



Summer 1989

## Perspectives on Ecosystem Management for the Great Lakes: A Reader

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### Recommended Citation

Leonard B. Dworsky, *Perspectives on Ecosystem Management for the Great Lakes: A Reader*, 29 Nat. Resources J. 895 (1989).

Available at: <https://digitalrepository.unm.edu/nrj/vol29/iss3/15>

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## BOOK REVIEWS

### PERSPECTIVES ON ECOSYSTEM MANAGEMENT FOR THE GREAT LAKES: A READER

LYNTON K. CALDWELL, ed.

New York: State University of New York Press. 1988.

Breaking with precedent in 1978, and reinforced in 1988, the United States and Canada expanded the original 1972 Water Quality Agreement to protect and enhance the water quality of the Great Lakes *based on the ecosystem approach to management*.

In January 1985, the International Joint Commission [IJC] advised the two governments that "To provide a broader and more appropriate context within which to address the longer-term prospects for the use of Great Lakes water, it seems desirable to consider a wider range of issues. . . ." They included among these, "the need to consider the *interrelationship of the Great Lakes water quantity and water quality in the context of an ecosystem*, including the *other than economic* importance of this vast body of water to the millions of people who live and will live in the basin."

Under the Agreement of 1972, expanded in 1978, the ecosystem was defined in general terms to mean "the interacting components of air, land, water, and living organisms including man. . . ." But, the Agreement which included this definition was confined to water quality and the relationships to it. The intent of the Advisory was to broaden the definition to apply to a larger framework—a larger ecosystem.

A broader Great Lakes ecosystem has in fact evolved over the years, and is defined by the activities of the two governments. These include, among other matters: boundary agreements; institution building; agreements on levels and flows; fisheries; scenic resources; water allocation for hydropower; air quality in the Windsor-Detroit area; and water quality.

These introductory notes show that the two senior governments ultimately responsible for the management of the international Great Lakes have adopted the concept of ecosystem management—management toward the whole for the issue of Great Lakes water quality. They also show that the IJC, the principal agent used by the two governments to resolve disputes on boundary issues, has recommended to the two governments that the concept be extended to a much wider array of management issues. Finally, they show that the wider ecosystem to be managed has evolved from the activities in which the governments have already been involved.

The concern of Editor Lynton Caldwell and his colleagues in producing the *Reader* is that there is both little understanding supportive of a basin-wide ecosystem management arrangement, and little progress made in implementing the ecosystem concept through practical applications.

In his introduction, Caldwell comments that under present circumstances of politics and public opinion, "an ecological approach . . . is an innovation that requires a phased undertaking to achieve effective implementation."

Important management issues are:

1. scientific assessment of conditions and trends;
2. finding scientific or technical measures to deal with problems;
3. considering problems of law, politics, and economics to be overcome in putting these measure into effect; and
4. developing a public constituency in support of an ecosystem approach.

Ten papers (under nine numbers) follow Caldwell's excellent introduction of the problems associated with implementing ecosystem management of the Great Lakes specifically, but which has application generally. They all address, in varying ways, the common themes—the implementation of existing binational agreements. The papers focus on differing aspects of the managerial problems and represent authors' particular viewpoints. Their purposes, and the purpose of the book, "is to stimulate public interest, to provide information regarding the ways the Lakes are being . . . protected, and to assist the growth of public understanding on both sides of the boundary waters regarding the common interest in safeguarding (this) valuable but vulnerable asset."

The paper covers:

- A discussion of the ecosystem approach and a proposal for an implementing strategy, including a brief note on the history of the adoption of the approach by the two governments.
- A thirty year (1955-1985) comprehensive overview of Great Lakes management including policy, economic and geographic data; a chronological table of Great Lakes events; and a tabular comparison of the 1972 and 1978 Agreements.
- An up-to-date detailed audit and critique of present institutional arrangement for Great Lakes management and an analysis of factors that tend to inhibit the implementation of an ecosystem approach.
- A proposal for a process of social learning to achieve institutional innovation for Great Lakes management recognizing the size, complexity and novelty of ecosystem management approaches in the face of uncertainty.
- A status report on the implementation of the ecosystem approach to

date in the Great Lakes and an indication of where remedial action is needed to achieve rehabilitation of the lakes.

● A unique report which describes itself as “a distinctly different way of describing the common theme.” The ecosystem approach is examined from an historical, literary, folkloric point of view, leaning heavily on “allegory (which) often provides a quicker avenue to insight than that reached by linguistically more straight-forward routes.”

● The next two papers diverge, in one respect, from a concern for comprehensive management on an ecosystem basis by concentrating on two highly sensitive political issues—diversion of Great Lakes waters outside the basin, and legal and economic aspects of ownership and control. Both of these have important implications for ecosystem management and involve broad questions of policy.

● The assessment of the ecosystem approach by the Royal Society of Canada-U.S. National Research Council report of 1985 is analyzed in depth in this paper. A major issue implicit in the report is the nature of the institutional arrangements needed for ecosystem implementation.

● The concluding paper summarizes the issues and problems of the volume, noting the growing acceptance of the principle of an ecosystem approach, but few signs of implementation in practice. It proposes that basin-wide ecological matters need not wholly depend on government; that organized non-governmental actors, too, may answer the question: Where next?

Water resource management has had to contend historically with the nonconformity of natural water systems and governing political institutions. As a result, institutional innovation has become a common-place matter to consider in such management efforts. It is clear that ecosystem management will demand similar consideration if implementation is to be effected. While the latter tasks are complex, the Federal Systems of Canada and the United States have shown resiliency to meet earlier challenges of this sort. The papers contained in the *Reader* will be of substantial assistance in helping to determine, Where next?

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