm.

9 500 "November 1987."

10 500 "MICHU-SG-87-200E."

11 504 Bibliography: p. 385-394.

12 651 0 Great Lakes :x Management.

13 710 2 Michigan Sea Grant Program.

International Joint Commission

The form and function of the International Joint Commission has, without question, received far more attention than that of the other three institutions of concern combined. This level of focus is attributed to numerous factors, including the binational implications of the Boundary Waters Treaty and the Great Lakes Water Quality Agreements; the longevity of the IJC itself, its principal role in Great Lakes management concerns relative to other institutions; and the fact that it has long been hailed as a unique and innovative device for the resolution of transboundary disputes and coordination of management of a shared resource.

Over time, this stature has established the IJC as a focal point drawing accolades for progress in Great Lakes management and, more frequently, as a target of criticism when this progress was not viewed as forthcoming. The preponderance of criticism (and therefore recommendations) has been directed at the "lack of teeth" in the IJC mandate and its inability to overcome the constraints of two federal governments that tend to be unresponsive to the management needs of the Great Lakes.

A brief review of some of the more notable analyses of the International Joint Commission follows:

- o A U.S. Republican House Members Report, appearing in the Congressional Record (1965), called for renegotiation of the Boundary Waters Treaty to broaden IJC functions. Recommendations included: 1) inclusion of Lake Michigan in the definition of boundary waters; 2) empowering the IJC to make recommendations relating to continental development of water and energy resources; 3) establishing the IJC as a "permanent institutional location" for international discussion of foreign policy questions; 4) placing a priority emphasis on water levels and pollution studies; and 5) assuming the lead role in fulfilling "the obvious need for comprehensive advance planning in the development of water resources."
- o Jordan (1969) found shortcomings in that the IJC lacks specific jurisdiction over basin boundary pollution matters; cannot control the timing, extent or nature of the investigations it undertakes; must await a reference; lacks power to direct or coordinate the research or information gathering by domestic agencies; and lacks power to give effect to standards and measures it recommends.
- o Bilder (1972) suggested strengthening the IJC through the formation of an advisory board with broad Great Lakes-related agency representation; or an "internationalized Great Lakes Basin Commission" combined with a new binational interagency committee on Great Lakes pollution. Powers would include establishing pollution standards; approving and licensing waste disposal facilities; and initiating complaints of non-compliance before courts and agencies in both countries.
- o The Great Lakes Basin Commission (1975) stated that the IJC prerogative required expansion to permit investigation of problems on its own initiative.

- o The Standing Committee on Foreign Affairs of the Canadian Parliament (1975) called for elimination of the reference requirement; an extension of power to permit publicizing of all recommendations; and the assumption of enforcement powers.
- o Dworsky (1972) cited a need for better definition of IJC authority (in terms of resource management rather than boundary disputes); improved communication with the Great Lakes Fishery Commission; and a shortening of study periods.
- o Dworsky and Swezey (1974) called for a broadening of IJC functions through the creation of five boards: 1) air; 2) water quality; 3) lake levels; 4) navigation; and 5) a Great Lakes Operations Office. A Great Lakes Policy Unit, comprised of the commissioners and senior level board officials, would be established. The Commission itself would be comprised of eight full-time members with staggered and fixed terms, additional staff support; a mandate to conduct hearings and access to the court systems of the two countries.

This approach would provide the IJC with the necessary policy making and administrative authority to carry out its coordinative responsibility; exercise a mediation function; free itself from treaty constraints; facilitate binational planning and program coordination; recommend long-range priorities for data collection and analyses to assist in the investigation, planning and construction of projects; the coordination of ongoing research; and a close working relationship to all relevant Great Lakes jurisdictions.

- o Francis (1973) found that "the [International Joint] Commission has neither the authority nor the resources with which to undertake a planning function, much less to develop a program designed to attack the mismanagement of the boundary waters." Principles for change include a bilateral arrangement comprehensive in nature; structured to carry out certain policy, planning and management functions; and a capability to "overcome the incongruity between political and physical boundaries."
- o Zile (1974) presented a three-step process for reform of the IJC: 1) grant lake level authority in a role other than that of harmonizing the various interests involved; 2) formally enlarge an open decision system to include citizen group interests; and 3) provide that members with the most input into the organization perform the "harmonization" function.
- o The Science Advisory Board of the IJC (1979) recommended an anticipatory planning function, calling for: 1) U.S. and Canada confirmation of their expectation that the IJC advise them on unmet current or emerging problems; 2) a continuation of an anticipatory process for the IJC; 3) creation of a special panel or advisory board; 4) support for an integrated ecosystem management approach and its implementation; and 5) provision of an IJC information and analysis capability on a Basin-wide basis.

- o The U.S. General Accounting Office (1982) recommended provision for formalized federal responses to IJC recommendations; continuity of U.S. leadership through five-year staggered terms; a restructuring of the Water Quality Board arrangement to ensure additional U.S. federal agency input; and the development of management plans and meeting arrangements to ensure a clear direction for U.S. federal agency input into the U.S. section of the IJC.

Institutional Strengths and Weaknesses

The analysis of the structure and operation of the International Joint Commission, in light of the Great Lakes institutional goals, objectives and parameters identified, yields the following principal strengths and weaknesses.

Strengths

- 1) The goals and objectives of the International Joint Commission, as presented in the Boundary Waters Treaty of 1909 and the 1978 Great Lakes Water Quality Agreement, are consistent with the broader Basin goals and objectives presented earlier in this chapter. In fact, the Treaty and Agreement are rightfully considered the farthest reaching and most insightful initiatives of their time and, in many respects, remain today as models for binational resource management.
- 2) The IJC maintains a unique role in Basin management, and by virtue of its longevity and availability to the two governments, provides an available and capable (if underutilized) institutional resource by which to focus binational attention on shared issues.
- 3) The provisions in the 1978 Great Lakes Water Quality Agreement, coupled with their mandated review, provide the IJC with an evaluative capability unequaled by any other Great Lakes institution.
- 4) The legal basis and formality of the IJC mandate is a firm one, given the legal/political stature of the treaty and agreement devices and the inherent incentives of the signatory parties to attend to their provisions (at least when it is politically expedient to do so).
- 5) The IJC's Basin boundary sensitivity, despite the limited authority exercised, has been a positive step in transcending political boundaries to address multi-jurisdictional issues.
- 6) The IJC's emphasis on equitable U.S./Canadian representation is a decided strength, as it is practiced in the areas of staffing and funding as well as membership.
- 7) The Commission's structure and process ensure that clear lines of accountability to the federal governments are maintained. Hence, all activities derive from and are pursued in support of the directives of the governments.
- 8) The breadth of IJC functions under the Great Lakes Water Quality Agreement is commendable; particularly the much needed emphasis upon

interpretation of water quality data, research needs and monitoring and surveillance requirements.

- 9) The IJC has demonstrable value as a consensus-building forum where members are North Americans first and Canadians and Americans second. Its quasi-judicial function; the availability of Article X for binding arbitration; and the extensiveness of its board and committee structure, despite their limitations, ensures its stature as the leading coordinative/deliberative binational body.
- 10) The reference device, despite its failings, provides the governments with a special studies capability for the range of issues under IJC purview.
- 11) The IJC's growing recognition and conceptual development of the principles of ecosystem management to Basin problems has brought a new level of sophistication to Great Lakes institutional efforts.
- 12) Through its designation of "Areas of Concern" and the pursuit of an associated Remedial Action Plan process, the IJC has demonstrated an ability to focus its efforts on those Basin issues with pronounced transboundary implications.
- 13) The IJC has long demonstrated a responsiveness and adaptability to the needs of the governments - when those needs have been articulated. The reference process has a demonstrated value in that respect. Further, the Commission's structure and process also ensure that it remains a vehicle of the governments rather than an institution with an independent mandate.
- 14) The IJC has enjoyed a continuing positive reputation for its technical expertise and the objectivity and reliability of the information provided.
- 15) An element of prestige is associated with an appointment to an IJC board or committee, and the Commission benefits substantially from the active work and dedication of these individuals. Many serve, in effect, as part of an "extended staff."

Weaknesses

- 1) While the unique nature of the IJC mandate precludes any substantial danger of duplicative efforts by other institutions, coordination is a weakness. Additional inter-institutional cooperation would provide mutual benefits and strengthen the overall Basin management effort.
- 2) The IJC's ability to respond promptly to emerging management needs is constrained by a rather laborious and time consuming reference process. While some flexibility in this area is provided by Great Lakes Water Quality Agreement provisions, the absence of a broad "standing reference" to initiate investigation of emerging issues - at some level - precludes a proactive posture. As a consequence, the IJC can be circumvented to address pressing issues (e.g., Niagara River Toxics Committee, Upper Great Lakes Connecting Channels Study).

- 3) The questionable status of Lake Michigan under the terms of the Boundary Waters Treaty has added an element of jurisdictional uncertainty to binational water quantity management efforts.
- 4) While state and provincial input into IJC activities is provided via board and committee membership, the IJC structure provides a hierarchical "top down" approach. State/provincial involvement in the development and renegotiation of the Great Lakes Water Quality Agreement, for example, has been lacking. This matter is accentuated at the sub-state/provincial level.
- 5) The nomination process for commissioners is a closed one, in that non-federal Great Lakes interests and the public in general are not involved in nomination, confirmation or open hearing activity. An inherent skepticism of appointees at the sub-federal level is an observed result. Further, the inordinate delays in appointments, attendant prolonged vacancies, and the lack of staggered terms have on occasion brought the work of the IJC's Washington and Ottawa offices to a virtual standstill.
- 6) The accountability of the IJC to the two governments has been impeded by the latter's historic unwillingness to formally acknowledge and respond to Commission recommendations. The virtual absence of feedback constrains both implementation of these recommendations and the IJC's ability to develop and implement a program of work sensitive to the needs of the governments.
- 7) Although the IJC enjoys more authority than other Great Lakes institutions, it is nonetheless an instrument of the governments and generally lacks the authority to do more than provide advice, recommendations and status reports to them.
- 8) Staffing for the IJC's Great Lakes Regional Office is modest at best and the budget has been virtually constant for the last five years. Further, time consuming and complex classification and administrative procedures, coupled with the frequency of commissioner vacancies, prolongs the decision making process and leads to staff vacancies and insufficient attention to prescribed programs and broader policy issues.
- 9) The IJC focus is on coordinative, advisory, recommendatory and monitoring functions and, although this focus lends it an inherent expertise in Basin-wide standard setting, regulatory matters and the oversight and direction of jurisdiction programs, it lacks the authority for any involvement in those areas beyond its limited quasi-judicial authority.
- 10) Although a public information function is central to the mandate of the Great Lakes Regional Office, once a pioneer in this area, recent years have seen a virtual absence in any such activity beyond conference planning and information inquiries. Further, substantive public input

into program activity (beyond board and committee appointments) has historically been sporadic at best.

- 11) Within the IJC framework, the Regional Office director maintains accountability to the Commission for programs and budgets, while the boards (i.e., Water Quality, Science Advisory) retain actual control over them. This arrangement has proven awkward and inefficient.
- 12) Beyond that pursued under the general auspices of Great Lakes Water Quality Agreement (e.g., Remedial Action Plan process, Great Lakes International Surveillance Plan), the IJC maintains no planning program focusing on the Great Lakes ecosystem and its long-term protection, use and development.
- 13) Although the Treaty and Agreement provide substantial flexibility in addressing the range of transboundary resource management issues, IJC involvement in such has often been constrained by a lack of political will exhibited by the two governments. The examples cited in #2 are of note.
- 14) Concerted efforts at fostering informal linkages with the range of institutions involved in Great Lakes management have been lacking, constraining the IJC's ability to enhance its own programs as well as raise its stature and positive image within the Great Lakes institutional ecosystem.
- 15) The inherent potential of the IJC as a Basin management tool is constrained by an historic reticence of traditional political jurisdictions (i.e., the two federal governments) to legitimize bi-national "experimentation" in resource management.
- 16) Despite past intentions and extended discussion of such, an anticipatory planning function has yet to be embraced and reflected in IJC program activity.
- 17) Despite its unparalleled importance in the Great Lakes management effort, the IJC retains a low recognition level. Even public entities with Basin management responsibilities exhibit only a limited understanding of the nature and extent of the IJC mandate. This limitation can adversely impact the IJC's ability to pursue that mandate.
- 18) Continued and concerted efforts to incorporate a socio-economic sensitivity into the range of IJC programs are lacking. Advances are being made, yet such considerations remain ancillary ones.
- 19) While IJC structure discourages its "capture" by any given interest group, its membership, appointment process and operational characteristics sensitize its programs to political developments at the U.S. and Canadian federal levels. This sensitivity is such that a change in government - in either or both countries - can bring IJC activity in Washington, DC and Ottawa offices to a virtual standstill or result in new program priorities and/or the termination of former ones. Program continuity (and therefore institutional effectiveness) is problematic.

Great Lakes Fishery Commission

Although established over thirty years ago, the Great Lakes Fishery Commission has been the subject of comparatively little institutional analysis. While this observation is generally applicable to all Great Lakes institutions (with the possible exception of the International Joint Commission), there are other contributing factors. The Fishery Commission undoubtedly possesses the most explicitly defined and specific mandate; one that lends itself to evaluation. These characteristics have provided it with a distinct niche in the institutional ecosystem, a clear focus and a sense of continuity in program operation. By the nature of its work it has assumed a relatively low profile. It has neither the mandate nor the aspiration to assume the lead role in addressing the full range of resource management requirements in the Great Lakes Basin. Yet, it contributes substantially to those efforts and possesses a number of structural and operational characteristics that warrant consideration and possible adaptation by other institutions.

The most recent and perhaps only in-depth outside analysis of the GLFC was conducted by the U.S. General Accounting Office in 1985. The GAO "found the GLFC has generally carried out its responsibilities effectively and contributed significantly to improving the Great Lakes fishery." The Commission's sea lamprey control efforts were identified as its "single greatest accomplishment." Operational strengths identified included its role as sponsor and facilitator (as opposed to manager); a research program with a demonstrated positive impact; an effective consensus building process, and a coordinative capability whereby, "...the parties are more aware of each other's concerns and less likely to act independently."

Perceived deficiencies included poor U.S. commissioner attendance at meetings in recent years; possible conflict of interest in the awarding of research contracts to those with Commission affiliation; lack of timely research results on contracts; and an excessive unused fund balance. In no cases were those matters found to have a debilitating adverse impact on Commission performance, nor did the GAO find "evidence that the U.S. was adversely affected by absenteeism" of commissioners. It was noted that provisions to appoint alternate commissioners "may be too cumbersome." Suggested operational adjustments included requiring request for proposals on large contracts; requiring research progress reports; applying unused funds against the next year's budgeted expenses and establishing a working capital fund.

Institutional Strengths and Weaknesses

At this point, it should be reemphasized that the following is an assessment of the institution's structural and operational characteristics in light of the overall Basin management goal and objectives presented earlier. It is not a performance evaluation examining programs in light of the institution's own goals and objectives.

Strengths

- 1) The goals and objectives of the Great Lakes Fishery Commission, as presented in the Convention on Great Lakes Fisheries, are consistent

with the broader Basin goals and objectives presented earlier in this chapter.

- 2) GLFC goals and objectives complement those of other Great Lakes institutions, and there are substantial areas of shared interest, particularly with the International Joint Commission.
- 3) The Fishery Commission mandate provides measurable goals and objectives, particularly in the areas of lamprey control; maintenance and enhancement of fish stocks; and dissemination of research results. This is a principal GLFC strength and critical institutional characteristic which is largely absent within other institutional efforts.
- 4) The convention device lends the GLFC legal standing and provides it with the stature and continuity necessary for the successful conduct of its work.
- 5) Although its concerns focus on a single resource - the fishery - the GLFC does maintain a Basin-wide orientation which transcends the limitations of the individual political jurisdictions.
- 6) The GLFC does provide for equitable U.S.-Canadian membership; each government possessing a single vote and being represented by a delegation of commissioners.
- 7) Although appointments are made only by the federal governments, representatives from state, provincial and private interests are also selected. Further, the various technical committees appear to ensure broad representation from the various levels of government and academia as well.
- 8) Through its lamprey control program, research program and coordinative activity, the Commission pursues fishery management functions which could not be undertaken efficiently through the numerous individual jurisdictions with fishery management responsibilities.
- 9) Technical committees and boards are comprised of numerous leaders in their field and, by virtue of their active interest and involvement in Commission deliberations, substantially strengthen the Commission program.
- 10) The conduct and coordination of fisheries research is a decided strength, as it provides the Commission with a capability to address/analyze emerging issues. Further, it places the Commission in the role of a forum and pool of expertise for fisheries research. It is able to direct and prioritize research via distribution of research funds.
- 11) While lacking in regulatory and enforcement authority, the Commission is empowered to develop and implement measures directed at sea lamprey populations.
- 12) While comprehensive planning for Basin resources is not within the purview of the Commission, the development (under the aegis of the

Commission) by the fishery agencies of the Joint Strategic Plan for Management of Great Lakes Fisheries is a significant accomplishment. The plan, signed by twelve fishery agencies, may well provide a model for application to other issues and other institutions.

- 13) The Commission structure and operation - primarily by virtue of its technical committees and boards - provide a coordinative arrangement which appears to involve and accommodate the interests of the range of public and private sector representatives.
- 14) The Commission's simple "consensus only" decision making approach is a sound one, as it requires a firm commitment on the part of both governments before an initiative moves forward.
- 15) Funds for research support and special studies are substantial in comparison to other Great Lakes institutions and, in conjunction with its coordinative role, provides the Commission with considerable influence in directing and prioritizing Great Lakes fishery re-search.
- 16) By its nature, management of the Great Lakes fishery is a transboundary issue, and the composition of the Commission and its committees ensures a binational as well as interstate focus.
- 17) The clarity and specificity of the Commission mandate ensures it a distinct niche in the institutional ecosystem and minimizes any disruption to ongoing institutional activity.
- 18) The nature of fisheries management requires the Commission to assume an anticipatory posture; the Joint Strategic Plan for Management of Great Lakes Fisheries provides the framework for doing so.
- 19) The Commission's forte is its ability to serve as a catalyst for interjurisdictional regional activity while taking every opportunity to credit its membership and cooperators for successes achieved.
- 20) The Commission - through its programs and research efforts - has pioneered the "ecosystem management" concept and explored its application in fisheries management.
- 21) The nature of the Commission's mandate encourages a long-term planning orientation. Such plans are less prone to pre-emption by short-term political considerations than those of other Great Lakes institutions. This is due to the Commission's charge as well as an open-ended appointment process which de-politicizes - to an extent - Commission deliberations.

Weaknesses

- 1) Clearly, the principal weakness of the Fishery Commission in addressing the broad range of management issues is its limited mandate. By design, its focus is limited to fishery management considerations. Comprehensive Basin planning and management are not provided for.

- 2) The Commission lacks an appointment process that permits open nominations, legislative confirmation and public input throughout the selection/confirmation process. Further, the open-ended appointment process tends to buffer commissioner sensitivity to outside input and the federal governments, and limits the development of new ideas and initiatives which might be brought forward with a periodic change in membership or renomination process.
- 3) While the Commission does provide an "extension service" capacity to advise, educate or otherwise inform members and cooperators of relevant issues, this service does not presently extend to the broader interested public. Further, there is no formal public participation/information program incorporated into the Commission's process.
- 4) Informal linkages with other Great Lakes institutions warrant strengthening, as all share some interest in and responsibility for the management or promotion of the fishery.
- 5) The Commission's low profile and recognition level - particularly among the general public - may reduce or otherwise discourage a sensitivity and responsiveness to public/private sector interests beyond those of members and cooperators.
- 6) This low profile and recognition level, while desirable in some respects, can interfere with the building of institutional support, stature and credibility.
- 7) Even within the Commission's limited mandate, it appears that interests can be narrow. Broader issues which affect the fishery (e.g., water quality; coastal management; diversion/lake levels; health effects) have not, but could benefit from Commission involvement. Further, such involvement would strengthen sometimes rather tenuous ties with other Great Lakes institutions.

Great Lakes Commission

The Great Lakes Commission has long served the region as a coordinator and representative of the collective views of the eight Great Lakes states on a range of environmental, resource management and economic development issues. Yet, it was not until the early 1980's, with the formation of the Council of Great Lakes Governors, that the impetus developed for a careful and comprehensive analysis of its institutional capabilities. Prior to that time, such concerns were of a limited nature and did not result in substantive institutional change. For example, some institutional questions were raised throughout the 1955-68 time period as the Commission worked to secure membership from all eight states as well as Congressional consent. Additional discussions focused on the Commission's interface with the Great Lakes Basin Commission when the latter was formed in 1972.

A renewed interest in Basin issues at the gubernatorial level developed in the early years of this decade. With the formation of the Council, and attendant questions regarding duplication of effort and the relative effectiveness of the two institutions, attention was focused on the

structure and operation of the Commission. Three important initiatives have come forth since that time. The first was a Commission-prepared background paper presented at the Great Lakes Governors' and Premiers' meeting on Mackinac Island, Michigan in 1982. The paper, while limited to a series of questions and options to guide the rekindled interest in Great Lakes institutional design, does provide a foundation for further analysis.

In 1984, the Michigan delegation to the Commission submitted, for consideration, a discussion paper focusing on perceived inadequacies in the areas of image; role or function; agenda; structure; and meeting arrangements:

- o Image - The delegation suggested that image problems resulted from widespread ignorance of the Commission's role; a widespread perception of ineffectiveness; and a lack of state support. Recommendations included additional emphasis on promotional/publicity efforts; an accounting of accomplishments; and the appointment of "highly competent and prominent commissioners and advisors."
- o Role or Function - Problems cited included an excessively narrow perspective promoting individual state interests; an overly reactive posture; an unfamiliarity with the problems and policies of member states; an inordinate allocation of time "fine-tuning" resolutions; weak and compromising resolutions; and questionable performance of committee chairs. Recommendations included: a reassessment of regional priorities; seeking coalitions outside of the region and government; developing a pro-active posture; developing better linkages with national and regional governors' groups; focusing its resources on research; increasing reliance on member states for staff assistance; strengthening resolutions; and better coordinating the work and roles of committee chairs.
- o Agenda - The delegation cited the lack of a formalized, ongoing priority setting process; found a focus "excessively oriented" toward the short term; and inconsistencies among member states in advocating their interests.
- o Commission Structure - Problems identified included inadequate staff resources; an "unwieldy and excessively hierarchical" committee structure; delayed decision-making processes; and lack of Executive Committee familiarity with key issues. Recommendations to address these included: staff assistance by member states; streamlining the committee process; encouraging the executive director to make routine decisions; and appointing committee chairs to the Executive Committee in an advisory, non-voting capacity.
- o Meeting Arrangements - Two problems were identified - the questionable timing and number of meetings, and the lack of active participation at those meetings. Moving the annual meeting to March (to provide for timely discussion of the federal budget); and efforts to attract more informed participants to meetings were recommended.

This discussion paper focused the states' attention on key concerns and did lead to some modest operational revisions (e.g., committee restructuring,

re-scheduling meetings). More importantly, however, it brought the question of the Commission's institutional capabilities to the forefront of regional deliberations.

The culmination (or perhaps continuation) of these efforts and the interest they aroused was a November 1985 commissioned "Study of the Relationship Between the Council of Great Lakes Governors and the Great Lakes Commission." Prepared by State Research Associates, the study responded to a February 1985 Council resolution noting "the potential for duplication of effort, inefficient use of public resources and public confusion over the identities of the two organizations." The Council further noted that "significant reforms in the structure and organization of the Great Lakes Commission would strengthen its abilities to address regional resource management issues."

Following a series of interviews with Great Lakes state and provincial officials which elicited a number of the institutional strengths and weaknesses identified in earlier chapters, the report presented and evaluated five options for improving the relationship of the two institutions of concern:

- 1) "Mothball" the Great Lakes Commission by phasing out programs or withholding dues payments; redirect state funding to the Council along with current staff resources.
- 2) Expand Council membership to include New York and Pennsylvania; establish it as Executive Committee of the Commission; merge/coordinate organizational resources of two institutions.
- 3) Restructure the Commission via appointment of all governors to state delegations; provide for gubernatorial membership on Commission's Executive Committee; keep Council in present form and use Commission where eight-state agreement is desired.
- 3a) Same as "3" except that governors would appoint top level staff to Commission: the same aides who serve on Council's Executive Committee. Each would serve as chairman of their state's Commission delegation. Co-location of Council and Commission staffs would be explored.
- 4) Negotiate a memorandum of agreement between the two institutions providing for clarification of roles; staff coordination and agenda setting.

An analysis of comparative advantages/disadvantages lead to the recommendation that option 3(a) be pursued. As of mid-1986, efforts in that direction were under consideration.

Institutional Strengths and Weaknesses

The analyses discussed above, although limited in scope, do highlight a number of the strengths and weaknesses in evidence when the structure and operation of the Commission is reviewed in light of the broader goals, objectives and institutional parameters presented earlier.

Strengths

- 1) The goals and objectives of the Great Lakes Commission, as presented in the Great Lakes Basin Compact, are consistent with the broader Basin goals and objectives presented earlier. They demonstrate, in fact, a firm understanding of the interrelationship between regional environmental protection and economic development requirements, and the public health and welfare criteria which provide the focus for their pursuit.
- 2) The Commission's broad mandate, coupled with its task force structure, provides a substantial degree of flexibility in focusing on emerging issues.
- 3) The Great Lakes Basin Compact, as a legal agreement among states and ratified by Congress, provides a firm legal basis for, and a sense of longevity and continuity to, the operation of the Commission.
- 4) By virtue of its membership, the Commission is sensitive to the resource management needs of non-Basin portions of Basin jurisdictions, and the impact of those needs in interstate priority setting exercises.
- 5) The Commission structure and operation provides for full accountability to member states. Responsiveness to the membership is demonstrated in those instances where decisions and directives are clear.
- 6) Although its authority is limited to "soft" management functions, the Commission mandate does provide for attention to a broad array of regional issues.
- 7) The Commission provides a forum for coordination among the eight Great Lakes states, with opportunities for involvement by federal (U.S. and Canadian), provincial and private sector interests.
- 8) The Commission has a demonstrated capability in monitoring and surveillance activity as it relates to public policy and legislative developments affecting the Great Lakes.
- 9) The Commission's potential capability as a regional advocate is significant, given its interstate coordinative, consensus building mandate and historical focus at the U.S. federal legislative and policy level.
- 10) The Commission's decision making process, which strives for consensus but provides for majority rule, is a sound one.
- 11) The technical expertise of the Commission is well recognized, as is the objectivity and quality of the research materials it prepares.
- 12) While the Commission lacks a fully integrated program recognizing the inseparability of environmental protection and economic development goals, it has demonstrated the capability to balance both concerns in its agenda setting.

Weaknesses

- 1) While the Commission's goals and objectives do complement those of other institutions, the issue of duplication in program efforts and related initiatives is a relevant one in terms of its relationship to the Council.
- 2) The goals and objectives of the Commission do not lend themselves to evaluation, as they are broad and can be difficult to measure (e.g., coordinating, assisting, advising, recommending). Hence, a benchmark for gauging institutional performance has not been available.
- 3) In strict terms, the Commission's geographic area of concern is limited to the U.S. portion of the Great Lakes Basin. Issues or problems originating in Canada (or by Canadian governments) which influence state interests are within its purview, but the Great Lakes Basin Compact limits Commission interaction with the federal and provincial governments of Canada.
- 4) Commission membership is limited to Great Lakes states and provides only a limited, indirect means for Canadian involvement. Involvement by U.S. federal agency representatives on an observer basis is provided for, but has historically been quite limited.
- 5) The appointment process for state delegation members is a closed one in that it is either fixed by law or provided for through gubernatorial or legislative appointments. There is no formal nomination, confirmation or hearing process which provides for broad input into the appointment exercise.
- 6) Staff responsiveness to directives of the membership is constrained by a frequent lack of clarity in Commission decisions.
- 7) The Commission is vested with no management functions beyond basic coordinative/information sharing/advocacy activities. It has not been employed to undertake "hard" management functions even in those instances where it might operate more efficiently/effectively on a Basin-wide basis than separate efforts of the various political jurisdictions.
- 8) While the Commission does receive state appropriations, they are limited, and timeliness in state dues-paying has been an issue. Even though other means of financing are permitted (e.g., grants, contributions), they have not been vigorously pursued.
- 9) Full participation and voting privileges are afforded even to those states in arrears on dues, thus eliminating a major incentive for timely contributions. Presently, only the chairmanship is forfeited for non-payment.
- 10) The inability of the Commission to draw substantially from member jurisdictions for active staff support is a decided weakness, particularly in light of the assistance received by other Great Lakes institutions.

- 11) The Commission does have a research coordination capability, but beyond periodic compilation of research activity in the region, exercises no coordinative or priority setting role.
- 12) An information "extension" service is provided for member jurisdictions and, on request, to others who make inquiries. However, there is no public outreach program that functions on a broad and continuing basis.
- 13) The Commission possesses no regulatory, enforcement or standard setting authority, nor has it had substantive involvement in coordinating or promoting such.
- 14) The Commission's planning authority has not been applied on a long-term comprehensive basis, focusing instead on short-term, issue-specific considerations.
- 15) An advocacy/lobbying function is central to the Commission's role, although general lack of effectiveness is widely perceived as a significant institutional weakness.
- 16) The Commission's role in the institutional ecosystem has become increasingly unsettled since the formation of the Council, and while this has not necessarily weakened the collective institutional effort, it has precluded the level of mutual benefits which might be realized under a close cooperative working relationship.
- 17) Linkages with other Great Lakes institutions do exist, but are informal and exercised only sporadically.
- 18) Authority under the Great Lakes Basin Compact is exercised selectively; some issues have historically received more attention than others. While this is appropriate in the sense that efforts must be targeted to stated priorities, it is unclear whether the Commission is fully aware of the range of, and flexibility under, its mandate.
- 19) The Commission lacks an anticipatory posture. Rather, it favors a reactive stance focused on U.S. federal legislative and policy activity.
- 20) The Commission, in its efforts to gain greater stature and a higher profile, actively seeks recognition of its accomplishments. While this can be a positive action, it can undermine institutional support if member jurisdictions are not rightfully recognized for their role in those accomplishments.
- 21) The Commission has long had a low recognition level among the general public and in some areas of the governmental arena. Media interest has been minimal. Misconceptions abound with respect to its goals and emphases. Within the Commission, little effort has been expended to publicize and clarify its efforts.
- 22) The Commission compares favorably with other institutions in its demonstrated ability to address both economic development and and

resource management concerns. However, the effort is more one of "balancing" competing interests than integrating them. Movement in the latter direction is required.

- 23) Member jurisdictions have, on the average, demonstrated a rather casual interest in, and attitude toward participation in Commission activities. The political will necessary for strong and continuing Commission leadership has been demonstrated only infrequently. In recent years, the majority of its membership has clearly preferred to vest its political energy in Council initiatives. The Commission has, in some cases, preferred to follow the Council's lead rather than exercise its own leadership capabilities.
- 24) The Commission program has not embraced the "ecosystem management" concept; preferring instead a focus on federal legislative and policy actions on a piecemeal and issue-specific basis.
- 25) The Commission has long had a decided interest in and orientation toward Great Lakes maritime issues, devoting a substantial amount of its energies in that direction. This has come at the expense of regional environmental and resource management considerations, prompting it to become widely characterized as an "economic development" agency.

Council of Great Lakes Governors

As the most recently established of the institutions of concern, the Council enjoys a stature, public profile and level of expectation that will long ensure the importance of its role in the Great Lakes institutional ecosystem. Its initiatives - such as the Great Lakes Charter - are indicative of its potential, and have generated a seldom observed excitement in Great Lakes issues by public and private sector interests alike.

As an institutional form, however, the Council has yet to be fully tried and tested. Its potential is clearly a function of the political will of its members and can therefore be tenuous. In the opinion of some, its operational strengths are countered by its structural weaknesses.

To date, the only analysis examining the Council's characteristics was that of the previously discussed "Study of the Relationship Between the Council of Great Lakes Governors and the Great Lakes Commission." While the focus of that study was clearly skewed toward the strengths and weaknesses of the latter, several findings concerning the Council were presented. The Council was lauded for: its ability to generate political and policy consensus on key regional issues; its ability to initiate programs and projects with multi-state applications; its political sensitivity; as a forum for discussion among the governors and premiers; and for maintaining an agenda-setting process sensitive to regional needs. The lack of full representation by New York, Pennsylvania and the Great Lakes provinces was an item of concern. Study recommendations, however, focused almost exclusively on GLC revisions and provided little guidance for future Council activity.

Institutional Strengths and Weaknesses

Presented below is a series of strengths and weaknesses suggested by examination of Basin goals and objectives in light of the Council's structural and operational characteristics. Though the process was constrained by the brief existence of the Council and the absence of past analyses, numerous key strengths and weaknesses did emerge.

Strengths

- 1) The goals and objectives of the Council, as presented in its bylaws, are consistent with the broader Basin goal and objectives presented earlier in the chapter. They are indicative of a firm understanding of the interrelationship between regional environmental protection and economic development requirements.
- 2) The Council's mandate permits it substantial flexibility in setting and pursuing its agenda; a flexibility ensured by its membership's standing as the chief executive officers of the Great Lakes states. Given the political will, actions can be forthright, decisive and effective.
- 3) The Council, again by virtue of its membership, has a demonstrated political sensitivity to region-wide (i.e., political jurisdiction) as well as Basin needs and priorities.
- 4) Representation from the private sector and sub-state/provincial levels, though limited, is provided through task forces and similar arrangements on an issue-specific basis.
- 5) As an instrument of the governors, the Council is fully accountable to its membership and responsive to its consensus decisions.
- 6) Although its authority is limited to "soft" management functions, the Council mandate does address a broad array of regional issues.
- 7) Although the state dues structure is modest at best and all states do not presently contribute, the structure is in place and outside funds are actively sought to augment contributions.
- 8) The Council benefits substantially from the active support and contribution of individual state staff resources; in this respect it serves as a "model" for other Great Lakes institutions.
- 9) The Council has demonstrated effectiveness as an information-sharing and consensus-building forum. As a dispute avoidance or conflict resolution mechanism it is untested, as issues selected for open consideration to date by the governors have not been fundamentally divisive. The committee and task force levels, however, have a demonstrated capability to address such matters.
- 10) While the Council lacks a comprehensive planning function, the Great Lakes Charter and Toxics Agreement initiatives represent significant policy planning efforts and suggest potential for continued, broadened efforts.

- 11) The Council's coordinative capability is a particular strength, as the institution's stature and influence (in and of themselves) provide an incentive for broad and active participation by the Great Lakes states and provinces.
- 12) Regional advocacy efforts, when pursued, have a demonstrated effectiveness by virtue of the influential nature of the Council membership acting in unison.
- 13) The Council has exhibited an expertise in targeting key regional issues for special studies.
- 14) While the Council is highly selective in attending to regional issues, its rationale for doing so is clear, and it approaches its task with a firm sense of its role and purpose.
- 15) The signing and implementation of the Great Lakes Charter demonstrates the Council's anticipatory capabilities, serving as a model for such to other Great Lakes institutions.
- 16) The Council performs the coordinator/catalyst role quite well, providing a "showcase" for its membership and crediting members for successes achieved.
- 17) The Council is effective in building support for its initiatives; support which is virtually guaranteed by virtue of its careful selection of issues; the stature of its membership; and its media appeal.
- 18) Political will is the driving force behind all Council activity, and though subject to future variation, has been substantial to date.
- 19) While the ecosystem approach is not an integral component of the Council program, it is recognized in the Charter and will likely be reflected in implementation of the Toxics Agreement and future environmental planning and management initiatives.
- 20) The Council has demonstrated sensitivity to both the environmental and economic characteristics of issues it has addressed, avoiding overt biases or "capture" by a given interest or interest group.

Weaknesses

- 1) While the Council's objectives complement those of other Great Lakes institutions, the issue of duplication in program efforts and related initiatives is a relevant one in terms of its relationship to the Great Lakes Commission.
- 2) The Council's goals and objectives do not lend themselves to evaluation, as they are broad and difficult to measure. A benchmark for gauging institutional performance has not been available.
- 3) The Council lacks the legal formality (e.g., compact, treaty) of other Great Lakes institutions, relying on a substantial but tenuous foundation of political will as its impetus and very existence.

- 4) Full membership is limited to the six westernmost Great Lakes states, thereby constraining the input of two additional states (New York, Pennsylvania) and two provinces (i.e., Ontario, Quebec), with a vested interest in management of the resource.
- 5) The Council is vested with no management functions beyond basic coordinative/information sharing/advocacy/policy activities. It lacks the authority to undertake "hard" management functions even in those instances where it might operate more efficiently/effectively on a Basin-wide basis than separate efforts of the various political jurisdictions.
- 6) While the Council does receive state appropriations, they are limited and all member states do not presently contribute. Further, full participation and voting privileges are afforded even to the state(s) in arrears on dues, thus eliminating a major incentive for timely contributions.
- 7) Staffing arrangements are overly conservative and unsettled. Two separate office locations are maintained and future arrangements are unclear. An extended lapse in executive director appointments was experienced. In-house technical expertise is limited. Staff retention has been a significant problem.
- 8) The Council provides an information "extension" service to member and cooperating jurisdictions, and on request, to others who make inquiries. However, there is no public outreach program that functions on a broad and continuing basis.
- 9) An open, public participation process has not been established for Council initiatives. The Great Lakes Charter process, for example, has been criticized for its "closed door" development.
- 10) While formation of the Council was undertaken in response to a demonstrated need, it is questionable as to whether an entirely new institution was required. Opportunities to adapt existing institutions (e.g., Great Lakes Commission) were not fully explored.
- 11) The creation of the Council resulted in some disruption of the institutional ecosystem; the Great Lakes Commission role has become increasingly unsettled. While this has not necessarily weakened the collective institutional effort, it has precluded the level of mutual benefits that might be realized under a close cooperative working relationship.
- 12) Linkages with other Great Lakes institutions have been established, but working relationships and cooperative efforts require additional strengthening.
- 13) Interactions with public and private sector interests beyond the state/provincial levels must be expanded to broaden sensitivity and responsiveness to the range of Great Lakes issues under the Council mandate.

- 14) An open planning and policy making process is presently lacking; agendas tend to be set with limited "outside" input and policy development pursued in a similar fashion.
- 15) The Council tends to approach its mandate on an issue-by-issue basis; further attention to the "ecosystem management" philosophy and its recognition of the interrelatedness of Basin uses and impacts is required.

CHAPTER NINE

SCENARIOS FOR INSTITUTIONAL REVISION: RECOMMENDATIONS AND RATIONALE

Introduction

The preceding chapter, through presentation of goals, objectives and organizational parameters for elements of the Great Lakes institutional ecosystem, serves a pivotal role in the transition from a descriptive analysis of present arrangements to an exploration of options to revise, replace or otherwise strengthen them. The review of collective and individual institutional strengths and weaknesses in light of those parameters was the principal vehicle of this transition.

In this ninth and final chapter, the culmination of all preceding discussion is reflected in the presentation of specific recommendations directed at advancing the Great Lakes management effort through structural and operational revision of its institutional arrangements. In so doing, the following is provided: summary statements of key findings; documentation of the need for institutional change; presentation of recommendations and rationale for institutional change under alternate scenarios; and an examination of the political implications of change under these scenarios. A discussion of continuing research requirements in this area is presented in an Epilogue.

The format for the presentation of recommendations for institutional change is reflective of the four principal alternate scenarios available:

- 1) A "status quo" scenario in which change evolves from within the institutional ecosystem in the absence of concerted "outside" manipulation;
- 2) An incremental approach which accepts the fundamental legitimacy of current institutional arrangements while pursuing limited operational and structural change toward a prescribed set of long-term goals.
- 3) A substantive change approach which also accepts the fundamental legitimacy of current arrangements yet seeks, through sweeping operational and structural revision, a substantially revised management framework; and
- 4) A dramatic single-step revision where the present institutional ecosystem (or at least a number of its components) is rejected in favor of a new and significantly re-directed institutional arrangement.

The objectives of each scenario are presented, accompanied by an assessment of political feasibility and the corresponding likelihood of implementation. Institution-wide and institution-specific recommendations are offered, their rationale presented and where appropriate, an implementation strategy defined. The comparative advantages/disadvantages of the alternate approaches are explained.

A Summary Perspective on the Structure and Operation of the Great Lakes Institutional Ecosystem

A summary perspective or point of reference for the consideration of the alternate scenarios can be drawn from the cumulative discussion of preceding chapters. Rather than reiterate that lengthy discourse, however, or focus on the minutiae associated with institution-specific concerns, a listing of findings is readily extracted to document the need for institutional change. The following are offered:

- 1) Present institutional arrangements are viewed as less than satisfactory by a substantial segment of those directly involved with them, as indicated via personal interviews and survey responses. Perceptions among the general public, aside from ignorance or indifference, indicate marginal satisfaction at best. As a consequence, present arrangements lack the intensity of interest and support necessary to realize their full potential.
- 2) Great Lakes institutions have evolved over time, each responding to a distinct set of events and perceived needs. None has a comprehensive, Basin-wide focus, nor is the collective effort designed or able to provide that focus.
- 3) None of the institutions examined has exercised all powers under its existing mandate, nor has a concerted effort been made to explore the potential benefits of close coordination and cooperative efforts.
- 4) When examined in light of the goals, objectives and organizational parameters for Great Lakes management identified in Chapter Eight, the individual and collective institutions, despite significant strengths, demonstrate structural and operational inadequacies which compromise their potential.
- 5) Despite significant inroads into acceptance of regional governance and the ecosystem management approach, Great Lakes management efforts remain largely in the hands of the traditional political jurisdictions, while regional institutions serve in a modest, underutilized and often uncertain capacity.
- 6) Historical attention to Great Lakes institutional design and evaluation has been sporadic at best, constraining the evolution of the regional management effort. As a consequence, technical and scientific capabilities in Great Lakes management are clearly outpacing innovation in public policy discourse and institutional design. "Crisis-response" tendencies are firmly entrenched; anticipatory/proactive postures have been resisted.

- 7) A review of the institutional ecosystem, and in particular its regional institutions, finds compatible goals yet a management system lacking a common focus.

These and other findings arising through the course of the study justify the development of alternate scenarios and associated recommendations.

Prior to presentation of these recommendations, however, a critical point warrants emphasis. Institutional inadequacies cannot be "legislated away" simply through the creation of a regional institution or alteration of its operational and structural characteristics. Rather, successful pursuit of Basin goals and objectives, however measured, demands an institutional arrangement with a sensitivity toward the Basin's environmental, economic and social needs and the political support and will of those in leadership positions. When present, political will can transcend even the most restrictive institutional form. When absent, even the most innovative form can become impotent. While operational and structural characteristics can serve as inducements for political support of a given institutional effort, they provide no guarantees. Hence, the "human factor" in determining institutional success remains a great variable.

Scenario One: Preserving the "Status Quo"

The scenario suggested here pertains to the long observed "natural" evolution of the institutional ecosystem; evolution influenced and directed by a natural progression of events and issues as opposed to concerted "outside" manipulation of the institutional structure. The theory is that these events and issues, as they arise, will sensitize existing institutions to unmet needs and induce an appropriate compensatory response. Advocacy of the "status quo" approach is an endorsement of the existing institutional ecosystem and a vote of confidence in its ability to sense, adapt to and address emerging issues. As such, this scenario rejects the notion that manipulation of structural and operational characteristics of a given institution should take place as one component of a "grand design" for the entire institutional ecosystem. Therefore, recommendations to that end are deemed inappropriate.

Endorsement of the "status quo" can be soundly rejected on the basis of earlier discussion. Three principal points warrant consideration. First, and very simply, historical observation leads one to the conclusion that institutional evolution in the absence of a focus or common rationale may be little more than a re-positioning of individual institutions without moving the collective institutional effort forward. Second, the "environment" in which Great Lakes institutions operate is not conducive to a positive evolutionary process. The enduring federalism philosophy; the self-preservation instincts and inertial tendencies of existing institutions; the experimental nature of regional management; the absence of benchmarks for institutional assessment and design; historically modest levels of political will; and divergent philosophies among the political jurisdictions are among those factors which discourage unaided institutional evolution from taking place in such a manner that substantial progress is observed. Third, the sheer magnitude of the regional management task - in terms of resource use and political, social and economic considerations -

can be an insurmountable one in the absence of a reasoned strategy for effecting institutional change.

Even now, in an era of increasing attention to, and concern over the adequacy of Great Lakes institutions, institutional change is driven more by issue-specific needs and political considerations than by thorough assessment and understanding of Basin management goals and objectives and the means to achieve them. These observations provide the basis for rejecting the status quo scenario and investigating alternate scenarios in which gradations of manipulation are employed to reconcile Basin goals and objectives with the institutions designed to pursue them.

Scenario Two: An Incremental Approach to Institutional Change

This scenario accepts the fundamental legitimacy of existing institutional arrangements and advocates a series of modest operational and structural revisions to bring those arrangements in line with the Basin management goals and objectives presented earlier. Such revisions are those which can be implemented with a relative minimum of political investment, economic cost and time delay.

Presented below are recommendations for the individual and collective Great Lakes institutions of concern. Drawing largely from Chapter Eight discussion of institutional strengths, weaknesses, goals and objectives founded on research embodied in earlier chapters, these recommendations are accompanied by a statement of rationale and an indication of implementation opportunities and constraints likely to be encountered.

Recommendations - The Collective Institutional Effort

1) Endorse a common set of goals and objectives for the use, management and protection of the resources of the Great Lakes Basin. The prescribed mandates of the four regional institutions of concern, while diverse, are generally complementary and supportive of a common (although unarticulated) set of goals and objectives. The joint preparation of such a set of goals and objectives, followed by formal recognition and endorsement by all jurisdictions with a Great Lakes management role, would constitute both a symbolic gesture of shared commitment as well as a practical foundation for future cooperative action. The goals and objectives statement presented in the preceding chapter is suggested as a framework.

Such an action, given its non-binding status and inevitable "least common denominator" nature, can be expected to be politically acceptable. In a sense, this action parallels the Great Lakes Charter approach, although having a broader focus and seeking regional institutions as well as political jurisdictions as signatories.

The key to implementation will be a lead institution or group of individuals willing to spearhead the effort; the Council of Great Lakes Governors may be the appropriate choice. Securing the interest and active support of the two federal governments will be a significant yet necessary challenge.

- 2) Prepare a biennial "State of the Great Lakes" report under the joint authorship and concurrence of Great Lakes institutions and their member jurisdictions. Cooperatively prepared, this report would constitute a definitive annual statement on the status of the resource, current programs and priorities, problem areas and accomplishments, and an action agenda for the following year and beyond. Individual plans of institutions would be specified and have a common focus, addressing the previously recommended "common set of goals and objectives for the use, management and protection of the resources of the Great Lakes Basin."

The report (and report development process) would provide its contributors with an opportunity to approach resource management goals from an integrative perspective reflecting the variety of institutional mandates and goals in the Basin. Further, over time it would provide a comprehensive benchmark for assessing progress and revising programs accordingly.

This initiative would not supplant institution-specific annual reports now prepared, but provide an overview for integrating the totality of such information under shared goals for management of the resource. The report development process would be undertaken by the collectivity of regional institution directors as part of an on-going coordinative process.

- 3) Establish a framework for information exchange and joint action through the conduct of an annual Great Lakes Policy Summit. The institutions of concern, in lacking a formal framework for information exchange and joint action, have failed to take full advantage of their common interests and pool their resources, as appropriate. This should be remedied with two actions. The first is holding an annual meeting among Great Lakes institution directors and senior staff to identify their respective priority concerns for the upcoming year, share work plans, explore cooperative opportunities and address any duplication, overlap or overlooked program areas. The second is the scheduling of joint meetings between the institutions of concern. Each institution should plan, on a rotating basis, to hold a joint meeting with another once each year.

Modest yet sporadic advances in these areas have been made in past years; an indication of the political feasibility of fully implementing this recommendation. An initial summit meeting of the institutions' officers and key staff is needed to open discussion and establish a process for membership endorsement and subsequent planning of the joint meetings. This initial summit, as a major event, could be used as a "signing ceremony" for the previously suggested common set of goals and objectives.

- 4) Establish a regional information collection, storage and retrieval system. Each of the institutions of concern has its own areas of special expertise, and its resources (e.g., staff, data base, library) in those areas are of tremendous potential value to other institutions and the region in general. Access to and knowledge of availability are the key constraints. A computer-based inventory of available materials - even in a rudimentary form - would improve inter-institutional

accessibility to the specialized "in-house" libraries and holdings of the individual institutions. Such an inventory will be of increasing value as staff resources are challenged by limited budgets; broadening, multi-disciplinary issues; and time limitations for research.

Collaboration among the institutions to establish such a system would appear to be without serious obstacle. The principal factors may be the extent to which their respective computer systems are compatible and their ability to agree on the form and substance of the information system.

An organizational meeting of the information officers of the various institutions would constitute the necessary first step in examining the feasibility of such a system. Discussions among the technical staff and policy officials of the respective institutions would be required to operationalize the system.

- 5) Create a framework to monitor and coordinate Great Lakes research activity; identify and prioritize needs; and allocate responsibilities. While each institution has some coordinative role in this area, a single Basin-wide system accommodating multi-disciplinary interests is lacking. As a consequence, multiple statements of "priority" research needs are in circulation at any given time. A standing committee or council with broad membership drawn from academia, government and the private sector is required. Further, that assemblage must be aware of the variance in research mandates among the various Great Lakes-related entities and exhibit the stature and credibility needed to influence research patterns.

Aspects of this framework are presently in place through the International Association for Great Lakes Research and the Council of Great Lakes Research Managers under the auspices of the International Joint Commission. Further, the proposed Great Lakes Amendment to the U.S. Clean Water Act recognizes this need in its provision for a Great Lakes Research Office within the National Oceanic and Atmospheric Administration. At present, however, the framework is not complete and lacks the ability to perform the needed functions.

This prioritization and coordination effort is best undertaken within a multi-institutional framework, perhaps with a single coordinative entity such as a Sea Grant Program, the Great Lakes Sea Grant Network or a reconstituted Council of Great Lakes Research Managers.

- 6) Inter-institutional support for a Great Lakes Information Referral Center. The lack of active public information services among the institutions of concern contributes to their generally low public profile and attendant public confusion over their respective responsibilities and capabilities. Further, fragmentation of authority precludes the existence of an active centralized source for directed inquiry. All Great Lakes institutions would benefit from support of a Great Lakes Information Referral Center. Modestly staffed and funded via these institutions as well as academic and foundation grants, the Center would base its services on the previously referenced regional information, collection, storage and retrieval system. Fielding calls

from any source from citizen inquiries to private firms or government agencies, the Center would respond to the inquiry directly or refer the caller to the appropriate source.

This Center could be modeled in part after a service of the same name supported by the Great Lakes Basin Commission and the Michigan Sea Grant Program in 1979-80. That service met with some success, although disbanded before it was able to fully establish itself. Support for such an effort is likely, although willingness to commitment funds will be questionable among the institutions of concern. Foundations and academic institutions are likely sources, at least initially. Such a Center is most appropriately housed within an academic or non-profit organization (e.g., The Center for the Great Lakes; Great Lakes Sea Grant network) with strong ties to, and direction provided in part by the regional Great Lakes institutions and their member jurisdictions.

- 7) Establish a "Great Lakes Office" or its equivalent in all Great Lakes states, provinces and relevant federal agencies. Advancements in focusing jurisdictional attention on Great Lakes issues have been demonstrated in Michigan and New York, and other states (e.g., Ohio) are considering such an office. The Great Lakes Program Offices in U.S. EPA and Environment Canada have played positive roles at the federal level in this regard as well. It is recommended that the remaining jurisdictions establish such an office and use it for both intra- and inter-jurisdictional coordination and policy-making purposes.
- 8) Increase involvement of nongovernmental organizations in various coordinative and policy development efforts. The four governmental institutions of concern, in assessing their own collective capabilities, should determine those areas in which nongovernmental organizations can make a substantive contribution. Examples include: use of the International Association for Great Lakes Research for policy and socio-economic as well as scientific research pursuits; The Center for the Great Lakes for coalition-building and special studies; Great Lakes Tomorrow and Great Lakes United for public education and participation; and various industry associations for soliciting industry contributions/reactions to policy development initiatives. One means to pursue this opportunity is through nongovernmental sector involvement in the Great Lakes Policy Summit recommended earlier, and thereafter in any subsequent coordinative activity.
- 9) Establish a "Visiting Scholar" program in all institutions of concern. The Great Lakes institutional ecosystem will thrive only through the infusion of new ideas and initiatives, and perspectives from those who are relatively new to it. For this reason, a "visiting scholar" program should be instituted within each institution. A one or two year "endowed chair" should be established, permitting outstanding academic, business or public officials to contribute their talents to the Great Lakes management effort.

In many instances, existing staff resources could be allocated to provide for such. Further, this type of function would expect to draw foundation and corporate donor interest.

- 10) Designate inter-institutional liaisons as a means to strengthen linkages. The Great Lakes policy community is, in many respects, a rather small one, and significant overlap is found in the membership, advisors and cooperators of the various institutions. Each institution would be well served by identifying individuals with a dual designation and appointing them as liaison between the two. So designated, they would serve as coordinator and contact to ensure that each institution is well informed of the other's activities and opportunities for cooperative effort.

Several members of the Great Lakes policy community presently serve in such a capacity on an informal basis; support for formalizing such an arrangement is expected to be readily achieved. It would be incumbent upon staff directors to identify such individuals and secure their cooperation as well as the approval of the membership.

- 11) Formalize an Interagency Personnel Agreement process to facilitate staff exchange among Great Lakes institutions and state/provincial/federal agencies. To varying degrees, Great Lakes institutions are subject to problems of staff turnover, staffing size limitations and sensitivity to the interests and needs of their membership. To better utilize the pool of Great Lakes expertise, strengthen inter-institutional ties and promote professional development, an exchange program between and among the regional institutions and relevant federal, state and provincial agencies is recommended. For example, a state could allocate a staff person to the Great Lakes Commission for a given project, or an IJC staff member could join the Fishery Commission staff on a temporary basis to work on fishery/water quality issues.

Such a program could be modeled in part after that sponsored by the Great Lakes Basin Commission in 1979-80, where GLBC fund allocations to the states could be accepted in funds or "in-kind" (i.e., personnel) contributions. Properly designed, such a program could be instituted on a substantial scale at nominal cost.

Recommendations - The Individual Institutional Effort

A. International Joint Commission

- 1) Conduct a major, periodic review of the terms of the Boundary Waters Treaty and Great Lakes Water Quality Agreement in light of current and emerging binational management needs. A review of the Treaty, including an assessment of its current and potential application, as well as the need and desirability of its amendment or renegotiation should be undertaken in the near term and periodically thereafter, perhaps every three years. The intent is to ensure that IJC efforts are targeted at critical issues; that Basin jurisdictions (and in particular the federal government) are fully aware of that potential; and that its ability to provide for a response to emerging Basin problems and issues is periodically assessed. A similar arrangement for the Great Lakes Water Quality Agreement is advisable; perhaps a more frequent and open version of the Agreement review anticipated for 1986-1987.

Such a review should be sponsored by the federal governments and involve state and provincial participation, but be conducted with outside assistance to ensure a broad and objective review. The National Research Council/Royal Society of Canada review of the Agreement in 1985-86 provides a useful model.

- 2) Broaden and strengthen the Council of Great Lakes Research Managers. Established under the auspices of the IJC's Science Advisory Board in 1983, the Council is designed as a forum for the exchange and coordination of research information among research agency and institute directors in the Great Lakes Basin. Further, it is the missing link between Science Advisory Board recommendations and their potential application. Broadening its limited membership and strengthening or initiating activity in the areas of research coordination, inventory and prioritizing would assist the IJC in focusing its own research related activities, as well as those of other institutions, agencies and academic units in the Basin. The Science Advisory Board should take immediate action to provide the Council with the membership, authority and resources necessary to fully develop its potential.
- 3) Revitalize the Great Lakes Regional Office's Public Information Office and pursue an aggressive outreach program. Although the Great Lakes Water Quality Agreement calls for a public information function within the Regional Office, the program has been de-emphasized in recent years and lacking in staff continuity. Further, the outreach element is more aptly described as a response-oriented activity than an initiatory one. A strengthened and aggressive program is needed to raise the Commission's public profile, more effectively educate its constituents and provide an avenue for citizen input into the programs and activities of the Commission. Support for a revitalized program must be voiced in the Commission's Washington and Ottawa offices, as the Regional Office can exercise at best only limited discretion in initiating the effort.
- 4) Streamline committee structure and process and relate more directly to Commission priorities. The committee structure under the Science Advisory and Water Quality Boards has grown unwieldy over time and, in some instances, the relationship of committee activities to Board priorities and overall Commission responsibilities has come into question. A recent action by the newly appointed co-chairmen of the Science Advisory Board to abolish all committees in preparation for a new structure as a positive step, provided that the new structure is implemented with due speed; continuity with respect to ongoing efforts is safeguarded; the new structure is founded firmly on the Commission's mandate; and former members are retained, as appropriate, to provide some sense of continuity to preceding efforts.

A comprehensive review of the board and committee structure is recommended, with consideration given to the replacement, consolidation, elimination or modification of current arrangements.

This review should include a careful examination of the Science Advisory and Water Quality Boards; their mandate; relationship to the Commission and each other; their membership; past performance and future direction. Careful attention should be paid to the concerns highlighted in the 1985 National Research Council/Royal Society of Canada review of the Great Lakes Water Quality Agreement.

- 5) Improve timeliness of report and study preparation. Commission effectiveness and credibility are compromised by an arduous and time consuming process for issuing reports and special studies. The length of the reference process - from development to reporting stages - has been highlighted as a particular concern. While time delays associated with certain studies may, on occasion, be unavoidable, inordinate delays have been observed. Careful attention to information needs, resource requirements and the array of other obstacles and requirements in the earlier stages of such efforts will assist in timely issuance of reports.

Addressing this matter will require action at both the federal level (e.g., an expedited reference process) and the IJC board and staff level (e.g., priority setting and resource allocation efforts).

- 6) Formal presentation of Commission findings and recommendations. The Commission process calls for transmittal of IJC studies and annual reports to the two federal governments for review and possible action. The lack of a formal presentation "event" involving high ranking federal officials, however, provides little impetus for federal agency reaction. Further, formal written responses to IJC recommendations are rarely received.

Establishing a formal presentation meeting on at least an annual basis should be considered as a means to promote federal agency coordination of, and reaction to relevant recommendations. An open meeting with media coverage would be desirable. Arrangements for such would appropriately be made by members of the U.S. and Canadian sections of the Commission.

- 7) Assume a lead and aggressive role in the development and application of the ecosystem management concept. With the signing of the Great Lakes Water Quality Agreement of 1978, the Commission formally recognized and endorsed the ecosystem management concept and established a framework and vehicle for its application. Given this, it is recommended that the IJC assume an aggressive, leadership role in developing the concept and working with other regional institutions and Basin jurisdictions in the interest of broadening its use and application.

Such an effort would be an appropriate assignment for a specified committee of the Science Advisory or Water Quality Board, with a broad-based, multi-disciplinary representation.

- 8) Broaden and expand the planning function with a special emphasis on longer-term anticipatory planning. Commission planning can and should be expanded substantially under the present terms of the Agreement and Treaty. The Commission's present data collection and analysis capability provides the foundation for such. Of particular value is the longer-term, anticipatory planning capability demonstrated by the Commission in its recently issued Great Lakes Diversion and Consumptive Uses Study. Carefully targeted to key issue areas and pursued with board or committee oversight, Commission planning studies could have a substantial influence in the direction of state, provincial and federal Great Lakes policy.

The Commission, in conjunction with its Science Advisory and Water Quality Boards, is well-advised to review the Agreement, Treaty and Board mandates to determine the opportunities and needs for focused planning activity and the means by which it can be pursued.

- 9) Review staffing and budgetary needs in the Regional Office and assess overall organizational requirements. The adequacy of the staffing and budget levels of the Commission's regional office has long been questioned in light of the responsibilities it is charged with under the Great Lakes Water Quality Agreement. Inordinate delays in filling staff vacancies have been of concern as well. An assessment of such is needed, as is a subsequent decision (if appropriate) to secure additional funds or otherwise re-allocate existing resources to priority needs.

Also of concern are organizational issues relating to the relationship between the boards and the office director and the overall level of accountability of the regional office to Washington and Ottawa offices. Such a review should be undertaken in conjunction with the Treaty/Agreement review process called for earlier.

- 10) Prepare and maintain an inventory of institutional responsibilities and program activity under the terms of the Great Lakes Water Quality Agreement. In cooperation with the state, provincial and federal governments, the Commission should maintain an updated document which identifies and describes state, provincial and federal responsibilities (implicit or explicit) under the Agreement; relevant laws, programs and intergovernmental arrangements; staffing and funding levels; and any related information describing the framework for, and commitment of agency resources to the provisions of the Agreement. Such a document would serve as a valuable reference source as well as providing a vehicle for assessing individual and collective agency commitment to the Agreement. On the U.S. side, the federal-state consultation and interaction involved in compiling the document could serve as an informal counterpart to the activities pursued under the Canada-Ontario Agreement. Preparing the inventory can be justified under the terms of the Agreement and would best be pursued as an activity under the Water Quality Board with principal input from the U.S.

EPA Great Lakes National Program Office and the Environment Canada Great Lakes Program.

- 11) Explore alternate dispute avoidance and resolution techniques. When the two governments are unable to reach a decision on a divisive issue under the Agreement, they lack well-defined alternatives to the strictures of the binding arbitration function embodied in Article X of the Boundary Waters Treaty or the provisions of the Hague Convention. Yet, such disputes are increasingly likely to arise as pressing transboundary issues emerge. Negotiation, conciliation, fact-finding and related techniques should be developed and made available through the Commission as a "first line" approach to avoiding or resolving disputes. Such techniques would provide a welcome alternative to the more rigid and politically unacceptable approaches and would allow the discussion to proceed under the Commission "umbrella."

Development and application of these techniques will require the concurrence and support of the Commission through the governments. Amendment of the Treaty or Agreement would not be mandatory, as existing provisions provide the necessary basis.

- 12) Develop and apply the socio-economic component of ecosystem management to activity under the Agreement. The Commission has long demonstrated an interest (although often latent) in the socio-economic aspects of Great Lakes water quality management. Indications of this are seen in the committees of the Science Advisory Board (e.g., Societal Aspects Committee), the direction of Commission-funded investigations and the interests of the Commission as expressed in reports and special studies to the governments.

This emphasis must be strengthened and integrated into all aspects of the Commission's studies and related activities if ecosystem management is to be practiced in its true form. To do so, such a committee must be maintained and its interaction broadened with other disciplines represented on Commission committees. Further, board and staff selection should be pursued to ensure adequate representation of socio-economic considerations.

B. Great Lakes Fishery Commission

- 1) Establish a public information function and outreach program. The nature and specificity of the Fishery Commission mandate provides the institution with a readily definable public clientele - sport and commercial fishermen principal among them. Yet, the Commission's low profile and lack of a public education/involvement program compromises its potential and hinders full development of a potentially substantial base of support.

A staff-coordinated public information program, drawing on the expertise of cooperating agencies, should be established by action of the Commission. A periodic newsletter should be considered as an element of this program. An active outreach component would

serve as both a public education tool and a vehicle for soliciting public input into the programs and deliberations of the Commission. A public advisory committee is an option as well.

Provided that such a program is carefully targeted and draws upon cooperating agencies for assistance, it is expected that it could be implemented with limited staffing and budgetary resources and without a substantial re-allocation of Commission priorities.

- 2) Periodic formal review of the Convention on Great Lakes Fisheries and related Fishery Commission programs. While a one-time review of such was mandated in Convention language and a number of program-specific audits and internal analyses have been conducted, a formal periodic review is in order. Conducted every 3-5 years as an "internal audit," for example, this review would serve as a check on the scope, direction and effectiveness of Fishery Commission programs and bring to light any needed revisions to these programs or the Convention itself. Further, it would provide the opportunity to assess programs in view of emerging issues and fisheries-related efforts underway by other regional institutions and state/provincial/federal agencies.

The review would be initiated by the Commission itself, coordinated by staff with input from cooperating agencies and individuals as well as user groups, and culminate in a public presentation. Properly designed, this internal audit function could be incorporated into the Fishery Commission program with only a modest increase in demands on staffing, time and budget constraints.

- 3) Heighten profile of, and expand annual meeting program. To broaden its public profile and secure a formal federal government response to its recommendations, the Commission should consider heightening the profile of its annual meeting. An expanded format featuring formal presentation of, and response to Commission recommendations would be appropriate, as would informational briefings and research reports by academic researchers and by fisheries agencies at all levels of government. Opportunities for dialogue with the general public would be appropriate as well.

Instituting such a format can be undertaken at the discretion of the Commission, as the Convention requires an annual meeting but makes no stipulation as to its format and content.

- 5) Strengthen linkages with the International Joint Commission and explore opportunities for cooperative action. While linkages do exist in terms of a formal liaison arrangement, and coordination at the program level is observed, the complementary nature of the institutions' mandates indicate that opportunities for cooperative action are substantial. Through periodic meetings of senior staff and joint meetings of the two Commissions, such opportunities should be identified and pursued. Issue areas to be focused on might include, among others: toxic contaminants in the fishery; impacts of lake level fluctuation on the fishery; water quality and habitat management.

This initiative should follow internal Fishery Commission discussion and decisions regarding a broadened interpretation of its mandate, as recommended above.

- 6) Maintain support for socio-economic research and application in an ecosystem management setting. The Fishery Commission should foster its growing reputation for, and support of research into the social and economic aspects of fishery management and more generally, resource management. This support, through grants for research and symposia, has had a demonstrated impact in developing the socio-economic dimension of ecosystem management. Continued emphasis in this area, coupled with efforts to involve a broader range of resource managers, scientists and policy makers is recommended.

C. Great Lakes Commission

- 1) Institute periodic comprehensive review of Commission programs in light of Great Lakes Basin Compact provisions. In a fashion similar to the IJC and Fishery Commission recommendations presented earlier, the Commission should adopt a policy calling for periodic comprehensive view of its programs in light of its mandate as presented in the Basin Compact. Conducted internally (i.e., by member states) every three years, such a review would serve to 1) inform (or remind) member states of compact provisions, 2) assess the scope and direction of current Commission programs, and 3) determine and act on dormant capabilities as necessary. The review could also be used to assess the adequacy of compact language and provide a means for suggesting amendments, when and if necessary.

Establishing a review policy could be promoted by the Executive Committee and approved by the full membership. A special committee could be appointed for a finite term at the beginning of each review cycle.

- 2) Establish a priority-setting process for Commission activity and a system of accountability to ensure adherence. A formal and procedurally explicit priority-setting process involving all member states should be instituted on an annual basis. This process would culminate in the adoption - at the annual meeting - of an explicit set of priority concerns for the upcoming 12-month period, the mechanisms to address them (e.g., task force), and a set of measurable objectives. Revisions/ amendments could be considered at the semi-annual meeting, if necessary, as that meeting would be used to monitor and report on progress and adjust strategies. Upon formulation of a prioritized action agenda, the chairman of each state delegation would sign the document, which would thus become a matter of record and Commission policy. The chairman would also be required to submit an annual report documenting his state's contribution to meeting priorities set and commitments made the preceding year.

As with the periodic program review recommendation, establishing this process would require the approval of the membership and a designated authority (e.g., Executive Committee) to oversee. The

accountability aspect would remedy a long-standing problem of unclear priorities and charges of Commission unresponsiveness brought by state members.

- 3) Clarify the Commission-Council of Great Lakes Governors' relationship through detailed study and a subsequent Memorandum of Understanding. If the two institutions are to co-exist without substantial structural and operational revision, a clarification of roles, responsibilities and interrelationships is necessary to remedy what is best described as an untenable situation. A follow-up to the State Research Associates' study is recommended to explicitly identify regional program needs, allocate responsibilities between the two institutions and define cooperative arrangements. A Memorandum of Understanding outlining their respective roles in generic fashion (e.g., advocacy, legislative tracking, research coordination, policy development) should be jointly approved and serve as a guide for each in program development and pursuit of initiatives.

Based on existing characteristics and capabilities, it is advised that the Council serve primarily in a broad agenda setting, consensus building and policy-making role. The Commission, while assisting in these functions as well, would focus its efforts primarily toward implementing such policies, providing technical assistance and advice to the states and the Council, and maintaining program coordination, data collection, issue research and legislative monitoring capabilities. The Commission should be considered, at least under current arrangements, as a preferred "institutional home" for maintaining programs under the Great Lakes Charter and Great Lakes Toxic Substances Control initiatives. Regional advocacy, promotional activity and federal agency/Congressional liaison should be shared but closely coordinated functions.

The Memorandum of Understanding should be prepared via a special task force comprised of GLC state delegation chairmen and the Executive Committee of the Council.

- 4) Secure active and sustained participation (non-voting) from provincial and U.S./Canadian federal agencies. The Commission should make a concerted effort to secure participation of a designated observer from Ontario, Quebec and each U.S./Canadian federal agency with an interest in Great Lakes management matters. These individuals should be invited to participate in or observe all Commission functions, provide information and liaison services, and voice agency concerns and ideas for consideration by the Commission. Cooperative state/provincial/federal initiatives should be pursued as appropriate (e.g., data collection programs, research coordination).

This recommendation can be addressed through the expansion and reactivation of the Commission's Technical Advisory Committee on Research and Development (established in 1982), addition of federal and provincial representatives to task forces or formation of a separate arrangement.

- 5) Improve effectiveness of advocacy efforts by funding a Washington-based staff person. A full-time, Washington-based Commission lobbyist position should be created to improve the effectiveness (i.e., impact) of Commission positions. Historically, the Commission has had only a limited presence at the federal level and follow up on its many resolutions and position statements has been questionable and in some instances, nonexistent.

This staff person could work out of the Washington office of the state chairing the Commission and would be responsible for legislative tracking, liaison and advocacy. The individual would be fully accountable to the Commission and report to the Executive Director and Chairman. Funding for the position could, at least initially, be drawn from the substantial reserve funds left to the Commission upon termination of the Great Lakes Basin Commission.

- 6) Initiate program development function as means to augment limited state appropriations. The Commission should make full use of compact provisions providing broad discretion in securing operating funds. To augment modest state appropriations, consideration should be given to securing (on both a project specific and general operating basis) foundation grants and corporate donations. Prospective requests should be formulated by staff, as appropriate, and presented to the Executive Committee (or a newly created committee) for approval prior to submittal.

An appropriate first step would be the designation of a Commission committee or task force on development and the formulation of guidelines and policy for pursuing "outside" funding.

- 7) Amend Bylaws to suspend voting privileges for states in arrears on dues. Suspension of voting privileges for non dues-paying states should be considered an inducement for timely state appropriations. This is a more viable option than any legal recourse which might be taken under compact provisions. Such a measure would provide a deterrent to the historical tendency of some states to go into arrears, and would therefore reduce budgetary and fiscal planning uncertainties.

- 8) Encourage active state involvement in the issue identification, research and analysis process. Commission effectiveness and the relevance of its programs should be strengthened by abandoning the present process in which issue development is largely staff responsibility and commissioners and advisors serve largely in a reactive mode. A more formalized issue identification and screening process - in which the states are principles and the staff is secretariat - should be instituted. (See recommendation on priority-setting process.)

Further, the Commission should consider an "in-kind" contribution system in which each member state would allocate a designated amount of staff time to work with counterparts and Commission staff in the identification, research and analysis of issues. This involvement should include the preparation of Commission member (as

opposed to staff) authored reports, issue papers and resolutions. To augment a limited staff, state commissioners and advisors should also be used extensively to represent the Commission at Congressional hearings, conferences, etc.

The limited level of involvement (and expectations of) state delegations in day-to-day Commission process should be considered a priority concern and receive concerted attention, in open forum, at a Commission meeting.

- 9) Replace present research compilation activities with a broader regional research and water planning coordination program. The Commission should serve as an information clearinghouse and coordinator for the range of Basin-related research and planning activity undertaken or sponsored by member states. As such, it would provide the information needed for member states to collectively determine Basin research needs; promote consistency of approach in the development of state water plans; develop positions on federal research funding proposals; provide a screening device for potential issues; and others.

A standing committee or task force with representatives from each member state should be established for this purpose. Commission staff should serve as secretariat and provide liaison to the inter-institutional research coordination body recommended earlier.

- 10) Revise or expand staffing arrangements to provide a public information/extension service. To strengthen its stature, credibility and recognition level, as well as make full use of its technical expertise and knowledge base, the Commission should develop and staff an aggressive public information/extension program. Such a program should include a regularly scheduled newsletter with broad distribution; outreach activities, including business, citizen group interaction and media relations; and support for and involvement in the Great Lakes information referral service recommended earlier.
- 11) Formalize a public involvement process to assist in shaping and implementing Commission programs. Nongovernmental participation in Commission activity should be broadened and formalized to assist in raising and screening issues for potential Commission consideration; to serve as a sounding board for prospective actions; and to assist in disseminating decisions and associated information.

Two approaches should be investigated. The first is a public advisory committee comprised of nongovernmental delegates appointed by member states. The second is a similar committee, but appointed by the Commission as a whole on a Basin-wide basis rather than seeking equal representation from each state. All major Great Lakes user and interest groups should be represented. Further, a portion of each Commission meeting should be allocated to a report of this committee and the opportunity for any other interested individual to make a statement or otherwise address the Commission.

Such a committee can be established by action of the Commission under the terms of the compact, provided that it be advisory in nature.

- 12) Assume, in some form, the Great Lakes Basin Plan process initiated by the Great Lakes Basin Commission. The Commission should pursue its Basin planning mandate provided for in Article I of the Compact yet largely ignored in favor of more reaction-oriented approaches. A policy planning approach - such as that reflected in the issue-specific elements of the now dormant Great Lakes Basin Plan - should be adopted. These elements, laying out policy statements approved by the Commission, would serve as non-binding guidance to the states, as well as being available for consideration by federal and provincial agencies or nongovernmental Great Lakes interests.

Properly devised, this new orientation would require only minimal alteration of current staff process, provided that state involvement become more extensive. This policy planning process would be a valuable means to reorient a historic Commission focus on resolution writing and occasional position papers.

- 13) Develop a new profile emphasizing that the Great Lakes Commission is an extension of the states and not an independent entity. The fact that the states are the Commission and the staff its secretariat must be re-established to ensure the active interest and support of member states in Commission activities. Some states have long regarded the Commission as a quasi-autonomous, distinct entity rather than a state forum. To some, the staff became synonymous with the Commission and the states but a third party observer and an occasional participant.

Characterizing the Commission in its proper light - as an organization of the states - should be pursued through the following:

- a) Heighten Commission profile by presenting its actions and accomplishments as those of the membership as opposed to the staff;
- b) Involve commissioners, advisors and other state representatives in day-to-day Commission efforts, including research, report and issue paper preparation, resolution writing and preparation and presentation of testimony.
- c) Increase reliance on Commission members to serve as organizational spokesmen; and
- d) Per an earlier recommendation, establish a system of expectations and accountability to ensure that individual state participation is active and contributory.

Commitment to this new profile for the Commission will require a collaborative, staff and member state effort on a continuing basis across all program areas.

- 14) Move from "balancing" of economic development and environmental concerns to integrating them. The Commission should reject any tendency to categorize issues as either economic development or environmentally oriented, addressing them separately in committees or task forces with a similar division of commissioners/advisors to attend to them. Rather, a multi-disciplinary, multi-perspective approach should be pursued; an ecosystem approach in which all ramifications of a Commission decision - environmental and economic - can be reviewed. While the consensus building process - at least in the initial stages - will be more divisive, it will also be more insightful and sensitive to Great Lakes management objectives.

This integrative approach can be pursued through careful issue definition; drawing from broader member state interests in task force appointments; and developing a checklist of questions to guide discussion and ensure that parochial tendencies are set aside in favor of broader Basin considerations.

- 15) Revitalize and heighten political profile and influence through commitment of state leadership and staff resources. Member states should commit to the active participation of designated commissioners (or top advisors) throughout the Commission's activities. Reliance on mid or lower level agency representatives for all activities beyond information gathering/coordination efforts should be avoided. Further, designated commissioners should provide an active liaison/advocate function for the Commission within their state. Revitalizing the Commission's political profile demands membership representation with the knowledge and authority to make decisions with confidence on behalf of the state.

Responsibility for addressing this recommendation lies with the individual state delegations, although the Commission should also consider bylaw/policy actions to ensure that member states fulfill their commitments with conviction. A more restrictive proxy arrangement is one alternative to encourage active, high level representation.

- 16) Pursue new image to shed "special interest" reputation. The Commission must shed its special interest (i.e., commercial navigation) reputation if it is to function as a viable institution for the broad range of resource management concerns in the Basin. Whether deserved or not, this reputation has compromised potential cooperative opportunities with other interests (governmental and nongovernmental) and in some cases encouraged alienation or confrontation. While attention to commercial navigation concerns is a most appropriate function, Commission activity should be apportioned more equitably among the Basin's other interests, as specified in the Compact.

The Commission should re-evaluate its charge with this in mind and examine other areas and opportunities for promoting the informed use and management of the lakes. The compact/program review process recommended earlier would provide an appropriate vehicle. Further, the Commission should initiate an outreach program (also

discussed earlier) to improve its image by dispelling any misconceptions; clarifying its mandate and investigating opportunities to broaden its emphasis. Particular attention should be paid to the nongovernmental environmental community, which has historically had limited association with the Commission.

Developing a new image, as with developing a heightened profile (discussed earlier) will require the continued commitment of staff and member states, as well as concerted external activity (e.g., media relations, interest group liaison). Given present state attitudes toward the Commission, such an effort would be a viable one, with success dependent upon the extent of political support behind it.

D. Council of Great Lakes Governors

As with all other "incremental" recommendations presented in this section, those for the Council are designed to complement and be pursued in concert with those for other institutions. This point is particularly important in light of the substantial similarities between Council and Great Lakes Commission mandates. In several cases, recommended program and coordination-oriented initiatives directed at the Commission could be addressed by the Council if the former chose not to act on them.

- 1) Clarify the Council-Great Lakes Commission relationship through detailed study and a subsequent Memorandum of Understanding.

(See Great Lakes Commission recommendation #3)

- 2) Grant full membership status to New York and Pennsylvania and associate membership status to Ontario and Quebec. Such an action would confirm the Council's commitment to a Basin-wide and bi-national resource management approach and formalize a relationship that has developed throughout its water-related activities. It is an essential requirement for immediate action if the Council is to realize its substantial potential. As an organization that addresses broad policy issues in a largely non-confrontational and consensus building manner, it is unlikely that the broadened membership would adversely influence any goals or objectives presently held by the six-state membership.

Implementing this recommendation will require some discussion among the present membership and a change in Bylaws and Articles of Incorporation.

- 3) Develop a long-term program plan to add specificity to goals presented in Articles of Incorporation. The Council, through a Program Development Committee or some variation thereof, should prepare a multi-year program plan for addressing priority issues. Such a plan would not only assist the Council in determining its own organizational needs and evaluate progress, but provide other institutions with an indication of direction and an opportunity to plan their activities accordingly. Further, it would provide a framework for the longer term initiatives now underway, including

the Great Lakes Water Management Program under the Great Lakes Charter and the implementation of the Great Lakes Toxic Substances Agreement.

- 4) Stabilize funding base and staffing/office arrangements. The Council must foster a sense of permanence in its organizational structure if it is to establish itself as a driving force for regional cooperation and promotion over the long term. The present modest funding/staffing base must be evaluated in light of the long-term program plan recommended above. It is suggested that a single, non-rotating Council office be established to ensure continuity of staff and services. With regard to staffing, it is further recommended that member states consider staff support in the Council office as an "in-kind" contribution to augment the modest size of the present staff. Finally, it is recommended that the Executive Director be an appointee of the Executive Committee as opposed to the Council Chairman, and continuity in that position be encouraged irrespective of chairmanship changes.
- 5) Use Great Lakes Charter as a model for other future elements of a Basin management plan. The Great Lakes Charter should serve as the prototype for subsequent related initiatives on a range of regional issues. The Council should consider these initiatives as elements in an ongoing Basin Plan Process, and commit to continuing development of such a plan. Elements should be pursued in order of priority with Council and staff capabilities in development and implementation a primary consideration. This process should be closely coordinated with activities of the Great Lakes Commission and pursued cooperatively to the extent possible.

Committing to this process is a substantial long-term decision warranting extended discussion of Council goals, objectives, organizational resources and inter-institutional relationships (present and potential). Such a discussion and subsequent decision, however, is needed if the benefits of the Great Lakes Charter process are to be realized in the broader range of resource management needs. Further, the sensitivity of the Charter and accompanying Council report to ecosystem considerations is significant and should be applied in broader fashion.

An investigation of this function must be pursued in light of GLC recommendations to ensure that planning efforts are cooperatively pursued or allocated to one or the other.

- 6) Open up Council process to permit broader input into program and policy development activity. The Council should avoid the "closed door" Charter development approach which excluded non-member input throughout all but the final ratification stage. While task force and working group sessions need not be restructured into a form of public hearing, periodic opportunities for input should be budgeted into key segments of all initiatives.

While an open policy such as this may engender additional debate and discussion, it may also serve to garner support for a given initiative and its implementation after adoption.

- 7) Expand promotional role to serve as principal spokesman and advocate for region. The Council should make maximum use of its membership stature and inherent media appeal in serving as the region's principal spokesman and advocate. While the more technical program activities are best pursued by Council task forces and committees, the Council membership - through regularly scheduled and well-publicized meetings, signing ceremonies and related activities - should publicize and promote the region and the cooperative activities of its jurisdictions. A presence in Washington, D.C., either in lieu of or in conjunction with the GLC is a necessity.
- 8) Develop dispute avoidance and resolution techniques for use in addressing potentially divisive regional issues. While the Council is appropriately focused on issues amenable to consensus during its early years, its future focus should also turn to one of addressing the more divisive issues equally in need of resolution. Consideration should be given to the use of the Council as the forum for resolution of issues among high-level state officials.

This future role should be considered as the long-term program planning recommended earlier proceeds. Dispute avoidance and resolution techniques should be developed under the auspices of the Council at that time.

- 9) Sponsor study of institutional requirements for long-term oversight of charter implementation and related future initiatives. The Council must act on its own finding that the institutional requirements for Charter implementation do not presently exist. A study should be undertaken to identify those requirements and determine whether a present institution should be revised accordingly or a new institution or framework set in place. Special attention should be given to the current and potential Council-Great Lakes Commission interrelationship and the opportunities therein.

Such a study should be commissioned in the near future to ensure that momentum under the Charter is maintained.

- 10) Expand public information capabilities. Due to the Council's growing profile in the region and its involvement in issues of broad concern (e.g., water diversion, toxic contamination), a staff level capability to respond to inquiries and maintain an information outreach program is essential. Instituting such a program is recommended, as is linking it clearly to other inter- and intra-institutional programs recommended earlier. Some form of public advisory committee should be considered as well.
- 11) Conduct periodic review of Council programs in light of mandate. As recommended for other institutions, a periodic review (perhaps every three years) should be conducted by the membership to

1) reexamine mandated responsibilities; 2) assess the scope and direction of current programs; and 3) determine and act on dormant capabilities, as necessary.

This review could be mandated via Bylaw revision or adoption of a policy statement to that effect.

Scenario Three: Substantive Revision of Present Institutional Arrangements

As noted, the "incremental change" recommendations presented under Scenario Two are predominantly operational adjustments of a comparatively minor nature. Because most can be implemented within existing arrangements with a relative minimum of institutional disruption and political debate, they do hold great promise. They are therefore offered as the necessary first steps in strengthening the Great Lakes institutional ecosystem.

There is, however, a second tier of institutional concerns that transcends operational issues and questions instead the more fundamental structural framework of this institutional ecosystem. For even when a given institution or set of institutions is fully operational and meeting any established efficiency/effectiveness criteria vis-à-vis stated goals, the performance is for naught if those goals are misdirected or insensitive to resource management needs.

Scenario Three recommendations accept the fundamental legitimacy of current arrangements but recognize that some sweeping (and perhaps politically controversial) operational and structural revisions are in order as we move toward a substantially revised regional management framework.

The following recommendations, to be considered after (or as) Scenario Two recommendations are initiated, seek also to bring current institutional arrangements in line with the goals, objectives and organizational parameters outlined earlier.

Recommendations - The Collective Institutional Effort

The recommendations for incremental change in this area, as indicated, advocate stronger linkages between regional institutions and the joint pursuit of basic information gathering, prioritization and program coordination functions. Bolder initiatives are needed as well, recognizing that such incremental changes cannot address the more substantial inadequacies associated with present regional resource management efforts. The following are recommended for consideration.

- 1) Establish a U.S. counterpart to the Canada-Ontario Agreement to formally and explicitly recognize U.S. state/federal responsibilities in Great Lakes management. While the role of the states in Great Lakes management has historically been a significant one, their standing vis-à-vis the federal interest has been poorly defined and of questionable equity. For example, the states have lacked a direct voice in negotiation of the binational Great Lakes Water Quality Agreements, while assuming a large responsibility for meeting the U.S. commitment. Further, the "new federalism" philosophy has returned many programs (but few dollars) to the

region, where states bear implementation responsibilities under federal laws.

A U.S. counterpart to the Canada-Ontario Agreement is needed to formalize federal/state relationships under the Great Lakes Water Quality Agreement in terms of implementation as well as review/amendment/renegotiation efforts. Specification of the state role will assist in assessment of budgetary needs, provide a benchmark for evaluating efforts and guide the development of interstate arrangements to meet expectations embodied in the federal/state agreement.

Support for such is best initiated among the states in consultation with U.S. EPA in the interest of preparing a mutually acceptable statement of agreement.

- 2) Establish a Great Lakes Environmental Endowment Fund for use by regional institutions and political jurisdictions with Great Lakes management responsibilities. As an alternative to accommodating uncertain and often dwindling budget allocations for Great Lakes management activities, the region's political jurisdictions - at all levels - should consider support for an endowment fund to provide continuity and expansion of regional programs. Supported through various means (e.g., environmental penalties and fines, resource use royalties, assessments, private and foundation grants), the fund would be targeted at critical regional issues and serve to sustain inter-jurisdictional efforts (e.g., Basin-wide monitoring, planning, research) historically beset by funding difficulties.

Great Lakes state and provincial primacy in fund administration is preferred to ensure that priority regional needs are met. Some form of federal sanction is desired, however, in order that the fund might be the recipient of fines, penalties or other assessments originating at the federal level. It is emphasized that such a fund be used to supplement, as opposed to subsidize or replace existing funding sources for resource management programs and regional institutions.

The Council, Commission and/or Great Lakes Environmental Administrators would be appropriate forums for developing and pursuing the idea, with state, provincial and perhaps federal legislation required to operationalize such a fund.

- 3) Negotiate a new international Great Lakes Agreement which broadens the Water Quality Agreement focus and recognizes state/provincial roles. The signing of the Great Lakes Charter and subsequent state/provincial concurrence on the principles of a Great Lakes Toxic Substances Control Agreement has demonstrated a breadth of binational, state/provincial cooperation that goes far beyond water quantity/ quality concerns alone. To more fully acknowledge the "ecosystem approach" to Great Lakes management and secure a greater degree of formality and commitments to these recent (as well as future) agreements, the federal governments, in consultation with

Basin states and provinces, should work toward an international Great Lakes Agreement incorporating water quality, quantity and all other ecosystem elements considerations into a single document, and vesting similarly expanded authority in the Great Lakes Regional Office of the International Joint Commission. Such an Agreement should be negotiated to retain and expand upon the strengths of the 1978 Great Lakes Water Quality Agreement while accommodating water quantity and other related considerations as well. Agreements at the state/provincial level should be maintained concurrently to cover those arrangements not appropriately included in the international Great Lakes Agreement where signatories include the federal governments.

The 1986-87 mandated review of the Great Lakes Water Quality Agreement of 1978 provides a convenient and most appropriate opportunity to initiate discussion of this recommendation.

- 4) Conduct an operational merger of the Council of Great Lakes Governors and Great Lakes Commission which safeguards the integrity of the Great Lakes Basin Compact yet integrates resource-related programs of the two institutions. This recommendation warrants special and detailed attention given the present emphasis and concern over Council-Commission interrelationships (a current arrangement generally believed to be untenable) and the substantial yet unrealized potential suggested by alternate arrangements.

The review of mandates, structure, operation and demonstrated capabilities of the two institutions (See Appendix A) provides the analytical perspective and basis for the recommended arrangement. It is clear that, despite similar mandates, both institutions have distinct strengths and weaknesses. To adequately address Basin management issues, they "need" each other; yet this need has to date been unfulfilled. The Council, for example, enjoys a political profile, media appeal and influence well beyond the Commission's demonstrated capability. Conversely, the Commission has a level of technical expertise and broad-based coordination and legislative monitoring unmatched by the Council.

Based on these observations of similar mandates and mutual interdependence, some of the more commonly expressed alternatives for institutional revision can be rejected. For example:

- o "Mothballing" the Great Lakes Commission while keeping the compact intact but dormant would serve no justifiable purpose, as the Council would have to assume many present and essential Commission functions. Inefficiency is the only apparent outcome.
- o If the Council was abolished, and with it an avenue for direct gubernatorial participation in Basin issues, the management effort would revert to "business as usual" with the Commission - a source of long-standing dissatisfaction with several states and an arrangement which, in and of itself, compromises Basin management potential.

- o Maintaining both institutions with stronger ties is an improved option, and might include efforts to co-locate staff and vest policy direction in a single Executive Committee. Yet, such a step would appear to be based more on political realities (i.e., what can be done) than on Basin management needs (i.e., what should be done). Even now, with a tremendous overlap in commissioners, advisors and cooperators between the two, coordination and cooperative action is clearly inadequate.

In terms of positive, incremental change, the recommended action (as noted earlier) is to recognize areas of potential overlap, define the universe of Basin management needs; and subsequently allocate and coordinate functions through a comprehensive Memorandum of Understanding. Then--and only then--should co-location and uniformity of Executive Committee membership be considered. These should not be viewed as solutions in and of themselves, but as a means to implement the Memorandum of Understanding and the solutions embodied within it.

In terms of substantive change, an operational merger of the two institutions is recommended, premised on the idea that: the Great Lakes Basin Compact must be maintained in some form; gubernatorial involvement must be sustained; and technical and coordinative capability must be provided for. The following measures should be taken:

- a) Consolidate the two institutions and their present programs into a single one, renamed the "Great Lakes Basin Commission" or "Great Lakes Council" or some other acceptable name to demonstrate a merger and avoid confusion with either of the existing institutions.
- b) Using the existing Great Lakes Basin Compact as the institutional base, amend it to limit institutional membership to the governors themselves. Allow each member (i.e., governor), to appoint a five-member delegation authorized to represent him and cast his vote. Delegates would include the directors of the State Departments of Natural Resources and Transportation; one member each from the House of Representatives and Senate; and a member at large.
- c) Approve Bylaws placing strict limits on the use of proxies and requiring that a majority of a state's delegation (in the absence of the governor) be present for that state's voting privilege to be exercised.
- d) Consolidate Council and Commission staffs in a permanent office of this "new" institution and establish a permanent field office in Washington, D.C.
- e) Integrate the present functions of both institutions into the new one as a minimum initial effort, subsequently broadening them per recommendations presented earlier (e.g., Basin planning, standard setting).
- f) Expand the funding base by substantially raising membership dues and securing alternate funding sources. Expand staff size

accordingly and make liberal use of "in-kind" state services (e.g., interagency personnel agreements).

- g) Provide for a chairmanship on a two-year, rotating basis, with the head of the delegation from the "chair state" serving as chairman of the Executive Committee, comprised of the gubernatorially designated delegates.
- h) Organize expanded staff into sections which include, among others, technical support and research; advocacy/public relations; policy and program development; Basin planning and interstate liaison.

Once the structure is in place and the institutional programs and services outlined, every effort should be made to secure provincial membership, federal agency cooperation, and broadened programs and authority per the recommendations presented earlier.

This arrangement, patterned in part after the Delaware and Susquehanna River Basin Commissions, and drawing from other arrangements as well, would consolidate resources, reduce institutional complexity and provide a more integrative approach to Basin management.

Recommendations - The Individual Institutional Effort

A. International Joint Commission

Recommendations for substantive change are directed at previously identified structural and operational weaknesses and generally fall into five categories: federal/state/provincial relations; scope of authority; membership/appointment process; functions and organizational resources. They are presented below as steps which preserve the basic premise of the Boundary Waters Treaty and International Joint Commission while providing for substantive revision. Most would require revisions to the Treaty itself or, at the minimum, a departure from current Commission policy or procedure.

Federal/State/Provincial Relations

- 1) Require a formal federal government response to Commission recommendations. The Commission is empowered only to offer advice and recommendations to the two federal governments; there exists no reciprocal requirement for responses to those recommendations. Historically, responses have been sporadic at best and the absence of such a requirement has provided the federal governments with a means to ignore or delay consideration of pressing issues. A mandatory response process, preferably through a public forum, is recommended to strengthen federal accountability on Great Lakes issues and heighten the impact of Commission actions. Establishing such a requirement is best achieved via specific language in an amended Boundary Waters Treaty or Great Lakes Water Quality Agreement but can be achieved through a statement of intent or policy issued by the federal governments as well.

- 2) Secure high-level state and provincial representation in all appropriate Commission functions and formalize a state and provincial role in the negotiation, amendment or interpretation of all binational agreements formulated or administered by the Commission. The Commission, in consultation with the U.S. Department of State and the Canadian Department of External Affairs, should formulate policy providing Great Lakes states and provinces with a substantial and well-defined role in all matters which directly or indirectly impact state and provincial responsibilities in Great Lakes management. Such policy should provide a substantive state and provincial role in any effort to review, amend or re-negotiate the Great Lakes Water Quality Agreement or any related future agreement. In turn, the states and provinces should acknowledge the importance of Commission deliberations by directing high-level officials to participate in them.
- 3) Specify regulatory and enforcement functions of the federal governments under the terms of the Boundary Waters Treaty, Great Lakes Water Quality Agreement and any future agreements. While the Treaty and Agreement set forth standards and criteria for binational Great Lakes management, specific references to regulatory and enforcement mechanisms for these standards and criteria within each government are not provided. Specification of such through Treaty and/or Agreement revision, exchange of notes or other formal expression of policy is recommended as a means to establish a system of accountability and a benchmark for assessing progress.

Scope of Authority

- 4) Extend the Commission's quasi-judicial powers to other areas, including Great Lakes water quality considerations. Through Treaty revision, grant the Commission standing authority to rule on binational water quality disputes, direct federal resources toward specified Areas of Concern, and approve/deny applications for Great Lakes water uses where such use may have substantial water quality or other environmental implications in the boundary waters.
- 5) Negotiate a new international Great Lakes Agreement which broadens the Water Quality Agreement and recognizes state and provincial roles.

(see recommendation #3 under preceding discussion)

- 6) Grant the Commission broad standard-setting authority for Great Lakes water quantity, quality and related environmental considerations. Through Treaty revision and expanded use of the Agreement device, grant the Commission standing authority to set binding minimum standards to guide Basin management efforts of the two federal governments and state/provincial jurisdictions.
- 7) Extend Commission authority to all boundary water tributaries and include Lake Michigan in the definition of such. Recognizing that Great Lakes tributaries are an integral component of a single, binational ecosystem and that Lake Michigan is hydrologically

indistinguishable from Lake Huron (a recognized "boundary water"), the Boundary Waters Treaty should be amended to extend Commission authority over them.

- 8) Establish a "consistency requirement" mandating federal, state and provincial governments to demonstrate consistency with extant Commission plans, standards or guidelines when publicly funded projects or water uses with substantial Great Lakes impacts are proposed. Modeled after the consistency provisions in U.S. federal coastal zone legislation and commonly seen in local development ordinances, the consistency requirement would strengthen Commission influence in the orderly development and management of the lakes.
- 9) Expand the Commission's monitoring function to provide oversight and coordination of federal initiatives. The Commission should be granted an oversight and coordinative authority to strengthen federal accountability to, and vigorous pursuit of the terms of the Great Lakes Water Quality Agreement and related future agreements. Such authority would provide an incentive presently lacking under current arrangements.
- 10) Ensure federal responsiveness to Commission-generated Great Lakes research priorities. Through a revised Water Quality Agreement or other binational arrangement, the federal governments should embrace a policy promoting consistency between Commission-generated research priorities and the Great Lakes research agendas of appropriate agencies and federally-supported institutions.
- 11) Formalize a means for direct interaction between the U.S. and Canadian Commissioners and the broader range of federal, state, provincial, local and non-governmental interests in the Basin. The Commission should establish a procedure to enhance accessibility to Commissioners during program development and priority setting processes, during the actual conduct of its studies and after findings and recommendations have been formulated. Periodic public hearings at the "field level" throughout the Basin should be held, and expanded opportunities provided for public interaction and discussion during business meetings of the Commission. Other options include establishment of a public advisory committee and/or broadened representation on boards and committees.

Membership/Appointment Process

- 12) A new appointment process for Commissioners should be established to ensure uninterrupted, capable and responsive leadership for the Commission. Dissatisfaction in some sectors has long been expressed with respect to the political nature of appointments, extended vacancies, limited accessibility and perceived unresponsiveness. While these concerns may, in some cases, be overstated, a revised appointment process and membership arrangement would strengthen the Commission's leadership and, hence, resource management capabilities. The following actions are recommended:

- a) An open nomination/appointment process providing the community of Great Lakes interests with input into the selection of prospective Commissioners;
- b) Staggered appointments and specified, longer terms to provide continuity of leadership despite changes in administrations;
- c) Full-time (or increased) appointments for all commissioners;
- d) The formulation of basic criteria for screening candidates and providing an appropriate diversity of representation in each section.

These revisions should be reflected in an amended Boundary Waters Treaty or terms of operation for the Commission, as appropriate.

Functions

- 13) The federal governments should grant the Commission a "standing" or "open" reference to provide for a continuing, comprehensive Basin planning function. The Commission is an appropriate institution to assume and expand upon the Basin planning function once undertaken by the Great Lakes Basin Commission. Such a function should be co-ordinated through the Regional Office under the auspices of a new board or committee, with broad inter- and non-governmental representation, capable of integrating the disparate, issue-specific activities under the Commission's present program.

Special emphasis should be placed on long-term anticipatory planning, as the Commission is the regional institution best suited - both structurally and politically - to undertake such a function. A progress report on the planning process should be prepared periodically by the appropriate board or committee in addition to the planning documents themselves. This function, of course, should complement and be coordinated with any Basin planning function undertaken by the other regional institutions of concern.

- 14) The Commission's reference requirement, as it now stands, should be revised in favor of one which provides the Commission with a degree of autonomy in selecting appropriate study topics itself, or choosing to act on a reference request without the concurrence of both governments. While attention to jointly referred issues should remain a priority, the Commission should not be constrained from addressing other critical issues which, for political or other reasons, do not enjoy the support of both governments. This flexibility is essential if the Commission is to embrace a pro-active, anticipatory planning process.
- 15) Provide the Commission with a research mandate and expand its capability to support outside research. The role of the Regional Office, largely limited to one of monitoring and coordination, should be expanded to provide even a modest in-house research capability to support and respond to its present programs and stated research priorities. Further, the adequacy of funding levels to

support outside research-related efforts through the Science Advisory and Water Quality Boards should be assessed in light of present programs and needs as well as emerging issues and prospective new programs and responsibilities (per other recommendations).

- 16) Secure explicit recognition of, and a statement of federal commitment to, the Great Lakes Water Quality Agreement through new or amended U.S. federal legislation. The Great Lakes Water Quality Agreement is not explicitly referenced in any existing U.S. federal legislation, although measures to that effect have been put forward. Such recognition is needed to further formalize and strengthen the U.S. commitment to the provisions of the Agreement. Support for appropriate legislative language is warranted.
- 17) Through restructuring of boards and committees, balance the standing emphasis on dispute resolution and management considerations with added focus on the resource itself. The Commission should consider alternate models for board and committee structure which focus its work more directly on the resource of concern. The "lake committees" approach adopted by the Great Lakes Fishery Commission, or some variation thereof, should be considered. For example, the work of the Commission's socio-economic and ecological considerations committees could be integrated into a single committee where a interdisciplinary approach is focused on a certain Basin resource (e.g., water, air) or the collectivity of resources within a sub-basin.

Staffing/Funding Arrangements

- 18) A thorough review of organizational requirements in the Commission's Great Lakes Regional Office should be undertaken in light of present and prospective responsibilities, and appropriate adjustments made. Current staffing levels are appropriately viewed as only marginally adequate in addressing prescribed functions. Funding is modest as well, with pronounced limitations, for example, in funds for research and conference support through the Water Quality and Science Advisory Boards. An objective, outside assessment of organizational requirements should be undertaken to determine present needs as well as those associated with the assumption of additional or revised functions per the recommendations contained herein.

B. Great Lakes Fishery Commission

Recommendations for substantive change in the structure and operation of the Great Lakes Fishery Commission are limited in number when the present arrangement is examined in light of the parameters for institutional design presented earlier. Three principal reasons are identified. First, unlike the other regional institutions of concern, the Fishery Commission has a limited and quite specific mandate - one that precludes it from becoming a "lead" institution in comprehensive regional resource management with any semblance of its present structure and operation. It was neither designed for such nor has the aspirations for assuming such a role. Hence, proffering a series of recommendations for extensive revision is

inappropriate. Rather, the focus is better placed upon means by which it can more efficiently and effectively address its given, albeit limited, mandate.

Second, the review of the Fishery Commission's role in the Great Lakes institutional ecosystem indicates that what it does, it does well. It appears that the several incremental revisions recommended earlier address the great majority of institutional weaknesses identified and capitalize upon opportunities to strengthen linkages with other elements of that institutional ecosystem.

Third, this review indicated that much can be learned from the identified strengths of the Fishery Commission's structure and function (e.g., measurable goals and objectives; broad representation and active participation; planning capability; committee arrangements; research support). It is clear that it is better to incorporate these strengths into other institutions than attempt to broaden the Fishery Commission into something it was never intended to be.

There are, however, several rather substantive revisions which the review indicated would complement the incremental revisions recommended earlier. They are as follows:

- 1) Review present funding arrangements to ensure equitable and adequate U.S.-Canadian contributions. The Fishery Commission's funding arrangement stipulates that the U.S. and Canada contribute to its support on a 50/50 ratio for administration and general research and a 69/31 ratio for sea lamprey control and research. This latter ratio represents the historic commercial catch of whitefish and lake trout between the two countries. Because of this ratio, a reduction in one government's allocation would require a similar reduction in the other's. While these arrangements have not been a significant problem in the past, the funding formula should be reviewed and possibly revised to more accurately reflect the two governments' interest in the fishery, as well as to provide either with the option of providing additional funds (beyond a minimum required share) to support Fishery Commission work. Further, a careful review of funding needs should be conducted, and appropriate adjustments made, in light of emerging needs and the increasing importance of the fishery to the Basin as a natural and economic resource.
- 2) Revise appointment process to broaden representation, set finite terms, open up the nomination process and establish basic criteria for screening candidates. Various levels of dissatisfaction have been expressed over time with regard to matters such as the Fishery Commission's narrow perspective on fishery management, marginal U.S. commissioner attendance at meetings and the open-ended appointment process which may constrain the introduction of new ideas and emphases which accompany periodic membership turnover. While these matters were not found to be of widespread concern during the interview and survey process, there is cause for considering the following:

- a) An expanded number of commissioner positions to permit broader representation among public agencies and user groups;
- b) Finite and staggered appointments to provide continuity of leadership despite changes in administrations;
- c) The formulation of basic criteria for screening candidates (in those instances where not designated by official position) and providing an appropriate diversity of representation in each section.
- d) An appointment process requiring federal legislative confirmation of appointees.

These measures would strengthen internal operations while broadening representation and public profile.

- 3) Expand programs and revise Convention, if necessary, to broaden mandate beyond production-oriented fisheries concerns. The Fishery Commission should consider broadening its interests and program activity to address other resource issues which affect the fishery but have broader significance in ecosystem management as well. These areas may include, among others, water quality, coastal resources, diversion and lake levels; aquatic habitat; and human health considerations. In addition to strengthening the basis of its own programs, such an effort would be a valuable contribution to the programs of other regional institutions and provide an opportunity for cooperative activity.

Initial consideration of such might best be pursued at the committee level (e.g., Board of Technical Experts) and subsequently brought forward as the theme or central focus of an annual Commission meeting for discussion and an implementation plan.

These revisions, although not calling for a comprehensive Basin management function for the Fishery Commission, will benefit its current programs and their contribution to the collective institutional effort.

C. Great Lakes Commission

As established earlier, the Great Lakes Commission mandate - through provisions of the Great Lakes Basin Compact - is a broad one with the potential to address Great Lakes management in a comprehensive, Basin-wide manner. For this reason, a number of substantive structural and operational steps (some calling for a dramatic departure from present practice) are recommended to better position the Commission to address the institutional parameters developed earlier.

The recommendations presented below are particularly applicable should the Commission and Council remain separate and distinct entities rather than undergoing the operational merger suggested earlier. Should such a merger occur, however, such recommendations would remain appropriate, although modification to some may be necessary to accommodate the attributes the Council would bring to such a consolidated arrangement.

Again, it is emphasized that these recommendations are presented as necessary measures to achieve Basin management needs, while recognizing that political and operational considerations may pose substantial obstacles.

- 1) Secure U.S. and Canadian federal legislative approval of a compact amendment providing for full provincial membership and extending Compact jurisdiction throughout the Great Lakes/St. Lawrence Basin. A comprehensive, Basin focus cannot be achieved until co-equal state and provincial participation is realized, as envisioned when the Compact was adopted by the states in 1955. Efforts to secure ratification of the necessary amendment should be supported. Once achieved, operational adjustments within the Commission structure can be undertaken to ensure that the states retain all coordinative and advocacy functions in which provincial participation may not be necessary or appropriate. Similar arrangements could be made with respect to the provinces. Distinct state and provincial caucuses within the Commission structure could be established for that purpose.
- 2) Provide the Commission with broad standard-setting authority across Basin jurisdictions and require those jurisdictions (states and provinces) to adhere to a "consistency requirement". Through Compact revision, the prospective state-provincial Commission membership should be empowered to exercise a consensus-driven standard setting authority over the resource management areas stipulated in the Compact. Under this arrangement, the membership would commit to establishing consistent standards within their individual jurisdictions.

A variation on this arrangement, focusing specifically on water quality, was pursued in the late 1960s by the Commission membership, but dropped after extended debate and the signing of the Great Lakes Water Quality Agreement of 1972. It is recommended that such an approach be reconsidered in light of present and anticipated needs.

- 3) Standardize commissioner appointments across member jurisdictions. To ensure consistent representation and level of expertise across all member jurisdictions, a standardized appointment process should be established. It should provide for a minimum of five commissioners per jurisdiction, these being the director of the Department of Natural Resources (or its equivalent); director of the Department of Transportation; a member of the House or Assembly; a member of the Senate; and a gubernatorial appointee. Consideration should also be given to expanding state delegations by a member or two to provide for additional gubernatorial appointees to represent the public-at-large.

This measure will strengthen the knowledge base of the collective Commission membership and increase its use as a forum for coordination and interaction among those of similar position in the various jurisdictions. Enacting the measure will require amendment of Compact language in most of the states. If the size of state

delegations to the Commission is to be increased beyond five, amendment of Congressionally ratified Compact language would be required as well.

- 4) Enact strong measures to ensure high-level (i.e., Commissioner) representation at Commission meetings. Standards outlining expectations and participation requirements of commissioners should be adopted by the Commission to avoid the long-observed tendency toward delegation of all responsibilities to lower level agency staff often lacking authorization to suggest or react to major new initiatives or policy positions which arise during meetings. One of many options which might be adopted would require a quorum of a state's delegation to be present at a Commission meeting for that state to have full voting privileges. Limitations on the use of proxies might also be established, such as requiring they be in writing, received by the Commission prior to the meeting and limited to one or two per state delegation for any given meeting.

These standards or policies could be incorporated into Commission Bylaws through action of the membership.

- 5) Initiate a process for formal presentation of resolutions and position statements to the Congress and federal agencies. The long-standing but largely ineffective practice of transmitting packets of resolutions, with little follow-up, to target agencies and members of Congress should be replaced with a more intensive, personalized approach. Soon following scheduled meetings of the Commission, a formal presentation of the adopted resolutions and policy statements should be scheduled in Washington, D.C. for agency and Congressional representatives, as well as other interested groups and the media. Follow-up from the Commission office and the (recommended) Washington-based lobbyist would be pursued on individual issues.
- 6) Reinstate the Great Lakes Basin Plan process initiated by the Great Lakes Basin Commission and subject all Basin jurisdictions, including the federal government, to a consistency requirement. Although existing language in the Compact provides for a planning function (at least in the U.S.), amendments would be required to expand that function Basin-wide and require Basin jurisdictions to demonstrate consistency with the plan when contemplating publicly-funded initiatives or approving private initiatives in relevant areas. Canadian concurrence at the provincial and federal levels would be necessary as well. If pursued with vigor, this planning process would make significant inroads toward integrated management of the Great Lakes system.
- 7) Expand the funding/organizational resource base by increasing, as appropriate, member jurisdiction dues, acquiring project-specific grants and acquiring "in-kind" services from member jurisdictions. The present dues structure must be revised if any recommended, as well as existing, functions are to be fully undertaken. A realistic assessment of present arrangements must be made and revisions pursued. Further, each member jurisdiction should commit at least

a half-time equivalent technical/policy position to work solely on regional issues under the purview of the Commission.

While the still-substantial funds transferred to the Commission at the closing of the Basin Commission can be drawn upon to support expanded activities, such an arrangement is but temporary. A scheduled increase in state dues put into effect in recent years is modest and clearly inadequate in light of these expanded activities. Thus, even to maintain existing activities, once Basin Commission funds are exhausted, consideration of this recommendation in the near future will be required.

- 8) Expand and reorganize staffing arrangements to better address current and recommended functions. As presently constituted, staffing arrangements accommodate the coordinative, information gathering, secretariat and analytical components of the Commission's operation. Other functions, however, require additional emphasis, including advocacy, media relations, public sector liaison, program development and Basin planning, among others. To an extent, it appears that capabilities of the staff are not translated into actions or products that receive recognition and response beyond those individuals associated with the Commission. Actions to be considered include a reordered (and ideally expanded) staffing arrangement to provide a public information/media relations officer, a Basin Plan manager, task force secretary(ies), research manager, data base manager, and a full-time Congressional relations/lobbyist. At the minimum, three additional staff members would be required to adequately address present and recommended functions.

D. Council of Great Lakes Governors

Recommendations for substantive change within the structure and operation of the Council require several introductory observations. First, as the newest of the Great Lakes institutions of concern, the Council remains in its formative stage; functions have not become fully routinized or the role in the Great Lakes institutional ecosystem fully developed and defined. Hence, to pass judgment or advocate wholesale revision at this point in time is both premature and of speculative benefit to the overall Great Lakes management effort.

Second, it is recognized that any effort to revise Council structure or operation must be pursued in light of revision efforts directed at the Great Lakes Commission. As vehicles of the states with related missions, consideration of recommendations for revision of the two are inextricably linked.

Third, it is recognized that the Council, despite its broad mandate, has chosen to focus quite selectively on but a few key issues at any given time (e.g., Great Lakes Charter, toxics agreement) as opposed to seeking a comprehensive role which embraces the totality of Basin resource management issues and functions. To do so (as in the case of the Fishery Commission) would entail substantial structural and operational change well beyond original intentions when the institution was established.

As indicated earlier, the "operational merger" of the Council and Commission is the preferred means of effecting substantive change in the present Council composition (see discussion earlier in this chapter). Should the Council and Commission remain separate and distinct entities, necessary resource management functions will need to be allocated appropriately to ensure that the Basin needs are addressed.

Given such a scenario, and assuming that the Commission recommendations presented earlier are pursued, there are but a few substantive revisions for the Council recommended at this time beyond the incremental revisions presented earlier.

- 1) Grant full membership status to the provinces of Ontario and Quebec as well as all Great Lakes states. Provincial membership would fully acknowledge the already integral involvement of the premier and ministry representatives in the programs of the Council. Further, it would strengthen state/provincial relations by placing all heads of state on a co-equal basis. Within this revised membership structure, separate state and provincial caucuses would be available to address domestic issues as they arise.

This arrangement should be examined and guided by a special Council Task force. It would require amendment of the articles of incorporation.

- 2) Enact consistent state and provincial legislation formally recognizing and voicing support for the Council and its mission. To broaden political support for Council activity and provide a means to ensure continuity despite change in administrations, state and provincial legislation should be enacted to formally recognize the Council. A task force should be formed to draft appropriate model legislation and include in it any provisions to amend and strengthen the current mandate and operations, per recommendations presented herein and others that may emerge from task force discussion.
- 3) Increase the staff and funding base substantially and internalize coordination and implementation of all Great Lakes Charter, Toxics Agreement and future initiatives. While capabilities presently exist to develop and secure approval of such agreements, the Council has recognized that it is not presently structured to provide necessary follow-up on a continuing basis (e.g., maintenance of a computerized data base under Charter provisions). Hence, if the Council and Commission remain separate entities or otherwise fail to enter into a Memorandum of Understanding detailing allocation of related functions, organizational resources within the Council must be expanded. Options to be pursued include substantially increased membership dues, aggressive grantsmanship at federal and foundation levels, and special legislative appropriations on a project specific basis. In-kind contributions, such as interagency personnel agreements with member jurisdictions, should be pursued as well.

It must be emphasized that these measures are designed to strengthen as opposed to fundamentally change the Council, assuming the substantial recommendations for the Great Lakes Commission are pursued. If the Commission, through inaction or policy decision, chooses to reject those recommendations, the Council should seek to pursue them itself, adapting them as needed.

Scenario Four: Dramatic Single Step Revision

The final point on this continuum of institutional change is that of dramatic, single step revision; the elimination of the present institutional ecosystem in favor of a new and significantly different one. In presenting this scenario, it is assumed that the four Great Lakes institutions of concern are disbanded, as are all other Basin-oriented arrangements (e.g., agreements, memorandum of understanding; binational work groups). Political and organizational constraints are set aside; a free hand at institutional design for Basin management in a binational, system of federalism is provided.

In reality, of course, such an action is neither politically feasible nor operationally sound. However, if the institution designed serves as the embodiment of desired characteristics for Basin management, it can serve as a useful (and heretofore nonexistent) benchmark for guiding and evaluating less dramatic revisions.

Presented below in outline form is such a "benchmark" institution, accompanied by a rationale for the characteristics selected. The design seeks to accommodate the institutional goals and parameters outlined earlier and reflects the discussion and findings associated with the literature review, personal interviews, survey effort and analysis of present institutions and generic institutional forms. The reader will note that the documented strengths of existing institutions are reflected in the design, complemented by new elements. For purposes of discussion, this "ideal" institution will be termed the "International Great Lakes Basin Commission," (IGLBC)

Goals and Objectives

The goal of the IGLBC, stated earlier in a different context, is "To enhance the public health and welfare of Basin residents through the restoration and maintenance of the integrity of the Basin ecosystem; the orderly development and management of its resources for sustainable and equitable use; and common stewardship via binational, public-private sector partnership." Corresponding objectives, as presented in Chapter Eight, relate to Basin planning and management; resource development and promotion; and intergovernmental relations.

Institutional Structure

The IGLBC would be established under the terms of a binational treaty arrangement in which state, provincial and federal jurisdictions are afforded co-equal authority in the drafting, negotiation and execution of treaty provisions. Supporting federal-provincial and federal-state

agreements would be maintained to detail and formalize domestic relations for each of the signatory countries.

This arrangement (or some variation thereof) received strong support in personal interviews and the survey effort, while its legitimacy from an institutional standpoint was confirmed in the analysis of generic institutional forms.

Membership

Membership would be comprised of the eight Great Lakes states, two provinces and two federal governments. Commissioners would include the appropriate governors and premiers, as well as the U.S. secretaries and Canadian ministers responsible for federal departments and ministries with a Great Lakes management responsibility.

Each Commissioner would be served by a delegation of up to five members providing technical support and advisory services as well as acting on behalf of the Commissioner, as authorized. Each delegation would be served by a Commissioner-appointed chairman. In the case of the States, the delegation would be comprised of those individuals listed earlier (e.g., directors - Departments of Natural Resources and Transportation; members - State House and Senate; and a gubernatorial appointee selected from the local government or private/citizen sector). A modified arrangement for the provinces would be established. At the federal level, delegation members would include senior personnel responsible for Great Lakes programs as well as one at-large member selected from the local government or private/citizen sector by the appropriate Commissioner.

Each member jurisdiction would be afforded one vote in all deliberations. Meetings of the entire membership would operate on a consensus basis, with provisions for majority rule if consensus is unattainable and prompt resolution required.

Such an arrangement would provide for broad jurisdictional representation, decision-making authority and a balance between political impact and technical/managerial expertise. The "at-large" members, in that they can be appointed from outside government, will ensure a broader user/interest group representation.

Geographic Scope

The scope of authority would include the five Great Lakes, the St. Lawrence River, and all connecting channels and tributaries. On the land side, the focus would be on the drainage Basin of the Great Lakes/St. Lawrence River system.

This designation would remedy the jurisdictional limitations imposed by the Boundary Waters Treaty and fully recognize the primacy of hydrologic (i.e., systemic) considerations over political jurisdictional ones.

Management Functions

The IGLBC would be authorized through the binational treaty to pursue the following functional areas: data collection and analysis; research/issue analysis; advisory and extension services; regulation and enforcement; arbitration/conflict resolution; Basin planning; monitoring and surveillance; interagency coordination; public participation and education; advocacy; policy development and impact assessment.

Guidelines for the implementation of each functional area would be established, recognizing the existing responsibilities of member jurisdictions. For example, regulation and enforcement functions would provide for IGLBC standard-setting authority consistent (at the minimum) with current federal law and an enforcement mechanism tied in with those of member jurisdictions.

Resource Focus

The IGLBC resource focus would be broad-based, but oriented specifically toward water and related land resources, including areas such as Great Lakes water quantity and quality; coastal zone management; aquatic resources; air quality; land use planning, etc. At the minimum, coordination; monitoring and surveillance; data collection and analysis functions would be ongoing for all areas, with policy development; issue analysis; advocacy and related special services undertaken to address a pressing problem or issue.

Level of Autonomy

By virtue of its membership, the IGLBC would be intrinsically sensitive to and reflective of the management preferences of the collective jurisdictions. However, the treaty language would provide for a level of autonomy not presently enjoyed by membership-based regional institutions in the Great Lakes Basin. The management functions detailed earlier would be pursued as a matter of course, and the institution's staff would have the authority to initiate special studies and investigations (at some level) even in the absence of consensus approval by member jurisdictions. Policy development, advocacy activities and other major initiatives would require consensus agreement. One area of authority of particular consequence would be a binding arbitration function available to resolve disputes between member jurisdictions upon joint referral.

Intra-Institutional Arrangements

Within the IGLBC, a caucus structure would be established to permit separate deliberations among the state, provincial and federal (U.S. and Canadian) membership. Each caucus would have selected semi-autonomous powers and would control a portion of the total IGLBC budget for its own use (e.g., research projects, coordination meetings), should the concurrence of the remaining membership be lacking or inapplicable for a given issue. The caucus arrangement, for example, would permit differences of opinion among various levels of government to be formulated, aired and perhaps subjected to the arbitration/conflict management function called for earlier.

Each of the four caucuses would have the discretion to set up its own operating/decision-making structure within the overall limits of the IGLBC power.

This caucus arrangement is essential if the IGLBC is to successfully integrate Basin management functions while acknowledging the strong currents of federalism in both countries and accommodating differences of opinion and process among the various levels of government. It is adapted in part from the state caucus component of the now defunct Great Lakes Basin Commission operation.

Committee Arrangements

A series of standing committees, comprised of one delegate from each member jurisdiction, would be established in key functional areas, including:

- o Finance and Administration: Budgeting; personnel; office management; contracting and related matters; operational policies.
- o Basin Planning: Development and maintenance of Basin Plan.
- o Program Coordination: Intra-institutional relations and program coordination across member jurisdictions.
- o Information/Advisory Services: Data collection and analysis; library and record maintenance; intra-institutional research and advisory services.
- o Extension Services: Public relations; information dissemination; public/community/private sector relations; education programs and public participation; arbitration/conflict resolution.
- o Special Studies: Oversight of special studies and investigations of priority concern.
- o Policy Development: Development, maintenance and dissemination of all policy; advocacy programs and public/private sector relations; negotiation of all intergovernmental agreements and memoranda.

Others would be added, or those above consolidated or adapted, to respond to institutional requirements over time. Each standing committee would designate issue-specific task forces, as needed, to address current issues of concern. Committee assignments would entail a two year term, with the chairmanship alternating between Canada and the U.S. and the federal and state/provincial levels.

Staffing Arrangements

The IGLBC would be headquartered in an appropriate Basin jurisdiction near the Canada-United States border, with field offices in Ottawa and Washington, D.C. Staffing at field offices would focus primarily on extension, information acquisition, policy dissemination and advocacy functions, with the balance of functional activity pursued at the headquarters office.

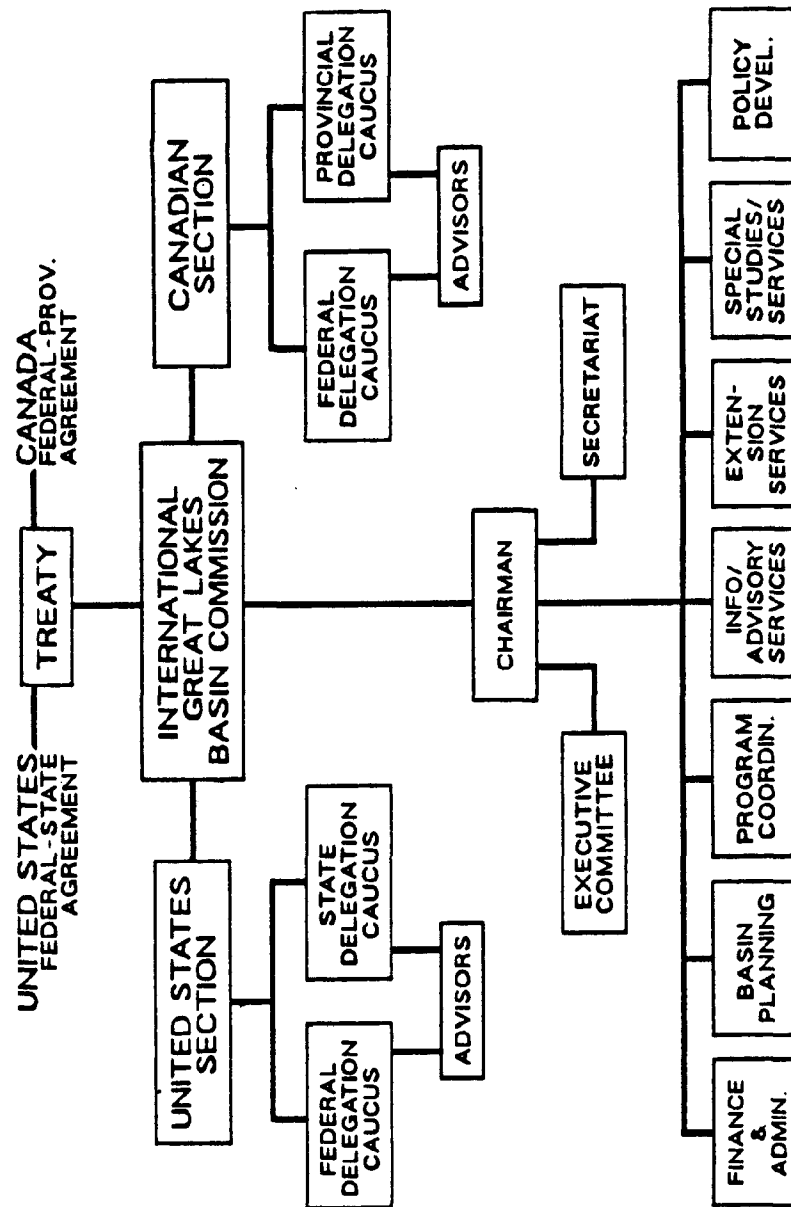
Staffing arrangements would be generally categorized in the same manner as committee arrangements (see above), and include both permanent staff and a substantial contingent of member jurisdiction and "outside" personnel assigned on various loan programs. Staff size would be a function of need but anticipated to be substantially larger than any of the four Great Lakes institutions of concern at present. Collectively, the staff would exhibit a multi-disciplinary character, have substantial experience at the political jurisdictional level prior to assuming an IGLBC position, and have a commitment to (or incentive for) a long-term association with IGLBC. The Chairman would serve at the pleasure of the IGLBC on a six-year appointment, alternating between a U.S. and Canadian citizen. The Vice Chairman would be drawn from the membership on a rotating basis and would be the head of the delegation of a given jurisdiction.

Financing

Principal financing mechanisms for the IGLBC would include annual and co-equal appropriations from the two federal governments and a similar arrangement (at a lesser but proportionate level) at the state-provincial level. Where possible, multi-year commitments would be arranged to ensure program continuity. Special study and project specific activity would be funded through jurisdictional appropriations or grants (governmental/foundation) aside from the annual appropriation process. Finally, the IGLBC would draw from a Great Lakes Endowment Fund financed by foundation grants, individual and corporate donors, and an agreed upon percentage of penalties and fines assessed in the Basin for environmental and resource management violations. Such an arrangement would diversify the funding base and provide for growth and flexibility in institutional development.

The institutional arrangement discussed above is presented in organizational chart form in Figure 5. It should be emphasized of course, that additional detail is warranted and special attention to the incorporation of the operational parameters presented in Chapter Eight is essential. As presented, however, the arrangement reflects many of the key institutional characteristics identified in the course of the study, and as such, is of value as a benchmark in assessing institutional change on a more modest scale within observed political and organizational constraints and the evolving set of Basin management requirements.

Figure 5
ORGANIZATION OF A HYPOTHETICAL
"INTERNATIONAL GREAT LAKES BASIN COMMISSION"



A Strategy for Implementing Scenario Recommendations

As presented, Scenarios One through Four offer alternatives for securing institutional change ranging from a "status quo" approach characterized by unplanned, reaction-oriented change to a comprehensive approach where current arrangements are rejected in favor of a substantially different and carefully devised institutional device. The former has been discredited as compromising the evolutionary potential of the Great Lakes institutional ecosystem. The latter is found to be a desirable benchmark for guiding institutional change, but as a radical departure from the status quo, of questionable merit as a goal in the near or even longer term.

Learning from past experience (Scenario One) and articulation of goals in the "ideal" sense (Scenario Four), a staged implementation process for Scenarios Two and Three is recommended. The incremental changes embodied in Scenario Two, beyond their intrinsic value as positive steps, serve to position the various Great Lakes institutions - and the political jurisdictions they serve - for the more substantive revisions recommended in Scenario Three. The desired framework is in place and the necessary steps to achieve it carefully charted. The critical element is a matter of nurturing and focusing the political will and sustained commitment for positive change.

EPILOGUE

TOWARD A RESEARCH AGENDA FOR CONTINUED INSTITUTIONAL ANALYSIS

In documenting the importance of institutional considerations in providing for the protection, development and management of the resources of the Great Lakes Basin; Chapter One discussion alluded to the historic and chronic deficiency in related research. While the explanation for the dearth of research activity will not be reiterated, it is important to note that the need has never been greater. The "window of opportunity" for institutional change is indeed open wide at the present time (for reasons stated earlier), but without the necessary institutional research, this opportunity may be misdirected, compromised or altogether lost.

This examination of alternate institutional arrangements seeks to ease this deficiency with detailed study of regional (i.e., multi-jurisdictional) institutions for Great Lakes management and the means to strengthen them through structural and operational revision. Yet, they constitute but one element of the institutional ecosystem; other aspects of the federal system for binational Basin governance are deserving of attention as well.

Presented below is a descriptive listing of a number of related areas of institutional research designed to complement and build upon that presented herein. Importantly, research such as this will contribute not only to a presently modest research base, but provide the support and direction for implementing many of the recommendations presented earlier:

- 1) Regional institutions are a critical element in the federal system for binational Basin governance, yet by no means the only element. A broad examination of the federal system for water resources management - in the U.S. and Canada - is needed to document trends, assess implications for the Great Lakes, and determine how regional, multi-jurisdictional institutions can best position themselves to accommodate such change.
- 2) The nongovernmental organization has rapidly assumed a prominent role in Great Lakes management, not only as a governmental "watch dog" but as a means to assume vital functions (e.g., coordination, special studies) once undertaken by public institutions. Additional investigation of this evolving role and its potential for strengthening the institutional ecosystem even in an age of declining public funds is of paramount importance.
- 3) This study, because it focused primarily on structural and operational considerations, must be supported with an examination of process considerations. This is a matter of moving from the issue of what innovations must be implemented to how they must be implemented. For example, while an environmental standard-setting

authority for regional institutions is recommended, further examination of the scope and procedural aspects of such authority is warranted. Thus, it is recommended that additional attention be paid to the process whereby the various scenario elements are applied in the institutional ecosystem.

- 4) As discussed, the key to positive institutional evolution is found in the use of intra-institutional means to measure success, evaluate performance and carry out necessary revisions. The study documented the importance of such and recommended means to establish the proper institutional environment to nurture such evolution. Further attention must be paid to specific evaluation mechanisms and techniques for application at the intra- and inter-institutional level.
- 5) As indicated in the discussion of generic institutional forms for regional resource management, much can be learned from the multitude of in and out of Basin institutions presently or formerly in operation. Expanded case study analyses of those generic forms with some applicability to Great Lakes management needs are warranted.
- 6) Great Lakes Basin governance demands the reconciliation (or perhaps accommodation) of two substantially different federalisms. The characteristics of U.S. and Canadian systems of government with respect to resource management are distinct, as are overall political trends that influence them. Further research - conceptual and applied - in examining this system of binational federalism is warranted.
- 7) Implicit in the study is the assumption that significant environmental problems and resource management needs do exist in the Great Lakes Basin. Yet, beyond discussion of survey results, they are not examined in detail. To ensure that the recommendations for institutional revision are responsive to these problems and needs, a "test" is needed. A specific issue (e.g., transboundary air pollution, diversion, Basin research priority setting) should be selected and reviewed in light of these recommendations to ensure that its various dimensions can be adequately addressed within the revised institutional framework.
- 8) Researchers as well as policy officials have been guilty of "thinking small" with regard to institutional change. Political reality is indeed an important consideration in institution building, but should not constrain creative thought. Scenario Four should be developed and discussed in additional detail, as should other creative suggestions for substantive change.
- 9) The "new federalism", in passing programs and responsibilities on to lower levels of government, has accentuated the role of sub-state/provincial entities - long regarded as the "forgotten citizens" in the community of Great Lakes management interests. This statement applies to non-governmental entities and the private sector as well. Yet, these various sectors provide the foundation for

comprehensive Basin planning and management. Additional attention to the role and potential of these sectors in the broader Basin management arena is long overdue and perhaps never more critical than at present.

- 10) The Title II river basin commission system - and specifically the Great Lakes Basin Commission - have been the focus of little study since their demise in 1981. Yet, that system provided the most comprehensive regional planning and coordination mechanism to date in the United States. Further, the "ideal" institutional arrangement described within this study, despite its unique characteristics, has striking similarities to the Great Lakes Basin Commission structure and operation. Thus, it is recommended that additional research be focused on the Title II commission arrangement, its strengths and weaknesses, and its applicability to present and emerging needs.

In closing, it is recognized that any presentation of findings, recommendations and research priorities has only limited value unless fully and aggressively pursued by the community of Great Lakes decision makers and opinion leaders. It is therefore recommended that these individuals, both individually and collectively, carefully consider study recommendations in the interest of forging a strengthened institutional arrangement responsive to the myriad management needs of the Great Lakes Basin.

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BIBLIOGRAPHY

- Allee, David J., W.W. Andrews and H.R. Cooper. 1975. "Basin Governance," Cornell Agricultural Economics Staff Paper No. 75-25. Ithaca: Cornell University.
- Becker, Stephanie. 1983. "A Special Report: The Future of the States in the Federal System," Intergovernmental Perspective, Vol. 9, No. 4, Fall 1983. Washington, D.C.: Advisory Commission on Intergovernmental Relations. pp. 25-27.
- Bilder, Richard B. 1971. Controlling Great Lakes Pollution: A Study in U.S.-Canadian Environmental Cooperation (Provision Draft). Background Paper for the Conference on Legal and Institutional Responses to Problems of the Global Environment. Madison: University of Wisconsin Law School.
- Bilder, Richard B. 1972. "Controlling Great Lakes Pollution: A Study in United States - Canadian Environmental Cooperation," Michigan Law Review, Volume 70, No. 3, January, pp. 469-556.
- Bilder, Richard B. 1977. The Settlement of International Environmental Disputes. Wisconsin Sea Grant Report No. 231. Madison: University of Wisconsin.
- Booz, Allen and Hamilton, Inc. 1970. Analysis of Managerial, Financial and Regulatory Functions of Regional Water Resources Authorities and Other Institutional Arrangements. Prepared for the Office of Water Research, U.S. Department of the Interior. Washington D.C.
- Bulkley, Jonathan W. and A. Mathews. 1973. "Water Quality Relationships in the Great Lakes," Proceedings, International Association for Great Lakes Research, pp. 872-879.
- Byrnes, J.F. 1946. Letter to the President, "Message from the President of the United States transmitting a convention between the United States of America and Canada for the development, protection, and conservation of the fisheries of the Great Lakes," signed at Washington, D.C.; April 2, 1946: 79th Congress, 2nd Session U.S. Senate. U.S. Government Printing Office, Washington D.C.
- Cadioux, Marcel. 1979. "The View from the Pearson Building," The International Joint Commission - Seventy Years On, Ottawa and Washington D.C.

- Caldwell, Lynton K. 1969. "Health and Homeostasis as Social Concepts: An Exploratory Essay," Diversity and Stability in Ecological Systems, Brookhaven Symposia in Biology, Number 22. Brookhaven National Laboratory, Associated Universities, Inc.
- Caldwell, Lynton K. 1982. "U.S. Institutions and the Environment," Decisions for the Great Lakes. Hiram, Ohio: Great Lakes Tomorrow.
- Canada-United States University Seminar. 1978. Toward the Future in the Great Lakes Basin: An Agenda for Negotiation Canada-United States. Dworsky, L. and G. Francis, (eds). Ithaca: Cornell University and Waterloo: Waterloo University.
- Canadian Environmental Law Research Foundation. 1986. "An Overview of Canadian Law and Policy Governing Great Lakes Water Quality Management," Journal of International Law, Case Western Reserve University, Vol. 18, No. 1.
- Carroll, John E. 1984. Environmental Diplomacy - An Examination and a Prospective of Canadian-U.S. Transboundary Environmental Relations. The University of Michigan Press, Ann Arbor, MI.
- Caulfield, Henry P., Jr. 1984, "Fulfilling the Promises of the Water Resources Planning Act," 25th Annual Meeting of the Interstate Conference on Water Problems, Pittsburgh, PA, September 18.
- Christie, W.J. 1973. A Review of the Changes in the Fish Species Composition of Lake Ontario, Great Lakes Fishery Commission Technical Report 23. Ann Arbor, MI.
- Christie, W.J., M. Becker, J.W. Cowden and J.R. Vallentyne. 1986. "Managing the Great Lakes Basin As A Home," Journal of Great Lakes Research, 12(1):2-17, International Association for Great Lakes Research.
- Clarke, C.E., ed. 1984 Corpus Almanac and Canadian Sourcebook. 19th Annual Edition Vol. 2. Donn Mills, Ontario: Southam Communications Limited.
- Cohen, Maxwell. 1977. The Regime of Boundary Waters: The Canadian-United States Experience. Lectures to the Hague Academy.
- Committee on Public Works, Subcommittee on Air and Water Pollution, U.S. Senate, 1972. Hearing on S.907 - A Bill to Consent to the Interstate Environment Compact. January 24, 1972. Serial No. 92-H30. U.S. Government Printing Office, Washington D.C.
- Council of Great Lakes Governors. 1982. Bylaws of the Council of Great Lakes Governors. Madison, WI.
- Council of Great Lakes Governors. 1985. Great Lakes Charter. Madison, WI.
- Council of Great Lakes Governors, Task Force on Water Diversion and Great Lakes Institutions. 1985. Water Diversion and Great Lakes Institutions. Final Report and Recommendations. January. Madison, WI.

- Cowden, James. 1979. Descriptive matrices for 133 governmental units involved in some aspect of Lake Erie management. Hiram College, Hiram, OH.
- Craine, Lyle E. 1968. "Development and Use of the Great Lakes: Policy and Institutional Needs," presentation to the Great Lakes Panel of the National Council on Marine Resource and Engineering Development, Symposium at Ann Arbor, Michigan, October 29-30, 1968.
- Craine, Lyle E. 1972. Final Report on Institutional Arrangements for the Great Lakes. A Report to the Great Lakes Basin Commission. Ann Arbor: Great Lakes Basin Commission.
- Derthick, Martha. 1974. Between State and Nation: Regional Organizations of the United States. The Brookings Institution, Washington, D.C.
- Detroit Edison. 1984. Congress on the Economic Future of the Great Lakes States. Conference Proceedings. Detroit, MI.
- Dow, Charles M. 1914. The State Reservation at Niagara. Albany, NY.
- Dreisziger, N.F. 1983. "International Water Management in Canadian-American Relations, 1894-1907," Canadian Water Resources Journal, Vol. 8, No. 3., 1983.
- Dworsky, Donald L. 1974. Setting Great Lakes Water Levels: Institutional Aspects of the International Joint Commission. Great Lakes Management Series, Working Document No. 3, Madison: University of Wisconsin.
- Dworsky, Leonard B. and George Francis. 1973. A Proposal for Improving the Management of the Great Lakes of the United States and Canada. A Report by the Canada-United States University Seminar. 1971-72.
- Dworsky, Leonard B. and G. Francis. 1982. "Institutional Alternatives for Problem Solving: A Critical Area for Decisionmaking, Decisions for the Great Lakes. Hiram, OH: Great Lakes Tomorrow.
- Dworsky, Leonard B. and George Francis. 1982. "Resource Management in the Great Lakes: Institutional Alternatives for Problem Solving - A Critical Area for Decision Making," Decisions for the Great Lakes, Great Lakes Tomorrow, Hiram, OH.
- Dworsky, Leonard B. and C.F. Swezey (eds). 1974. The Great Lakes of the United States and Canada - A Reader on Management Improvement Strategies. Based on the Report of the Canada-United States Interuniversity Seminar: "A Proposal for Improving the Management of the Great Lakes of the United States and Canada." Ithaca: Cornell University.
- Environment Canada, Ontario Region. 1985. Guide to Services and Contracts 1985-1986. Ottawa, Ontario.
- Environment Canada. 1983. The Canada Water Act - Annual Report 1982-1983. Ottawa, Canada.

- Environmental Protection Service, Ontario Region, Environment Canada. 1985. Federal-Provincial Relations Study, (draft).
- Federal Council for Science and Technology. 1968. Water Resources Policy and Political Institutions: A Report of a Panel on Needed Research. Washington, D.C. Office of Science and Technology, Executive Office of the President. Washington D.C.
- Federal Reserve Bank of Chicago. 1985. The Great Lakes Economy: A Resource and Industry Profile of the Great Lakes States. Chicago, IL.
- Fesler, James W. 1964. "National Water Resources Administration," Economics and Public Policy in Water Resources Development. Iowa State University Press, Smith and Castle (eds).
- Fetterolf, C.M. Jr. 1980. "Why A Great Lakes Fishery Commission and Why a Sea Lamprey International Symposium," Canadian Journal of Fisheries and Aquatic Sciences, 37:1588-1593.
- Francis, George. 1982. "How Governments Behave, An Overview," Decisions for the Great Lakes. Hiram, Ohio: Great Lakes Tomorrow.
- Francis, George, J.J. Magnuson, H.A. Regier and D.R. Talhelm. 1979. Rehabilitating Great Lakes Ecosystems, Technical Report No. 37. Ann Arbor, MI, Great Lakes Fishery Commission.
- Gallagher, H.R., A.G. Huntsman, D.J. Taylor, and J. Von Oosten. 1943. International Board of Inquiry for the Great Lakes Fisheries. Report and Supplement, U.S. Government Printing Office, Washington D.C.
- Great Lakes Advisory Board. 1978. The Ecosystem Approach: Scope and Implications of the Ecosystem Approach to the Transboundary Problems in the Great Lakes Basin. Special Report to the International Joint Commission, Windsor, Ontario.
- Great Lakes Basin Commission. 1975. Great Lakes Basin Framework Study, Report, Environmental Impact Statement and 25 Appendices. Ann Arbor, MI.
- Great Lakes Basin Commission. 1979. Great Lakes Facts Sheets. Ann Arbor, MI.
- Great Lakes Commission. 1955. Great Lakes Basin Compact (P.L. 90-419 of 1968). Ann Arbor, MI.
- Great Lakes Commission. 1968. Great Lakes Agreement. Initial Draft of the Subcommittee of the Special Committee on GLC Activities, as of July 1, 1968. Ann Arbor, MI.
- Great Lakes Commission. 1982. Great Lakes Basin Compact - A Framework for Discussion. Prepared for the 1982 Great Lakes Water Resources Conference, Mackinac Island, Michigan, June 10-11, 1982.
- Great Lakes Commission. 1984. Great Lakes Environmental Research Agencies and Organizations. A report to the National Resources Management Committee, Ann Arbor, MI.

- Great Lakes Economic Policies Council . 1983. A Profile of the Great Lakes States. Cleveland, OH.
- Great Lakes Fishery Commission. 1955. Convention on Great Lakes Fisheries Between the United States and Canada, Ann Arbor, MI.
- Great Lakes Fishery Commission. 1980. Joint Strategic Plan for Management of the Great Lakes Fisheries, Ann Arbor, MI.
- Great Lakes Governors. 1982. "Great Lakes Institutional Arrangements." Resolution approved at the 1982 Great Lakes Water Resources Conference, June 10-11, 1982, Mackinac Island, MI.
- Great Lakes Research Advisory Board. 1978. The Ecosystem Approach: Scope and Implication of an Ecosystem Approach to Transboundary Problems in the Great Lakes Basin - A Special Report to the International Joint Commission. Windsor, Ontario: Great Lakes Regional Office.
- Haynes, David and M. Madau. 1978. "Current Status of Canadian Organizational Arrangements for Planning and Management in the Great Lakes Basin," Toward the Future in the Great Lakes Basin - An Agenda for Negotiation, Canada-U.S. Cornell University and University of Waterloo.
- Hines, N. Williams and Jameson P. Smith . 1973. Rational Institutional Arrangements for Water Resources Management. Iowa State Water Resources Research Institute, Iowa State University, Iowa. Project No. A-033-1A, Office of Water Resources Research, U.S. Department of the Interior.
- Heeney, A.D.P. 1966. "Diplomacy With a Difference," Reprint, INCO Magazine, International Nickel Company, Inc., pp. 7.
- Hennigan, Robert D. 1970, "Effective Water Quality Management: Impossible Dream or Attainable Goal?, Proceedings, Thirteenth Conference on Great Lakes Research, International Association for Great Lakes Research.
- ICWP Working Group on Changing Direction of State Water Agencies. 1980. Making Federalism Work in Water Resources Management. Lexington: The Council of State Governments.
- Interagency Committee on Marine Sciences and Engineering, Federal Council for Science and Technology. 1976. Great Lakes Directory of Universities, Research Institutes, Libraries and Agencies. Prepared by Great Lakes Basin Commission, Ann Arbor, MI.
- International Joint Commission. 1972. Great Lakes Water Quality Agreement. Great Lakes Regional Office, Windsor, Ontario.
- International Joint Commission. 1978. Great Lakes Water Quality Agreement of 1978. Agreement, with annexes and terms of reference, between the United States of American and Canada, signed at Ottawa, November 22, 1978. Windsor, Ontario; Great Lakes Regional Office.
- International Joint Commission. 1965. Rules of Procedures and Text of Treaty. Ottawa, Canada - Washington D.C.

- International Joint Commission. 1980. 70 Years of Accomplishment - Report for Years 1978-1979. Ottawa and Washington D.C.
- International Joint Commission. 1985. Great Lakes Diversions and Consumptive Uses. A Report to the Governments of the United States and Canada under the 1977 Reference.
- International Joint Commission. 1974. Summary of the International Joint Commission Seminar on the IJC: It's Achievements, Needs, and Potential. June 20-21, 1974, Montreal, Quebec.
- International Joint Commission. 1980. Workshop Report: Anticipatory Planning for the Great Lakes. A report by the Science Advisory Board through its Societal Aspects Expert Committee. Great Lakes Regional Office, Windsor, Ontario.
- Joint Canada/United States Study Group, International Joint Commission. 1979. Report on the Regional Office of the International Joint Commission. U.S. State Department and Canada Department of External Affairs.
- Jordan, Frederick J.E., 1969. "Recent Developments in International Environmental Control," 15 McGill Law Journal, 279.
- Kasten, Senator Robert. 1984. "Bureaucratic Maze of Great Lakes Management," Congressional Record, June 15, Volume 130, No. 82.
- Kelnhofner, Guy J., Jr. 1972. Preserving the Great Lakes. Prepared for the National Water Commission, Contract No. NWC 72-010. Arlington: National Water Commission.
- LesStrang, Jacques. 1984. The Great Lakes St. Lawrence System. Harbor House Publishers.
- MacNeil, J.W., 1970. Environmental Management. Constitutional Study prepared for the Government of Canada, Ottawa, Ontario.
- Martin, Roscoe et al. 1960. River Basin Administration and the Delaware. Syracuse University Press.
- Michigan Department of Commerce, Upper Great Lakes Region Office. 1982. 1982 Great Lakes Water Resources Conference - Proceedings. Co-sponsored by the State of Michigan, Council of Upper Great Lakes Governors and the Great Lakes Commission. June 10-11, 1982.
- Milbrath, Lester W. 1984. "A Governance Structure Designed to Learn Would Better Protect the Great Lakes." Paper presented at Interuniversity Seminar on the Great Lakes, Racine, WI. July, 1984.
- Missouri Basin States Association. 1983. Alternative Institutional Arrangements for Interstate River Basin Management. First Draft, November 9, 1983. Omaha, NE.
- Munro, William B. 1928. The Invisible Government, MacMillan.

- Munton, Donald. 1982. "Canadian Laws and Institutions," Decisions for the Great Lakes, Hiram, OH: Great Lakes Tomorrow.
- Muys, Jerome C. 1971. Interstate Water Compacts, Pub. 202998. Background Report, National Water Commission. U.S. Govt. Printing Office.
- National Academy of Sciences. Commission on Natural Resources, Natural Research Council, 1980. Long Range Environmental Outlook Proceedings of a Workshop, November 14-16, 1979, Washington D.C.
- National Academy of Sciences. 1972. Institutional Arrangements for International Environmental Cooperation. A report to the Dept. of State by the Committee for International Environmental Programs, Washington D.C.
- National Academy of Sciences, Commission on Natural Resources, Environmental Research Assessment Committee. 1977. Sources of Residuals and Techniques for their Control, Washington, D.C.
- National Marine Manufacturer's Association. 1985. "Boating 1985 - A Statistical Report on America's Top Family Sport," Chicago, IL.
- National Research Council of the United States and the Royal Society of Canada, Committee to Review the Great Lakes Water Quality Agreement. 1985. The Great Lakes Water Quality Agreement: An Evolving Instrument for Ecosystem Management, Washington, D.C. and Ottawa, Ontario.
- National Water Commission. 1973. New Directions in U.S. Water Policy: Final Report, U.S. Government Printing Office.
- Naujoks, Herbert H. 1953. "Compacts and Agreements Between States and Between States and a Foreign Power," Marquette Law Review, Vol. 36, No. 3, Winter 1952-53, pp. 219-247.
- Nelson, Senator Gaylord. 1977. "America's Great Lakes Program: The Bureaucratic Mess in the United States," Speech of February 21.
- Office of the Federal Registrar. 1980. U.S. Government Manual, National Archives and Records Service, General Services Administration.
- Ostrom, Vincent A., E. Ostrom and I.L. Whitman. 1970. "Problems for Institutional Analysis of the Great Lakes Basin," Proceedings, Thirteenth Conference on Great Lakes Research, International Association for Great Lakes Research.
- Piper, Don C. 1967. The International Law of the Great Lakes, Publication No. 30, Duke University Commonwealth Studies Center, Duke University Press, Durham, N.C.
- Prince, E.E. 1908. "Notes on Fishery Conditions in Contiguous International Waters, with a Draft of Suggested Uniform Fishery Regulations in the Canadian and United States Boundary," Confidential submission to the International Fisheries Commission, second revised, 15 pp. PAC, RG 23, Vol. 394, 3728.

- Province of Ontario. 1970. Great Lakes Environmental Conference, Transcript of Statements, Toronto, Ontario, September 10, 1970.
- Republican House Members' Report on United States - Canadian Relations. Congressional Record, September 28, 1965, pp. 25394-25401.
- Rothman, Jack. 1980. Social R&D: Research and Development in the Human Services, Prentice Hall, Inc., Englewood Cliffs, N.J.
- Schenker, Eric, H.M. Mayer and H.C. Brockel. 1976. The Great Lakes Transportation System, University of Wisconsin Sea Grant College Program, Technical Report 230.
- Schon, Donald A. 1971. Beyond the Stable State: Public and Private Learning in a Changing Society, New York: Random House.
- Schwartz, Alan M. and J.T. Jockel. 1983. "Increasing Power of IJC," International Perspective, November/December 1983, pp 3-7.
- Society of Experimental Biology. 1964. Homeostasis and Feedback Mechanisms, Eighteenth Symposium, New York: Academic Press.
- St. Lawrence Seaway Development Corporation. 1984. "The Seaway," Seaway Review, July-August 1984.
- Standing Senate Committee on Foreign Affairs, Canadian Parliament. 1975. Canada-United States Relations: Volume 1 - The Institutional Framework for the Relationship. The Queens Printer: Information Canada, No. YC23-301/1.0.
- State of Michigan, Delegation to the Great Lakes Commission. 1984. The Great Lakes Commission - Problems and Recommendations, Lansing, MI.
- State Research Associates. 1985. Report to the Advisory Committee: Study of the Relationship Between the Council of Great Lakes Governors and the Great Lakes Commission, Final Report, November 27, 1985, Lexington, KY.
- Statistics Canada. 1983. Canada Handbook - 1982-1983, Ottawa: Canadian Government Publishing Centre.
- Subcommittee on Great Lakes Fisheries Convention, Committee on Foreign Relations, United States Senate. 1955. "Great Lakes Fisheries Convention," Hearing of April 27, 1955, U.S. Government Printing Office.
- Subcommittee on Inter-American Affairs of the Committee on Foreign Affairs. 1973. Hearings on the Great Lakes, 93d Congress, First Session, Part I, p. 37.
- Talhelm, Daniel R. 1981. Current Estimates of Great Lakes Fisheries Values: 1979 Status Report (1981 Update), Ann Arbor: Great Lakes Fishery Commission.
- The Center for the Great Lakes. 1984. Directory of Great Lakes Natural Resource Agencies and Organizations 1984/85, Chicago, IL.

- The Center for the Great Lakes. 1985. Moving Government Goods on the Great Lakes: What an Increase Would Mean in Dollars and Jobs for the Region, Chicago, IL.
- The Center for the Great Lakes. 1984. The Lake Effect: Impact of the Great Lakes on the Region's Economy, Chicago, IL.
- The Council of State Governments. 1983. Interstate Compacts and Agencies, Lexington, KY.
- The Council of State Governments. 1980. State Government Organization (A Preliminary Compilation), Lexington, KY.
- The Council of State Governments. 1983. State Bluebooks and Reference Publications - A Selected Bibliography, Lexington, KY.
- "The Great Lakes States - Our New Industrial Frontier," Fortune, September 16, 1985.
- Thompson, Stanley R. and R.L. Johnson. 1982. Grain Transportation on the Great Lakes-St. Lawrence Seaway, Cooperative Extension Service, Michigan State University, MICH-SG-82-501, East Lansing, MI.
- Tugwell, Rexford G. 1935. The Battle for Democracy, Columbia University Press.
- U. S. General Accounting Office. 1982. A More Comprehensive Approach is Needed to Clean Up the Great Lakes, Report to the Congress of the United States, CED-82-63, May 21, 1982.
- U. S. General Accounting Office. 1982. International Joint Commission Water Quality Activities Need Greater U.S. Government Support and Involvement, Report to the Secretary of State, CED-82-97, June 23, 1982.
- U. S. General Accounting Office. 1985. U.S.-Canadian Joint Effort Helps to Revitalize Great Lakes Fishery, Report to the Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, NSIAD-85-106, July 8, 1985.
- U. S. Water Resources Council. 1967. Alternative Institutional Arrangements for Managing River Basin Operations, Washington, D.C.
- Water Resources Planning Act, P.L. 89-80, 89th Congress, July 22, 1965, Y2 U.S.C. 1962 et seq.
- Weber, Eugene W. 1959. "Activities of the International Joint Commission, United States and Canada," Sewage and Industrial Wastes, Vol. 31, No. 1, January, 1959.
- Wendell and Schwann. 1972. Intergovernmental Relations in Water Resources Activities, Pub. 210358, Background Report, National Water Commission, U.S. Government Printing Office.

Western States Water Council. 1977. Western States' Water Resources Organizations: Future Rules, A report prepared for the western governors.

Wildavsky, Aaron B. 1964. The Politics of the Budgetary Process, Boston: Little, Brown.

Wilson, Leonard V. 1978. "State Water Policy Issues," The Council of State Governments, Contract No. 1SP77-18698 A01 with the National Science Foundation.

Zile, Zigurd L. 1974. Binational Land Resource Management for the Great Lakes Area: Powers of the International Joint Commission, University of Wisconsin Law School, Grant No. C-5305, Office of Water Resource and Technology, U.S. Dept. of the Interior.

Zimmerman, F.L. 1969. "Intergovernmental Commission: The Interstate - Federal Approach," State Government, Vol. 42, Spring, 1969.

Zimmerman, Frederick K. and M. Wendell. 1951. The Interstate Compact Since 1925, Chicago: The Council of State Governments.

Zimmerman, Frederick L. and M. Wendell. 1976. The Law and Use of Interstate Compacts, Lexington: The Council of State Governments.

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