PROFILE
Analysis of Lower Green Bay and Fox River, Collingwood Harbour, Spanish Harbour, and the Metro Toronto and Region Remedial Action Plan (RAP) Processes

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ABSTRACT / This article presents a model of remedial action planning, which includes four key variables that determine progress in plan development and implementation and explain the differing level of achievement in individual sites. The model is illustrated by the characteristics and developments of four remedial action plan (RAP) processes (Lower Green Bay and Fox River, Collingwood Harbour, Spanish Harbour, and the Metro Toronto and Region RAPs). Differences in the local context of the plans have, to a significant degree, predisposed individual planning and implementation experiences. Local context includes three variables, namely geographical-technical and sociopolitical aspects and the previous history of water pollution management in the area. RAP precursors are a necessary precondition for progress in planning and substantive achievements. While there is a tendency that most geographically focused RAPs in administratively simple areas accomplish most, the motivation and political clout of RAP participants are strongly intervening factors. Resource input from upper levels of government, in particular financial commitment for plan implementation, is the fourth necessary ingredient for progress due to the RAPs' weak regulatory and institutional framework. Unfortunately, upper levels of government have shown widespread reluctance to lead in remedial action planning. This was only in part offset by local commitment and support for RAP and its cause.

The remedial action plan (RAP) program for areas of concern (AOC) is one of the cornerstones in the implementation of the 1978 Canada-US Great Lakes Water Quality Agreement (GLWQA) and the 1987 protocol to the agreement. RAPS are aimed at cleaning up 43 environmentally degraded localities around the Great Lakes by improving the areas' water and aquatic habitat quality and thus contribute to the restoration of the "chemical, physical, and biological integrity of the Great Lakes Basin Ecosystem" (IJC 1989, p. 7).

The RAP program in the Great Lakes is characterized by strengths and shortcomings. On the one hand, RAPs represent an approach that goes beyond simple end-of-pipe pollution management by addressing 14 use impairments, which range from degradation of fish and wildlife populations to beach closings to added costs to agriculture or industry. RAPs are also recognized for their integrative nature (IJC/GLWQB 1991, Hartig and Zarull 1992). They are usually based on ecological units (watersheds) and use a multiinstitutional (institutional cooperation), multiuse (public participation) approach for environmental planning.

On the other hand, the RAP program has produced few substantive achievements so far and instead struggles with translating comprehensive planning into comprehensive action (Gurtner-Zimmermann 1995). The program is part of an agreement that is not self-executing legally but only an accord between the two federal governments that must be implemented by domestic legislation to give it formal legitimacy. Up to the late 1980s, the 1978 GLWQA had no parallel or preceding policy development on the national levels. Currently, the RAP program in the Great Lakes still copes with the fact that RAP has no regulatory authority and individual plans rely on existing programs and environmental standards and guidelines for implementation.

This article addresses the links between environmental problems, planning processes, and progress in RAP. A model is presented of remedial action planning, in-

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cluding the key characteristics of the planning process and the factors that influence progress in planning and substantive achievements of RAP. The model is explained by the features and developments of four RAP processes (Lower Green Bay and Fox River RAP, Spanish Harbour RAP, Collingwood Harbour RAP, Metro Toronto and Region RAP).

Methodologically, the review of the four case studies is based on an examination of reports produced in plan development and a survey of and interviews with RAP participants from the case study areas carried out in 1993–1994 (Gurtner-Zimmermann 1994). In the case-study analysis, variables such as the type of environmental problem, context, organizational arrangements and public participation, resource availability, remedial actions, and the role and achievements of RAP in the area are compared.

Four Case Studies

The four case studies represent a variety of areas and technical problems planners are facing in the AOCs. The Spanish Harbour RAP deals with an area in the north characterized by a low extent of development with a single basic problem: discharges from a pulp and paper mill and upstream pollution input from the Sudbury Basin. The Collingwood Harbour RAP typifies a plan for a primarily agricultural-recreational area with few impaired uses. Both these areas are small-scale and rural. The Metro Toronto and Region RAP serves as an example of a plan for urban-industrial areas with diverse environmental problems and many use impairments. The Lower Green Bay and Fox River RAP has had the longest history of RAP-related remedial action planning and deals with a variety of problems and impaired uses and thus covers almost the whole range of RAP issues.

The four case studies demonstrate substantial differences in progress in local RAP development and implementation. The Lower Green Bay RAP has been in the implementation stage since 1988. The Collingwood Harbour RAP, which has been in the implementation phase since the summer of 1992, was delisted as an AOC effective January 1995. The Spanish Harbour RAP participants have only recently completed the first stage (problem analysis) of their plan. In the Metro Toronto and Region RAP, the stage 2 report identifying the preferred remedial options was presented to the public in May 1994. Since then, RAP supporters have tried to implement these recommendations. This diversity in planning experiences has come about despite identical mandates and similar institutional arrangements for RAP in all areas. Remedial action planning has involved a RAP team, which consists of scientific and technical experts from a variety of government agencies and universities, and a public advisory committee (PAC), which includes representatives of local interests.

A Model of Remedial Action Planning

Four qualities are key in RAP processes (Figure 1): (1) the level of funding available for RAP, which also indicates the degree of political support for the RAP program in the area and from upper administrative levels, (2) the management of RAP interactions and public input, which can influence both RAP direction and progress in planning, (3) RAP networking, the strength of which influences RAP progress; and (4) local stakeholder support and funding is related to all three points above. These properties of RAP development and implementation are influenced by a variety of factors on different spatial levels (Figure 1). The four case studies show that among these elements major differences in the context of the four RAPs have, to a significant extent, predisposed individual planning processes; in other words the current RAP stage is strongly related to the original local basis for RAP.

RAP Context

The RAP's context includes a geographical-technical component related to the size of the area and the environment problems, the configuration and commitment of stakeholders to RAP in the area, and the history of remediation in the area (RAP precursors).

RAP precursors. Pollution management activities prior to RAP have had a discernible impact on the environment in three of the four case-study areas (Lower Green Bay and Fox River AOC, Collingwood Harbour AOC, Spanish Harbour AOC).

In the Lower Green Bay and Fox River AOC, RAP precursors have included pollution reduction, generation of an extensive environmental data base, and first attempts at coordinated management (Figure 2). Industrial wastewater and municipal sewage treatment plants (STPs) in the area were upgraded as a result of the water pollution control efforts following the passage of the 1972 US Clean Water Act. These actions resulted in a general, although uneven, improvement in the state of the environment (UWGB 1990). For example, between 1970 and 1982, there was a marked increase in dissolved oxygen concentrations and a reduction in biochemical oxygen demand and phosphorus concentrations in the lower bay. Despite these improvements, 11 of the 14 IJC use impairments are still documented today in the Lower Green Bay...