

**MAB/UNESCO BIOSPHERE RESERVES PROGRAMME
LAC-SAINT-PIERRE WORLD BIOSPHERE RESERVE
QUÉBEC / CANADA**

**PERIODIC REVIEW 2000-2010
REVIEWERS' ANALYSIS AND RECOMMENDATIONS**

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REPORT TO THE CANADIAN COMMISSION FOR UNESCO

1 DECEMBER 2010

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INTRODUCTION

The approach herein is in compliance with the criteria of the *Statutory Framework of the World Network of Biosphere Reserves of UNESCO*. Article 9 of the Framework provides for a periodic review every ten years. In this regard, it should be mentioned that the Lac-Saint-Pierre World Biosphere Reserve was created in November 2000. Therefore, the periodic review of the Reserve must be conducted at the end of 2010. Furthermore, the Canadian Commission for UNESCO specifies out that the “periodic review” requires biosphere reserves to focus on their successes and obstacles, their vision, their governance and their compliance with the *Statutory Framework of the World Network of Biosphere Reserves of UNESCO* over the last decade, as well as their prospects for years to come¹.

Four information sources were used by the reviewers. *The first source* refers directly to the *Lac-Saint-Pierre Biosphere Reserve Nomination Form* submitted to UNESCO in January 2000. *The second source* refers to the *Working Paper* presented on 2 July 2010. This initial document proved very useful and allowed the drafting team of the Coopérative de solidarité de la réserve mondiale de la biosphère du Lac-Saint-Pierre (CSRMBLSP, Annex 1 – List of acronyms) to take advantage of positive, formative suggestions from the reviewers. *The third information source* refers to the *nine (9) interviews* conducted jointly by the reviewers and to the *five (5) additional interviews* performed by one of the evaluators. These interviews with stakeholders in the Reserve’s territory were carried out between 7 July and 26 October 2010 (Annex 2). *The fourth information source* is the final document produced by the CSRMBLSP and submitted to the reviewers on 18 October 2010.

The approach adopted by the reviewers initially consists in compiling findings and analyses. Secondly, the report contains recommendations stemming directly from the analyses. It should be pointed out that these recommendations are not related to the Reserve’s financial capability, but rather to a vision of priority actions to be taken during the 2010-2020 decade. In fact, the reviewers recommend that the CSRMBLSP focus the Reserve’s actions more on the priorities of the *Madrid Action Plan for Biosphere Reserves (2008-2013)*. Finally, the structure of the reviewers’ report is consistent with the main parts of the questionnaire proposed by the Canadian Commission for UNESCO (CCU).

We wish to thank Ms. Dominique Potvin, of the Canadian Commission for UNESCO, for the logistic support she provided.

1. LAC-SAINT-PIERRE WORLD BIOSPHERE RESERVE

1.1. Significant Modification of the Transition Areas

It is appropriate to recall that the Lac-Saint-Pierre World Biosphere Reserve is a *second-generation reserve* concerned with establishing close ties with local communities on the territory. Therefore, the Board of Directors decided that *the boundaries of the World Reserve from now on would include all of the Regional County Municipalities (RCMs) adjoining Lake Saint-Pierre.*

1.2. Recommendation

1.2.1. Notify UNESCO/MAB Secretariat of the zonation change

The reviewers think that *the extension of transition areas on biosphere reserves should be reported to the UNESCO/MAB Secretariat.* This modification increases the area of the Lac-Saint-Pierre WBR from 480 km² to 6,504.9 km². In our opinion, this is not merely an administrative change. This decision has the advantage of aligning the Reserve's territory with the regional socio-political structure and including the watersheds that drain into Lake Saint-Pierre, as well as the woodlots on public lands.

2. CHANGES OVER THE LAST TEN YEARS

A summary of significant changes which occurred over the last ten years indicates an impressive progression of the Lac-Saint-Pierre World Biosphere Reserve in its efforts to achieve the distinctive mission of the *Man and the Biosphere (MAB) Programme*. The factors driving this evolution are briefly addressed in the following paragraphs.

The vision leading the three cofounders through their undertaking towards the recognition of Lake Saint-Pierre as a biosphere reserve builds on a *philosophy of community development* and citizen governance. This *choice of bottom-up governance*, inspired by social economics, directly influenced the adoption of a **corporate structure** by the organization managing the Reserve. This led to the creation of the *Coopérative de solidarité de la RMBLSP*, as a means to respond to the vision of the *MAB Programme* while providing the opportunity to generate own-source revenue through the marketing of goods and services.

Over the last ten years, the **zoning plan** underwent a major change. The *transition areas* were considerably expanded. This modification increases the area of the Lac-Saint-Pierre WBR from 480 km² to 6,504.9 km². Initially centered on the Lake Saint-

Pierre ecosystem, the current zoning allows for the addition of new environments and habitats (agricultural, forest), as well as the presence of major urban centres. This evolution is not without influence on the Coopérative's position with regards to the three functions of biosphere reserves. The Coopérative decided to **take charge of the "development function"**.

The "**conservation function**" is not performed directly by the CSRMBLSP, since other organizations were already in place prior to the creation of the Reserve to cover this aspect. Several non-profit organizations (NPOs) do an excellent job of protecting and promoting the "buffer zones" at Lake Saint-Pierre. In the area of sustainable development of major industry, the Municipality of Sorel-Tracy and the Cégep de Sorel-Tracy are to be commended for their efforts related to *industrial ecology* (Centre de transfert technologique en écologie industrielle). Furthermore, the CSRMBLSP, through its "*Conservation Commission*," is currently preparing an inventory of stakeholders and ongoing actions on the territory in order to ensure the complementarity of the projects. The "**logistic support function**" aims to support and encourage research, educational and monitoring activities in support of conservation and sustainable development. The RMBLSP created an "*Education and Research Commission*" in 2007. The members of this Commission chose to focus on the aspect of environmental education directed at school populations and tourist clientele visiting the territory's Interpretation Centres. *In the area of research*, we found that activities management is assumed by University and College *institutions* from the territory or from outside the lake Saint-Pierre territory.

The "**development function**" consists in the design and implementation of programmes and actions concerning the sustainable development of tourism, ecotourism, nature tourism and culinary tourism. In keeping with the philosophy of citizen governance, the Coopérative de solidarité acquired several tools to guide the achievement of its mandates. On one hand, in 2002, the Coopérative adopted a Master Plan for the Development of Ecotourism (*Plan directeur de développement écotouristique*²). On the other hand, **three Citizens' Forums (2003, 2007, 2010)** provided an opportunity to identify directions and themes which were used to develop the *Action Plan 2004-2006*. A new *Action Plan* is currently being developed. Finally, the creation of three commissions within the Coopérative (conservation, development, and education and research) provided for the involvement of volunteers and workers in achieving the UNESCO/MAB Programme objectives. This broad mobilization and the dynamism observed were influential in the establishment of a two-employee **skeleton staff in 2006**, which will evolve to five working members in 2010. While striving to preserve the initial participative governance ideology, the gradual addition of working members has led the Coopérative to a **more administrative vision**. This critical mass of resource persons allowed to spend more time on the search for funding, the implementation of a *Communications Plan* in 2008, and the establishment of a Consulting Service to facilitate project execution and support. This transition in time will also have made it possible to shift from

reliance on external expertise (Master Plan for the Development of Ecotourism) to **increased strengthening of the Coopérative's capacity** to conduct internal management projects and develop competencies it can share with the territory's communities. The notoriety of the Reserve enables its leaders to act as arbitrators in certain contentious regional issues. A case in point here is **the suspension of the shelling in Lake Saint-Pierre** by the **Nicolet** Munitions Experimental Test Centre and **the demining of affluents used by boaters and fishers** to access LSP.

Over the last five years, the RMBLSP secured funding and implemented several **projects concerning the sustainable development of tourism**. A few examples are the *Programme de labellisation en développement durable du tourisme* (Labelling programme related to the sustainable development of tourism), the *Charte de développement durable du Lac-Saint-Pierre* (LSP Sustainable Development Charter), the *involvement in the Blue Route project*, as well as the Nautical Station project on the territory of the Reserve. These actions have led to **recognition and awareness** of the RMBLSP in the Canadian and international network of biosphere reserves.

3. CONSERVATION FUNCTION

The “conservation function” aims to preserve genetic resources, species, ecosystems and landscapes. This important function is not performed directly by the CSRMBLSP, since other organizations were already in place prior to the creation of the Reserve to cover this aspect. In brief, the 1990-2000 decade was heavily focused on the protection of wetlands (RAMSAR, 1998) The 2000-2010 decade is characterized by actions bearing on *the durability of certain resources (fish, waterfowl) and uses (fishing, sustainable tourism, agrotourism, agriculture, navigation) and was marked by the promotion of eco-responsible actions (industrial ecology, citizens' forums, source reduction, reuse of resources, recycling, reclamation)*. The 2010-2020 decade, while preserving assets, should be focused on the actual preservation of the ecological integrity of Lake Saint-Pierre.

3.1. Evolution of Zonation over the Last Decade

The reviewers note that the *core areas* are limited in size and managed by two distinct levels of government. The provincial and federal governments manage the core areas according to their respective jurisdictions and legislations, so as to ensure the conservation of the living resources in the area. Also worthy of note is the presence of government services dedicated to research and monitoring of certain species and certain habitats. The *buffer zones* underwent a few additions, mainly in the western part of the Lake Saint-Pierre archipelago. With regards to the *transition areas*, the highlight of the last ten years remains the considerable expansion of this part of the Reserve. It is recognized that this major change represents a real advantage to access and manage funding programs according to the administrative divisions of the Regional County Municipalities (RCMs). These additions also involve the challenge of developing a *sense of belonging to the RMBLSP* in the remote municipalities within the LSP riparian area.

3.2. Main Actions by Non-governmental Organizations

The reviewers wish to underline the exceptional presence of several non-profit organizations (NPOs) doing an excellent job of protecting and developing the “buffer zones” of Lake Saint-Pierre. The actions of NPOs bear on at least five segments. The first refers to the acquisition of lands for protection purposes (DUC, NCC, SARCEL). The second segment concerned the *development and rehabilitation of ecosystems and game and fish habitats* (DUC, CZIP, SABL). Examples of this are wildlife management efforts for waterfowl and fish. The third segment concerns education and outreach to clientele related to eco-responsible actions. These organizations strive to develop a real environmental code of ethics (CZIP, RSLSP, SABL, SARCEL). The fourth segment refers to *rehabilitation and monitoring actions concerning riparian strips and spawning sites* related to wildlife habitats (CZIP, RCM, SABL). Finally, a more recent segment concerns the planting of trees as a means of compensation for greenhouse gas (CZIP, SABL, CSRMBLSP).

3.3. Connectivity and Integrated Management of the St. Lawrence and Lake Saint-Pierre

The problematic of water remains the primary and most urgent issue in Lake Saint-Pierre: water level, water quality, water governance, etc. The integrity of Lake Saint-Pierre must be approached within a context of connectivity with the upstream water bodies and the downstream water body out of Lake Saint-Pierre, which impacts aquatic life all the way to the St. Lawrence estuary. The Lake Saint-Pierre segment itself (480 km²) constitutes a potentially decisive issue for the future. The St. Lawrence River is not the same at the entrance and outflow of Lake Saint-Pierre. This change in upstream/downstream dynamics can be explained by, among other things, loading and associated consequences: sediments, dissolved solids, organic pollutants, light

changes, food availability for fish, etc. *The main issue of the durability of Lake Saint-Pierre* demands a concerted effort in collaboration with the various riparian partners in order to improve water quality in the *eight (8) tributaries of Lake Saint-Pierre*³. A number of stakeholders in the field of conservation agree on the urgency of focusing actions related with the *ecological integrity of this fluvial lake*, since it is a natural environment serving numerous interests and it needs to be protected so that it can be passed on to future generations as undamaged as possible.

The need for „*integrated management*” of Lake St. Pierre and the St. Lawrence River, both upstream and downstream, was recently the object of a memorandum produced by the CSRMBLSP and forwarded to the management of the ministère du Développement durable, de l'Environnement et des Parcs (June 2010). Managing the “water resource” is highly complex, since it involves a great number of stakeholders with cross-scale relations, both for ecological systems and socio-economic and political systems. All in all, a *best definition of common objectives* involving all the stakeholders on the territory appears to be necessary. This will require *vast consultation*, as well as a communications effort between the various stakeholders, in order to *coordinate their actions and obtain the expected results*. Therefore, the RMBLSP will have *an even more important role to play* in terms of coordination for the next decade.

3.4. Recommendations

3.4.1. Expand the Protected Areas on the North Shore of LSP

The reviewers believe it is necessary to increase the size of *core areas* of conservation supported by legal status. The objective consists in further protecting the high-quality island and/or waterfront lands. It is also essential to increase the area of riparian *buffer zones* on the north shore of Lake St. Pierre. In this respect, we invite the CSRMBLSP to relaunch the Wildlife Sanctuary Creation Project on the public lands on the north shore of Lake Saint-Pierre. This protection status would directly consolidate the core areas and the buffer zones of the RMBLSP through the *addition of 1,013 hectares of public lands protected and accessible for educational purposes*. The project is underway, but has been stagnating for several years. A collaborative effort on the part of the CSRMBLSP directed at the ministère des Ressources naturelles et de la Faune (MRNF) and the involved NPOs has the potential to relaunch this *central project* and contribute to its achievement, with the result of ensuring that each area/zone of the BR is of *sufficient size to allow for the execution of the associated functions*⁴.

3.4.2. Assuming Leadership of the Integrated Water Management Plan

A “*Water Governance Council*” was established within the CSRMBLSP in early 2010. Its mandate consisted in playing an active role with regards to cooperation between water-related stakeholders at Lake Saint-Pierre. In that perspective, we encourage the Coopérative to pursue its approaches to the ministère du Développement durable, de l’Environnement et des Parcs (MDDEP) in order to be recognized as head of the Table de concertation du Saint-Laurent (St. Lawrence River Issue Table) for the sector covered by the RMBLSP. This recognition would promote the legitimacy of the “*Water Governance Council*” as it seeks to assume leadership of the project for the development of an „*Integrated Water Management Plan*” for the territory of the World Reserve. This plan would be carried out in collaboration with all of the decision-makers, the users and civil society involved at Lake Saint-Pierre. The Université du Québec à Trois-Rivières could represent a notable partner. It already provides a scientific presence at Lake Saint-Pierre, mainly in the field of aquatic ecology. Moreover, with its exceptional research tool, the laboratory ship *Lampsilis*, the UQTR is considered a leader in freshwater ecology. We propose to strengthen the collaboration between the CSRMBLSP and the involved researchers in support of the project for the *Integrated Water Management Plan*.

4. SUSTAINABLE DEVELOPMENT FUNCTION

The “*development function*” is directly taken in charge by the CSRMBLSP. More specifically, the Coopérative has *prioritized its interventions concerning the sustainable development of tourism* (nature tourism, culinary tourism, etc.) across the board at Lake Saint-Pierre. Besides, this strategic choice is explained, in part, by the fact that the *funding agencies solicited* are generally of an economic nature (Canada Economic Development, ministère du Tourisme du Québec, Caisses populaires Desjardins, etc.). Similarly, the current membership of the CSRMBLSP’s Board of Directors shows a strong representation of socio-economic agents concerned with tourism development from each of the six territories comprising the Biosphere Reserve (RCM, CLD, CFDC, Office du tourisme, etc.).

4.1. Qualitative Growth, Sustainable Tourism and Tourist Destination

Historically, Lake Saint-Pierre has had little notoriety as a tourist destination. The Coopérative de solidarité chose to privilege ecotourism as a means to improve the

positioning of the territory's tourism supply. This type of tourism, *valued in biosphere reserves*⁵, has benefited from the popularity of the International Year of Ecotourism. Consequently, the Coopérative de solidarité's decision to establish a Master Plan for the Development of Ecotourism (2002) was considered as a new opportunity for the development and conservation of Lake Saint-Pierre. This Master Plan *had and still has influence on the development of ecotourism and nature tourism projects* on the territory of the Reserve (renewal of the permanent exhibitions at two *Interpretation Centres in relation with Lake Saint-Pierre*, Eco-Salon and Académie de pêche du lac Saint-Pierre, Écomonde project, etc.). Currently, loss leaders are focused mostly on *nature tourism*, which offers a wider spectrum of intervention while being less restrictive in its conditions of application (wildlife harvesting) for a region that is in the process of *becoming a recognized tourism destination*.

Culinary tourism (diversification, authenticity, innovations) has also been the object of several actions conducted jointly with territory partners. Two other initiatives of the Coopérative de solidarité concerning sustainable development raise strong dynamism within the community. On the one hand, a *Sustainable Development Charter* was proposed to the Reserve's communities in March 2010. On the other hand, we make reference to the *Programme de labellisation en développement durable du tourisme* (Destin'action Biosphère Lac-Saint-Pierre), initiated in 2007 and currently the object of a pilot experiment with businesses in the territory. The Program is scheduled to be officially launched in 2011. It is mandatory to sign the Charter to join the Coopérative de solidarité, as well as to access the Destin'action Biosphère program. These are indicative of the complementarity and progression of the tools developed and the commitments expected on the part of the partners.

4.2. Accessibility and Public Safety Issue: UXO

While not raised specifically in the final document of the periodic review, *the evolution of National Defence activities at Nicolet* is quite relevant here. Between 1952 and 2000, the Munitions Experimental Test Centre (**METC**) in **Nicolet** fired over 300,000 shells into Lake Saint-Pierre (UXO: unexploded explosive ordnance). The officially delineated aquatic area represents approximately 140 km², or over 40% of the total area of LSP. It is estimated that 8,000 live shells rest at the bottom of the lake. Of these 8,000 projectiles, 2,000 are dangerous if touched, which represents a large restricted-access area for boaters and sport and commercial fishers.

In 2000, at the time the Reserve's application file was submitted, the existence of a military centre conducting firing tests into Lake Saint-Pierre was considered as a situation requiring change in the context of sustainable development. The suspension of the shelling and the beginning of the demining of affluents used by boaters and fishers to

access LSP (**Landroche Channel at Baie-du-Febvre and Tardif Channel at Pierreville**) surely constitute *one of the positive changes* of the last decade on the RMBLSP territory.

4.3. Intragenerational and Intergenerational Equity

Intragenerational equity is concerned with *meeting the essential needs of the territory's communities*. In that perspective, the reviewers note the CSRMBLSP's concern with *improving the living conditions of the most destitute communities*. For instance, the Biosphere Reserve responded positively to requests for studies and guidance from *three devitalized municipalities*⁶ wishing to develop *projects* aiming to use sustainable tourism as a means to compensate the losses in other business segments. Also, with a view to facilitate more equitable access to Lake Saint-Pierre, where 80% of riparian lands are privately owned, the Biosphere Reserve staff is directly involved in the operationalisation of the Blue Route nautical circuit running through its territory.

Intergenerational equity aims to promote conservation and development actions with a potential to enhance the ability of future generations to meet their needs. For instance, *the protection of highly valuable natural and cultural sites* provides a means to pass on a quality heritage to future generations (the RAMSAR recognition of Lake Saint-Pierre is the result of the protection of over 2,500 ha of wetlands of national and international significance). Furthermore, the reviewers can not overlook the numerous actions related to education and outreach, as well as the succession of youth in relation with traditional practices at Lake Saint-Pierre. For example, the *Regroupement des Sauvaginiens du Lac-Saint-Pierre* and the SARCEL group propose annual "*Succession Programs*" to young people, in order to initiate them to waterfowl hunting and eco-responsible actions. The Pourvoirie du lac Saint-Pierre outfitter, with the creation of a Fishing Academy, offers a holiday camp experience on sport fishing and catch-and-release techniques.

4.4. Recommendations

4.4.1. *Accessibility and Dissemination of Tools and Experiments*

It is necessary to communicate the results of experiments conducted in the field of the sustainable development of tourism to other Canadian biosphere reserves and to the international UNESCO network. We are referring to the Charter and the Programme de labellisation en tourisme as tools of engagement, learning and approach in the field of sustainable development. This action of exchange between biosphere reserves is in line with the vision of the World Network of Biosphere Reserves.

4.4.2. *Facilitate Outreach to Farmers' Associations*

The RMBLSP indicates that 33% of its territory is comprised of active farmlands. In this context, we believe that collaboration with farmers' unions should be established in order to favour their awareness of sustainable development and to make them allies in the important case file of water quality and the preservation of the integrity of Lake Saint-Pierre.

4.4.3. *Collaboration between the CSRMBLSP and the City of Trois-Rivières*

The reviewers suggest the establishment of a mechanism to facilitate collaboration between the Division du développement durable du territoire of the City of Trois-Rivières⁷ and the CSRMBLSP. This regional capital, following the municipal amalgamations in 2002, has a population of 130,000 of the 299,404 people comprising the entire population of the RMBLSP⁸. Also, in May 2009, Trois-Rivières adopted its first *Sustainable Development Policy*, together with an *Action Plan 2009-2013*. The *Policy's* six themes concern the mission of the RMBLSP: urban development and natural environments, water management, forestry and green spaces, climate change, nuisances, and waste management.⁹

5. LOGISTIC SUPPORT FUNCTION

The “logistic support function” aims to support and encourage research, education and monitoring activities (and surveillance) in support of conservation and sustainable development. The RMBLSP created an “*Education and Research Commission*” in 2007. The members of this Commission chose to focus on the educational aspect of their mandate over the last few years.

5.1. In the Area of Education

In the area of education, the Education and Research Commission has a very positive track record. Several actions included in the Action Plan 2008-2010 have been carried out. Furthermore, the sharing of ideas has led to the *renewal of the exhibits and artefacts* at two of the three Interpretation Centres in direct relation with the RMBLSP mission and territory (Biophare and CBQ). Moreover, outreach to *youth in schools* was the object of numerous efforts by a wide range of organizations on the Lake Saint-Pierre territory: Biophare, CBQ working member, SCIRBI, CSRMBLSP, SABL, etc. Therefore, in the area of education, *the reviewers believe* that it is necessary to maintain continuous progress and reinforce these collaborations so that they evolve into real alliances for the future.

5.2. In the Area of Research

In the area of research, we found that activities management is assumed by *college and university institutions* from the territory or from outside the lake Saint-Pierre territory. To be added to these institutions are *certain ministerial services* of the Government of Québec and the Government of Canada. These organizations *practically function as autarkies* with their own sources of funding, their research programs, their personnel and their specific places of publication. Scientific research is currently piloted from outside the Biosphere Reserve, with one or two exceptions. Also, the presence of the BR on the territory has not provided the opportunity to engage the network of university and college researchers as expected. *The reviewers suggest* that the organization managing the RMBLSP initiate greater efforts of coordination in order to engage the scientific stakeholders and, thereby, link their knowledge systems to the mission of biosphere reserves. *In the area of monitoring*, it is interesting to underline the cooperation of ministerial personnel (precision of the data inventory and analysis protocols) with NGOs taking charge of raw data collection on the territory (CZIP of Lake Saint-Pierre, SABL).

The reviewers believe that this type of alliance should be encouraged and expanded over the next few years.

5.3. Monitoring and Evaluation of the Results of Actions

Measuring project evolution and program results remains an essential exercise. A systematic evaluation of action programs through monitoring of the environment would make it possible to *measure their efficiency*. Furthermore, evaluating the efficiency of the measures taken to promote sustainable development inevitably brings up *the issue of indicators*. In that perspective, the CSRMBLSP can play a leading role in identifying and evaluating sustainable development indicators in its spheres of intervention.

5.4. Recommendations

5.4.1. Creation of a Research Program and Agenda

The creation of research programs is normally linked to a long-term perspective. Yet, the *Madrid Action Plan* insists on the establishment of a Research Agenda¹⁰ in each biosphere reserve by 2013. The reviewers conclude that the creation of such an agenda for the RMBLSP, directly linked to its management plan and zoning plan, must become a priority over the next decade. The underlying intent is to apply scientific expertise to management and conservation, as well as to reinforce scientific support for decision-making.

5.4.2. Creation of a Scientific Council in Support of the RMBLSP

For the reviewers, the creation of a Scientific Council is a corollary to the previous recommendation. On the one hand, the creation of a Research Program involves the engagement of the scientific and non-scientific stakeholders in order to link their knowledge systems and, thereby, reinforce the scientific functions of the Biosphere Reserve. On the other hand, this Scientific Council would be an important asset to support the CSRMBLSP's three Commissions. This Council should be multidisciplinary and include scientists from both the fields of natural sciences and social sciences.

5.4.3. Measuring Progress in Sustainable Development

The reviewers believe that special attention should be given to measuring progress in sustainable development. This monitoring activity refers directly to the role of a biosphere reserve as a *living laboratory and learning site* allowing the conversion of the principles of sustainable development into locally relevant practices. For example, the experimentation of an evaluation methodology, as applied to the main ongoing and future projects, represents a significant action to be conducted by the CSRMBLSP. This type of ongoing evaluation would have the merit of basing the discourse on the evolution of the “actual experience model” of sustainable development within the RMBLSP on both objective and credible data for the whole network.

6. GOVERNANCE CONTEXT

6.1. Governance Model of the Leading Organization and Funding

The organization managing the RMBLSP has adopted a *legal status* the exact nature of which should be explained: it is a *social economy enterprise* incorporated under the *Cooperatives Act*. The *Coopérative de solidarité* embraces an entrepreneurial orientation hinging on a social purpose. The values of participation, assumption, bottom-up management, collective ownership of capital, and own-source revenue are central to this type of enterprise. It also aims to produce goods and services responding to economic and social needs. In brief, the *Coopérative de solidarité de la RMBLSP* pursues the following objective: “To operate a business in order to provide work for its working members and goods and services to its user members for the purpose of ensuring the conservation and development of the Lake Saint-Pierre Biosphere Reserve, as well as any other related activities.” [*Translated from the Charter of the Coopérative, 6 July 2000.*] Therefore, it is hardly surprising that the *Coopérative* entertains commercial designs as regards the packaging of products associated with the sustainable development of tourism and agrotourism.

Local governance, with its consultative approach, was applied to the very process which led to the submission of the Lake Saint-Pierre application to the UNESCO/MAB Programme by three cofounders of the Reserve. During the 2000-2010 decade, this leitmotiv continued to provide the backdrop for the *Coopérative's* actions with regards to community approach and sustainable development. However, the *Coopérative's* managers soon faced the *difficulty of producing own-source revenue while remaining faithful to the bottom-up vision of the three cofounders*. Significant efforts were made by Reserve staff in order to obtain diversified regional funding (CLD, network of *Caisses populaires* in the territory, Rio Tinto, etc.). However, the reality of the last few years

shows that the survival of the Coopérative and the RMBLSP depends largely on the support of the federal government (2008-2013) and certain ministerial programs of the provincial government. The reviewers' interview of the three cofounders sheds light on the contradictory situation of a bottom-up vision (community and citizen approach) and the reliance on funding based on the "provider State" (traditional approach with a centralizing vision of the State). In the 2010-2020 decade, this distortion might be reduced with the increase in the number of members of the Coopérative and other revenue generated through the packaging activities related to the sustainable development of tourism, as well as contracts performed by the headquarters Consulting Service.

6.2. Successes and Barriers to Local Governance

In the area of governance, we should mention a certain number of successes achieved by the Coopérative de solidarité by itself or in partnership with organizations and communities in the territory of the RMBLSP. Within the *Coopérative de solidarité* itself, the creation of the *three Commissions* corresponding to the three functions of biosphere reserves constitutes an important, very positive change with respect to the involvement of citizens and partners in the achievement of the vision of the organization, where sustainable development is presented as a unifying challenge. Moreover, the reviewers feel they must absolutely insist on the creation of the *Aire faunique communautaire du lac Saint-Pierre* (Lake Saint-Pierre Communal Wildlife Area). It is interesting to note the originality of this management approach as an element of solution of the conflict between commercial fishing and sport fishing (improvement of the quality of fishing), as well as for the restoration of the populations of game fish (e.g. yellow perch) and habitats. The presence of two Abenaki communities on the territory of the RMBLSP is the object of well-deserved mentions with regard to the important *collaborations developed with the Odanak Community*. That said, RMBLSP outreach seems more important on the south shore than on the north shore of Lake Saint-Pierre. Furthermore, the notion of *giving the communities the means to manage their own environment* remains the subject of confrontation with sectoral programs of various ministries and departments with respect to their administrative divisions. *Comprehensive projects, inspired by integrated management of the territory* on the scale of Lake Saint-Pierre (concerning the entire ecosystem and the six riparian RCMs), do not qualify.

6.3. Recommendations

6.3.1. Modification of the CSRMBLSP Governance Model

The governance model seems adequate. However, some structural and administrative modifications within the CSRMBLSP are required: increasing the number of members; representation on the Board of Directors for the primary stakeholders of the territory, whether political or linked to the core areas and buffer zones or to the new transition area. In addition, the decision-making structure would be improved through broader representation including the various business segments.

6.3.2. Creation of an SD and Governance Watchdog

The reviewers suggest the appointment of a *guardian of the policies related to sustainable development and governance*. This person, who should ideally receive this mandate from the members present at the Annual Meeting of the CSRMBLSP, would be recognized as guardian of the vision of the World Network of Biosphere Reserves and of the vision of participative governance of the Coopérative.

6.3.3. Sustain Recognition and Financial Support Efforts

The absence of official recognition by the Government of Québec (and, therefore, the absence of core funding) maintains a *certain status of precariousness* for the Reserve and Québec reserves in general. The reviewers consider it necessary to pursue the undertakings towards the recognition of reserves by the Government of Québec and endeavour to maintain federal financial support, as well as greater recognition of the role of Canadian reserves. This recommendation is in direct response to the *Madrid Action Plan*: enhanced legal recognition of biosphere reserves where appropriate; encourage States to include BRs in their own legislation.”¹¹

7. CONCLUSIONS: SUCCESSES AND CHALLENGES FOR THE FUTURE

7.1. Regional, National and International Outreach

On the regional level and, occasionally, on the provincial level, the presence and actions of the RMBLSP have contributed to *disseminate and promote the application of the principles of sustainable development* to individuals, communities and organizations. To illustrate this, the reviewers take into account the award of the *Prix annuel de la Fondation Desjardins* in the “Sustainable Development” category for the year 2010. This outreach is also reflected within the Canadian Network of Biosphere Reserves. Certain projects are widely recognized in the network: the efforts in the sustainable development of tourism (presentation of a progress report in Slovakia, October 2009), the establishment of the *Sustainable Development Charter* in 2010, the actions for the development of local country products, the creation of permanent and virtual exhibitions related to Lake Saint-Pierre (Biophare) and to its biodiversity (Centre de la biodiversité du Québec) and the involvement of the Reserve with the *Écoles Vertes Brundtland*. Finally, the RMBLSP has several of its management practices broadcast throughout the *World Network of Biosphere Reserves*¹².

7.2. Reconciling Local Concerns and Challenges on a More Global Scale

The interviews conducted by the reviewers indicate that the NGOs at Lake Saint-Pierre tend to *prioritize local actions*. These are carried out according to the impacts of anthropogenic activities which currently induce stream pollution problems due to the enrichment of the environment with organic and inorganic matter coming from farm producers, but also from municipal wastewater treatment. Furthermore, Gentès¹³ invokes the *need to think on a more global scale*: “Considering the potential impacts of climate change on the *St. Lawrence River and Lake Saint-Pierre*, it is important to try to understand how these two closely linked hydrological systems respond to these variations. [...] In addition, this exceptional ecosystem constitutes the part of the river where the *impacts of climate change* are and will be most visible.” Studies are currently conducted by the Canadian and Québec governments in order to *dissociate “natural” changes in the environment from those induced by man*. Therefore, the establishment of reliable prediction models will make it possible to evaluate the impacts of climate change on the St. Lawrence River and, on a more local scale, on Lake Saint-Pierre.

In conclusion, the document prepared by the CSRMBLSP for its periodic review highlights the role played by the Coopérative as a lever of significant changes in the greater region of Lake Saint-Pierre. There is no denying the dynamism and the rich diversity of the partnerships interacting on the territory. Participative governance, the invitation to enter into dialogue and the proposal of a vision for the future seem to explain the current success of the Reserve. Furthermore, within the Canadian network, Lac-Saint-Pierre World Biosphere Reserve | Periodic Review 2000-2010

the Coopérative de solidarité stands out as a *pioneer organization of the new generation of biosphere reserves* because of its style of governance (bottom-up approach and virtual management), its efforts towards the sustainable development of tourism, and its involvement in matters of social economics and environment-related education.

Since its creation, in November 2000, the Lac-Saint-Pierre World Biosphere Reserve *accomplished an exceptional progression*. The Coopérative de solidarité responded very efficiently to orientation of the UNESCO/MAB Programme on Biosphere Reserves in the areas of zoning and functions. The last decade shows a firm commitment on the part of the organization managing the Reserve in the areas of *program development and promotion of sustainable development*, and particularly the sustainable development of tourism. These considerations suggest a promising future for the Lac-Saint-Pierre World Biosphere Reserve.

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Canadian Commission for UNESCO

1 December 2010

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- ¹ Letter to reviewers from David A. Walden, Secretary-General of the CCU, 23 August 2010.
- ² Coopérative de solidarité du lac Saint-Pierre. (2002) *Plan directeur de développement écotouristique de la réserve mondiale de la biosphère du Lac-Saint-Pierre*. Municonsult et Desjardins marketing stratégique, 120 p.
- ³ Frenette, J.-J., M.T. Arts, J. Morin, D. Gratton C. Martin. 2006. *Hydrodynamic control of the underwater light in fluvial Lac Saint-Pierre*. *Limnol. Oceanogr.* 51 :2632-2645.
- ⁴ UNESCO/MAB (2008). *Madrid Action Plan for Biosphere Reserves (2008-2013)*, Cooperation, management and communication, Target 13, Action 11.1, p. 18, 19 and 20.
- ⁵ UNESCO/MAB/CCU(2002). *Écotourisme et développement durable dans les réserves de biosphère : expériences et perspectives*. United Nations Educational, Scientific and Cultural Organization (UNESCO), Canada MAB Committee, 54 p.
- ⁶ Québec, ministère des Affaires municipales, des Régions et de l'Occupation du territoire. [online], http://www.mamrot.gouv.qc.ca/regions/regi_indi.asp (Page consulted on 18 October 2010).
- ⁷ This collaboration was requested following the discussion between the reviewers and Mr. Roger Nadeau, Coordinator of the Division du développement durable of the City of Trois-Rivières.
- ⁸ CSRMBLSP (2010). *Examen périodique 2000-2010 de la Réserve mondiale de la biosphère du Lac-Saint-Pierre*, p. 9.
- ⁹ City of Trois-Rivières (2009). *Le développement durable. Une démarche qui vise un équilibre entre le développement économique, la qualité de vie des citoyens et la protection de l'environnement*. Trois-Rivières, 36 p.
- ¹⁰ UNESCO/MAB (2008). *Madrid Action Plan for Biosphere Reserves (2008-2013)*, E.3 Science and capacity enhancement, Targets 16, 17, 19, 20, pp. 23-26.
- ¹¹ UNESCO/MAB (2008). *Madrid Action Plan for Biosphere Reserves (2008-2013)*, Cooperation, management and communication, Target 11, Action 11.1, p. 18.
- ¹² UNESCO/MAB (2007). *Dialogue in Biosphere Reserves: References Practices and Experiences*. Technical Notes 2-2007, Man and the Biosphere Programme, pp. 7, 21, 26, 41, 44, 70, 74.
- ¹³ Gentès, S. (2008-2009). *Impacts et conditions et moyens de l'adaptation aux changements climatiques dans la région du lac Saint-Pierre au Québec*. Institut National Agronomique e Paris-Grignon, pp. 4, 10, 24, 27, 31.

ANNEX 1

LIST OF ACRONYMS

ACRONYMS	ORGANIZATIONS
CWA	Communal Wildlife Area
CBQ	Centre de la biodiversité du Québec
METC	Munitions Experimental Test Centre
DUC	Ducks Unlimited Canada
CLD	Centre local de développement
NCC	Nature Conservancy of Canada
CTTÉI	Centre de transfert technologique en écologie industrielle
RCM	Regional County Municipality
OBV	Organisme de bassin versant
RSLSP	Regroupement des sauvaginaires du lac Saint-Pierre
SABL	Société d'aménagement de Baie Lavallière
CFDC	Community Futures Development Corporation
SARCEL	Société d'Aménagement Récréatif pour la Conservation de l'Environnement du Lac Saint-Pierre
SCIRBI	Société de conservation, d'interprétation et de recherche de Berthier et ses îles
SCOBAJM	Société de conservation de Saint-Bathélemy/Saint-Joseph de Maskinongé
SOMICO	Société de mise en valeur de la Commune de Baie-du-Febvre
ZIP	Zone d'Intervention Prioritaire

ANNEX 2

SCHEDULE OF INTERVIEWS WITH STAKEHOLDERS

7 JULY 2010: André Barabé and Claude Letarte

1. Mr. Robert Faithfull, Director-General of the Auberge de la Rive, in Sorel
2. Ms. Hélène Gignac, Mr. Normand Gariépy and Mr. Louis Gagné

8 JULY 2010: André Barabé and Claude Letarte

3. Mr. Marc Mineau, Randonnées nature et culture Lac Saint-Pierre.
4. Ms. Anne-Marie Dulude, Lake Saint-Pierre Observatory and Exhibitions

14 SEPTEMBER 2010: André Barabé and Claude Letarte

5. Mr. Claude Biron, Mayor of Baie-du-Febvre
6. Mr. Christian Hart, President of the CSRMBLSP
7. Mr. Pierre-Yves Malouin, President of SARCEL and President of the CWA

15 SEPTEMBER 2010: André Barabé and Claude Letarte

8. Mr. Roger Nadeau, Division du développement durable du territoire, Trois-Rivières
9. Ms. Louise Corriveau, Comité ZIP du lac Saint-Pierre

25 AUGUST 2010: Individual interview conducted by André Barabé

10. Mr. Christian Hart, President of the CSRMBLSP, meeting no. 1

6 OCTOBER 2010: Individual interview conducted by André Barabé

11. Mr. Alec Delage, Pourvoirie du lac Saint-Pierre

14 OCTOBER 2010: Individual interview conducted by André Barabé

12. Mr. Paul Messier, Société d'aménagement de la Baie Lavallière

21 OCTOBER 2010: Individual interview conducted by André Barabé

13. Mr. Jean-Jacques Frenette, Université du Québec à Trois-Rivières

26 OCTOBER 2010: Individual interview conducted by André Barabé

Ms. Carole Bellerose, Centre de la biodiversité du Québec