Commentary on Protected Areas, Watershed Planning, and Decision-making: An Ecological and Civics Perspective

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Introduction

In their paper, Day and Nelson provide good examples of the problems caused by a disconnect between water planning and decision-making, and biodiversity management. Of particular relevance is the case study on the Greater Vancouver Water District Board where the Board initiated a process to prepare a new management plan that would address the issue of water turbidity, caused principally by logging in the watershed. That the process was subsequently rejected by the general public is understandable because it appears that it was driven by forest harvesting interests. The subsequent process was broadened to include consideration for clean water, environmental stewardship, biological diversity and ecosystem restoration. More importantly, all decisions made under the plan were transparent and open to the public for review and input. Consequently, a functional watershed management plan has been implemented in the Greater Vancouver Regional District.

Freshwater and Biodiversity Protection in Ontario

As Day and Nelson indicate, the simultaneous protection of freshwater and biodiversity is a complex multidisciplinary task, and many of our social institutions have not made the transition to integrate these processes into current planning and implementation systems. A major barrier in Ontario has been the fiscal policies of the Conservative "Common Sense Revolution" government, initially led by Premier Mike Harris. Funding was slashed in the environment, education, health and resource management sectors shortly after the Conservative government was elected in 1995. These cuts had serious ramifications for the program delivery capacity of government agencies, and especially Conservation Authorities (CA). However, in the absence of government supported programs, Ontario citizens concerned about the lack of integrated resource planning and management are utilizing many diverse mechanisms to advance such planning and management in their communities. Following a brief outline of the role of and current constraints imposed upon Ontario's Conservation Authorities this commentary will describe several citizen initiatives, which are supplementing CA capacity or developing alternative mechanisms to address integrated land-use planning and management. These include Environmental Advisory Committees, UNESCO Biosphere Reserves, lake and cottager associations, and watershed councils.

Ontario has 36 CAs that are *"organizations dedicated to conserving, restoring, developing and managing natural resources on a watershed basis"* (Conservation Ontario, 2003). Conservation Authorities are administered by a Board of Directors consisting of appointed elected municipal representatives and local citizens. Unfortunately funding to CAs

from the Ontario government was drastically reduced in 1995 and 1996 — a 70% cut in provincial transfer payments, which amounted to over one-third of the average CA budget. Many CAs are struggling to balance budgets by increasing user fees, and most do not have the necessary resources to adequately address integrated water and biodiversity conservation planning and managment. Conservation Ontario, an umbrella organization for Ontario's CAs, is currently working with the Ontario government to coordinate water *Source Protection Plans* (SPP) but has not yet received funding for the planning exercise or implementation. Ontario's Conservation Authorities are well placed to implement integrated watershed planning and initiatives, should funding be forthcoming.

The Harris and Eves regimes also downloaded many land-use planning responsibilities and decision-making to the local municipality. In response to this downloading, and cutbacks to CAs, many municipalities are adopting Environmental Advisory Committees (EAC). A fully functioning EAC is composed of local citizens with a broad range of skills who advise their municipal representatives on broad range of environmental issues, including water quality, environmental monitoring and land-use planning, to mention a few (Federation of Ontario Naturalists, 2003). Although only 33 of 447 municipalities have established EACs, many of these committees have demonstrated their relevance as a platform for integrating and addressing water and biodiversity issues at the municipal level.

Several communities in Ontario have in recent years embraced the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Biosphere Reserve Program as a mechanism for advancing integrated resource planning and management. Biosphere Reserves are areas of terrestrial or coastal ecosystems which are internationally recognized for promoting and demonstrating a balance relationship between people and nature. The UNESCO Biosphere Reserve program encourages a regional holistic approach for ensuring: biodiversity conservation; economic development that is culturally, socially and ecologically sustainable; and capacity-building for research, monitoring, education, and information sharing concerning biodiversity conservation and economic development (UNESCO, 2003). Ontario's first Biosphere Reserve, Long Point, was designated in 1986 and the entire Niagara Escarpment was designated in 1990. In 2003 the Thousand Islands - Frontenac Arch area received designation as Canada's 12th Biosphere Reserve (Canadian Biosphere Reserves Association, 2003). There are currently community group led initiatives to secure a biosphere reserve designation for Manitoulan Island and Georgian Bay from the French River to Honey Harbour. The principal purpose of the initiatives is to establish Biosphere Reserves as regional mechanisms for integrated resource planning and management.

The 1990s have seen greater political activism by lake and cottagers associations with respect to improving water quality and integrated resource management of the surrounding watershed. The Big Rideau Lake Association, for example, supports and promotes environmental monitoring programs both on the lake and in the surrounding watershed (Big Rideau Lakes, 2003). The Association has established a sister organization, the Centre for Sustainable Watersheds (CSW), to conduct research and deliver extension programs on watersheds and their management. Its objectives are to protect lakes and rivers, ensure a healthy water supply, foster productive agriculture and develop a growing tourist

industry on and around the waterways of the Rideau, Cataraqui and the Mississippi valleys, including the Rideau Lakes. CSW is forming partnerships with federal, provincial, and municipal agencies and community organizations to facilitate education about subwatershed assessment and planning, and develop and implement effective monitoring strategies, among other activities (Centre for Sustainable Watersheds, 2003). Another example of a lake and cottagers association supporting integrated resource planning and management is the Georgian Bay Association (GBA). It is a not-for-profit umbrella group representing 20 resident associations and 4,200 families on the eastern and northern shores of Georgian Bay and the adjacent inland lakes and water bodies.

The GBA mission is *"to work with our water based communities and other stakeholders to ensure the careful stewardship of the greater Georgian Bay environment and to promote the quiet enjoyment of its diverse and finite spaces"* (Georgian Bay Association, 2003). The Association has established environmental monitoring programs to assess the health of Georgian Bay and its surrounding watersheds and airsheds, in partnership with federal, provincial and municipal agencies. These GBA initiatives are effectively contributing to the sustainability, health and integrity of the Georgian Bay environs.

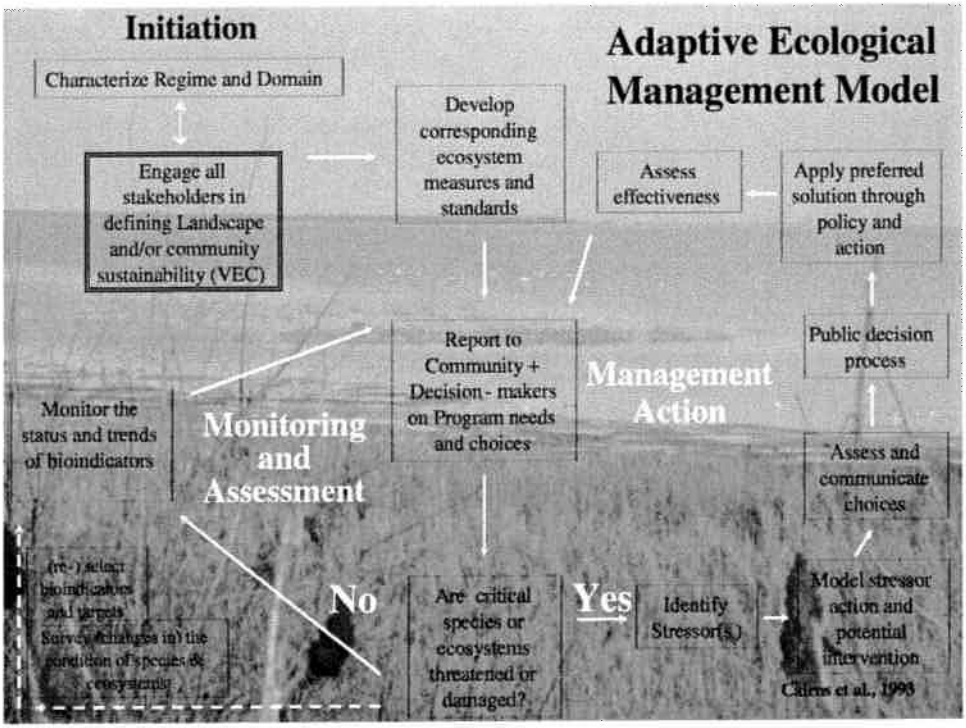
Conservation Authorities were established to mitigate poor agricultural and forestry practices during the 1930s and 1940s in southern Ontario. Consequently there are few CAs north of Ontario's agricultural landscape. Yet, many communities located on the Canadian Shield are subject to resource use pressures due to population growth and increasing recreational demand, and do not have a CA mechanism available. An outstanding example of a community-based integrated resource use planning and management initiative at the watershed(s) level is the Muskoka Watershed Council. The Council was founded by the District Municipality of Muskoka and the Muskoka Heritage Foundation in October of 2001 with the belief that the most effective way to sustain a watershed for future generations is through a cooperative approach. The Council's approach to watershed management in Muskoka is to involve as many of the stakeholders in Muskoka's watersheds as possible with the goal of preserving and enhancing the air, water and terrestrial ecosystems of the watersheds in Muskoka for the environmental, health, economic, spiritual and intrinsic values that they provide (Muskoka Watershed Council, 2003a). The Council has embraced the following adaptive ecological management model originally developed by Cairns *et al.* (1993), subsequently modified by Norm Yan (2002) and others, and recently published by Vaughan *et al.* (2003)

The implementation of this model in a community requires: a solid understanding of community dynamics and management structures; the role of government agencies and NGOs with respect to ecosystem monitoring and conservation; extensive partnership building, to enhance of the capacity of the community to carry out monitoring; and functional communication links among ecosystem monitoring practitioners, government agencies, decision-makers, and the community. The model is simple and begins by engaging all stakeholders in defining landscape and/or community sustainability by identifying their valued ecosystem components (VECs).

Next, corresponding ecosystem measures and targets are defined and refined with stakeholder input. Then a comprehensive ecosystem monitoring program is implemented with

regular assessment and reporting back to the community. If no problems are encountered then monitoring, assessment and reporting continues. If a problem is encountered then stressors are identified and modeled, appropriate solutions implemented, and their effectiveness assessed and reported back to the community.

Figure 1. *Adaptive Ecological Model (Cairns* et al., *1993).*



The Muskoka Watershed Council does possess a solid understanding of the aforementioned principles, has completed a comprehensive assessment of their stakeholder VECs, assembled a scientific expert panel to assist with the selection of indicators appropriate to the VECs, and is collecting existing data on the chosen indicators and enhancing community monitoring capacity through new partnerships. (Muskoka Watershed Council, 2003b) The Council is implementing one of the most well designed ecosystem monitoring and reporting programs in the province and their initiative will aptly serve as a model for other communities contemplating similar programs.

In summary, although government agencies and conservation authorities have experienced severe fiscal constraints and concomitant lack of capacity for integrated resource planning during the 1995 — 2003 tenure of the provincial conservative government, many citizen groups have strengthened, advocated and implemented alternative mechanisms, such as lake and cottagers associations, environmental advisory committees, biosphere reserves, and watershed councils. These community groups realize the value of developing effective partnerships and are advocating increased support for collaborative ecosystem management efforts from government agencies. These efforts are aptly filling a void

during these times of reduced funding. More importantly, these efforts are facilitating integrated water and biodiversity planning and management on a watershed basis. Looked at in that context, the imposed resource constraints have led to a variety of place-based responses where interest and/or issues are greatest, resulting in a series of experiments and models for integrated resource management. This presents the opportunity to examine and compare the different approaches leading to development of an optimal method for engaging communities and stakeholders in the sustainable management of landscapes or watersheds. Should resources become available, coordinated testing and implementation of such a method across the Province would usher in a era of inclusive place-based ecological decision-making.

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