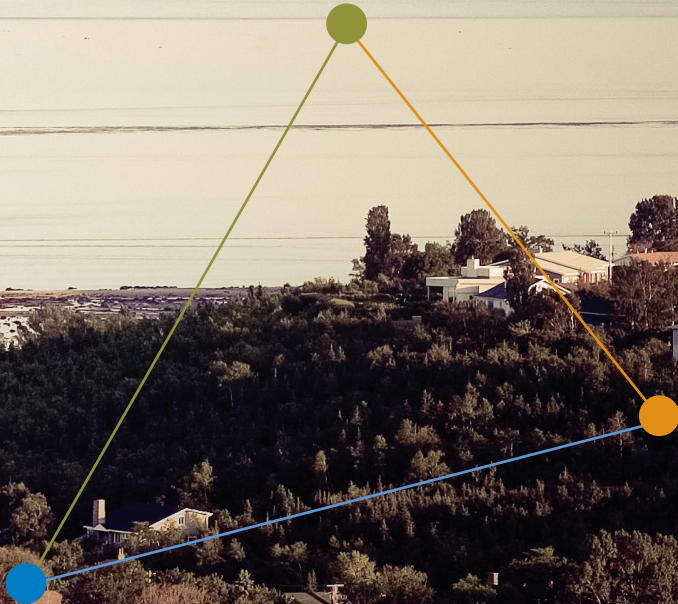




LEARNING FROM EACH OTHER:

PROVEN GOOD PRACTICES
IN CANADIAN BIOSPHERE
RESERVES



Canadian Biosphere Reserves Association

Association canadienne des réserves de la biosphère



UNIVERSITY OF SASKATCHEWAN

School of Environment and Sustainability



United Nations Educational, Scientific and Cultural Organization

Organisation des Nations Unies pour l'éducation, la science et la culture



Canadian Commission for UNESCO

Commission canadienne pour l'UNESCO



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture



Canadian
Commission
for UNESCO

Commission
canadienne
pour l'UNESCO

The Canadian Commission for UNESCO (United Nations Educational, Scientific and Cultural Organization) acts as a forum for governments and civil society and mobilizes the participation of Canadian organizations and committed individuals, in UNESCO's mandated areas: education, natural and social sciences, culture and communication and information. With the aim to inspire people and effect change, the Commission provides advice to governments, influences UNESCO's agenda and ensures the voice of Canadians is heard on the international scene.



Canada Council
for the Arts

Conseil des arts
du Canada

The Canadian Commission for UNESCO operates under the aegis of the Canada Council for the Arts.

Content of this publication was developed through the support of a Social Sciences and Humanities Research Council (SSHRC) Partnership Development Grant awarded to the Canadian Biosphere Reserve Association and Dr. Maureen Reed, University of Saskatchewan.

All rights reserved. This publication may be reproduced in whole or in part for private and/or non-commercial use, provided that the source is acknowledged. A free PDF copy is available at www.unesco.ca

© Canadian Commission for UNESCO, September 2013

ISBN 978-0-9879485-2-6

Proposed citation: Godmaire, H, M. G. Reed, D. Potvin and Canadian Biosphere Reserves. 2013. Learning from Each Other: Proven Good Practices in Canadian Biosphere Reserves. Ottawa: Canadian Commission for UNESCO

Front and Back Cover Photo: Baie-Comeau, central town of Manicouagan-Uapishka Biosphere Reserve. Serge Jauvin.

Contents

4 FOREWORDS/INTRODUCTION

- 6 Canadian Commission for UNESCO
- 7 University of Saskatchewan
- 8 Canadian Biosphere Reserves Association
- 9 Introduction
- 10 Map of UNESCO Biosphere Reserves in Canada

12 LAND MANAGEMENT & ECOSYSTEM SERVICES

- 14 Adapting to Climate Change and Protecting Ecological Goods and Services
- 16 Conserving and Managing Land
- 18 Maintaining Water Quality and Town Peace
- 20 Promoting Coexistence of Large Carnivores and Ranching
- 22 Safeguarding Animal and Human Health
- 24 Strategies and Partnerships With Decision-Makers

26 SUSTAINABLE TOURISM AND CHARTERS

- 28 Education Key - Biosphere Charter
- 30 Membership and Charter Program
- 32 Sustainable Development Charter
- 34 Sustainable Tourism Program

36 EDUCATION

- 38 Regional Atlas
- 40 Special Intervention Unit
- 42 Standard of Conduct for Researchers
- 44 Sustainability Studies Course
- 46 Sustainable Development: Baie Comeau - My City, My Voice
- 48 Useful Collective Web Tools
- 50 Virtual Window and News Columns
- 52 Volunteerism for Education and Science
- 54 Youth Orientation: Choose Your Career, Build Your Region
- 56 Academic and Citizen-Based Research Project

58 CONCLUSION & ACKNOWLEDGEMENTS

- 60 Conclusion
- 62 Canadian Biosphere Reserves Contact Directory
- 65 Additional Web Resources
- 66 Acknowledgements

**“LOCAL COMMUNITIES MUST
BE ENCOURAGED TO PARTICIPATE
ACTIVELY AND CONSISTENTLY
IN CONCEPTUALIZING,
PLANNING AND EXECUTING
SUSTAINABILITY POLICIES.”**

**UNITED NATIONS SECRETARY-GENERAL'S HIGH-LEVEL
PANEL ON GLOBAL SUSTAINABILITY, 2012**



1

FOREWORDS / INTRODUCTION

CONTENT

Canadian Commission
for UNESCO / Myriam Montrat

University of Saskatchewan /
Maureen G. Reed & H el ene Godmaire

Canadian Biosphere Reserves
Association / Jean-Philippe L. Messier

Introduction

Map of UNESCO Biosphere Reserves
in Canada

The Canadian Commission for UNESCO is pleased to be part of the development of this important and unique publication. It provides a selection of case studies and key success factors prepared by communities participating in the Man and Biosphere (MAB) Programme. Above all, these are stories of civic engagement – the kind needed to build an inclusive and sustainable world.

The Commission proudly supports this network and acts as the focal point for the Man and Biosphere Programme in Canada. Biosphere Reserves, located across the country, are regions designated by UNESCO as “model areas for sustainability” where the local community, public, private and non-profit sectors collaborate to find grassroots solutions to societal challenges. The program directly impacts the two million Canadians living in these areas, and the benefits extend much further. It provides a global network of knowledge sharing and continuous learning about ways to implement sustainability principles.

The Man and Biosphere Programme uses the model of “nested governance” (including local, national and international levels) to foster dialogue and cooperation in a non-partisan way. Behind each of these Biosphere Reserves is a story of



visionary, committed leaders who found innovative ways to work with all sectors at all levels to build a brighter future for their region. The culmination of the UN Decade of Education for Sustainable Development (2005-2014) represents a key occasion to communicate their insights.

May these examples inspire you and the work you are doing in your communities!

MYRIAM MONTRAT

Secretary-General

CANADIAN COMMISSION FOR UNESCO

Despite being separated by vast distances and great ecological and cultural differences, how can Canadian Biosphere Reserves start working more closely together to learn from each other and become more effective in achieving the UNESCO mandate? This was the question asked of us by former Canadian Biosphere Reserves Association CEO Marc-André Guertin. His question led to a partnership between researchers and Biosphere Reserve communities.

His question was prescient. Community-engaged research - working actively with community organizations to address relevant issues - is becoming an imperative for academics and communities alike. Universities now recognize that researchers are not just disinterested observers of the world, but can do good work by partnering with like-minded organizations to work on common goals. These organizations benefit when the talents of researchers and students are tailored to meet their needs and concerns. This was the thinking behind the birth of the community-university partnership between the Canadian Biosphere Reserves Association and the School of Environment and Sustainability at the University of Saskatchewan in collaboration with the individual Biosphere Reserves, the Canadian Commission for UNESCO, other academic researchers, and the Canadian MAB committee. We thank the Social Sciences and Humanities Research Council for its support of this partnership and the Canadian Commission for UNESCO for its support of this publication.



This good practices collection is the first of its kind in Canada. This work brings together academic researchers, Biosphere Reserve practitioners and representatives from governing agencies to identify, showcase and reflect on practices in land management and ecosystem services, sustainable tourism and charters, and education. The resulting document offers a glimpse of the hard work and commitment that practitioners and volunteers across the country devote to their communities.

The collective effort demonstrates how people from diverse places and perspectives can work together to share their learning about biodiversity conservation, sustainable development, and education. We are pleased to be a part of this learning network. Dive in! We are eager to extend our network to include new partners and perspectives.

MAUREEN G. REED
HÉLÈNE GODMAIRE
UNIVERSITY OF SASKATCHEWAN

Canada's Biosphere Reserves are living laboratories of how sustainable development can be implemented in our communities. The Canadian Biosphere Reserves Association (CBRA) is a national resource and coordinating centre that provides training and support for Biosphere Reserves, their staff, and key volunteers. We are – together with local communities, First Nations, industry partners and diverse agencies – currently involved in more than 200 projects and activities related to sustainable development from coast to coast.

CBRA activities are centered on training, capacity building, communications and community outreach. As a result, we are proud to present this collaborative publication that identifies best practices in the field of sustainable development. This Canadian effort, which involves our network of 16 Biosphere Reserves across the country, aims to inspire initiatives elsewhere around the world and to empower Biosphere Reserves' leadership within their regions towards becoming models of sustainable communities.

We recognize the precious partnership between the Social Sciences and Humanities Research Council (SSHRC), the University of Saskatchewan and the Canadian Commission for UNESCO that allows us to considerably increase our expertise in the field of sustainable development and strengthen the capacity of Canada's Biosphere Reserves to share knowledge across multiple scales.



I would sincerely like to salute my dedicated friends, colleagues and volunteers across Canada for their hard work, commitment and sharing our vision of creating vibrant, healthy and sustainable communities.

JEAN-PHILIPPE L. MESSIER

Chair

**CANADIAN BIOSPHERE RESERVES
ASSOCIATION (CBRA)**

Introduction

Welcome to “Learning from Each Other: Proven Good Practices in Canadian Biosphere Reserves”. With over 35 years of experience in Canada, UNESCO Biosphere Reserves are pioneers in mobilizing efforts and partnerships to shape the future of their regions. This collection has been developed to provide concrete examples of initiatives they have steered and which have strong potential in inspiring other regions interested in transforming sustainability ideals into real-world initiatives.

Biosphere Reserves are both geographic areas and convener organizations dedicated to achieving three functions: conservation; sustainable development; and providing support for research, demonstration, and learning. They are designated in Canada because of the expressed interest of local communities to work towards these goals and are recognized by UNESCO through its Man and the Biosphere (MAB) Programme. However, because of large geographic distances and different social and ecological characteristics, practitioners have been challenged to work together and to reflect on their collective contributions as a network.

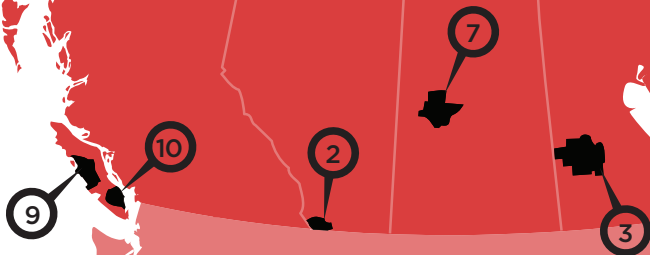
This publication is one of the outputs of a partnership development grant awarded in 2011 by the Social Sciences and Humanities Research Council of Canada to the Canadian Biosphere Reserves Association and Dr. Maureen Reed at the School of Environment and Sustainability, University of Saskatchewan. This community-based research partnership has also involved researchers and students

from across Canada, the Canadian Commission for UNESCO and its advisory MAB committee in order to strengthen networking and social learning strategies in Canadian Biosphere Reserves.


In 2011, an inventory identified more than 430 projects conducted by Biosphere Reserves in Canada. Project participants then identified three broad themes from this inventory: land management and ecosystem services, sustainable tourism and charters, and education. While activities and contributions of Biosphere Reserves cover a broad spectrum of subjects, these three encompassing themes were selected as they provide good opportunities to facilitate the exchange of knowledge and experience across the national network. Practitioners then set to work in small groups to document and reflect on their good practices.

By working in small groups, practitioners were able to engage in open dialogue about their efforts including commonalities and unique characteristics. The partnership also provided opportunities to evaluate their efforts, to consider possible improvements and to celebrate their successes. We invite you to read these stories and to contact Biosphere Reserve practitioners if you have questions or would like to put some of these ideas into practice in your own regions. More information about the partnership can be obtained by contacting any of the participants involved.

UNESCO BIOSPHERE RESERVES IN CANADA



- 
- 1 MONT SAINT-HILAIRE, QUEBEC (1978)**
- 2 WATERTON, ALBERTA (1979)**
- 3 RIDING MOUNTAIN, MANITOBA (1986)**
- 4 LONG POINT, ONTARIO (1986)**
- 5 CHARLEVOIX, QUEBEC (1988)**
- 6 NIAGARA ESCARPMENT, ONTARIO (1990)**
- 7 REDBERRY LAKE, SASKATCHEWAN (2000)**
- 8 LAC-SAINT-PIERRE, QUEBEC (2000)**
- 9 CLAYQUOT SOUND, BRITISH COLUMBIA (2000)**
- 10 MOUNT ARROWSMITH, BRITISH COLUMBIA (2000)**
- 11 SOUTHWEST NOVA, NOVA SCOTIA (2001)**
- 12 FRONTENAC ARCH, ONTARIO (2002)**
- 13 GEORGIAN BAY, ONTARIO (2004)**
- 14 FUNDY, NEW BRUNSWICK (2007)**
- 15 MANICOUAGAN-UAPISHKA, QUEBEC (2007)**
- 16 BRAS D'OR LAKE, NOVA SCOTIA (2011)**



“BEING PART OF A UNESCO
DESIGNATION MEANS THAT THE
WORLD RECOGNIZES THAT WE
LIVE AND WORK IN A SPECIAL
ENVIRONMENT. WE WANT TO
ENHANCE IT AND NOT TAKE
AWAY FROM IT.”

TINA GATAVEKAS
Elm Cove Cottages
Georgian Bay



2

LAND MANAGEMENT & ECOSYSTEM SERVICES

CONTENT

**Adapting to Climate Change
and Protecting Ecological Goods
and Services / Redberry Lake
Biosphere Reserve**

**Conserving and Managing Land /
Mont Saint-Hilaire Biosphere Reserve**

**Maintaining Water Quality and Town
Peace / Charlevoix Biosphere Reserve**

**Promoting Coexistence of Large
Carnivores and Ranching / Waterton
Biosphere Reserve**

**Safeguarding Animal and Human Health /
Riding Mountain Biosphere Reserve**

**Strategies and Partnerships With
Decision-Makers / Mont Saint-Hilaire
Biosphere Reserve**

Adapting to Climate Change and Protecting Ecological Goods and Services

– REDBERRY LAKE
BIOSPHERE RESERVE

Located in Saskatchewan, the Redberry Lake Biosphere Reserve includes the entire watershed of Redberry Lake, which spans about 1,150 km². The primary economic activities within the region are agriculture and raising livestock.

Extreme rainfall events can trigger flooding, which, in turn, can adversely affect the agribusiness, industry, infrastructure, healthcare and tourism sectors. Because of ongoing climate change and human modifications to the landscape, flooding is more likely and will have to be considered in future planning. Landowners will have to bear partial or full costs of adaptive flood mitigation measures.

Extreme rainfall events can cause damage to nearly every sector

Photo: Thomas Abe
Redberry Lake



In response to this challenge, the Land and Infrastructure Resiliency Assessment (LIRA) was developed by Agriculture and Agri-Food Canada. This program offers a tool for municipalities to detect areas susceptible to future flooding and to help create proactive plans and strategies to cost-effectively mitigate the effects of extreme rain.

LIRA is a five-phase process covering an entire watershed: choosing a pilot study area, evaluating the effects of several extreme precipitation events on socio-economic and municipal infrastructure, developing a method to quantify the vulnerability of the pilot study area, assessing adaptation options for decision-makers and helping farmers adapt and mitigate the landscape to prevent or reduce the impact of floods. Nearly 100 farmers and municipal residents have participated in the planning process, including a significant number of residents of the Biosphere Reserve. A project report was shared with the public in June 2013.

For more information about the Redberry Lake Biosphere Reserve, please refer to the Contact Directory at the end of the document.

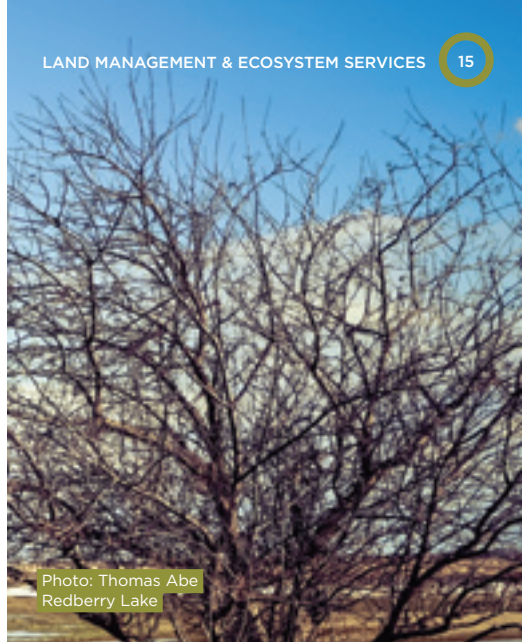


Photo: Thomas Abe
Redberry Lake

KEY FACTORS OF SUCCESS

- Promote participation: Persuade communities to participate in the program.
- Involve key actors—rural municipalities, regional planning groups and producer-based group—to create a vision and awareness of flooding issues.
- Share and validate data: Organize mapping meetings to insure data validity.
- Establish partnerships to share costs and create win-win situations.
- Collectively identify the adaptation measures needed to address flood events.
- Convince governmental organizations and landowners that costs of flood prevention are lower than potential costs of repairing damages in the future.

Conserving and Managing Land

– MONT SAINT-HILAIRE BIOSPHERE RESERVE

Mont Saint-Hilaire Biosphere Reserve (MSHRB) is located in one of Quebec's most productive agricultural regions and is an hour's drive from the metropolis of Montréal. At the area's core lies the privately owned Gault Nature Reserve which encompasses one of the oldest natural forests in North America.

Ongoing agricultural expansion and increasing urbanization have resulted in deforestation. Today, only 17.5% of the Richelieu Valley Region is forested. Deforestation and fragmentation of remaining forest habitats threaten the region's natural equilibrium, quality of life, and scenic and cultural character.

Recognizing these pressing threats, the Mont Saint-Hilaire Biosphere Reserve is working with the entire community to protect and create wildlife corridors at a regional level. It has adopted a three-stage approach to develop new tools that will help decision-makers manage the natural environment and formulate their own management plan:

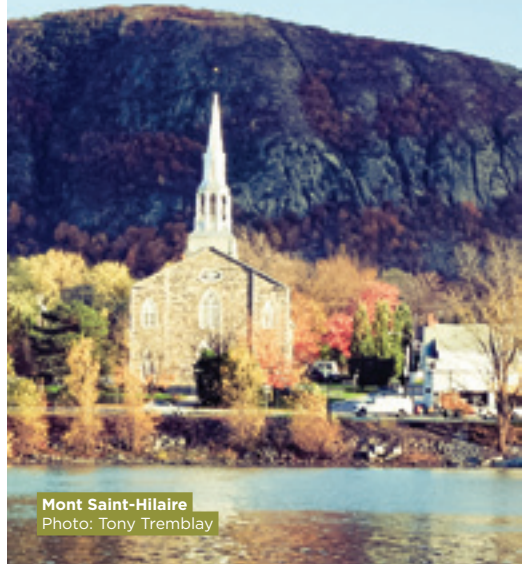
- Identify conservation priorities by developing detailed maps of the area.
- Consult with local decision-makers on these findings.
- Develop plans and strategies that prioritize actions to protect and restore wildlife corridors.

View from Mont Saint-Hilaire
Photo: Gaby Jalbert

Partnerships with local decision-makers include shared initiatives with municipalities and the community-at-large, including private landowners. To date, private landowners have donated habitats sheltering endangered species and have ratified agreements for vulnerable species preservation. The town of Mont Saint-Hilaire has established a protected zone (where property development is prohibited) to preserve the ecological richness of the area surrounding the mountain while addressing citizens' concerns regarding regulation, conservation and access. A regional master plan for green corridors linking Mont Saint-Hilaire with neighboring Lac-Saint-Pierre Biosphere Reserve has also been developed. Finally, an informational CD-ROM tool entitled "Atlas of The Forested Areas of the Richelieu Region: Understanding and Protecting Our Heritage" has been created to complement communication activities targeting the general public and to increase awareness of the need to protect the forests of the region. This CD-ROM includes maps and a description of the different types of forests found within the Richelieu Valley and provides general information (demographic, historical, cultural and touristic) on the entire region as well.

Land conservation and management projects are ongoing at MSHBR. Multiple partners continue to collectively explore new approaches to reconcile economic development, social development and environmental protection through partnerships between people and nature.

For more information about the Mont Saint-Hilaire Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Mont Saint-Hilaire
Photo: Tony Tremblay

KEY FACTORS OF SUCCESS

- Focus on community-based consensus building.
- Promote projects that ensure small-scale gains.
- Create a strong sense of belonging.
- Promote and recognize partners' commitment.

Maintaining Water Quality and Town Peace

– CHARLEVOIX BIOSPHERE RESERVE

The Charlevoix Biosphere Reserve is located approximately 150 km east of Québec City. Rural municipalities, the St-Lawrence estuary, mountains, rivers and forests surround the Grand-Jardins and Hautes-Gorges-de-la-Rivière-Malbaie National Parks that form the core area of this Biosphere Reserve.

Even if water is very abundant in the area, its use can become problematic as evidenced by the following case study. The Saint Irénée village aqueduct serves 377 people and the municipal water supply is drawn from the Jean-Noël River. In the past, frequent alerts were issued for villagers to boil their water, despite regular standard analysis and treatment. Local farms were deemed responsible for the village's water contamination and, due to increasing public pressure, a new regional regulation that imposed limits on pig farming was adopted to facilitate cohabitation in the agrarian zone.

A watershed committee involving all local water users was created to address the socio-environmental problems and restore relations between the village and farming community. The challenge was to re-establish a positive social climate and

The Jean-Noël river in winter
Photo: Claude Letarte
Charlevoix

to assure all parties involved that adopting better environmental practices, notably those related to the water protection of the Jean-Noël River, was synonymous with fostering a better and healthier life. The UNESCO approach, which views knowledge as an essential tool to create a peaceful working climate, was quickly adopted and applied.

Participants realized that the project could only succeed if all partners were committed to improving the situation. A combination of scientific knowledge, meeting facilitation, competency recognition and participants' goodwill led members of the group to accept and respect each other, as well as local laws and regulations. This greatly facilitated the application, implementation and enforcement of regulations.

The social climate within the committee is now noticeably improved and discussions flow far more openly. To maintain good neighbourly relations, the farmers' union has published a leaflet that addresses this public debate. Studies on water quality have been carried out and the regional watershed organization has obtained public funds to develop a water management strategy and an action plan for its water.

For more information about the Charlevoix Biosphere Reserve, please refer to the Contact Directory at the end of the document.



**The agricultural part
of the Jean-Noël River**
Photo: Claude Letarte
Charlevoix

KEY FACTORS OF SUCCESS

- Establish an open dialogue among all water users through a committee.
- Bring the parties to understand each other and share their visions.
- Call upon the expertise of scientists and regulation specialists.
- Co-construct a long-term implementation plan.
- Promote partners' involvement and creativity.

Promoting Coexistence of Large Carnivores and Ranching

– WATERTON BIOSPHERE RESERVE

Situated in southwestern Alberta, the Waterton Biosphere Reserve includes the Waterton Lakes National Park at its core. From there, it extends north and east to include public forestry reserves and private ranches, farms and residential lands. This landscape is home to a number of large carnivore species.

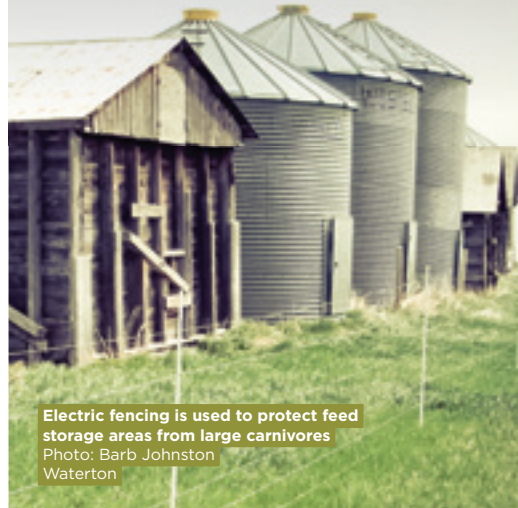
In the last decade, carnivores, particularly grizzly bears, have started moving further east, from mountain and foothill public lands into private agricultural lands. As they expand their presence in and use of these habitats, conflicts with humans are escalating, affecting the livelihood of ranchers and farmers and the personal safety of all residents.

Native grasslands in southwestern Alberta
Photo: Jeff Bectell
Waterton

The Waterton Biosphere Reserve has initiated a process with landowners, land managers and other local partners to reduce human-carnivore conflicts, decrease human-caused mortality of large carnivores and enhance public safety. It also seeks to reduce economic repercussions to agricultural producers as a result of sharing their land with large carnivores and, ultimately, to achieve a balance between large carnivore conservation and agriculture in southwestern Alberta.

The Waterton Biosphere Reserve Carnivore Working Group (CWG) was tasked with creating a long-term vision, goals and a plan to reduce human-carnivore conflict issues in southwestern Alberta. The CWG worked with landowners and other stakeholders to support landowner projects and efforts to reduce human-carnivore conflicts, to develop and deliver a communication and education strategy and to build strong collaboration among producers, agencies, government and other stakeholders.

For more information about the Waterton Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Electric fencing is used to protect feed storage areas from large carnivores

Photo: Barb Johnston
Waterton

KEY FACTORS OF SUCCESS

- Engage all stakeholders through a multi-stage process.
- Work toward a common vision.
- Operate by consensus to build unity among the group: cohesiveness.
- Address issues of complexity and provide resources to bridge gaps in knowledge and experience.
- Ensure that producers are adequately compensated for losses to predators.
- Identify long-term funding and the potential for ecosystem service programs.



Bringing Cattle Home in the Fall

Photo: Ilse Ketelsen
Riding Mountain

Safeguarding Animal and Human Health

– RIDING MOUNTAIN BIOSPHERE RESERVE

Located in southwestern Manitoba, Riding Mountain Biosphere Reserve is approximately 250 kilometres from Winnipeg. The core area, Riding Mountain National Park, is surrounded by 15 rural municipalities in an area that has largely been developed for cultivating grain and raising livestock. The region is also replete with lakes and natural habitats; hunting and ecotourism both contribute to the area's local economy.

Inherent to such mixed landscapes are certain health concerns shared by both humans and animals. Here, Bovine TB—a type of tuberculosis that can affect both humans and animals—is carefully monitored. There is concern that the disease can be transmitted from wildlife to cattle and then on to humans through unpasteurized milk, dairy products made from raw milk or under-cooked meat products.

A few years ago, Bovine TB was identified in herds of cattle, elk and a few deer in the Riding Mountain Biosphere Reserve region. This led to the creation of a task force of stakeholders representing federal, provincial and local government agencies, cattle producers, landowners, tourism associations, Parks Canada and the

regional tribal council. The group's initial goal was to develop an understanding of both the mutual and individual interests and issues represented on the committee and to implement the governmental Bovine TB program in an efficient manner.

The group used their collective experiences and knowledge to make a number of key recommendations to help reduce the transmission of Bovine TB between domestic cattle and wildlife: using barrier fences, introducing livestock guardian dogs, promoting relevant research and using prescribed burns to help restore prairie lands.

For more information about the Riding Mountain Biosphere Reserve, please refer to the Contact Directory at the end of the document.

KEY FACTORS OF SUCCESS

- Build a multi-disciplinary partner-governance level committee membership.
- Establish consensus building with help from a professional facilitator.
- Co-construct a long-term implementation plan that is flexible, evolving and sustainable.
- Develop a locally focused set of objectives engaging the neighbouring community.

Strategies and Partnerships with Decision Makers

– MONT SAINT-HILAIRE BIOSPHERE RESERVE

Through their mandate to carry out conservation, sustainable development, research, and education, Biosphere Reserves play an important role in influencing, inspiring and advising local governance partners. The Mont Saint-Hilaire Biosphere Reserve (MSHBR) has sought to involve various decision-makers and stakeholders in an environmental education process to develop a common vision of the region and orchestrate the actions needed to implement it. Over the years, the MSHBR has established a number of educational strategies to create sustainable partnerships and build social consensus on the importance of biodiversity, land management and conservation issues. This approach contributes to strengthening the notions of environmental conservation, responsible development and social and economic planning among several actors and levels of government.

Strategic partners include citizens, property owners, municipalities, Regional Municipality Counties (RMCs) and a variety of ministries. Occasionally, local decision-makers are entrusted with responsibilities covering large territories, including natural environments, without adequately understanding the related socio-environmental issues. As such, education and communication strategies have been devised and implemented

to ensure cohesiveness and consensus on important Biosphere Reserve issues, based on knowledge, skills and the realities for partners and stakeholders.

Three examples of MSHBR partnerships and training of decision makers are:

WORKSHOP: From Tree to Forest

The MSHBR provided training on forest fragmentation that included workshops for policy makers along with various communication tools in support of these activities. More than 150 land managers, ministries, municipal representatives and conservation businesses attended to discuss the tools, strategies and expertise required to carry out their mandate of protecting and enhancing forest environments.

WOODLANDS ATLAS: A Decision Making Tool to Facilitate Land Management

Recent studies indicate that between 1999 and 2009 more than 17,000 hectares in the Montérégie region were deforested due to increasing agriculture and urbanization. To promote woodland conservation and preserve biodiversity, MSHBR developed an Atlas to prioritize forest ecosystems for conservation efforts and development. The Atlas, available on CD-ROM, is aimed primarily at policy makers and actors involved in conservation of the Montérégie natural environment.

PERIMETER COMMITTEE

The municipality sought a long-term action plan to protect the ecological integrity and beauty of the landscape for future generations. A multi-stakeholder committee reflecting diverse views was therefore established within the MSHBR to promote and harmonize conservation planning for the mountains and the surrounding area. Numerous consultations, studies, discussions and visits led to a consensus on the future of the foothills, which resulted in 56 recommendations

that reflect the unique value of the mountain environment, citizens' concerns and owners' rights.

TARGET PUBLIC

Citizens, students, businesses, stakeholders

PARTNERS

Decision-makers, governance representatives, citizens, university, local NGOs

FINANCIAL PARTNERS

Local, regional, provincial and national funding

WEBSITE

centrenature.qc.ca/conservation/projets.html

For more information about the Mont Saint-Hilaire Biosphere Reserve, please refer to the Contact Directory at the end of the document.



KEY FACTORS OF SUCCESS

Ensure that the ongoing education and training of the committee members are focused on practice, not just theory.

Define a common vision.

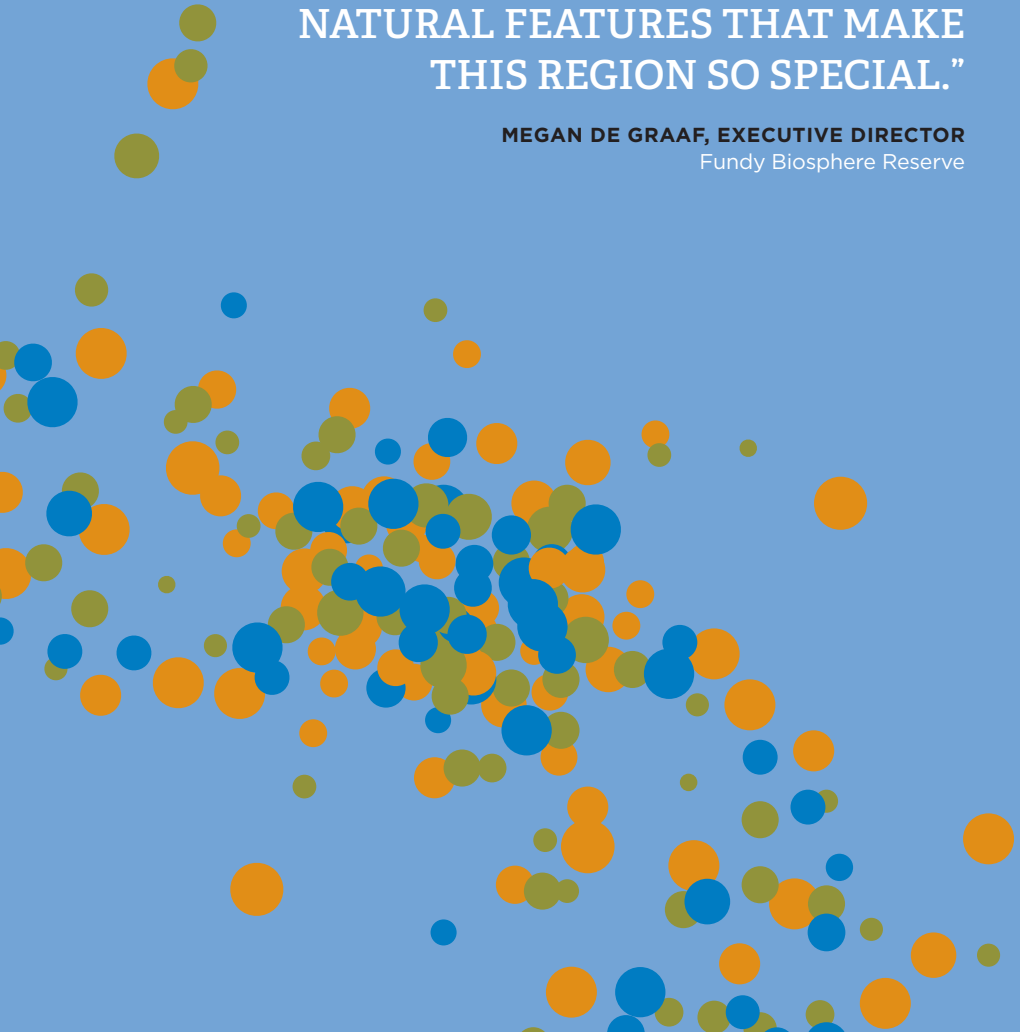
Nurture cooperation between different partners to implement an integrated solution. None of the partners could carry out the entire proposed project on their own.

Encourage partnerships to allow the sharing of knowledge and expertise to achieve a joint project of regional importance.

Welcome contributions from partners made according to their own expertise, skills and abilities to ensure all emerge as winners in the process.

“OUR SUSTAINABLE TOURISM
ACTIVITIES ARE ALL DIRECTED
TOWARD BUILDING THE
CAPACITY OF OUR COMMUNITIES
WHILE IMPROVING VISITORS’
APPRECIATION FOR THE
NATURAL FEATURES THAT MAKE
THIS REGION SO SPECIAL.”

MEGAN DE GRAAF, EXECUTIVE DIRECTOR
Fundy Biosphere Reserve



3

SUSTAINABLE TOURISM & CHARTERS

CONTENT

Education Key - Biosphere Charter /
Georgian Bay Biosphere Reserve

Membership and Charter Program /
Fundy Biosphere Reserve

Sustainable Development Charter /
Lac-Saint-Pierre Biosphere Reserve

Sustainable Tourism Program /
Frontenac Arch Biosphere Reserve



Bearly Used Books owner,
Melissa Thompson
Photo: Becky Pollock
Georgian Bay

Education Key – Biosphere Charter

– GEORGIAN BAY BIOSPHERE RESERVE

Located on Ontario's Lake Huron, the Georgian Bay Biosphere Reserve covers 347,000 hectares of shoreline ecosystem stretching between the Severn and the French rivers. It covers the eastern coast of Georgian Bay, also known as the "30,000 Islands," considered the world's largest freshwater archipelago. The Biosphere Reserve hosts over 100 species of animals and plants that are at risk in Canada and Ontario, including unique reptiles and amphibians.

A Charter Membership program has been created to promote the Biosphere Reserve's values and principles. It is a tool to educate, to develop a sense of place, to recruit new members and business partners and to contribute membership fees to the Biosphere organization. The goals of the Charter program are to:

1. Increase awareness of the Biosphere Reserve's UNESCO designation – what it is about.
2. Encourage public education regarding the Biosphere Reserve's work – what we do.
3. Build capacity for future programs – reach potential partners and supporters.
4. Promote sustainability through education – encourage and showcase best practices.

Biosphere Charter members are committed to supporting and operating under the principles outlined by the Georgian Bay Biosphere Reserve:

1. Protect the natural resources of the region.
2. Develop the economy in a sustainable way.
3. Support and preserve cultural heritage.
4. Minimize impact on the environment.
5. Build a healthy community.
6. Educate and raise awareness about the Georgian Bay Biosphere Reserve.

Charter program membership does not require an external audit; a survey clearly revealed that businesses were not interested in, or ready for, such a process. Instead, members are invited to training workshops where they can learn about industry best practices and how to lower their environmental impact cost-effectively. A number of industry-specific accreditation programs, such as Clean Marine for marinas, are currently in place and can be further promoted. A type of self-audit "tool kit" explaining the steps for businesses to become more sustainable is under development.

The Biosphere Reserve logo is free to download and use. It is not tied to membership. Members of the business community can nonetheless monitor one another. The objectives are to foster pride in UNESCO's Biosphere Reserve designation within the community, encourage participation across all industries and organizations and promote the values and principles inherent in the Charter.

For more information about the Georgian Bay Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Acadian forest of the Fundy Biosphere
Reserve's Caledonia Highlands
Photo: Ben Phillips

Membership and Charter Program

– FUNDY BIOSPHERE RESERVE

Located in southern New Brunswick, the Fundy Biosphere Reserve (FBR) covers 440,000 hectares along the rugged, upper coastline of the Bay of Fundy.

The FBR Membership program offers an innovative way to create a support network and branding tool for the Fundy Biosphere Reserve. Centred on the FBR Charter, the program helps fulfill the potential inherent in the UNESCO designation of the region of southeast New Brunswick. In essence, people and organizations become members of the Fundy Biosphere Reserve to demonstrate their commitment to the FBR Charter.

Signing the Charter indicates a participant's commitment to promoting the core values of the FBR— conservation and sustainable development—by integrating sustainable practices into everyday activities. The Charter is a pledge to support the FBR and operate by the following principles:

1. Protect the natural resources of the region.
2. Develop the economy sustainably.
3. Support and preserve natural and cultural heritages.
4. Minimize negative impact on the environment.

5. Integrate into the community.
6. Educate and raise awareness about the FBR.

The Charter Membership program has changed how the FBR is viewed in the region and has created a network of Charter members that promote the UNESCO designation. In addition to inspiring other members, Charter members also foster sustainable tourism in the region through projects that promote both experiences in the area and the conservation of its natural assets. This network of members increases the impact of FBR's new outreach programs and communications to the local population and visitors. The partnership with businesses allows the FBR to achieve its mandate and lead sustainable development and conservation initiatives throughout the region.

For more information about the Fundy Biosphere Reserve, please refer to the Contact Directory at the end of the document.

THE MEMBERSHIP PROGRAM INCLUDES:


1. Membership committee
2. Membership policy
3. Endorsement policy
4. Trademark on the logo
5. Logo use policy
6. Fee structure for membership
7. Members by-laws and privileges
8. The Charter

Sustainable Development Charter

– LAC-SAINT-PIERRE BIOSPHERE RESERVE

Lac Saint-Pierre is located in the province of Quebec, east of Montreal, on the Saint Lawrence River between Sorel-Tracy and Trois-Rivières. Ninety percent of the territory within the area has remained wild. The creation of the Sustainable Development Charter for the Lac-Saint-Pierre Biosphere Reserve (RMBLSP) emerged from community development needs and initiatives to promote the area's natural and cultural heritages. Working with the Nature Conservancy of Canada (NCC), RMBLSP has laid the foundations for a Sustainable Development Charter to ensure:

1. Principles of sustainable development made available to local people for guidance.
2. A greater sense of belonging to the Lac-Saint-Pierre region.
3. Community participation in the region's governance.
4. Sustainable use of resources and local monitoring to ensure sustainable development.
5. Economic vitality and improved quality of life.

A photograph of a man and a woman smiling and holding a large fish. The man is on the left, wearing a dark cap and a camouflage jacket. The woman is on the right, wearing a red jacket and a dark headband. They are both looking at the camera. The fish is held vertically between them.

Fishing Academy, Pourvoirie LSP
Photo: Jacques Pleau
Lac Saint-Pierre

The Charter targets political and socio-economical actors, RMBLSP Cooperative members and Biosphere Reserve partners, businesses, organizations, tourism stakeholders, municipalities and the general public. Through a true participatory process, the Charter was presented and discussed through public consultation and approved by the community and the RMBLSP board. Signing the Charter represents businesses' first step for sustainable tourism program certification, a component of the larger "Quality Tourism Quebec" program.

– DESTIN'ACTION CERTIFICATION PROGRAM

The DESTIN'ACTION certification was developed to follow the Government Sustainable Development Strategy 2008-2013 under the 2006 Sustainable Development Act. DESTIN'ACTION BIOSPHERE LAC-SAINT-PIERRE is a tool for members who wish to engage in sustainable development practices and address contemporary challenges such as climate change and recent regional economic decline in a tangible way.

For more information about the Lac-Saint-Pierre Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Baie-du-Febvre Migratory Staging Area
Photo: Rosaire Lemay
Lac Saint-Pierre

The certification program provides visibility for the tourism industry and showcases its commitment to sustainability. Businesses benefit through increased opportunities for support to develop sustainably, participation in collective tourism packaging and quality assurance for their customers.

ADVANTAGES ARE:

1. Value added to products and services.
2. Quality assurance for customers.
3. Characterization of RMBLSP as a popular tourism destination.
4. Visibility among other Biosphere Reserves and sustainable tourism proponents.
5. Cost-effective strategy and long-term eco-efficiency tourism model.
6. Improved image for businesses that become "eco-friendly".

The transferability potential of the program is now being explored within the Sustainable Tourism Committee of the World Network of Biosphere Reserves.

Sustainable Tourism Program

– FRONTENAC ARCH BIOSPHERE RESERVE

Frontenac Arch Biosphere Reserve is situated in southeastern Ontario at the intersection of terrestrial and riverine ecosystems – the Frontenac Arch and the Saint Lawrence River. The area is scattered with islands and islets that are important stepping-stones for plant settlement and for animal migration.

The Frontenac Arch Biosphere Network (FABN) has struck several committees focusing on local food, arts and culture, trails, education, heritage and conservation. Their purpose is to develop communities of interest and action (cultural, historic, conservation-oriented, etc.) that bring about sustainable community development and in the end create an understanding of and pride in the natural and cultural heritages of the region. By promoting these sustainability programs within the tourism sector, FABN is also contributing to sustainable tourism in the region.

The goals of the Frontenac Arch Biosphere Network (FABN) Sustainable Tourism program are:

1. Increase awareness of the UNESCO designation.
2. Foster public education of the Frontenac Arch region.

Frontenac Arch Biosphere-built
paddle dock, Gananoque
Photo: Don Ross



3. Build capacity for future programs (e.g., among potential partners and supporters).
4. Deliver training and education on sustainable tourism to businesses, municipalities and organizations, encouraging best practices within the region.
5. Showcase successful and exemplary sustainable tourism initiatives in the Frontenac Arch region.

The FABN logo is free to download and to use. To instil public pride in the Biosphere Reserve designation, the FABN is promoting the logo's use by businesses for marketing, by educators, and by governments. Note that this is not the mixed UNESCO logo, which has strict rules attached to its use. The Charter membership program carries no audit requirements or self-audit tools.

Perception of the region and action plans continue to evolve through community engagement. In bringing communities together, the FABN fills a facilitation role. Without a strong and sustained financial position, the FABN is reluctant to incur responsibility for monitoring adherence to a charter and its accreditation processes. For the time being, the FABN will rely instead on community uptake and self-policing of the principles of sustainable tourism.

For more information about the Frontenac Arch Biosphere Network, please refer to the Contact Directory at the end of the document.



Frontenac Arch Biosphere signs the National Geographic Society's Geotourism Charter
Photo: Don Ross

THE PRINCIPLES OF THE CHARTER ARE TO:

1. Protect the natural resources of the region.
2. Develop the economy sustainably.
3. Support and preserve natural and cultural heritages.
4. Contribute to the well-being of the community.
5. Educate and raise awareness about the role and functions of the Frontenac Arch Biosphere.

“EVERY BIOSPHERE HAS AS ITS GREATEST TASK, THE EDUCATING OF ITS CITIZENS IN LIVING APPROPRIATELY IN “PLACE”. THE LINK BETWEEN PLACE AND PEOPLE IS OUR CONNECTION TO WHO WE ARE AS A PEOPLE. THE NUU-CHAH-NULTH PEOPLE OF THE WEST COAST ON VANCOUVER ISLAND CALL THIS CONCEPT “HAHOLTHIE”, OUR SACRED TRUST.”

STAN BOYCHUK, CHAIR
Canadian MAB Committee



4

EDUCATION

CONTENT

Regional Atlas / Manicouagan-Uapishka Biosphere Reserve

Special Intervention Unit / Manicouagan-Uapishka Biosphere Reserve

Standard of Conduct for Researchers / Clayoquot Sound Biosphere Reserve

Sustainability Studies Course / Clayoquot Sound Biosphere Reserve

Sustainable Development: Baie Comeau - My City, My Voice / Manicouagan-Uapishka Biosphere Reserve

Useful Collective Web Tools / Manicouagan-Uapishka Biosphere Reserve

Virtual Window and News Columns / Mont Saint-Hilaire Biosphere Reserve

Volunteerism For Education And Science / Mont Saint-Hilaire Biosphere Reserve

Youth Orientation: Choose Your Career, Build Your Region / Manicouagan-Uapishka Biosphere Reserve

Academic and Citizen-Based Research Project / Clayoquot Sound Biosphere Reserve



Atlas distribution to youth
Photo: Marie-Pierre Clavette
Manicouagan-Uapishka

Regional Atlas

– MANICOUAGAN-UAPISHKA BIOSPHERE RESERVE

Migration of young people from Manicouagan to large cities in pursuit of higher education prompted the creation and distribution of a Regional Atlas to help instill a sense of place and belonging in local youth and citizens of all ages. Filled with beautiful photos, historical narratives and perspectives on development, the Atlas reminds young people of their roots and generates a strong desire to be part of Manicouagan's sustainable development and future. The Atlas concludes with a chapter titled "Conquerors of the Future" dedicated to the youth of the area.

The overall goal of this project was to raise awareness of regional issues, sustainable development, the role of the Manicouagan-Uapishka World Biosphere Reserve (RMBMU) and the mandate of UNESCO's World Network of Biosphere Reserves. It also aimed to promote the image of Manicouagan as a model sustainable development region.

Providing a regional overview and reflection rather than a scientific perspective, the project illustrates the region's unique social and environmental features. Young people can now read about their ancestors' accomplishments, have them come alive and appreciate once more the regional allure of the sea connecting with the inland. For these reasons, the Atlas

was freely distributed to all young Baie-Comeau high school and college students in their final school year to help them learn more about the region and make a choice to stay, leave or return later to the area.

The Atlas has been a collective venture from inception to completion. High quality photos were selected and photographers agreed to exchange a generous proportion of their rights in return for visibility. The content was written with recommendations from a wide audience (e.g. citizens, youth, business, regional and municipal representatives, etc.). All relevant stakeholders were consulted and involved in drafting the content.

The Atlas was launched at the “knowledge meeting” on the second anniversary of the RMBMU. This important meeting was held in the First Nation Innu community of Pessamit, where Manicouagan citizens of all ages were welcomed with open arms.

The Atlas aroused such interest in the region among students of the local high schools and college that teachers have requested additional information for their courses from the RMBMU. As a result, the RMBMU designed and funded an educational project on sustainable development called “The Conquerors.” Local shops sold the Atlas enthusiastically, with all money raised going into a fund that pairs youth with sustainable development projects.

For more information about the Manicouagan-Uapishka Biosphere Reserve, please refer to the Contact Directory at the end of the document.

The Atlas cover

Photo: Voltige Communication

TARGET PUBLIC

Senior high school and college students, teachers, the public, local organizations

PARTNERS

Local newspaper le Manic, ImageXpert

FINANCIAL PARTNERS

Forum jeunesse Côte-Nord (\$35,000) and Alcoa Foundation (\$25,000)

WEBSITE

rmbmu.com/eng/component/content/article/18-accueil/263-atlas-de-la-rmbmu

TIME FRAME

2009





Special Intervention Unit

– MANICOUAGAN-UAPIISHKA BIOSPHERE RESERVE

For two consecutive years, the Manicouagan-Uapishka Biosphere Reserve (RMBMU) has coordinated a program entitled the Special Intervention Unit (SIU), targeting young people, families and citizens. The goal of this initiative was to promote the Biosphere Reserve's mission and to raise public awareness of, and commitment to, regional development. In this context, a sustainability charter was developed by the Biosphere Reserve as a steering document and communication tool.

The SIU is dedicated to the younger generation and focused on its integration into the local labour market, where sustainable development is promoted as a prerequisite for quality of life. Sustainability is also encouraged as a relevant tool for employers wishing to innovate, protect the environment and develop better socio-environmental practices. As a result, new labour options for youth are emerging.

The project consisted of the following:

- Engaging the public at home, at work and locally to make a positive change for future generations.
- Inviting citizens to adhere to a public commitment charter.

Part of Team 2010

Photo: Marie-Pierre Clavette
Manicouagan-Uapishka

- Training young people to become RMBMU and sustainable development ambassadors in the Manicouagan-Uapishka region.
- Providing meaningful jobs, helping local students develop projects, communicate, get involved and gain experience in their fields of study.
- Participating in regional efforts to adapt the labour market to a sustainable development model.
- Reinforcing the potential roles and responsibilities the next generation of workers can offer current employers.
- Strengthening the resilience of the community, particularly in relation to challenges in the workforce.
- Encouraging youth to return to the region to build their careers.
- Helping young people contribute to the sustainable development of the region in their chosen occupation.
- Extensively promoting the RMBMU as the reference for sustainable development in the region.

The diverse communication strategies used included a press conference in a daycare centre, blog, Facebook group, weekly radio program, eco tips, columns in the weekly newspaper, t-shirts, postcards handed out freely to tourists, and temporary nature tattoos for kids.

For more information about the Manicouagan-Uapishka Biosphere Reserve, please refer to the Contact Directory at the end of the document.

TARGET PUBLIC

Youth, families, general public, organizations

PARTNERS

Ecotrust, Real Estate Foundation, District of Tofino

FINANCIAL PARTNERS

Forum jeunesse Côte-Nord, Hydro-Québec, Service Canada – Canada Summer Jobs program, SADC Manicouagan, Paramanic, Glocal, Eco-Stage Katimavik, Fonds de solidarité FTQ, Service Canada Youth Awareness Initiative, Caisse populaire Desjardins de Baie-Comeau

WEBSITE

usi-rmbmu.blogspot.com

TIME FRAME

May to August 2010 and 2011

KEY FACTORS OF SUCCESS

Work very closely with employers.

Harness the energy and charisma of young recruits.

Use an Ambassadors approach that fosters the public's interest and participation.

Talk to youth in day camps, parents in the workplace and families at major public events to spread a cohesive message across target groups and encourage dialogue in the home.


Standard of Conduct for Researchers

– CLAYOQUOT SOUND BIOSPHERE RESERVE

Research is just part of life for many people living in the Clayoquot Sound Biosphere Reserve region, an area that extends outwards to include Ucluelet, the northern portion of Barkley Sound, and Clayoquot Sound in beautiful British Columbia. In this well-studied region, local community interest in promoting research must be balanced with legitimate concerns about certain research practices (e.g. taxing the generosity of First Nations residents, “over surveying the land”). The Standard of Conduct for Researchers was developed in response to such concerns and to establish standards for the region on which all parties could agree.

This document was created to encourage and optimize cooperation between local communities and researchers, maximizing mutual benefits, minimizing risks, supporting local participation and ensuring that results are regionally meaningful and reported back to communities. Following these guidelines may help researchers enhance the credibility and validity of their findings in addition to bolstering collaboration between outside researchers and community members. Finally, this tool contributes to make the research process more efficient and fruitful for all involved.

The information and guidelines in the research protocol were jointly developed over several months by interested



Two researchers measure a cedar tree in the old growth rainforest of Clayoquot Sound Biosphere Reserve
Photo: Clayoquot Sound Biosphere Reserve

community members and researchers at the University of Victoria as part of the commitment of the Clayoquot Alliance for Research, Education and Training (CLARET). To the greatest extent possible, participants ensured that the resulting document reflects the interests of all First Nations and non-First Nations communities in the region as well as the broad spectrum of interests in the research community.

All aspects of this document are underpinned by a collective respect for the well-being and interconnectedness of individuals, communities and ecosystems. This concept is consistent with the Nuu-chah-nulth principles of iisaak (living respect) and hishuk ish ts'awalk (everything is one and interconnected).

TARGET PUBLIC

Academics, researchers, local residents of Clayoquot Sound, including First Nations

PARTNERS

University of Victoria; Clayoquot Alliance for Research, Education and Training (CLARET); Central Region Nuu-chah-nulth Nations; Parks Canada (First Nations Program Manager)

FINANCIAL PARTNERS

Social Sciences and Humanities Research Council, Clayoquot Biosphere Trust

WEBSITE

clayoquotbiosphere.org/documents/science/CLARET_StdConV1.1_05.pdf

TIME FRAME

On-going; guidelines created in 2005

For more information about the Clayoquot Sound Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Summer student Liam assists researcher Barb Beasley in measuring water quality of frog habitat

Photo: Clayoquot Sound Biosphere Reserve

KEY FACTORS OF SUCCESS

- Collaborative nature of the project.
- Respect for First Nations communities and culture.
- Increase access to quality research data.
- Report results to the people in the region.
- Enhance collaboration between local communities and researchers.
- Foster greater understanding of First Nations culture and of the provincial and federal parks within the region.




Sustainability Studies Course

– CLAYOQUOT SOUND BIOSPHERE RESERVE

The Clayoquot Sound Biosphere Reserve (CSBR) is situated in the coastal temperate rainforest on the west coast of Canada and in the northeast Pacific Ocean coastal environment. Part of the Pacific Rim National Park Reserve, the mountain chain on Vancouver Island serves as its backdrop and the Pacific Ocean lies at its feet.

In 2011, the Clayoquot Biosphere Trust (CBT) developed the curriculum for a Grade 12 Sustainability Studies course that familiarizes students with the concept of sustainability in a locally relevant context. This hands-on course is designed to engage and challenge senior high school students interested in the concept of sustainable development. It begins with an introduction to sustainability followed by units on food security, sustainable development, ecosystems, people and the environment, civic engagement and sustainable actions. The course emphasizes experiential learning and encourages the development and enrichment of skills through field trips, work and volunteer experience. The course capitalizes on the natural environment of the Biosphere Reserve region and the many skilled scientists, entrepreneurs and non-profit organizations willing to share their experiences and knowledge with students.



Researchers take local youth out at low tide to learn more about clam beds

Photo: Clayoquot Sound Biosphere Reserve

OBJECTIVES OF THE COURSE:

- Increase the number of First Nations and local citizens in a position to positively influence conservation and environmental science in the region.
- Increase local civic engagement and develop future leaders for the Clayoquot Sound region.
- Attract families to the region (and retain them) through the delivery of world-class learning opportunities.
- Give youth a voice in decisions that relate to themselves and their environment.

TARGET PUBLIC

High school students in grade 12

FINANCIAL PARTNERS

Vancouver Foundation (\$10,000), Canada Summer Jobs (\$2,880).

In-kind: Ucluelet Secondary School, Maaqtusiis Education Authority, Pacific Rim National Park Reserve, Raincoast Education Society

WEBSITE

clayoquotbiosphere.org/web/youth-and-the-biosphere-2/sustainability-studies/

TIME FRAME

June – December 2011 (creation of curriculum); otherwise on-going

For more information about the Clayoquot Sound Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Students and visitors enjoy a tour through the old growth rainforest
Photo: Clayoquot Sound Biosphere Reserve

KEY FACTORS OF SUCCESS

- Cooperate with local high schools and school district(s).
- Create an engaging, hands-on course for high school students.
- Create a locally relevant curriculum that emphasizes community engagement, sustainability and experiential learning.
- Involve a summer student in the creation of the program and gathering peer input.
- Foster cooperation and enthusiasm of local organizations keen to share their expertise. For example, Pacific Rim National Park provided input and ideas on the content, and staff participate as guest speakers and mentors.
- Strengthen partnerships with local non-profit organizations that will help deliver portions of the program.
- Recognize that project contributes to the overall goals of the Biosphere Reserve and the United Nations Decade of Education for Sustainable Development.

Sustainable Development: Baie-Comeau My City, My Voice

– MANICOUAGAN-UAPISHKA BIOSPHERE RESERVE

Since Manicouagan-Uapishka was designated a UNESCO Biosphere Reserve in 2007, Baie-Comeau has positioned itself as the central city of a model region of sustainable development. Inspired by the Local Agenda 21, the city has adopted an ambitious approach that consists of creating and implementing a community-wide sustainable development plan. The project is a perfect fit for the provincial government's sustainable development strategy, which stems from the Quebec Sustainable Development Act. It is also in line with major international efforts. The Baie-Comeau initiative, shared among several regional actors, aims to improve the quality of life for present and future generations. It is based on three fundamental pillars: 1) developing knowledge, 2) promoting responsible actions and 3) commitment.

The objectives are:

- Develop a common understanding of the social, environmental and economic challenges to facilitate action.
- Create added value for the community by launching a unique and innovative project.

- Implement a collective and unifying project to empower participants to improve the quality of life.
- Meet the expectations and wishes of citizens and social groups to foster the local community's active participation in sustainable development.
- Provide a new tool for territorial planning and participation, taking into account specifically the environment, community and economic issues related to regulatory tools (planning, zoning, etc.).
- Integrate new policies and various subsequent plans related to sustainable development into the municipal administration.
- Meet the provincial guidelines for sustainable development policies, strategies and legislation.

The city's approach has proceeded along an improvement continuum, including a comprehensive public consultation process implemented to prioritize rapid transition to action. Following the first citizens' forum in 2011, a sustainable development policy was formulated. The action plan was then developed and immediately adopted by City Council. This approach successfully led to concrete actions stimulating the interest and participation of all those who wished to be actively involved.

Communication played a key role in the process. Both the Biosphere Reserve's Communications Officer and the City's Communications Department joined forces to encourage participation and share progress reports. The communication plan included an original logo and the slogan Baie-Comeau - My City, My Voice.

The ALCOA smelter in Baie-Comeau was inspired by the My City, My Voice project and created, one year after its launch, the Baie-Comeau Smelter Sustainable Communities Fund. The fund provides \$10 million over 25 years (or \$400,000 per year) to structure sustainable development projects arising from My City, My Voice. Because this is such an exceptional financial lever that will ensure a promising future for Baie-Comeau, Alcoa has set up a similar fund in the two other communities where it operates smelters: Bécancour and Deschambault. These two cities have consequently created similar sustainable development initiatives and the Manicouagan-Uapishka Biosphere Reserve (RMBMU) acts as a liaison among the three entities.

TARGET PUBLIC

Municipal representatives, citizens, organizations, businesses, NGOs

FINANCIAL PARTNERS

Fonds verts (\$35,000), Ville de Baie-Comeau (\$67,000), RMBMU (\$10,000), Baie-Comeau Smelter Sustainable Communities Fund

WEBSITE

baie-comeau.mavillemavoix.com

TIME FRAME

Policy: June – December 2011. Action Plan implementation: 2012. Creation of the Fund: 2012

For more information about the Manicouagan-Uapishka Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Participative practices during a forum

Photo: Jean-Sébastien Bouchard
Manicouagan-Uapishka

KEY FACTORS OF SUCCESS

- Maintain stakeholders' commitment through a dynamic interactive process.
- Gather strong support and leadership at the municipal level.
- Mobilize key interests (e.g. economic, environmental and social issues) across a range of stakeholders.
- Devise an effective and diverse communication plan.

Useful Collective Web Tools

– MANICOUAGAN-UAPISHKA BIOSPHERE RESERVE

The following tools have been used by the Manicouagan-Uapishka Biosphere Reserve to engage the public, facilitate communication and support collaboration among its partners:

EVENT ORGANIZATION

Doodle allows organizers to easily and efficiently schedule meetings. Participants select potential timeslots based on their availability and the program automatically identifies the times/dates all members find suitable.

doodle.com

DOCUMENT SHARING

Use Dropbox to share documents, particularly large files.

dropbox.com

SURVEYS AND GATHERING INFORMATION

Assess people's opinions, gather information, facilitate analysis and reporting using SurveyMonkey.

surveymonkey.com

ELECTRONIC NEWSLETTERS

Use MailChimp to send electronic newsletters, generate member lists and follow up on statistics.

mailchimp.com

Citizens' Forum

Photo: Eve Ferguson
Manicouagan-Uapishka

MIND MAPPING

Generate and share mind map diagrams, facilitate the collection of knowledge and ideas, and launch brainstorming sessions using MindMeister.

mindmeister.com

VIRTUAL COMMUNITY

Create and run a virtual community using Ning.

ning.com

BLOG

Build a blog

blogger.com

MANAGING FAVOURITES

Gather, organize, share and explore your web favourites.

pearltrees.com

QUIZZES

Develop and circulate a quiz

propofs.com/quiz-school

PRESENTATIONS

Create and send out your own presentations, or choose from a variety of templates.

prezi.com

WORLD CAFE

Drawing on seven integrated design principles, the World Café methodology is a simple, effective and flexible format for hosting large group discussions.

theworldcafe.com/method.html

OPEN SPACE

Open Space Technology (OST) is an approach that can be incorporated when hosting meetings, conferences, corporate-style retreats and community summit events. Maintaining the focus on a specific and important purpose or task throughout, gatherings are launched without any formal agenda beyond their overall purpose or theme.

en.wikipedia.org/wiki/Open-space_technology

OPEN INNOVATION

Open Innovation is a paradigm that assumes organizations can—and should—be opened to both internal and external ideas and processes to advance their technological and innovation capacity by sharing risks and rewards.

en.wikipedia.org/wiki/Open_innovation

For more information about the Manicouagan-Uapishka Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Virtual Window on
the Mont Saint-Hilaire
Biosphere Reserve

Virtual Window and News Columns

– MONT SAINT-HILAIRE BIOSPHERE RESERVE

The Mont Saint-Hilaire Biosphere Reserve (MSHBR) has developed and implemented numerous communication and education strategies. Among others, the virtual window and news columns in the local media have proven to be very popular.

VIRTUAL WINDOW

The window on the Mont Saint-Hilaire Biosphere Reserve (MSHBR) is a virtual exhibition that presents the nature, culture and some of the wonders of the first Biosphere Reserve in Canada. Designed to be user-friendly, interactive and easy to navigate, the virtual exhibit draws attention to and reveals the MSHBR. With a few clicks it is possible to observe a garter snake safely manoeuvre on the ground or to listen to tales about the mountain's Lac Hertel. Browsing allows you to discover regional features and the history of municipalities located in the MSHBR, recognized by UNESCO since 1978.

NEWS COLUMNS

Columns in the local media are effective communication tools that help publicize the role, issues and beauty of the MSHBR, raising awareness and interest in the Biosphere Reserve. Twenty-six columns

are published per year on issues related to the mountain and its natural resources. A number of these articles present views on various topics related to conservation, the environment and Biosphere Reserves elsewhere. This voluntary contribution to the local media provides the Biosphere Reserve with visibility while creating quality content for readers. The partnership also allows the MSHBR to provide articles or special reports based on a particular theme. For example, 12 articles were published during the International Year of Biodiversity.

TARGET PUBLIC

General public

FINANCIAL PARTNERS

National and local funding, local newspaper, local TV

WEBSITE

museevirtuel.ca/Exhibitions/Hilaire/

TIME FRAME

On-going

For more information about the Mont Saint-Hilaire Biosphere Reserve, please refer to the Contact Directory at the end of the document.

KEY FACTORS OF SUCCESS

- Maintain ongoing education and training through numerous, effective communications.
- Define a common vision.
- Create a sense of belonging to the Biosphere Reserve.
- Recognize and appreciate the involvement of various partners.

Volunteerism for Education and Science

– MONT SAINT-HILAIRE BIOSPHERE RESERVE

For over 10 years, the Mont Saint-Hilaire Biosphere Reserve (MSHBR) has maintained a highly successful volunteer program that allows citizens, students and businesses to take concrete steps to protect natural environments within the region. Offering a rare behind-the-scenes glimpse of nature, the volunteer activities also provide tangible and invaluable opportunities for environmental education and help foster a sense of place and belonging. Such activities meet the Biosphere Reserve mission by giving volunteers hands-on experience in conserving the natural resources of the mountain and thereby allowing for the acquisition of knowledge and skills (restoration of natural areas, monitoring and inventories, species identification, landscaping, citizen science, environmental communication, community involvement, etc.).

The Biosphere Reserve has significantly benefited from the volunteer program. Overall, volunteers invest thousands of hours every year at Mont Saint-Hilaire. For example, volunteers are trained by MSHBR botanists and biologists to help conduct flora and fauna inventories, which contribute directly to the Biosphere Reserve biodiversity conservation program. The data collected are

Restoration and landscaping work carried out by citizen volunteers

Photo: Centre de la Nature du mont Saint-Hilaire

used to monitor the environment, guide conservation efforts and involve citizens in further biodiversity protection.

Other volunteer and capacity-building opportunities are also possible through the Biosphere Reserve, such as specific restoration and management activities (e.g. tree planting, stream restoration) under the guidance of its staff and managers. Activities are conducted on a predetermined schedule between May and October and announced to the general public on the Biosphere Reserve's website and in the monthly newsletter. Participants may register by email or phone. These activities are scheduled and devised to ensure maximum participation, regardless of age or physical condition. Organized groups are also encouraged to participate in restoration and management of natural environments (e.g. wetlands, forests, woodlands and disturbed areas). Each year, school groups, scout groups, community groups and even businesses gladly roll up their sleeves to contribute, with the MSHRB providing all required equipment.

TARGET PUBLIC

Citizens, students, businesses, stakeholders

PARTNERS

Citizens, students, stakeholders

FINANCIAL PARTNERS

Local and provincial funding

WEBSITE

centrenature.qc.ca/informations/benevolat.html (French only)

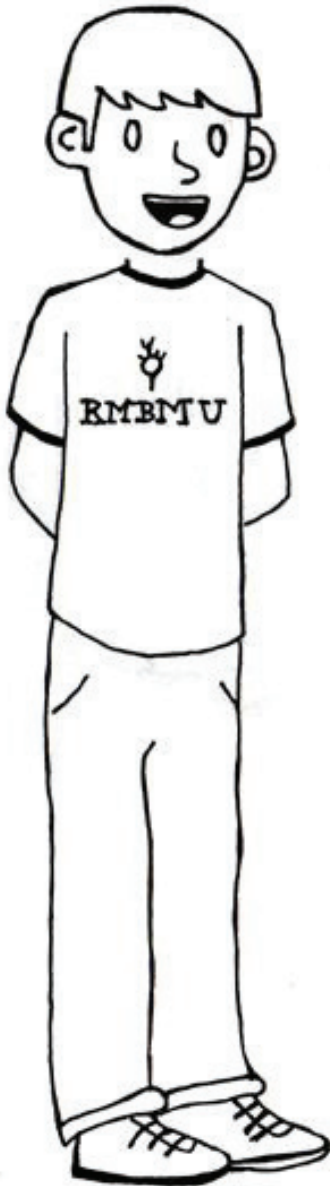
For more information about the Mont Saint-Hilaire Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Photo: Centre de la Nature du mont Saint-Hilaire

KEY FACTORS OF SUCCESS

- Take advantage of direct contact with participants to generate ideas about their role and opportunities for the conservation of natural habitats within the Biosphere Reserve.
- Provide interesting, fun and stimulating activities.
- Create a sense of belonging to the Biosphere Reserve by the pride and tangible results that come from the work.
- Adapt activities to ensure all can participate.
- Recognize and appreciate the involvement of various partners.



Main character: Dédé
Drawing: Catherine Arseneault

Youth Orientation: Choose Your Career, Build Your Region

– MANICOUAGAN-UAPISHKA BIOSPHERE RESERVE

Because it offers limited college and university options, the Manicouagan region on Quebec's Upper North Shore has always faced the significant challenge of youth migration to larger centres. Consequently, the Manicouagan-Uapishka Biosphere Reserve (RMBMU) is developing strategies to retain, attract and welcome young people back to this region.

The Choose Your Career, Build Your Region project aims to instill a sense of belonging in local youth and encourage career choices based on the sustainable development of their territory and community. The goal is to inform 1000 young people about future careers in sustainable development. Recently, the Quebec Ministry of Education (MELS) introduced the orienting approach, defined as "... a concerted effort between a school team and its partners, in which targets are set and services are implemented (individual and collective), tools and educational activities designed to guide students in the development of their identity and vocational journey."

Based on this approach, the project demonstrates and promotes different careers that could potentially support or

contribute to sustainable development in the region. Eight comic strips with the character Dédé, who chooses a series of sustainable development careers (eco-council, forestry, etc.), were created by a young artist who was herself in the process of settling in the region. Launched as an awareness campaign, the comics were given a full-page write-up in the local weekly newspaper that featured a message from the RMBMU highlighting the importance of committing to sustainable development.

The campaign includes posters, a blog and a full-size Dédé presented at regional schools and dedicated events. Following a press conference and a press release, the campaign has spread to TV and radio. Dédé's popularity has spawned the development of another sustainable development education project, also involving comics. Mentions in the newspaper have reached a large audience, and people of all ages have learned more about sustainable development in the RMBMU.

TARGET PUBLIC

Youth, Youth Workers

PARTNERS

Catherine Arseneault (artist), local newspaper Le Manic

FINANCIAL PARTNERS

Service Canada, Youth Awareness program (\$14,000), local weekly newspaper

WEBSITE

choisistonmetier.blogspot.com
(French only)

TIME FRAME

December 2010 to March 2011

For more information about the Manicouagan-Uapishka Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Towards a model region of sustainable development
Drawing: Catherine Arseneault

Comic strips' slogan
Drawing: Catherine Arseneault



KEY FACTORS OF SUCCESS

- Work on youth employability - a major local issue.
- Rely on an official Education Program implemented by the schools.
- Develop partnerships with the media.

Academic and Citizen-Based Research

– CLAYOQUOT SOUND BIOSPHERE RESERVE

As part of its mandate, the Clayoquot Biosphere Trust (CBT) offers funding and logistical support for research initiatives pursued within the region of the Clayoquot Sound Biosphere Reserve. The CBT also encourages research by:

1. providing a searchable database of documents related to the CSBR region
2. housing a library and archives
3. coordinating meetings, speaking events and symposia.

The Measuring Community Health (MCH) project brings together much of the research in the region to consolidate the socio-economic and environmental-health picture of the communities within the region. A “Vital Signs” report based on this picture, produced in October 2012, serves many functions. It is considered an important planning tool for the Clayoquot Biosphere Trust and local organizations, institutions and governments. Consulted for quality information on issues relevant to the region and its citizens, it plays a prominent role in public education. Containing data collated from many communities, the report also helps

**Productive greenhouse
in Hesquiaht First Nation
community gardens**
Photo: Clayoquot Sound
Biosphere Reserve

broaden the framework and perspective through which citizens view themselves as residents of a place and of this Biosphere Reserve region.

Certain citizen science components have been embedded in the MCH project, giving community members a unique chance to be part of a multi-faceted research team. In one project, community participants are asked to track the blooming of the salmonberry, a common native shrub. This work on plant phenology, and other projects just like it, are well-grounded in science and generate invaluable information that informs climate change science in the region.

TARGET PUBLIC

General public

FINANCIAL PARTNERS

Ecotrust, Real Estate Foundation, District of Tofino

WEBSITE

clayoquotbiosphere.org/web/vital-signs/

TIME FRAME

Ongoing, with biennial Vital Signs Report

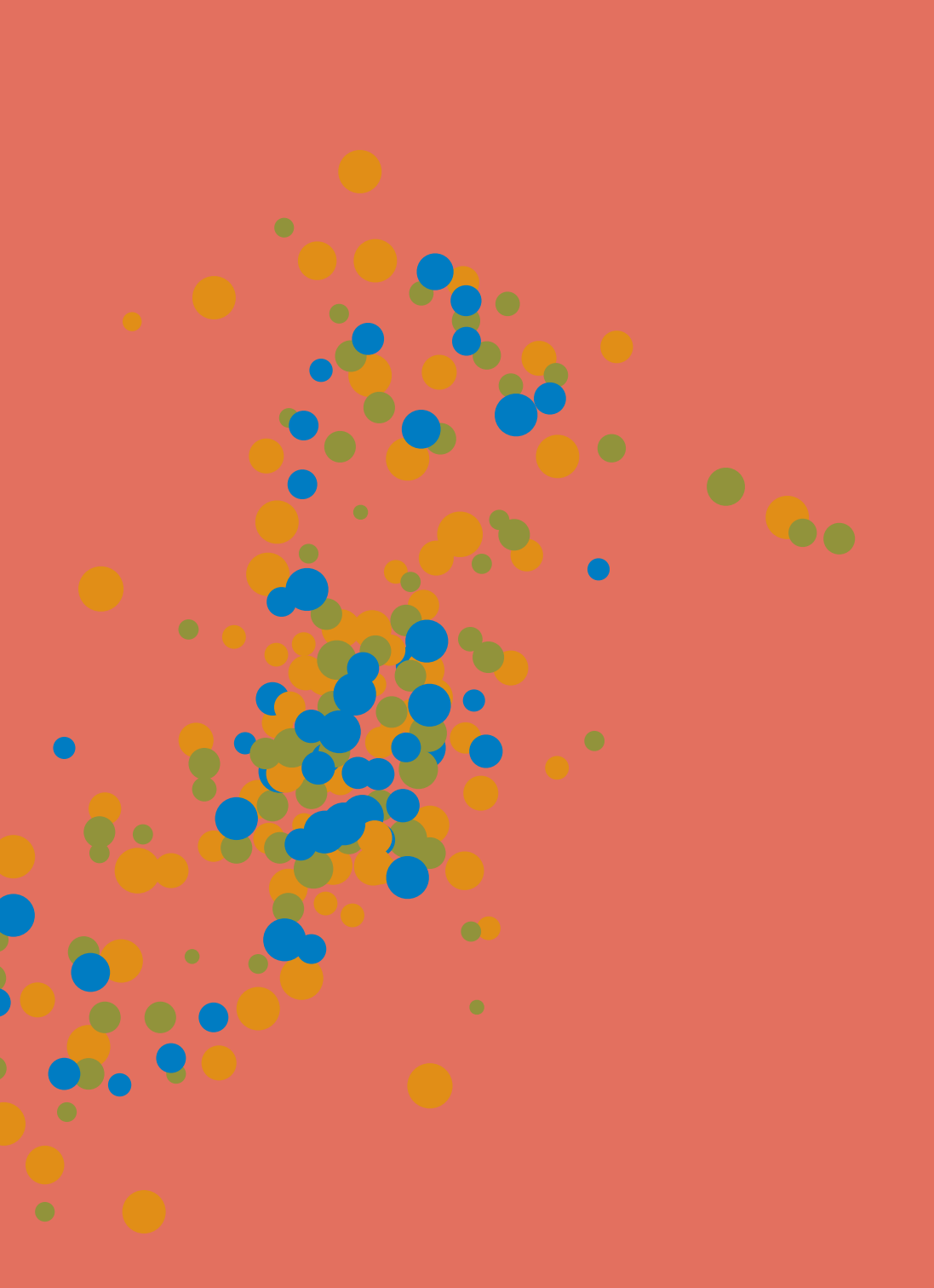
For more information about the Clayoquot Sound Biosphere Reserve, please refer to the Contact Directory at the end of the document.



Youth programming at the Hesquiaht Place of Learning in Hot Springs Cove
Photo: Clayoquot Sound Biosphere Reserve

KEY FACTORS OF SUCCESS

- Collate reliable regional data to inform planning, education, and policy decisions, among others.
- Provide long-term logistical and financial support for scientific research projects that increase our understanding of, and commitment to, the UNESCO Biosphere Reserve region.
- Develop a meaningful context for citizens to become deeply immersed and engaged in research projects while generating reliable data for the region.
- Impart an understanding in researchers that they must engage with the community, before, during, and after a given project to maximize benefits.
- Provide tools and venues (Vital Signs report, public lectures, science symposia, etc.) through which the general public can learn about research initiatives underway in the Biosphere Reserve region.



5

CONCLUSION & ACKNOWLEDGEMENTS

CONTENT

Conclusion

Canadian Biosphere Reserves
Contact Directory

Additional Web Resources

Acknowledgements

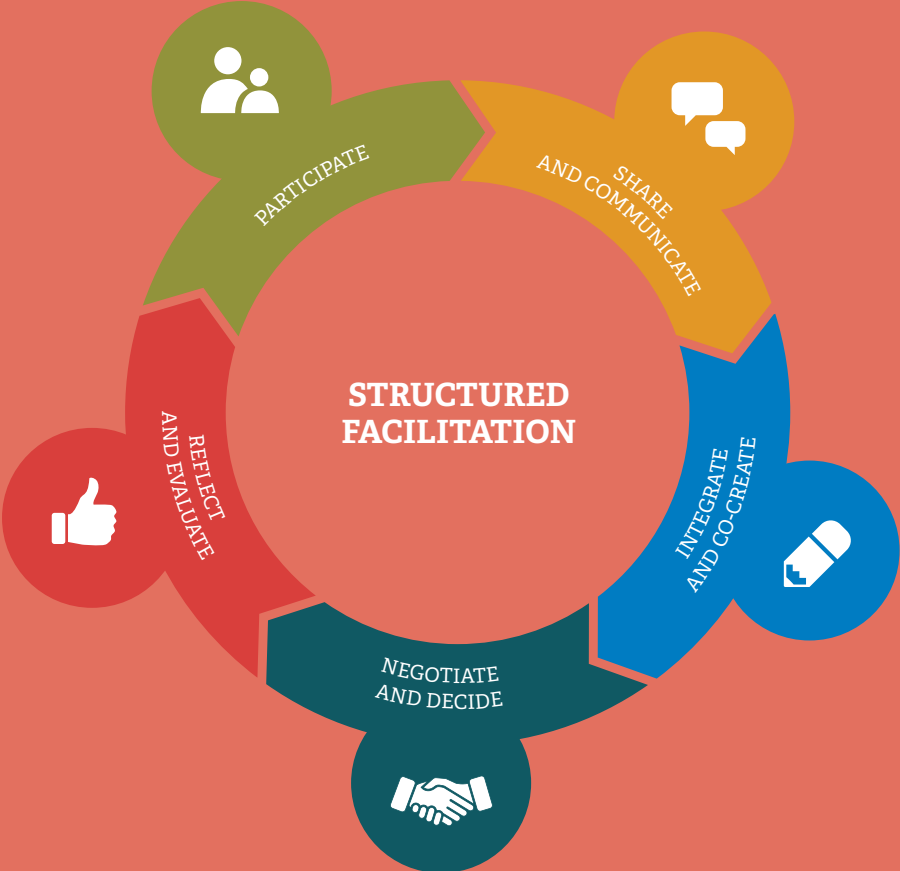
Conclusion

There are many lessons to be learned from the experiences of Canadian Biosphere Reserves. Their practitioners, often volunteers, are passionate and committed to learning and cooperation. Because they are busy undertaking projects, they have little time to document their achievements. However, their work noticeably exemplifies the spirit of the UNESCO Man and Biosphere (MAB) Programme. Through this publication, a specific contribution to the Madrid Action Plan for Biosphere Reserves (2008-2013) was also achieved by promoting the exchange of educational resources for widespread adaptation by supporting learning organizations, alliances and empowering all stakeholders (Target 22 of the Madrid Action Plan).

Within a short time, work by Biosphere Reserves and their partners has already demonstrated that positive outcomes can emerge from collective and reflective action. This spirit of collaboration and common goals allowed for individual practitioners from all Canadian Biosphere Reserves, students and academic researchers, government and policy representatives to be involved in different stages of the partnership which led to this publication.

Efforts to strengthen the transfer of knowledge among Biosphere Reserves are ongoing. By working together, we have been able to initiate a community of practice where participants share their experience and expertise to support each other, to learn, and to undertake new actions. The establishment of structured facilitation helped drive a cycle of action learning that has been key to this success. Action learning invites all parties to actively participate, integrate and co-create knowledge, and reflect on collective work in order to pursue this cycle again. This is a virtuous cycle that does not end. With ongoing commitment, it has the potential to engage people in meaningful exchanges and to improve our practices. It will undoubtedly help us learn how to live with one another and with nature peacefully, sustainably, and with dignity. We are at the beginning of an exciting project that will take generations to complete.

The Action Learning Cycle



Canadian Biosphere Reserves Contact Directory



BRAS D'OR LAKE BIOSPHERE RESERVE

Jim Foulds

Chair

contact@blbra.ca

Tel: 902-674-2578

P.O. Box 711

532 Chebucto Street

Baddeck, NS, B0E 1B0

blbra.ca



CHARLEVOIX BIOSPHERE RESERVE

Claude Letarte

General Manager

info@biospherecharlevoix.com

Tel: 418-665-4680

658 Rue Richelieu

La Malbaie, QC, G5A 2X1

biospherecharlevoix.com/en/accueil.php



CLAYOQUOT SOUND BIOSPHERE RESERVE

Adrienne Mason

Acting Managing Director

adrienne@clayoquotbiosphere.org

Tel: 250-725-2219

Marcie DeWitt

Community Coordinator

marcie@clayoquotbiosphere.org

Tel: 250-725-2219

316 Main Street, P.O. Box 67

Tofino, BC, V0R 2Z0

clayoquotbiosphere.org/web/



FRONTENAC ARCH BIOSPHERE RESERVE

Sarah Matheson

Executive Director

info@fabn.ca

Tel: 613-659-4824

19 Reynolds Road

Lansdowne, ON , K0E 1L0

frontenacarchbiosphere.ca



FUNDY BIOSPHERE RESERVE

Megan de Graaf

Executive Director

info@fundy-biosphere.ca

Tel: 506-874-3272

P.O. Box 1650 Stn Main

Moncton, NB, E1C 9X5

fundy-biosphere.ca



GEORGIAN BAY BIOSPHERE RESERVE

Greg Mason

General Manager
gmason@gbbr.ca
Tel: 705-774-0978

Rebecca Pollock

Communications Manager
rpollock@gbbr.ca
17 George Street, P.O. Box 337
Parry Sound, ON, P2A 2X4
info@gbbr.ca
gbbr.ca



LAC-SAINT-PIERRE BIOSPHERE RESERVE

Christian Hart

President
info@biospherelac-st-pierre.qc.ca
Tel: 450-783-6466
420, Route Marie-Victorin
Baie-du-Febvre, QC, JOG 1A0
biospherelac-st-pierre.qc.ca



LONG POINT BIOSPHERE RESERVE

Brian Craig

President
admin@longpointbiosphere.ca
Tel: 519-582-4264
1860 12th Concession Road, RR#1
Delhi, ON, N4B 2W4
longpointbiosphere.com



MANICOUAGAN-UAPISHKA BIOSPHERE RESERVE

Jean-Philippe L. Messier

General Manager
jpmessier@rmbmu.com
Tel : 418-293-2548

Eve Ferguson

Communications Officer
eferguson@rmbmu.com
Tel : 418-296-5680
41, Avenue Mance
Baie-Comeau, QC, G4Z 1M6
rmbmu.com/eng



MONT SAINT-HILAIRE BIOSPHERE RESERVE

Geneviève Poirier-Ghys

Conservation Manager
genevieve@centrenature.qc.ca
Tel: 450-467-4010, ext. 248
422 Chemin des Moulins
Mont-Saint-Hilaire, QC, J3G 4S6
centrenature.qc.ca



MOUNT ARROWSMITH BIOSPHERE RESERVE

Karen Hunter

Director
info@mabr.ca
P.O. Box 217
Parksville, BC, V9P 2G4
mabr.ca



United Nations
Educational, Scientific and
Cultural Organization



Niagara Escarpment
Biosphere Reserve

NIAGARA ESCARPMENT BIOSPHERE RESERVE

Cecil Louis

Commissioner
necgeorgetown@ontario.ca
Tel: 905-877-5191
232 Guelph Street,
Georgetown, ON, L7G 4B1
escarpment.org/biosphere/designation/
index.php



United Nations
Educational, Scientific and
Cultural Organization



Redberry Lake
Biosphere Reserve

REDBERRY LAKE BIOSPHERE RESERVE

John Kindrachuk

Executive Director
jkindrachuk@redberrylake.ca
Tel: 306-549-2360

Susanne Abe

Communications Coordinator
communications@redberrylake.ca
P.O. Box 221
Hafford, SK, S0J 1A0
info@redberrylake.ca
redberrylake.ca



United Nations
Educational, Scientific and
Cultural Organization



Riding Mountain
Biosphere Reserve

RIDING MOUNTAIN BIOSPHERE RESERVE

Valerie Pankratz

Executive Director
rmb@mts.net
Tel: 204-636-2085
61 2nd Street Northeast, P.O. Box 232
Erickson, MB, R0J 0P0
rmb.ca



United Nations
Educational, Scientific and
Cultural Organization



Southwest Nova
Biosphere Reserve

SOUTHWEST NOVA BIOSPHERE RESERVE

Cliff Drysdale

Chairman
cliff.drysdale10509@ns.sympatico.ca
Tel: 902-825-4884
77 Douglas Road, RR#1
Middleton, NS, B0S 1P0
snbra.ca



United Nations
Educational, Scientific and
Cultural Organization



Waterton
Biosphere Reserve

WATERTON BIOSPHERE RESERVE

Nora Manners

Executive Director
nmanners@watertonbiosphere.com
Tel: 403-627-1473

Jeff Bectell

Chair
jbectell@watertonbiosphere.com
Tel: 403-653-2219
P.O. Box 7
Pincher Creek, AB, T0K 1W0
watertonbiosphere.com

Additional Web Resources

Canadian Biosphere Reserves Association

biospherecanada.ca/en/

Canadian Commission for UNESCO

unesco.ca/en/home-accueil

EuroMAB 2013

euromab2013.com

**Maureen G. Reed, School of Environment
and Sustainability, University of Saskatchewan**

homepage.usask.ca/~mgr774/

**Social Sciences and Humanities
Research Council**

sshrc-crsh.gc.ca/home-accueil-eng.aspx

**UNESCO Man and the Biosphere
Programme (MAB)**

[unesco.org/new/en/natural-sciences/
environment/ecological-sciences/
man-and-biosphere-programme/](http://unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/)

**University of Waterloo -
Biosphere Sustainability Project**

[uwaterloo.ca/biosphere-
sustainability-project/](http://uwaterloo.ca/biosphere-sustainability-project/)

Acknowledgements

The development of this publication has been a genuine reflection of the bottom-up and collaborative approach of the Man and the Biosphere Programme in Canada. It is the result of relationships built over many years, based on the common conviction that a diversity of knowledge and skills is required for transformational change. As such, all case studies suggested by Biosphere Reserves were included in the collection, without any form of selection by the editorial team. We hope that all involved will take pride in the result.

Numerous colleagues at the Canadian Commission for UNESCO provided valuable support, particularly through the final translating and editing stages. I would also wish to thank Myriam Montrat, Secretary-General, for her trust in making this project a reality.

Above all, the Commission extends its gratitude to the numerous individuals across regions, particularly in Biosphere Reserves, embracing social innovation and solidifying the sense of shared responsibility. Multi-level partnerships such as ours offer tremendous hope in shaping our future.

DOMINIQUE POTVIN

Programme Officer, Natural Sciences
Canadian Commission for UNESCO

PUBLICATION COORDINATION

Dominique Potvin

PUBLICATION CONCEPTION

Angèle Cyr
Hélène Godmaire
Dominique Potvin

PUBLICATION ASSISTANCE

Nicholas Schiavo

INVESTIGATION

Maureen G. Reed
Hélène Godmaire

WRITING OF CASE STUDIES

Susanne Abe
Marie-Pierre Clavette
Marcie DeWitt
Eve Ferguson
Megan deGraaf
Christian Hart
John Kindrachuk
Claude Letarte
Nora Manners
Adrienne Mason
Valerie Pankratz
Geneviève Poirier
Rebecca Pollock
Don Ross

GRAPHIC DESIGN

Bleublancrouge Gatineau/Ottawa

TRANSLATION TO FRENCH

Les Traductions Caron-Masse inc.
Ngaio Richards

PRINTING

Du Progrès Printing

**“WE SEEK TO IMPLEMENT
A VISION OF SUSTAINABILITY
THAT INCLUDES CONSERVATION
OF BIOLOGICAL AND CULTURAL
DIVERSITY, SOCIO-ECONOMIC
DEVELOPMENT, DIALOGUE, AND
LEARNING THROUGH RESEARCH
AND PUBLIC EDUCATION.”**



