

SUSTAINING THE GAINS MADE IN ECOLOGICAL RESTORATION: CASE STUDY COLLINGWOOD HARBOUR, ONTARIO

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Abstract. As part of the commitments made by the governments of Canada and the United States in the Great Lakes Water Quality Agreement, Remedial Action Plans (RAPs) are being developed and implemented at Great Lakes Areas of Concern. The Areas of Concern are specific places around the Great Lakes basin ecosystem where environmental quality is degraded to the point that certain beneficial uses (the ability of fish, wildlife and humans to thrive) are impaired. According to the United States and Canada Great Lakes Water Quality Agreement of 1987, the federal governments, in cooperation with state and provincial governments, are to ensure the public is consulted throughout the development and implementation of the RAPs. While not explicit in the Agreement, it is logical to posit that given the effort and investment in environmental improvements, community capacity to sustain the recovery of beneficial uses beyond the life of the RAP should be a product of the RAP. This report examines a case study to test the hypothesis that public ownership of the RAP process can result in the development of community capacity to sustain environmental recovery. The question is, were the principles of the RAP, 10 years after delisting, taken into account to ensure sustainability of growth along the waterfront and within the Town? To arrive at the answer it is important to explore the approach used in the Collingwood Harbour RAP process, and concepts and principles of sustainable cities and towns. This paper provides evidence that such principles are being applied in Collingwood and were nurtured during the development and implementation of the RAP.

Key words: community stewardship, environmental restoration, Great Lakes protection, remedial action plans, sustainable communities.

1. Introduction

The 1909 Boundary Waters Treaty between Canada and the United States established the International Joint Commission (IJC). The Commission's purpose under the Treaty is to prevent or resolve disputes surrounding environmental quality between the two countries and act impartially, rather than representing the views of their respective governments. The Commission has six members. Three are appointed by the President of the United States and three are appointed on the advice of the Prime Minister.

In 1972, the Governments of Canada and United States created the Great Lakes Water Quality Agreement as a permanent reference¹ to the IJC under the Boundary Water Treaty, which was signed by the then Prime Minister Trudeau of Canada and then President Nixon of the United States (United States and Canada, 1972). Much of the work of the IJC consists of assisting governments to achieve their goal of restoring the physical, chemical and biological integrity of the Great Lakes and enhancing and sustaining environmental quality of the system, pursuant to the Agreement.

In November 22, 1978, a revision to the 1972 Agreement provided new programs and more goals directed predominantly towards “virtually eliminating inputs of persistent toxic substances to the Great Lakes” (United States and Canada 1978). The governments adopted the pioneering concept of applying an ecosystem approach to enhancing and maintaining the integrity of the Great Lakes Basin Ecosystem. In November 1987, the Governments signed a Protocol that included Remedial Action Plans (RAPs) under Annex 2 of the Agreement. The United States and Canada revision in 1987 of the Great Lakes Water Quality Agreement commits the two governments to develop RAPs at Areas of Concern (42 in total at that time) where ecosystem deterioration is particularly pronounced (United States and Canada, 1987). A RAP is an instrument that enables governments and concerned citizens to restore and protect “beneficial uses” (14 of which are specified in the Agreement). According to Annex 2, the two federal governments are to work in cooperation with state and provincial governments and with local communities to jointly develop and implement the RAPs. Krantzberg (2003) and Gurtner-Zimmermann (1995) discuss the process for developing and implementing RAPs in greater detail.

Civic society has been instrumental in helping governments be more responsive to and responsible for restoring beneficial uses in AOCs. Broad-based partnerships among diverse community constituencies have been described by Hartig and Zarull (1992) as a movement towards grassroots ecological democracy in the Great Lakes Basin. Their observations are as valid today as in 1992. Politicians, government agency personnel, the public and interest groups operate in an open system of resource management, sharing environmental decision-making. This ongoing process of human interaction is seen by Hartig and Zarull as essential to ensure all parties are committed to a common cause. The empowerment of the community has resulted in diverse and direct involvement in decision-making resulting in a coordinated societal response to environmental problems.

Degradation of environmental quality directly impairs the viability and vitality of the region and the sustainability of cities and towns. The reliance of the economy on a healthy Great Lakes Basin Ecosystem is unequivocal. This paper seeks to determine whether a community-based, participatory RAP processes can generate sustainability.

To achieve sustainability, ecology, economics and society must be integrated. Costanza (1992) defines sustainability as a balanced relationship between the dynamic human economic systems and the dynamic, but generally slower-changing

ecological systems in which civil society can develop, but within bounds such that human activities do not destroy the diversity, complexity, and function of the ecological life-support system.

Although reasonable progress is being made at many AOCs, only two have been delisted, that is, declared 'restored' by governments and the International Joint Commission (IJC, 2003). The first, Collingwood Harbour (Georgian Bay, Lake Huron, Ontario), was delisted in 1994. The second, Severn Sound (Georgian Bay, Lake Huron, Ontario) was delisted in 2003. The hypothesis being tested is whether the building of community capacity to ensure participatory democracy during RAP development and implementation leads to sustainable communities. In the face of population expansion and development, have the principles of sustainability embodied in the Collingwood Harbour RAP process survived 10 years after delisting Collingwood Harbour?

2. Methods: Case study: Collingwood Harbour

STUDY SITE

Collingwood Harbour is situated on the south shore of Nottawasaga Bay, the southern extension of Lake Huron's Georgian Bay (Figure 1). The Town of Collingwood surrounds the harbour with a population of approximately 21,500. During

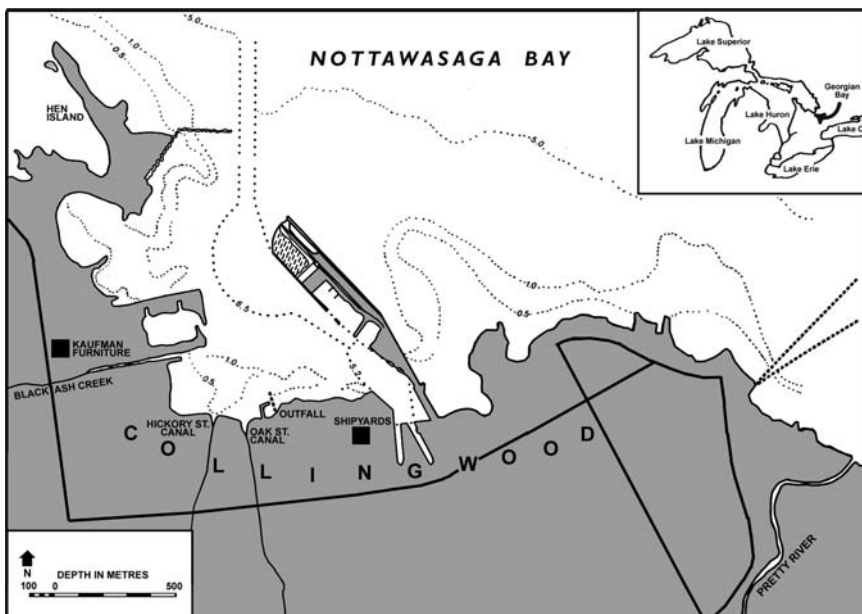


Figure 1. Location of Collingwood Harbour, Ontario.

the mid to late 1800s, Collingwood was the railhead of Ontario and its harbour was the trans-shipment point for goods destined to Western Canada. In 1883, the Collingwood Shipyards, then known as Collingwood Dry Dock Shipbuilding and Foundry Company Limited, opened. The Shipyards became one of the principal industries in the town until its closure in 1986.

Eutrophication and nuisance algal growth plagued the harbour waters up until the mid 1980s as a result of excessive phosphorus loadings to the harbour from the Collingwood sewage treatment plant, which at the time, was a primary treatment facility discharging to a sheltered shallow harbour with limited assimilative capacity (Krantzberg and Houghton, 1996). The harbour, as an industrial port for over a century, suffered from habitat and wetland loss, shoreline hardening, and contaminated sediment. Krantzberg and Houghton (1996) detail the remedial measures implemented to reverse eutrophication, rehabilitate habitat and remediate contaminated sediment.

With the closure of the shipyards the single greatest privately owned parcel of land remained an idle brownfield.

The RAP group, in its final publication to Town Council wrote that “development (at the shipyards) is acceptable so long as certain conditions are met to ensure water quality and the promotion of fish habitat” (Collingwood Harbour RAP, 1994). In 2004, plans were being finalized for the development of a mixed residential commercial project occupying the shipyard’s property, approximately 16.6 hectares along the Harbour Waterfront. The question is, were the principles of the RAP, 10 years after delisting, taken into account to ensure sustainability of growth along the waterfront and within the Town?

3. Principles of sustainability for evaluation of the hypothesis

To arrive at the answer it is important to explore the approach used in the Collingwood Harbour RAP process, concepts and principles of sustainable cities and towns, and whether there is evidence such principles are being applied in Collingwood.

The Collingwood Harbour RAP process clearly embraced the ecosystem approach, based on the man-in-system definition (IJC, 1978), where the ecosystem is understood as being the interacting elements of water, air, land and living organisms including man. While Lee et al. (1982) discuss different versions of the ecosystem approach, most share a focus on the responsiveness of ecological systems to natural and anthropogenic activities, and a preparedness to adopt a decision making approach that is a compromise between detailed scientific understanding and a more collective understanding. This flexible pragmatism is perhaps the most productive feature for addressing Great Lakes environmental problems, and was reflected in the manner in which the Collingwood Harbour RAP was developed and implemented. Is

it also reflected in ongoing stewardship where environmental improvements are sustained?

A predictor that the RAP would leave a sustainable legacy was strong civic recognition that the local economy and quality of life is inextricably bound to environmental excellence. This overt recognition neutralized the economic-environment dialectic and is consistent with adopting the ecosystem approach.

One of the overwhelming challenges facing society and policy-makers in the 21st century will be how to reconcile the economic and social needs of urban populations in ways which are sustainable. The most widely known definition of sustainable development comes from the Brundtland Commission, which defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Rees and Mark, 1991). The goal is to ensure the well-being and a good quality of life for citizens, by being environmentally responsible, socially integrated and just. To respond to change and challenges, a city needs to be diverse, healthy, dynamic and resilient. Sustainable cities are vibrant, harmonious and lasting (Sustainable Cities, 2004). Like Collingwood, they are a pleasure to live in. Florida (2002) points out that environmental quality exceed other factors including housing costs, climate, government services and public safety in the selection of places to live. Communities focused on sustainable development have become a central feature of the regional economic development strategies in many regions of North America.

Sustainable communities have also been defined as towns and cities that have taken steps to remain healthy over the long term. “Sustainable communities have a strong sense of place. They have a vision that is embraced and actively promoted by all of the key sectors of society, including businesses, environmentalists, civic associations, government agencies, and more. They are places that build on their assets. These communities value healthy ecosystems and actively seek to retain and enhance a locally based economy. There is a pervasive volunteer spirit that is rewarded by concrete results. Partnerships between and among government, the business sector, and nonprofit organizations are common. Public debate in these communities is engaging, inclusive, and constructive” (Institute for Sustainable Communities, 2004).

The RAP was exceedingly effective in resolving the consequences of historic misuse (Krantzberg and Houghton, 1996). This is in part a function of the inclusiveness of stakeholder representation and goal setting. Inclusivity lends legitimacy, stimulates accountability, and can galvanize potentially adversarial stakeholders. Sproule-Jones (2002) has observed that the wider the scope of stakeholder representation, the stronger the performance of the RAP. The strong sense of place kept an inclusive and diverse cross-section of the community actively involved in plan development and implementation.

The undeniable pride that prevails throughout the town Collingwood is derived from this strong sense of place, and the achievement of results through societal engagement. While this sense of pride may result in some unique character of Collingwood, it does not invalidate the use of Collingwood as a case study.

Geddes (2004, personal communication) underscores that for Collingwood, people, passion and partnership are central to the success achieved in addressing a legacy of environmental degradation and in emerging as a sustainable community of civic excellence.

The National Round Table on the Environment and the Economy (NRTEE, 2002) defines urban sustainability as the enhanced well-being of cities or urban regions, including integrated economic, ecological, and social components, which will maintain the quality of life for future generations.

Boyd (2004) talks about developing and implementing an ambitious new environmental, economic, and social agenda. In order to move towards a prosperous, just and sustainable future, Boyd lists nine critical challenges. I emphasize three here:

- *Protecting and conserving water*: Recognizing and respecting the value of water in our laws, policies, and actions;
- *Conserving, protecting and restoring Canadian nature*: Taking effective steps to stop the decline of biodiversity and revive the health of ecosystems; and
- *Building sustainable cities*: Avoiding urban sprawl in order to protect agricultural land and wild places, and improve our quality of life.

Collingwood continues to market its community by referring to its location on the pristine waters of Georgian Bay. It continues to build and expand its natural trail system, preserve natural habitats, and preserve the integrity of its architecture and cultural features. So, while all orders of government need to participate to make this agenda a reality, real change towards sustainable cities can be cultured through the coalescence of a civic consciousness generated on a local level.

Civic governance works well when there is a civic community marked by an active, public-spirited citizenry, by egalitarian political relations, by a social fabric of trust and cooperation (Putnam et al., 1993). It is the social fabric of the community that encourages cooperation. This point is crucial to understanding how management of public resources might be effectively carried out, and why Collingwood seems to be predisposed to emerge as a sustainable community.

Civic consciousness encourages individuals to act cooperatively. It provides the context for cooperative action according to ethics despite economic and immediate, need-meeting motivations which encourage one to do otherwise (Moore, 1994). Civic consciousness can help overcome barriers to implementation of local initiatives to support sustainability.

Commitment from the local government to improve environment performance and establish policies for the purpose of sustainability is very important for obtaining political support, developing policy, integrating policy into operational systems, and showing environmental leadership. These purposes facilitate community participation. That is, a strong commitment from the local government to be inclusive will necessitate the involvement of the community. Involving the community can ensure broad commitment from all residents of the city and acceptance and ownership of its policies and programs with the community (Krantzberg 1997).

These characteristics of the community of Collingwood were evident during the period leading up to the delisting of Collingwood Harbour as an Area of Concern in 1994 (Krantzberg, 2003). These characteristics are not pervasive among all Areas of Concern and appear to be fundamental for the success of a RAP.

Community participation calls for people to take part in planning, implementing and managing their local environment. Community participation should generate a readiness on the part of governments and citizens to accept equal responsibilities in managing their surroundings. The honest inclusion of a community's representatives as partners in decision-making makes for successful community involvement. This was a clear feature of the Collingwood Harbour RAP (Krantzberg, 2003) and the operation of the Town in a broader context.

Local government has a crucial role and responsibility in addressing the sustainable urbanization agenda. Local government can facilitate economic development, and deal appropriately with the social and environmental implications of such development to secure a sustainable community. To play this role effectively, local government needs to work closely with the private sector and with civil society, for example to develop partnerships to deliver improved infrastructure and services which support business as well as benefit the local community. (UN-HABITAT, 2002, The UNEP-International Environment Technology Centre, 2004). As cited in the Melbourne Principles (ICLIE-UNEP, 2002), cities are fundamental for economic opportunities and social interaction, as well as cultural and spiritual enrichment.

The Aalborg Charter is one of the most famous policy statements for local sustainable development world-wide. It gave rise to the European Sustainable Cities & Towns Campaign in 1994. Under the Charter, cities and towns seek to achieve social justice, robust economies, and environmental sustainability. Under the Charter environmental sustainability means that the rate of emitted pollutants does not exceed the capacity of the air, water, and soil to absorb and process them. Furthermore, environmental sustainability entails the maintenance of biodiversity, human health, as well as air, water, and soil qualities at standards sufficient to sustain human life and well-being, as well as animal and plant life, for all time. Under the Charter, cities and towns recognize that sustainability is not a vision but a local, balance-seeking process infusing into all areas of local decision-making. Through a management process rooted in sustainability, decisions may be made which not only represent the interests of the current citizenry, but also of future generations.

The 4th European Conference on Sustainable Cities and Towns, Aalborg + 10, led to representatives of 110 local governments signing the Aalborg Commitments on 11 June 2004. These commitments are devised to help cities and towns achieve sustainability.

The ten Aalborg Commitments are viewed as a tool to help local governments set clear qualitative and quantitative targets for practical work to implement the urban sustainability principles of the Aalborg Charter (Aalborg, 2004). The Aalborg Commitments address ten themes that are instructive to the North American context

at the local level for ensuring sustainability. Some of these, used during the evaluation of the study site are:

- Governance – Local governments increase citizens’ participation and cooperation with all spheres of governance in their efforts to become more sustainable.
- Urban management – Local governments formulate, implement and evaluate management schemes aimed at improving urban sustainability.
- Natural common goods – Local governments preserve natural common goods.
- Planning and design – Urban planning is vital in addressing environmental, social, economic and health issues.
- Local action for health – Local governments have a duty to protect the health of their citizens.
- Sustainable local economy – Local governments are committed to creating a vibrant local economy that promotes employment without damaging the environment.

4. Results

In its report “Vision 2020 Report No. 6 - The Waterfront (Town of Collingwood, 2002) a community committee recommends to Town Council:

“that a proactive *Ecosystem approach* be taken when considerations are made. Within an ecosystem approach everything is connected to everything else. These links are air, soil, water, wildlife, land uses, communities, economic activities and much much more. If we do this we will understand how the parts affect one another and we will understand the complexities of the whole.

As a result of our ecosystem approach we can identify ways in which human activities can be reintegrated into the ecological process to ensure efficient use of resources, reduce waste and pollution, etc. It is also incumbent upon an ecosystem approach to hold that the economy, social issues, and the environment are inter-related. An ecosystem approach would make the most of the quality of Collingwood’s waterfront area and ensure our responsibilities to future generations. A vibrant, healthy waterfront is what we need to accomplish the above. The waterfront is our *crowning glory*. It represents best the future of our community. It is what the citizenry aspires for.”

Now consider Collingwood in 2004, using one important initiative by way of example. Earlier it was noted that the Shipyards remained an undeveloped brown-field adjacent to Collingwood Harbour at the time of delisting in 1994. The final development design of this critical piece of waterfront was revealed in 2003/04 (Figure 2). How does it compare to the Aalborg principles and other descriptors of sustainable towns and cities?

The developers for the former Canada Steamship Lines (C.S.L.) shipyard property in 2004 underwent a review of the site designation under the town’s Official Plan. The Lands affected by the proposed Official Plan Amendment (the former C.S.L. shipyard property) lie on the southern shore of the Collingwood Harbour, at the northern end of Hurontario Street, which is the main street connecting the down-



Figure 2. The Shipyards proposed development plan.

town core to the harbour and Georgian Bay. The site is approximately 16.6 hectares (41.0 acres) in area.

The subject property had been designated “Environmental Protection” and “Industrial I-5” in the Official Plan. The applicant proposes to redevelop the former shipyard site for mixed-use development consisting of residential, commercial, parkland and open space uses. The purpose of the amendment to the Official Plan of the Town of Collingwood is to modify part of the Land Use Plan of the Town of Collingwood Official Plan by re-designating those lands from “Environmental Protection and “Industrial I-5” to “The Shipyards – Special Policy Area”, and to layout the Shipyards site in its approved land use categories.

Citing from the plan:

“Something monumental is happening to Collingwood’s downtown. The entire shoreline is about to be transformed...The pleasure of downtown conveniences, the beauty of Georgian Bay’s breathtaking water and mountain views, and the chance to discover four-season living at your doorstep makes this community the only one of its kind. Be drawn to the water’s edge. There is so much to experience at The Shipyards. Embrace the best of all-inclusive waterfront living at The Shipyards (Fram Building Group and Slokker Canada Corp. 2004).”

It would be hard to argue for such inspirational promotion, had the clean up of the harbour not been sustained, and the return of anoxic, eutrophic conditions resulted in the visual and ecological impairments associated with excessive algal growth, along with recontamination of bottom sediment and continued loss of fish and wildlife habitat. Included in the development plans is an open space situated on the west side of the property and will be accessible to the public, a Natural Common Good (Figure 2). Urban planning and design reflected good governance in adapting to the desires of the citizenry. Local action for health is being ensured, in that before any of the construction takes place, soil remediation of the brownfield will be completed. Importantly, a wetland feature, providing fish and wildlife habitats is included in the proposal, and is in keeping with the 1994 RAP document

(Collingwood Harbour RAP, 1994). Waterfront trails, a public plaza and a recreational facility for public use, are also included in the plans, and are consistent with the purpose of sustainable towns, to support the environmental, economic, and social fabric of the community.

This is not all there is for the lands surrounding Collingwood Harbour. Years after the delisting of the Harbour, bringing people back to the revitalized water front has been a Town priority. Harbourlands Park was created in 2000 and is one of the most beautiful areas in the community. Residents and visitors alike are enjoying the rugged beauty of a once active shipping/grain storage area. The backdrop of the Collingwood Terminals with its huge white columns rises up from the once wasteland “spit area”, now a series of beautifully landscaped walkways and gardens with a history of the area on massive granite plinths. Harbourlands Park offers the ever-changing grandeur and scenic beauty of Georgian Bay for the many people who drive or walk to the Park. There are benches for reflective moments or to watch the quiet beauty of sailboats filling their sails as they make their way out of the historic Collingwood Harbour (Town of Collingwood, 2004).

On another line of evidence, consider the evolution of the RAP’s public process. In 1993 the RAP’s Public Advisory Committee, a cross section of local volunteer stakeholders involved in the development and implementation of the RAP, was incorporated as a nonprofit organization called the Environment Network of Collingwood. The Environment Network has been in existence since it opened as a storefront for the Collingwood Harbour RAP.

The Environment Network has since developed into a rather unique organization. Prior to the de-listing in 1994, the Environment Network became part of the Ontario Ministry of Environment and Energy’s Green Communities Initiative because they felt it was imperative to continue with the work initiated by the RAP. Funding from MOEE was eliminated in 1995, but the people at the Environment Network were determined to continue. They currently operate as a cooperative, providing people with opportunities for work and a place for people to learn how they can make less of an impact on the environment while still operating their business or home in an economical fashion (M. Rich, personal communication).

The Environment Network operates on the principle that the environment is a viable business and that making the link between the environment and the economy is imperative. They have since generated close to \$3 million from all orders of government and nongovernment partners.

5. Discussion and conclusions

The International Joint Commission’s Water Quality Board, in 1996, stated that the RAP process is breaking ground in community-based and ecosystem based management processes (IJC, 1996). RAP implementation and progress towards watershed management can continue and leave behind a community with an enhanced capacity to protect the gains made. Governments should view themselves as a vector

for community capacity building. Participation of the appropriate actors, development of mutually agreed upon decision making process, development of common objectives, political support, public participation and funding are all central prerequisites to achieving a sustainable community, and are central to the philosophy that is behind successful RAP programs (Krantzberg, 2003).

Capacity-building means, in this case, enhancing the ability of a community, to identify and reach agreement on problems, develop policies and programmes to address them, and marshal appropriate resources to carry out the policies and programs (Hartig et al., 1995). The Collingwood Harbour RAP employed a combination of human, scientific, technological, organisational, institutional and resource capabilities to generate and sustain the capacity for the changes required to solve the Harbour's environmental problems. The Collingwood Harbour RAP has also been cited as one of the best examples of success in the RAP experiment, in part, because no stakeholder monopoly or opportunism jeopardized the implementation of remedial interventions (Sproule-Jones, 2002). Further, the participatory democratic dialogue that enabled consensus and ownership of the RAP has been evidenced again by the commitment of the politicians and civic citizens to ensure the sustainability of the Town's economy, environment, and social fabric.

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Inspiration to document the sustainability of the Town of Collingwood's waterfront, ten years after delisting Collingwood Harbour comes from my most esteemed colleague, Douglas Markoff. My ongoing admiration goes to Ed Houghton, the Collingwood Harbour Public Advisory Committee Chairman, unwavering support and leadership of the successive mayors of the Town of Collingwood, and the proud citizenry of that exceptional Town.

Note

¹ Reference: Any questions or matters of difference arising between the two countries involving the rights, obligations, or interests of the United States or of Canada either in relation to each other or to their respective inhabitants, may be referred for decision to the IJC. In each case so referred, the IJC is authorized to examine and report upon the facts of the particular questions referred, together with conclusions and recommendations.

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