

Becoming a Biosphere Reserve

by George Francis

The biosphere reserve concept is intuitively attractive for situations where conservation objectives must be sought in a larger regional context in which sustainable local economies and livelihoods have also to be fostered. This can be quite difficult in practice. Many boundaries have to be crossed, not only jurisdictional, administrative and proprietarial, but also the intellectual boundaries that divide knowledge into isolated specialisms.

Some 15 years ago, when I was chair of a Working Group on Biosphere Reserves for Canada/MAB (the Canadian national committee for the UNESCO "Man and the Biosphere" Program), we were striving to promote the concept and ideals of MAB and biosphere reserves. One approach we adopted was to identify situations in Canada where it appeared that the criteria for a biosphere reserve could be met, even though it was not called that. Exploratory discussions were held with people in organizations responsible for sites that could serve as core areas and buffer zones about the possibility of some international recognition of their work.

The decade of the 1980s was a busy one for those concerned about the Niagara Escarpment. After 12 years of public debate, the Niagara Escarpment Plan had been approved by the Ontario Cabinet in 1985 with land use designations and policies to be administered by the Niagara Escarpment Commission (NEC). After a concurrent six years of negotiations, the Bruce Peninsula National Park and Fathom Five National Marine Park were formally established in 1987 with appropriate policy and management guidelines. These new institutional arrangements for the escarpment landscape comprised Canada's first large-scale environmental land-use plan. They also constituted a framework for a functioning biosphere reserve.

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The Niagara Escarpment Foundation was formed in 2001 by the Coalition on the Niagara Escarpment to undertake research and educational programs to promote awareness of the Niagara Escarpment.

In this issue . . .

It's not just Ontarians who think that the Niagara Escarpment is a special place.

The Escarpment was designated a Biosphere Reserve in 1990 and just recently, UNESCO has renewed this designation. In this issue of the [Niagara Escarpment Foundation Bulletin](#), we bring you two articles to explain why our Escarpment has been honoured in this way.

The first — "**Becoming a Biosphere Reserve**" by George Francis — is his personal account of how he nominated the Escarpment for designation as a UNESCO Biosphere Reserve.

The second — "**Biosphere Reserves - Canada's Part of an International Program**" by Jim Birtch — explains the origins of the Biosphere Reserve concept and how a reserve operates in its community setting.

We thank both authors for their contributions.

David Hahn, President
Anne Varangu, Vice-President
Jim Molnar, Secretary / Treasurer

P.S. An update from the last newsletter, "An Inventory and Assessment of the Niagara Escarpment in Wisconsin" is now on our web site at www.nefoundation.org

Becoming a Biosphere Reserve (cont'd)

With that in mind, I raised the idea of a biosphere reserve informally with the late G.H.U. ("Terk") Bayly who was then chair of the NEC. He requested a presentation to the NEC which was made in January 1989. Afterwards, the NEC approved in principle its support for a biosphere reserve nomination. It requested staff to review the idea in more detail, and solicit comments from the Ministry of Municipal Affairs, then responsible for the Commission; the Ministry of Natural Resources and the Ministry of Citizenship and Culture, both of which had responsibilities for escarpment protection and stewardship; and the Ontario Natural Heritage League (NHL), a coordinating body for public and private organizations involved in the protection of natural areas. I also raised the idea with Jim Collinson, then assistant deputy minister for national parks, about including the Bruce Peninsula National Park and Fathom Five National Marine Park in a biosphere reserve nomination.

"The protection of this complex landscape within a rapidly urbanizing region is a tremendous feat of will and co-ordination requiring leadership, hard work, imagination, tenacity, and a good dose of human psychology to apply it."

Frederico Mayor, Director-General of UNESCO, at the Niagara Escarpment Biosphere Reserve recognition ceremony, April 4, 1990

At its March 1989 meeting the NEC endorsed the proposal to seek a UNESCO designation for the escarpment, including the two national parks. Extensive public consultations were thought unnecessary because the NEC itself was made up of representatives from municipalities and the public-at-large, there had already been years of public discussion about the Niagara Escarpment Plan and the national parks, and the nomination was for a designation of recognition that did not interfere with private property rights or existing statutory authority of government agencies.

I helped prepare a nomination submission in consultation with NEC staff and the national parks. It was approved by Canada/MAB on June 1, 1989 and subsequently endorsed by the three ministries, the NHL

and the National Parks Directorate. The nomination was sent to UNESCO/MAB in September 1989. It noted:

"... A designation would give international recognition to the years of work that have gone into developing the first large 'protected landscape' in Canada, and help extend the basis of support and involvement for some needed research, monitoring, education and demonstration activities. For Canada/MAB it will bring increased visibility for the ideals of MAB and biosphere reserves. ... For the global network of biosphere reserves, it will help confirm the wide applicability of the concept in practice, and the potential role for biosphere reserves in highly developed, settled areas."

The Niagara Escarpment Biosphere Reserve was approved by UNESCO in February 1990. A recognition ceremony was held on April 4, 1990 near Milton, hosted by then Ontario Premier David Peterson and attended by the Director-General of UNESCO, Frederico Mayor.

In 2001, University of Waterloo doctoral student Graham Whitelaw and I were asked to prepare a "periodic review" report for UNESCO on behalf of Canada/MAB. Since 1996, UNESCO has been phasing in a requirement that each biosphere reserve be reviewed every ten years to confirm that it still meets the criteria for inclusion in the world network. In November 2002, and following the same procedures it uses to consider nominations for new reserves, UNESCO approved the periodic review report and its main recommendation that the Escarpment Biosphere Reserve qualifies to remain in the world network.

Although financial resources have prevented it from having a guiding committee to deal specifically with biosphere reserve matters, the Niagara Escarpment Biosphere Reserve is rich in supporting partners and other components that make for a successful, fully-functioning biosphere reserve. There is still a need to develop good communication networks among the various components that would allow the biosphere reserve to provide a "big picture" overview of the main conservation and sustainability trends throughout the entire area, and keep track of the ongoing research, monitoring and educational work. □

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Biosphere Reserves - Canada's Part of an International Program

by Jim Birtch

What does one do with an idea that might reduce human impact upon nature, but requires information and the cooperation of other parties?

In 1968, a world conference on the biosphere recommended that an international program be established to address nature conservation and human activities at the same time. As a result, UNESCO set up the Man and Biosphere (MAB) Program. One of its components, the World Network of Biosphere Reserves, now includes over 400 areas that demonstrate practical approaches to working and living in harmony with nature. Biosphere reserves are selected by UNESCO based on the importance of their terrestrial or coastal ecosystems and the commitments of local people and organizations to cooperate in the

demonstration of conservation and environmentally sustainable development. Sponsoring organizations, at the local or national level, make a commitment to support research, monitoring, education and training activities related to biosphere reserve objectives.

The form of a biosphere reserve contributes to its role. Within each, there is a core of one or more protected areas that provides a reference point on the natural state of the ecosystem(s). Adjoining the core, there are buffer areas where activities, such as experimental research, contribute to the conservation goals of the core. The largest part of most biosphere reserves is the area of cooperation, which is the humanized landscape (farm, forest, town, etc.) where people live and work. Because the designation of a biosphere

reserve in Canada carries no legal authority over land or water use, the core and buffer areas are based on pre-existing designations (e.g. parks, wildlife sanctuaries, research stations, controlled use areas, etc.).

Biosphere reserve activities must therefore rely on cooperation and volunteer participation to succeed in this country. The Canadian program is very "grassroots." This approach ... continued on next page

Canadian Biosphere Reserves
Réserves de la biosphère au Canada



Canada's Part of an International Program (cont'd)

retains landowner autonomy and encourages partnerships. It can be very effective, but requires support for coordination and funding, which is generally weak in the program. Therefore, to make biosphere reserves function in Canada, community members have stepped into the breach.

From coast to coast, Canada's biosphere reserves are coordinated by organizations linked to local communities. In a few cases, leadership comes from

To make biosphere reserves function in Canada, community members have stepped into the breach.

pre-existing regional organizations with objectives similar to those of the program. In the remainder, local committees were created for the biosphere reserves. At the national level, biosphere reserve coordinators work together through the non-profit Canadian Biosphere Reserves Association (CBRA). Although biosphere reserves are not a federal program, Parks Canada provides a half-time staff person for national coordination plus a small amount of funding for CBRA. Other federal and provincial agencies and private sector organizations have also provided support for projects and have funded demonstration activities.

Biosphere reserves provide several benefits to local communities and organizations whose members devote a lot of time and energy to the functioning of the program. Some contribute because they see that a regional cooperative framework makes their objectives for conservation or sustainable development more achievable. Others are more interested in the use of biosphere reserve meetings as forums to discuss and resolve pressing environmental issues. Residents may also be motivated by the potential of the biosphere

reserve to give them more control over planning for the "quality of life" in their region. Participants also have a desire to share the results of their experience with other areas of Canada and with other regions around the world.

Canada's biosphere reserve network began in 1978 at Mont Saint-Hilaire, Quebec and reached 12 designated areas in 2002, with the addition of Thousand Islands - Frontenac Arch in Ontario. Because the process of obtaining support for and developing a nomination to UNESCO is lengthy (up to ten years for some Canadian biosphere reserves), it imparts a particular set of priorities to each biosphere reserve. This is reflected in local projects. For example, biosphere reserve projects include sustainable forestry, local product marketing, water conservation, wildlife interaction with domestic livestock and wetlands for pollution control. National projects involving some or all biosphere reserves have been carried out since CBRA's creation in 1997 and include: establishment of biodiversity monitoring plots; ecotourism study and marketing; mapping of landscape change; adaptation to climate change; and ecological restoration.

In 2002, CBRA developed guidelines for biosphere reserve cooperation plans which clarify partner roles and identify goals and actions based on local needs and resources. Key functions addressed are conservation, sustainable development and capacity building. Cooperation plans have been produced for ten biosphere reserves and have stimulated partnership activities. Results were shared at a biosphere reserves workshop of 100 national stakeholders in 2002 and the plans were distributed internationally. The Canadian plans are now being studied by UNESCO and others as a model for biosphere reserve coordination.

Other countries contribute ideas to the Canadian program as well. For example, staff of the Rhön Biosphere Reserve in Germany developed a creative approach to market the rare sheep and traditional fruit of their region. This has provided an economic stimulus and conserved agricultural biodiversity. As a follow up, the Rhön Biosphere Reserve hosted an international apple workshop in July 2003, which included participants from Canadian Biosphere Reserves. □

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