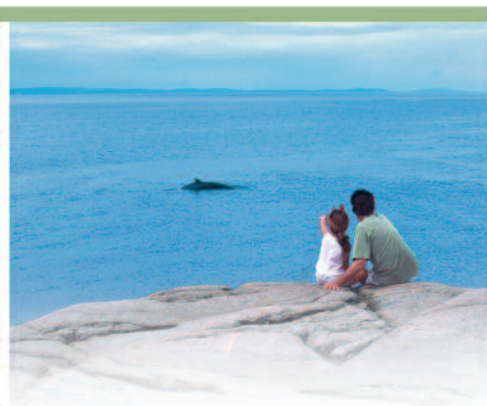
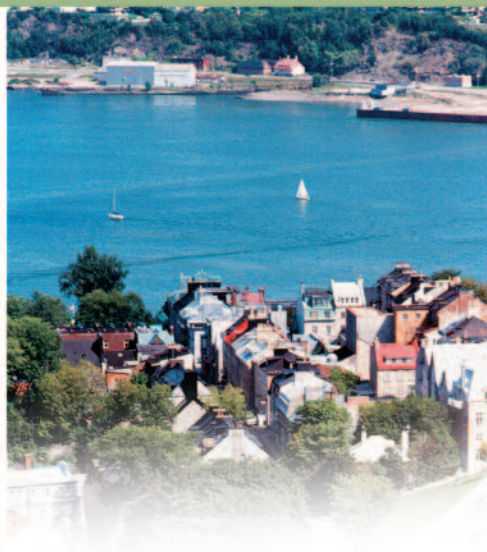


# Biennial Report 2007-2009



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You can consult this publication  
on the Internet site of the St. Lawrence Plan  
[www.planstlaurent.qc.ca](http://www.planstlaurent.qc.ca)

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## MESSAGE FROM THE CO-CHAIRS OF THE CANADA-QUEBEC AGREEMENT

We take great pleasure in submitting the *Biennial Report 2007-2009, St. Lawrence Plan for a Sustainable Development 2005-2010*.

At this stage in the implementation of the Canada-Quebec Agreement pertaining to the St. Lawrence 2005-2010, there is every reason to be optimistic that the outcomes to which all government partners have committed themselves will be achieved. In fact, many of these outcomes have already been achieved by the various coordination committees during the period covered by this report and progress is continuing at a satisfying pace.

In 2007, dredging work on contaminated sediments in sector 103 in the Montreal Port Area was completed. The success of this cleanup project is a clear example of the effectiveness of coordination and cooperation between government, community and industry partners. In 2008, the St. Lawrence Plan (SLP) marked its twentieth anniversary with a new Internet site and the ZIP (Area of Prime Concern) Committees organized a number of St. Lawrence awareness and rediscovery activities for the benefit of shoreline dwellers. In addition, a special science event was held at the Musée de la civilisation de Québec in order to disseminate the most recent data on the St. Lawrence ecosystem to a larger audience. As part of these 20th anniversary celebrations, an important forum that attracted more than 150 participants from various sectors of activity was held in Trois-Rivières. This forum aimed to strengthen the capacity of communities to fulfill their stakeholder role and to establish cooperative approaches that will foster the sustainable development of the St. Lawrence.

The approach that characterizes the Canada-Quebec Agreement is based on cooperation and respect for the expertise of the departments, agencies and non-governmental organizations involved. In our capacity as Co-Chairs, we wish to thank all of our partners for their commitment: they are playing an essential role in the success of the St. Lawrence Plan. We also wish to highlight the contribution of the many individuals and volunteers who have given of their time, knowledge and energy to protect, preserve and enhance the St. Lawrence.



**Philippe Morel**  
Co-Chair for Canada  
St. Lawrence Plan  
for a Sustainable Development



**Charles Larochelle**  
Co-Chair for Quebec  
St. Lawrence Plan  
for a Sustainable Development

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<sup>1</sup> For the sake of brevity, the wording of the results has been abridged.

## INTRODUCTION

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Under the Canada-Quebec Agreement pertaining to the St. Lawrence 2005-2010 (phase IV of the SLP<sup>2</sup>), the governments of Canada and Quebec have undertaken to relate the progress being made toward achieving the target results through the vehicle of regular activity reports.

The *Biennial Report 2007-2009* reviews the main activities that Agreement partners jointly carried out in order to achieve target results in seven areas of intervention: integrated management of the St. Lawrence, community involvement and awareness, ecological integrity, monitoring the state of the St. Lawrence River, agriculture, navigation, and shoreline access. This report also provides information on communication activities and the expenditures of the Canadian and Quebec governments in these areas of intervention.

The hyperlinks presented in footnotes connect with the Internet sites of the St. Lawrence Plan and Canada-Quebec Agreement partners, where additional information can be obtained.

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2 [www.planstlaurent.qc.ca/centre\\_ref/publications/diverses/SLAP-Agreement.pdf](http://www.planstlaurent.qc.ca/centre_ref/publications/diverses/SLAP-Agreement.pdf)



## INTEGRATED MANAGEMENT OF THE ST. LAWRENCE

The Canada-Quebec Agreement pertaining to the St. Lawrence 2005-2010 differs from earlier agreements, for in addition to the objectives to protect, conserve and enhance the St. Lawrence, it introduces a new key objective, which is to establish a new form of governance that will promote the integrated management of the river.

The departments and organizations associated with the St. Lawrence Plan have decided to pool their skills in order to develop an integrated management approach that will take into account knowledge acquired through past experience, as well as current measures. This integrated management approach is consistent, in the case of Quebec, with the *Quebec Water Policy*<sup>3</sup> and, more recently, the *Act to Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection*<sup>4</sup> and, in the case of Canada, with *Canada's Oceans Strategy*<sup>5</sup> and the *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada*.<sup>6</sup>

### Result 1

**Develop a joint concept for the integrated management of the St. Lawrence and the tools to implement it**

The governance model developed by the Intergovernmental Working Group on Integrated Management of the St. Lawrence (IWG-IMSL) was approved by the Canada-Quebec Agreement authorities in the summer of 2006. The proposed concept calls for a two-level governance approach that comprises a national level encompassing the St. Lawrence in its entirety, and a regional level in which the St. Lawrence is divided into sections.

The publication entitled *Integrated Management of the St. Lawrence – Governance Mechanisms* reviews the model and is available on the Internet site of the St. Lawrence Plan.<sup>7</sup>

### Result 2

**Take into account the visions, concerns, suggestions and recommendations of other players with a stake in the integrated management of the St. Lawrence**

In keeping with its mandate, the IWG-IMSL took into consideration, the visions, concerns, suggestions and recommendations of the various players that have a stake in the integrated management of the St. Lawrence. Accordingly, the governance model was developed through mechanisms of consultation, information and discussion. We can therefore state that this target result under the Integrated Management component of the Canada-Quebec Agreement has been achieved.

### Implementation of integrated management of the St. Lawrence (IMSL)

The two IMSL results set out in the Canada-Quebec Agreement having been reached, implementation of the integrated management approach was to have commenced in 2007-2009.

A change in strategy having to do with the decision to request government authorizations to implement IMSL under the Canada-Quebec Agreement resulted in the dissolution of the provisional St. Lawrence committee and the creation of the Canada-Quebec Steering Committee in the summer of 2007.

3 [www.mddep.gouv.qc.ca/eau/politique/index.htm](http://www.mddep.gouv.qc.ca/eau/politique/index.htm)

4 [www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2009C21F.PDF](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2009C21F.PDF)

5 [www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/cos-soc/index\\_e.asp](http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/cos-soc/index_e.asp)

6 [www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/cosframework-cadresoc/index\\_e.asp](http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/cosframework-cadresoc/index_e.asp)

7 [www.planstlaurent.qc.ca/sl\\_bm/interventions\\_g/psl/phase\\_IV/fondements/publications/la-gestion-integree-du-st-laurent\\_e.pdf](http://www.planstlaurent.qc.ca/sl_bm/interventions_g/psl/phase_IV/fondements/publications/la-gestion-integree-du-st-laurent_e.pdf)

The Canada-Quebec Steering Committee created three working groups to oversee the work of preparing requests for government authorizations. The respective mandates of the three working groups are as follows:

- **Territory group:** establish the boundaries of the regional territories to be overseen by the regional roundtables, along with various implementation scenarios;
- **Strategy group:** design a strategic planning guide comprising a range of definitions and functional approaches, in order to articulate an IMSL vision and identify related issues, orientations and objectives;
- **Governance and Funding group:** identify governance modalities and evaluate the cost of implementing IMSL.

In April 2008, the members of the three working groups participated in a workshop in order to harmonize the results of their work before presenting them to the Canada-Quebec Steering Committee.

The results of the Territory and Strategy groups were presented at a meeting of the Canada-Quebec Steering Committee in the summer of 2008, at which time the mandates of these two groups was terminated. The results of the Governance and Funding group were expected in the summer of 2009.

A team composed of professionals from the Quebec Ministry of Sustainable Development, Environment and Parks (MDDEP), Environment Canada (EC) and the Department of Fisheries and Oceans (DFO) supported the work of the Canada-Quebec Steering Committee and the three working groups.

The next step will consist of obtaining the government approvals needed to implement IMSL and secure the participation of all IMSL stakeholders.



## COMMUNITY INVOLVEMENT AND AWARENESS

The overall objective of the Community Involvement and Awareness component is to sensitize communities, young people, users and decision-makers to the advantages of choosing sustainable development and integrated management of the St. Lawrence, as well as to encourage them to get involved.

### ► Result 3

#### **Support the joint action of shoreline communities on local environmental issues, including the priorities set out in Ecological Rehabilitation Action Plans**

During the 2007-2009 period, the ZIP Committees and Stratégies Saint-Laurent (SSL) were once again able to count on the financial support of EC to implement their joint action plans. Five ZIP commissions were organized in order to promote joint action and offer the ZIP Committees an opportunity to discuss their projects, as well as issues of common concern. The federal Co-Chair of the Canada-Quebec Agreement visited the ZIP Committees in February 2009 in order to gauge the level of community involvement, as well as to discuss next steps under the St. Lawrence Plan.

Since the start of phase IV, the ZIP Committees have conducted approximately 240 projects touching on a variety of issues, including pollution, conservation and habitat enhancement, species protection, recreation and tourism, access to the St. Lawrence, human health, and shoreline erosion. These action projects receive funding from a large number of government and private sector partners.

Support for the ZIP network also includes technical and professional support from MDDEP, EC and DFO, with the latter primarily supporting ZIP Committees located in marine areas.

During this period, the ZIP Committees and SSL also remained actively involved in the work of most of the coordination committees.

It should be noted that for the last ten years, DFO has provided financial and technical support for an integrated management program in the coastal areas of the St. Lawrence Gulf and estuary. During the 2007-2008 period, DFO provided financial and technical support to the integrated management committees for the coastal areas, enabling the latter to conduct projects under their integrated management plans. Due to resource constraints and changing priorities, no project from these committees received funding in 2008-2009. However, technical and professional support was maintained for the committees, which remained active despite the funding shortfall.

For its part, the Parks Canada Agency (PCA) ensured that citizens were actively involved in the implementation of the strategic orientations of the Saguenay-St. Lawrence Marine Park through the work of various committees. In 2007-2008, PCA also produced a report on the state of the Marine Park, in cooperation with Parcs Québec.<sup>8</sup>

### ► Result 4

#### **Support the implementation of 150 community and environmental projects**

The Community Involvement and Awareness component also lends support to the Community Interaction Program (CIP). This financial and technical assistance program is designed to promote the development of 150 community and environmental projects on the St. Lawrence ecosystem during phase IV.

<sup>8</sup> [www.parcmarin.qc.ca/11383\\_fr.html](http://www.parcmarin.qc.ca/11383_fr.html)

November 2008 was the last deadline of the period covered by this report for the submission of proposals. The Canada-Quebec Agreement 2005-2010 provides for nine project rounds, at the rate of two per year. During the 2007-2009 period, CIP provided support for 51 projects (see list of funded projects on the St. Lawrence Plan Internet site.<sup>9</sup>)

In June 2007, the Co-Chairs of the Canada-Quebec Agreement gave CIP managers the mandate to develop a variety of scenarios for modifying the program's operations and securing greater community participation. A number of options were developed, discussed and approved by Agreement authorities in March 2008. The Program is now comprised of two components:

- under the "solicited projects" component, Program managers solicit proposals linked to St. Lawrence Plan priorities;
- under the "unsolicited or spontaneous projects" component, proponents can, as in the past, submit proposals that relate to local issues that are not necessarily linked to the priorities addressed by solicited projects.

In addition to this important change in the Community Interaction Program, several administrative changes were also introduced in order to make the process less cumbersome, as well as to provide increased funding for projects that target St. Lawrence Plan priorities.

The response from environmental and community groups to these changes to the CIP has been very promising. A more in-depth analysis should be carried out in order to fully understand the reasons behind the increase in the number of proposals, as well as to formulate future recommendations.

## Result 5

### Provide shoreline communities with scientific and technical support

Ongoing technical and scientific support to target organizations is provided through the various Agreement partners, including MDDEP, EC and DFO. This support helps secure expert advice on specific projects, ensures that a scientific expert is present at any conference organized by an organization, and facilitates the transfer of geo-referenced data.

In 2007-2008, MDDEP and EC maintained their support for the ZIP and SSL Committees and assisted them in the implementation of their respective mandates by providing them with the opportunity to offer two additional training courses (under the SSL training plan). The first course dealt with the funding of organizations and the second with communication as a tool for promoting more effective partnerships. Both were offered to representatives of the SSL and ZIP Committees.

A community interaction forum was held March 22-24, 2009, in Trois-Rivières, under the Canada-Quebec Agreement. The goal of the forum was to increase community capacity and promote cooperation and the sustainable development of the St. Lawrence. The event brought together some 150 specialists and contact persons from various sectors of activity (community, municipal, industrial, economic, research, education, government, First Nations) and different regions of Quebec. The event and its various presentations and exchanges provided new ideas and new avenues for cooperation and joint action toward the sustainable development of the St. Lawrence. As a result of this forum, steps will be taken to develop a more fully integrated approach in support of the St. Lawrence. The forum proceedings are available on the SSL Internet site.<sup>10</sup>

<sup>9</sup> [www.planstlaurent.qc.ca/centre\\_ref/programmes/pic/projets/groupe\\_e.htm](http://www.planstlaurent.qc.ca/centre_ref/programmes/pic/projets/groupe_e.htm)

<sup>10</sup> [www.strategiessl.qc.ca/forum/actes.html](http://www.strategiessl.qc.ca/forum/actes.html)

## Result 6

### Make more young people aware of sustainable development by putting in place educational programs and tools with local Biosphère partners

EC's Biosphère conducted a number of projects aimed at young people in the 2007-2009 period:

- **BioKits:** BioKits are designed to encourage families to explore the outdoors. Visitors can use BioKits to explore a site, appreciate its beauty, discover its key attractions and learn more about the natural environment. Two BioKits specific to the St. Lawrence River are currently being developed and will be made available to visitors at the Cap Tourmente National Wildlife Area and at Île Sainte-Hélène in the summer of 2009.
- **Videoconference on the St. Lawrence:** The Biosphère is equipped with a complete television studio and is increasingly using "blue wall" technology to reach young people who cannot physically get to the Biosphère. A Biosphère videoconference on the St. Lawrence was tested for the first time during the celebrations marking the 20th anniversary of the St. Lawrence Plan, in cooperation with the Musée de la civilisation de Québec and the Université du Québec à Trois-Rivières (UQTR).
- **River Action:** The magazine *River Action* has been reprinted and is being distributed to schools and the general public (youth).
- **Adopt a River:** A version of this school-based initiative has been developed for the general public and will be tested in the summer of 2009. This version takes the form of a two-to-three hour introduction to citizen science and will be made available to parks and interpretation centres that wish to offer it and have access to a waterway. Parks Canada, the Biosphère and the Cap Tourmente National Wildlife Area are among the participants in the pilot phase of this project.

The community intervention project on the St. Lawrence shoreline, commonly known as the "CEGEP project" continued during the 2007-2009 period. The CEGEP sub-committee continued to provide support to the regional committee, which is composed of specialists and contact persons from the CEGEP de La Pocatière, representatives of the City of La Pocatière, the Sud-de-l'Estuaire ZIP committee, and the Réseau d'observation des mammifères marins. Working in collaboration with the CEGEP's bio-ecology and plastic arts departments, the regional committee designed a marine interpretation centre, a project that was launched in the summer of 2008 on land belonging to the City. The general theme of the interpretation centre is "discovering the St. Lawrence," a theme that is pursued in three ways: through arts and science, arts and nature, and discovery. This new attraction drew close to 1,000 visitors in the summer of 2008 and the CEGEP hopes to renew the project in summers to come.

Other CEGEPs, including Rivière-du-Loup and Rimouski, have shown an interest in this regional partnership approach. In response, the CEGEP sub-committee undertook an evaluation of the entire exercise going back to its inception in 2006 and produced a report under the short environmental education program offered by the Université du Québec à Montréal (UQAM). This report will serve as the basis for a guide to facilitate the transfer of the tripartite intervention model (CEGEP-municipality-non-governmental organization) to other regions of Quebec.

**Result 7**

**Adapt scientific information and knowledge to meet the needs of stakeholders, decision-makers and citizens, and make this information and knowledge available (by using traditional and electronic tools such as a portal)**

The St. Lawrence Global Observatory (SLGO) program is designed to offer integrated, rapid and transparent access to data and information from a network of federal, provincial, and university organizations, to ensure sustainable management of the St. Lawrence ecosystem.

In 2007-2008, a variety of organizations defined and gave concrete shape to their participation by submitting letters of commitment to the Observatory (in June 2007) and by signing a Participation Agreement. These members are: Université du Québec à Rimouski (UQAR) – Institut des sciences de la mer à Rimouski (ISMER), Université Laval, Institut national de la recherche scientifique, Université du Québec à Montréal (UQAM), Université du Québec à Trois-Rivières (UQTR), PCA, DFO, EC and Natural Resources Canada. The Interdisciplinary Centre for the Development of Ocean Mapping, the Regroupement des organisations de bassin versant du Québec and SSL are associate members. The Observatory will be launched in November 2009 in Rimouski on the occasion of the Forum québécois en sciences de la mer (Quebec forum on ocean science).

The Observatory's organizational structure was put in place in January 2009; its human and material capabilities are being put in place on a gradual basis, with the aid of grants and member contributions. Canada Economic Development (CED) has provided \$215,000 in seed funding, much of which was used in 2008-2009 to purchase computer equipment. For its part, the Ministère du Développement économique, de l'Innovation et de l'Exportation du Québec (MDEIE) provided assistance in the amount of \$200,000 in early 2009.

Awareness and communication activities were ongoing throughout the 2007-2009 period and several presentations dealing with the Observatory project were made at conferences, symposia and public events.

Collaborating with a variety of partners, PCA carried out a number of knowledge dissemination activities, including the production of an animated film on the circulation of estuarine waters above the Laurentian Channel, the creation of a reception and information centre for the Saguenay-St. Lawrence Marine Park in Saint-Fidèle (in the Charlevoix area), and passenger awareness activities on three ferryboats in cooperation with the Société des traversiers du Québec and the Municipality of Tadoussac.

## ECOLOGICAL INTEGRITY

Activities that come under the heading of Ecological Integrity are aimed at providing a better understanding of the evolution of wildlife and plant habitats and populations, as well as to gain greater insight into the functioning of St. Lawrence ecosystems, to ensure that they are maintained, safeguarded and used to their fullest.

### ► Result 8

**Identify and assess populations of wildlife species potentially at risk and implement concrete measures to protect priority habitats**

Efforts to acquire knowledge on approximately 15 migratory bird species considered to be of high priority and their habitats continued in 2007-2009. These EC studies generated scientific information that can be used to develop and implement management plans for a number of priority species (including the resident Canada goose and American woodcock), as well as to formulate conservation recommendations for various species under threat (Nelson's sharp-tailed sparrow, field sparrow, brown thrasher, golden-winged warbler, grasshopper sparrow), and evaluate the spatial and temporal dynamics of species habitats. These activities also provided opportunities for more communities to participate in monitoring programs through migratory bird observation networks.

The Ministère des Ressources naturelles et de la Faune (MRNF) also conducted studies and inventories of several species of turtles (spiny softshell turtle, wood turtle, musk turtle, map turtle), salamanders (spring salamander, mountain dusky salamander, northern dusky salamander), fish (copper redhorse, eastern sand darter, bridge shiner, channel darter), raptors (peregrine falcon, golden eagle, bald eagle), and freshwater mussels. Working with the Quebec turtle and salamander recovery teams, partners have developed habitat

conservation plans for the wood turtle, the western striped chorus frog, and the mountain dusky salamander. Finally, activities to sensitize local populations and stakeholders to the importance of conserving threatened species and their habitats were conducted in many parts of Quebec.

### ► Result 9

**Develop and implement conservation plans for the St. Lawrence, including the riverbanks, littoral zone, flood plains, wetlands and aquatic habitats**

Upon completing its analysis of the data upon which its conservation plan for the St. Lawrence Valley and Lake Champlain is based, Nature Conservancy of Canada-Quebec Region proceeded to designate 1,653 priority biodiversity conservation sites. Its analysis of priority sites shows that the contribution of the current network of protected areas is significant but insufficient. In fact, protected areas occupy little more than 4% of the territory in this ecological region and of these, only 2% fall into categories I to III of the International Union for Conservation of Nature. Only ecological reserves, national parks and most areas protected by non-governmental organizations comprehensively conserve biological diversity, by virtue of their status. A scientific poster presents the details of this analysis (see poster 1, page 23)<sup>11</sup>.

PCA pursued the implementation of the Ecosystem Conservation Plan of the Saguenay-St. Lawrence Marine Park, by conducting several studies, including recruitment of fish species in the Saguenay and the characterization of critical beluga habitats such as Baie-Sainte-Catherine and Baie-Sainte-Marguerite. The objective, in the latter case, was to identify pollution sources and determine the extent of contamination in sediments and benthic fauna. A scientific poster presents the results of a report on the state of the Saguenay-St. Lawrence Marine

<sup>11</sup> A complete list of scientific posters is provided on page 23.



Park produced in 2008, ten years after the Park's creation (see poster 2, page 23). Moreover, the Park's master/zoning plan was reviewed and discussed at public consultations held in the municipalities of La Malbaie, Rivière-du-Loup, Saguenay and Les Escoumins between January 29 and February 7, 2008. The definitive version of the master plan is expected to be launched sometime in 2010.

Finally, the *Atlas of Bank Restoration Sites of the St. Lawrence*,<sup>12</sup> which contains information on the restoration of banks altered by human activity, was completely updated in order to better reflect the efforts that are being made by a wide range of players to restore the banks of the St. Lawrence.

#### ► Result 10

**Implement concrete actions for the recovery of species at risk in accordance with existing recovery plans, and develop or update other plans**

EC, DFO and PCA coordinate restoration efforts conducted under the federal government's Habitat Stewardship Program (HSP) for species at risk, as well as the recovery plans for species designated at risk by the governments of Quebec and Canada and by the many non-profit organizations involved in this area.

For its part, MDDEP has developed a population monitoring method for three threatened or vulnerable plants in the fresh-water estuary of the St. Lawrence. This monitoring program was undertaken in cooperation with Ducks Unlimited Canada – Quebec, Nature Conservancy Canada – Quebec Region, and the Fondation pour la protection du patrimoine naturel du Québec.

MRNF continues to coordinate the work of teams charged with the implementation of recovery plans for various amphibians and reptiles, including the spiny softshell turtle, the aquatic salamander, the Western striped chorus frog, and five other turtle species.

Artificial reproduction, stocking and annual monitoring of copper redhorse recruitment is ongoing. Steps are presently being taken to designate the habitat of the copper redhorse as essential under the *Species at Risk Act*. Moreover, Agriculture and Agri-Food Canada (AAFC) has provided support for a project to renaturalize river banks and reduce the discharge of agricultural waste into the habitats of the copper redhorse, in cooperation with the Comité de concertation et de valorisation du bassin de la rivière Richelieu.

MRNF conducted a review of the program to reintroduce the striped bass in the St. Lawrence and found that the current striped bass population is increasing more rapidly than the older population. It would appear that food availability and the state of breeding and rearing habitats in the St. Lawrence are not having a limiting effect on the growth of the current population. A scientific poster presents the results of this project in greater detail (see poster 3, page 23).

#### ► Result 11

**Evaluate, consolidate and improve the network of protected and developed areas and territories along the St. Lawrence River**

The wildlife and plant inventory program jointly implemented by EC, MDDEP and MRNF in some 20 protected areas along the St. Lawrence has made it possible to survey a variety of species and to acquire new knowledge on the biodiversity of these areas. Approximately ten islands in their natural state but without protected status were also surveyed. Some of the most striking results of these surveys include the discovery of one of the largest populations of eastern sand darters, as well as 23 rare plant species in the Lake Saint-François National Wildlife Area. Another important finding: the hoary bat, a species being considered for threatened or vulnerable status in Quebec, was found in almost all the areas that were inventoried.

<sup>12</sup> [www.qc.gc.ca/faune/AtlasDeRestaurationDesRivesDuSaint-Laurent/accueil\\_e.asp](http://www.qc.gc.ca/faune/AtlasDeRestaurationDesRivesDuSaint-Laurent/accueil_e.asp)



In March 2009, MDDEP announced the creation of the Réserve aquatique de l'Estuaire-de-la-Rivière-Bonaventure, an aquatic reserve that will provide protection for one of the most important coastal wetland areas in the Gaspé Peninsula.

MRNF is pursuing its research efforts in managed marshes along the freshwater section of the St. Lawrence (Lake Saint-Pierre and Ruisseau de feu) to evaluate their fish production capacity and improve their connection with the river through fish passes.

Finally, the governments of Canada and Quebec have undertaken to define a coordinated approach for the creation of marine protected areas within Quebec's marine territory. To this end, Canada and Quebec have established a bilateral group on marine protected areas to give concrete form to commitments made in their respective strategies to establish a network of marine protected areas that is representative of the biodiversity of Quebec's marine territory.

#### ► Result 12

**Acquire, integrate and share with decision-makers, researchers and communities new knowledge on the biodiversity of the St. Lawrence, including the river's physical environment**

In March 2008, the International Joint Commission (IJC) submitted its *Plan 2007*<sup>13</sup> for managing the water levels and flows of Lake Ontario and the St. Lawrence River. The plan was discussed at public consultations in the summer of 2008 but in the end the IJC concluded that its plan did not constitute a practical solution and that the management of water levels and flows should instead be based on revised objectives and criteria that place greater emphasis on more natural flows,

in order to protect the environment, while also respecting other interests. A working group composed of members of the IJC, representatives of both federal governments (Canada and the United States), as well as the governments of New York, Quebec and Ontario, was formed in order to maximize the benefits of a new Order of Approval and a new plan to regulate the water levels and flows of Lake Ontario and the St. Lawrence River. Two scientific posters illustrate the digital elevation model with which integrated modelling of the St. Lawrence is being carried out by EC. These posters show how modelling provides a means of evaluating the repercussions of altered water runoff levels, as well as identifying possible adaptation strategies (see posters 4 and 5, page 23).

Integrated ecosystem modelling has also made it possible to identify the breeding habitats of four fish species, as well as the habitats of young perches, in order to characterize their growth. A diagnosis of the state of Lavallière Bay was also undertaken in cooperation with the Agriculture Coordination Committee.

For its part, PCA established an action and education strategy that focuses on threatened species in the waters of the Saguenay-St. Lawrence Marine Park and pursued the development of the Marine Environment Discovery Centre in Les Escoumins. This Centre is equipped with an amphitheatre that faces the St. Lawrence, enabling visitors to observe several species of marine mammals; it also offers daily interpretation activities on various facets of the marine and shoreline environments.

Finally, MDDEP has published a study on the phytogeographic limits of the Chaleur Bay estuary, as well as ecological maps of approximately ten St. Lawrence drainage basins.

<sup>13</sup> [www.ijc.org/documents/LOSL/pdf/LOSL\\_plan\\_overview\\_e.pdf](http://www.ijc.org/documents/LOSL/pdf/LOSL_plan_overview_e.pdf)

**Result 13**

**Study stress effects on ecosystems, particularly urban pollution, climate change, water level fluctuations, and introduction of exotic species, in order to help safeguard ecosystems while ensuring the fullest use of the St. Lawrence**

Work is continuing on a study on the fate of pharmaceutical products in municipal effluent from the City of Montreal and on the elimination of these products through wastewater disinfection processes. A dozen pharmaceutical products have been detected and measured for their ecotoxicity. These include anti-inflammatories, lipid regulators, anticonvulsants, antibiotics, a stimulant and a nicotine metabolite.

Although laboratory studies to determine the effects of anti-inflammatories on mussels exposed to urban effluent have been inconclusive, these drugs have been shown to produce toxic effects at concentrations ten times lower than the values measured in municipal effluent. What is more, certain substances

that are considered to have little or no toxicity, such as caffeine, can cause oxidative damage to the tissues of some aquatic organisms, including mussels and fish.

The study of the effects of nutrients on the composition of algae in Lake Saint-Pierre led to the discovery that benthic cyanobacteria are proliferating in this sector of the St. Lawrence. Finally, a link was established between the input from St. Lawrence tributaries and the degradation of water quality in Lake Saint-Pierre. Further downstream, phosphorous concentrations in the St. Lawrence have increased significantly as a result of wastewater effluent entering the river, as well as agricultural effluents containing phosphorous.

Research on invasive species in the St. Lawrence continued, with a focus on the genetic variability of the Chinese mitten crab and the importance of the round goby in the diet of predatory fish species in the river. Recent measurements reveal that the round goby is present in large numbers in Lake Saint-François, in the river corridor between Sorel and Montreal, and in Lake Saint-Pierre.

## MONITORING THE STATE OF THE ST. LAWRENCE RIVER

The State of the St. Lawrence Monitoring Program is jointly carried out by seven partners of the Canada-Quebec Agreement pertaining to the St. Lawrence River: EC, DFO, PCA, MDDEP, MRNF, SSL and the Canadian Space Agency. The Program includes a total of 23 recurrent monitoring activities that cover five ecosystem components: water, sediments, shorelines, biological resources, and anthropogenic uses.

### ► Result 14

**Provide an assessment on the state of the St. Lawrence River and the changes it has undergone according to the area under study and in relation to the Great Lakes, using scientific information generated by the State of the St. Lawrence Monitoring Program**

The partners that form the Monitoring the State of the St. Lawrence Coordination Committee have undertaken to improve existing indicators in several ways, including:

- an expansion of pesticide sampling in the tributaries of Lake Saint-Pierre;
- the addition of pharmaceutical and personal hygiene product testing to the activities of water quality sampling stations along the St. Lawrence;
- the addition of organic parameters to the measurement of toxic substances in fish;
- an expansion of sediment contamination monitoring in Lake Saint-Louis and the monitoring of benthic communities in Lake Saint-Pierre;

- an expansion of the territory covered by invasive plant species monitoring in the wetlands of the freshwater reach of the St. Lawrence.

For their part, communities continue to participate in the monitoring of shoreline erosion, invasive plant species, and recreational uses. Tools to monitor recreational uses at Lake Saint-Pierre were developed in cooperation with SSL, Nature Québec and the Lake Saint-Pierre ZIP Committee. The latter also conducted a study of fishing, recreation, nature observation and aquatic sport activities during the 2007 and 2008 summer seasons, and Nature Québec has developed a pilot project to create a database and Internet site that will showcase some of the information collected.

### ► Result 15

**Regularly inform decision-makers and shoreline communities about the health of and changes in the St. Lawrence River, using dissemination tools that are tailored to their needs and that facilitate access to information**

The Coordination Committee dedicated a considerable amount of effort to preparing the *Overview of the State of the St. Lawrence River 2008*<sup>14</sup> for publication in the spring of 2009. It also updated many of its fact sheets,<sup>15</sup> and was successful in meeting the deadlines of its dissemination schedule.<sup>16</sup>

There are several scientific posters (see posters 6 to 14, page 23) that deal with St. Lawrence components that are being monitored, including sediment

14 [www.planstlaurent.qc.ca/sl\\_obs/sesl/publications/portrait/2008/portrait\\_global\\_2008\\_e.pdf](http://www.planstlaurent.qc.ca/sl_obs/sesl/publications/portrait/2008/portrait_global_2008_e.pdf)

15 [www.planstlaurent.qc.ca/sl\\_obs/sesl/publications/fiches\\_indicateurs/fiches\\_e.html](http://www.planstlaurent.qc.ca/sl_obs/sesl/publications/fiches_indicateurs/fiches_e.html)

16 [www.planstlaurent.qc.ca/sl\\_obs/sesl/publications/portrait/2004/depliant\\_e.pdf](http://www.planstlaurent.qc.ca/sl_obs/sesl/publications/portrait/2004/depliant_e.pdf)

contamination (poster 6), shoreline erosion (poster 7), invasive plant species (poster 8), the northern gannet (poster 9), the beluga whale (poster 10), the fish monitoring network (poster 11), the health status of fish (poster 12), land use along the Great Lakes and St. Lawrence (poster 13), and pesticide inputs into Lake Saint-Pierre (poster 14). Also, the banners used to disseminate popularized information on the state of the St. Lawrence remain in circulation through SSL.

Finally, the Coordination Committee contributed to the chapter on water quality in the 2008 report entitled *Canadian Environmental Sustainability Indicators*<sup>17</sup> by generating data and calculating the water quality index of the St. Lawrence basin.

<sup>17</sup> [www.ec.gc.ca/indicateurs-indicators/](http://www.ec.gc.ca/indicateurs-indicators/)

## AGRICULTURE

The basic objective of the plan's Agriculture component is to conserve resources and reduce non-point-source pollution in agricultural areas. To achieve this objective, the partners are relying on a more integrated form of management that is based on a better understanding of the cause-and-effect relationships between agricultural pressures on the environment and the St. Lawrence ecosystem.

The goal is to promote a strategy that will enable the majority of agricultural businesses to make a faster transition from current agricultural practices to more beneficial practices. According to the Coordination Committee, such a transition can only succeed if the majority of agricultural stakeholders and producers agree to work toward a common goal. In fact, partners have already carried out joint demonstration projects, none of which would have been possible without the support of the Coordination Committee.

The interventions of the Agriculture Coordination Committee fall into three categories: reduction of non-point-source pollution; pesticide use; and biodiversity protection in agricultural areas. The strategy being employed comprises various means of intervention, including: projects and research programs to evaluate the environmental efficacy of beneficial management practices (BMPs) compared to standard practices, in terms of bringing agricultural businesses into compliance with regulations; the development of new water quality monitoring methods for rivers in agricultural areas; joint projects to reduce non-point-source pollution (suspended solids, nutrient matter, bacteria and pesticides); enhancement of wildlife habitats through joint action on the part of producers' unions and key agricultural players; the production and dissemination of information sheets and posters; and workshops on new approaches for reducing agricultural non-point-source pollution and protecting resources and habitats.

It should be noted that the projects listed in this section represent only part of the activities conducted by partners in the 2007-2009 period.

### Result 16

#### **Reduce the impact of agricultural activities on sections of the St. Lawrence and its tributaries**

The area of activity targeted by EC is pesticide use in agriculture. Several ongoing projects are aimed at monitoring water quality at the mouth of certain tributaries, as well as in certain sectors of the St. Lawrence. The projects carried out during the 2007-2009 period include: monitoring the environmental impact of pesticide use near the mouth of the Yamaska River, evaluating pesticide levels at the mouth of St. Lawrence tributaries, and examining the pesticide use practices of corn growers in the Yamaska River basin.

For its part, MRNF has carried out a number of field studies and initiatives intended to gain a better understanding of the impact of agricultural activity on wildlife, as well as to develop innovative solutions to enhance the natural environment and make it more favourable to the reproduction and growth of plant and animal species. These include:

- the development of a management model for watercourses in agricultural areas;
- a project to install energy dissipating mechanisms (geomorphological analysis of Therrien Creek);
- land use analysis to quantify changes in wildlife habitat and landscape availability in the flood plains of Lake Saint-Pierre with the aid of aerial photographs (1950, 1965, 1997);
- historical and current dynamics of sediments, nutrients and contaminants of agricultural origin in Lavallière Bay and effects on fish and bullfrog populations;
- watercourse management in the flood plains of Lake Saint-Pierre.

The Agriculture Coordination Committee partners have produced three scientific posters (see posters 15, 16 and 17, page 23) that deal with the work being done to reduce the impact of agricultural activity on tributaries and sections of the St. Lawrence. Three key themes related to agricultural activity are addressed: the degradation of a marsh (poster 15), the compromise between agriculture and wildlife (poster 16), and the environmental fate of pesticides (poster 17).

► **Result 17**

**Improve knowledge in order to develop new agricultural management practices and more effectively monitor the state of sections of the St. Lawrence and its tributaries**

Agriculture and Agri-Food Canada (AAFC) continues to develop long-term research projects aimed at promoting knowledge development and acquisition, including knowledge of interactions and the impact of agricultural practices on water, soil, air and biodiversity. The projects are being conducted in three of the four AAFC research centres in Quebec (Saint-Jean-sur-Richelieu, Lennoxville and Quebec City). AAFC's technical services have also carried out complementary projects, including the development of technical fact sheets on agri-environmental topics, the creation of a technical workshop on plant use in riparian areas, as well as shoreline characterization

and stabilization activities in the Richelieu River basin to foster the recovery of the copper redhorse.

At MDDEP, pesticide use and the integrated management of drainage basins in agricultural areas constitute important areas of intervention. A number of activities aimed at limiting the impacts of non-point-source agricultural pollution are being implemented in partnership with the agricultural sector (e.g., characterization and improvement of water quality in the La Chevrotière River watershed, historical and current dynamics of sediments, nutrients and contaminants of agricultural origin in Lavallière Bay, water quality monitoring in Pot-au-Beurre River). The development of water quality monitoring methods for rivers in agricultural areas is another important focus for projects; examples include the design of tributary monitoring indicators that are based on benthic macroinvertebrates, and the creation of a method to monitor Cry1Ab protein from Bt corn in various waterways found in agricultural areas.

With the cooperation of its partners, the Agriculture Coordination Committee presented four scientific posters (posters 18 to 21, page 23); these deal with Quebec's pesticide risk indicator (poster 18), the phosphorous contamination risk indicator (poster 19), a research project on bullfrogs in Yamaska River (poster 20), and the restoration of the La Chevrotière River basin (poster 21).



## NAVIGATION

The mandate of the Navigation Coordination Committee is to harmonize commercial shipping and recreational boating practices with the protection of St. Lawrence ecosystems through implementation of the St. Lawrence Sustainable Navigation Strategy.<sup>18</sup>

### ► Result 18

**Maintain cooperation among navigation stakeholders in order to address the broad issues facing the St. Lawrence**

The Coordination Committee held seven meetings in 2007-2009. It also monitored target results under the Canada-Quebec Agreement and saw to it that four new issues were documented and debated by CCN members: shortsea shipping, air emissions from ships and ports, the Great-Lakes-St. Lawrence interface, as well as port development and the city-port relationship.

### Shortsea shipping

The St. Lawrence Ship Operators Association chairs the Quebec Shortsea Shipping Roundtable, the mandate of which is to promote shortsea shipping in Quebec and between Quebec and the rest of North America. In 2008, the Roundtable began to examine the concept of using wind energy in shipping, as well as the transportation of materials to the La Romaine Hydroelectric complex.

### Ship and port air emissions

In 2009, Transport Canada joined forces with EC to develop a profile of air emissions at the Port of Montreal. This pioneering project for Eastern

ports is meant to reduce the environmental footprint of the maritime sector. A report was completed in late March 2009 and is expected to be published by the end of the year. The experience acquired through this project will inform inventories carried out in other ports in the Great Lakes/St. Lawrence system.

### The Great Lakes/St. Lawrence interface

Nature Québec is continuing to monitor the issue of water level and flow regulation in Lake Ontario and the St. Lawrence River (an issue overseen by the International Joint Commission), as well as the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem.<sup>19</sup> Nature Québec is also a participant in the Great Lakes Water Quality Agreement<sup>20</sup> and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement,<sup>21</sup> and is involved in the development of a new approach to water governance in the St. Lawrence River basin.

### Port development and the city-port relationship

The group Les Amis de la vallée du Saint-Laurent have designed a public consultation project for two port cities on the St. Lawrence, the purpose of which is to establish a joint planning model for land uses and other environmentally significant interventions in the two ports and their surrounding areas. The Coordination Committee is looking for funding to bring this project to fruition.

18 [www.slv2000.qc.ec.gc.ca/plan\\_action/phase3/navigation/SND/images/SND\\_longue\\_e.pdf](http://www.slv2000.qc.ec.gc.ca/plan_action/phase3/navigation/SND/images/SND_longue_e.pdf)

19 [www.ec.gc.ca/ceparegistry/documents/agree/Fin-COA07/toc.cfm](http://www.ec.gc.ca/ceparegistry/documents/agree/Fin-COA07/toc.cfm)

20 [www.ijc.org/rel/agree/quality.html](http://www.ijc.org/rel/agree/quality.html)

21 [www.mddep.gouv.qc.ca/eau/grandslacs/2005/Entente.pdf](http://www.mddep.gouv.qc.ca/eau/grandslacs/2005/Entente.pdf)

**Result 19****Raise the awareness of the public and decision-makers about the advantages and constraints of navigation**

Les Amis de la vallée du Saint-Laurent organized and carried out a tour of several Quebec cities to showcase the environmental benefits, as well as the challenges and constraints of marine transportation. The content of these conferences was derived for the most part from the St. Lawrence Sustainable Navigation Strategy and Quebec's policy on marine transportation. The port cities visited between September 2007 and May 2008 were: Baie-Comeau, Sept-Îles, Salaberry-de-Valleyfield, Quebec City, Sorel-Tracy, Rimouski, Matane, Gaspé, Saguenay, Montreal, Trois-Rivières and Bécancour. The events drew close to 300 individuals from approximately 200 different organizations. Local media were also present at every meeting and there was high praise for the resource material distributed by organizers.

Les Amis de la vallée du Saint-Laurent also organized the Semaine de la navigation et de la relève maritime,<sup>22</sup> (September 15-21, 2008, Quebec City), the first gathering entirely dedicated to St. Lawrence navigation and the career opportunities it provides. Visitors were invited to participate in information activities, including 20-odd presentations, as well as a series of discovery and observation activities that included boat visits. The event benefited from the support and cooperation of 38 organizations, most from the maritime sector.

**Result 20****Implement integrated management of dredging and sediments**

The Committee for the Environmental Planning and Assessment of Dredging has developed a tool for the integrated management of dredging and

sediments. The tool is an Internet-based planning registry of dredging activities carried out along the St. Lawrence.<sup>23</sup> A scientific poster summarizes the activities carried out to date, as well as the steps involved in implementing integrated management of dredging and sediments (see poster 22, page 23).

The Committee has also provided technical support to three restoration projects on contaminated aquatic sites: area 103 of the Port of Montreal, the mouth of the Saint-Louis River, and the Port of Gaspé (Sandy Beach), where various options are under consideration, only one of which will be selected. Dredging of more than 52,000 m<sup>3</sup> of contaminated sediments from area 103 in the Montreal Port Area<sup>24</sup> was completed in December 2007 and soil decontamination using biotreatment technology will continue into 2012. Close monitoring of these three restoration projects has helped define the elements of a standardized approach for the restoration of contaminated sites and will ultimately lead to the selection of other contaminated aquatic sites for assessment. Characterization has already been initiated in the fluvial sector of the Port of Montreal and the Committee hopes to pursue its work in other areas in the coming years.

For its part, the Coordination Committee for dredging research completed its review of the criteria for evaluating sediment quality. These new criteria present threshold values for 33 chemicals commonly found in the fresh and salt water sediments of the St. Lawrence. The criteria have been in force since April 2008 and are presented in a report entitled *Criteria for the Evaluation of Sediment Quality in Quebec and Application Framework: Prevention, Dredging and Remediation*.<sup>25</sup> A scientific poster summarizes the impact that the new criteria are having on the assessment of sediment quality (see poster 23, page 23). Another poster presents a project to develop a process for the assessment of ecotoxicological risks associated with aquatic sediments (see poster 24, page 23).

<sup>22</sup> [www.avsl.qc.ca/semaine.html](http://www.avsl.qc.ca/semaine.html)

<sup>23</sup> [www.planstlaurent.qc.ca/registreactivitesdragage/Accueil.aspx](http://www.planstlaurent.qc.ca/registreactivitesdragage/Accueil.aspx)

<sup>24</sup> [www.grouperestaurations103.com/](http://www.grouperestaurations103.com/)

<sup>25</sup> [www.planstlaurent.qc.ca/centre\\_ref/publications/diverses/Qualite\\_criteres\\_sediments\\_e.pdf](http://www.planstlaurent.qc.ca/centre_ref/publications/diverses/Qualite_criteres_sediments_e.pdf)

A working group formed to study the impact of storing sediments on Île Madame is also pursuing its work. Sediment storage on the island is having a detrimental effect on the habitat of a threatened species, the Atlantic sturgeon, and intervention strategies are needed. The group will examine options for the beneficial use of sediments in other settings and will assess sediment dynamics in the transition zone, as well as habitat impacts.

#### ► Result 21

##### **Evaluate adaptation options for commercial shipping in the event of a drop in water levels**

In the Great Lakes-St. Lawrence system, climate change could produce a significant drop in water levels, a development which would have a serious impact on the sector located upstream from Trois-Rivières. Several uses of the St. Lawrence, including commercial shipping, would be affected by this scenario.

The initial phase of an exploratory study published in 2005 under the title *Climate change and marine transportation on the St. Lawrence River: Exploratory study of adaptation options*,<sup>26</sup> deals with various ways marine transportation can adapt to climate change. A scientific poster provides a broad outline of the exploratory study (see poster 25, page 23). The second phase of the study was undertaken in 2008 and is designed to provide more accurate estimates of the environmental impacts of the most critical climate change scenario, along with potential adaptations for marine transportation. The report was completed in 2009 and is expected to be published shortly.

26 [www.adaptation.nrcan.gc.ca/projdb/pdf/137a\\_e.pdf](http://www.adaptation.nrcan.gc.ca/projdb/pdf/137a_e.pdf)

27 [www.ca.vlex.com/vid/pollution-ships-dangerous-chemicals-37956357](http://www.ca.vlex.com/vid/pollution-ships-dangerous-chemicals-37956357)

28 [www.lois.justice.gc.ca/eng/F-14/index.html](http://www.lois.justice.gc.ca/eng/F-14/index.html)

#### ► Result 22

##### **Prevent the impact of wash from passing ships and other craft on sensitive sectors of the St. Lawrence**

In the fall of 2000, the commercial shipping industry voluntarily adopted a speed reduction measure that applies to a 25-km stretch of the St. Lawrence between Sorel and Varennes. This sector had previously been designated as particularly vulnerable to erosion, due to the nature of the river banks and their proximity to the shipping channel. The results achieved to date have been very encouraging. The compliance rate with this measure is greater than 80% and close to 90% in some sectors. An objective of 90% compliance has been set for each sector, in cooperation with the shipping industry, and it would appear that this objective may be met by 2010. A scientific poster details the implementation and results of this measure (see poster 26, page 23). The Coordination Committee is monitoring compliance with this measure in all sectors.

#### ► Result 23

##### **Improve the management of wastewater discharges and cargo waste**

The Sustainable Navigation Strategy proposes to harmonize the management of wastewater discharge and cargo waste on the St. Lawrence with Great Lakes practices, as well as to implement control procedures.

Transport Canada and EC have established a joint strategy to ensure that the legislation governing wastewater discharge is applied fairly and consistently, in accordance with the *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals*<sup>27</sup> and the *Fisheries Act*.<sup>28</sup> The owners of ships capable of transporting more than 100 persons were given a questionnaire

asking them to specify the wastewater management methods that are used on the ships in their fleet. Finally, a revision of the aforementioned regulations was initiated in 2007 and is expected to be completed in 2009.

#### Result 24

##### **Reduce the risk of introducing exotic species for all types of ships**

During the 2007-2009 period, Transport Canada-Marine Safety pursued its inspections of ballast water on ships and, more recently, it increased the number of inspections carried out on ships destined for ports along the St. Lawrence. It has also worked to improve compliance by Canadian ships and ships that do not navigate the Great Lakes, with the support of the Shipping Federation of Canada and the Great Lakes Carrier Association. Transport Canada-Marine Safety has maintained

its involvement in Seaway ship inspection and in the American Coast Guard, in order to ensure that the ballast tanks of all ships bound for the Great Lakes are checked.

#### Result 25

##### **Encourage shoreline communities to cooperate with emergency response specialists in the event of hazardous product spills**

None of the community-based activities that had been planned were ultimately carried out in 2007-2009 due to administrative difficulties associated with the transfer of responsibilities from the Canadian Coast Guard (under the authority of DFO) to Transport Canada. As a result of this changeover, the Canada Coast Guard was forced to abandon its community action program, a program that had provided support for such activities.

## SHORELINE ACCESS

For over 20 years, efforts to improve the quality of the St. Lawrence have proven successful. Today, the Quebec public is showing an increased interest in the St. Lawrence and its many attractions and is finding ways to reclaim this important ecosystem. However, despite the strong public desire for increased access, public access to certain sectors of the St. Lawrence remains very limited. Accordingly, the Shoreline Access component was created to provide support for the creation, development and restoration of public access to the St. Lawrence.

### ► Result 26

#### **Support five municipal projects aimed at improving access to the St. Lawrence**

MRNF supports a number of municipal projects aimed at providing access to fishing sites. To date, three infrastructure and redevelopment projects have been conducted in collaboration with various municipalities and organizations. Three other projects are currently under development, and two new projects are in the planning stage. As a result, the initial objective of five projects will be exceeded, since a total of eight projects will be completed. The three completed projects are listed in the Biennial Report for 2005-2007<sup>29</sup>.

#### **The projects still underway in the Lake Saint-Pierre area are:**

- development of a parking lot, a bird-watching trail, and a walking trail on pilings, (including two observation decks) in Yamachiche. The inauguration of this project is scheduled for the spring of 2009;
- mine sweeping by National Defence due to the possible presence of shells, and dredging of the Landroche channel to restore access to the river at Baie-du-Febvre. The initial phase of

this project was completed in February 2008 and the second phase of digging is scheduled for February 2010;

- acquisition of a 68-hectare private property in Louiseville under an agreement with Ducks Unlimited Canada and restoration of a foot-bridge at that location.

The two projects which are still in the planning stage will be implemented in Quebec City and Lévis. The first is aimed at making the infrastructure of the former Irving Wharf accessible and building three other access points along the Promenade Samuel-De Champlain. This project will be reviewed in light of the development of Champlain Boulevard. The joint MRNF-municipal project being planned in Lévis involves the redevelopment of an old wharf in order to promote fishing at Davie-Wilson Cove. The redevelopment concept has now been completed.

### ► Result 27

#### **Repair marine infrastructures that provide access to the St. Lawrence**

Since large-scale marine infrastructures are mostly federally owned properties, the projects that have been developed concern only the federal departments involved in this component.

In the late 1990s, Public Works and Government Services Canada (PWGSC) was mandated, under the Port Divestiture Program, to dispose of 38 surplus marine and riverside facilities in Quebec, including wharves, lots and other port facilities not needed for government activities. The Program's objectives included helping communities take control of sites or port facilities that were part of their local heritage, as well as preserving safe public access to the St. Lawrence. In 2008-2009, PWGSC completed the surrender of two final facilities (at Cullens Brook and route Henry in Bonaventure).

29 [www.planstlaurent.qc.ca/centre\\_ref/publications/rap\\_bien\\_05\\_07/Rap\\_biennal\\_e.pdf](http://www.planstlaurent.qc.ca/centre_ref/publications/rap_bien_05_07/Rap_biennal_e.pdf)

DFO is also involved in the repair and surrender of marine infrastructures along the St. Lawrence; these are smaller infrastructures, designed to accommodate lighter watercraft. In 2008-2009, DFO repaired and turned over a number of sites, including Magpie, Saint-François-du-Lac on the Saint-François River, and Portneuf River (Hamilton Cove) in the municipality of Portneuf-sur-Mer. The repair work is expected to be completed by the fall of 2010. Plans and cost estimates to repair the wharf in Sainte-Flavie were also developed in 2008-2009.

Since the initial objective has been largely exceeded, other sites will be targeted, on the basis of departmental priorities and available resources. DFO is currently planning to upgrade six sites and PWGSC is planning to restore one additional site.

#### **Other initiatives**

In order to optimize results between now and the termination of the Canada-Quebec Agreement, the Shoreline Access Coordination Committee has turned its sights on the development of an integrated framework to promote access to the St. Lawrence. The government departments

involved have therefore agreed to review current objectives, to establish new action priorities, and to plan activities into 2010.

In keeping with these goals, MDDEP and EC undertook in 2007-2008 to study the supply and demand for access to the St. Lawrence for a variety of different activities (fishing, nature observation, swimming, aquatic sports, etc.), although this work did not comprehensively address all of the St. Lawrence. PWGSC and EC went on to produce an inventory of existing St. Lawrence uses and access points, on the basis of data provided by Coordination Committee partners. The initial mapping carried out in 2008-2009 now needs to be validated by the various players, including the ZIP Committees. This inventory will make it possible to complete the diagnosis initiated in 2007 and will be of great practical value to the Coordination Committee in its future work.

Once the diagnosis has been completed, the Coordination Committee plans to develop an integrated access framework for the St. Lawrence, in cooperation with the various stakeholders, namely citizens groups, users, as well as municipal, provincial and federal authorities.



## COMMUNICATION ACTIVITIES

A range of communication activities were conducted during the 2007-2009 period, both at the institutional level and by the St. Lawrence Plan coordination committees. The purpose of these activities was to sensitize communities to the importance of the St. Lawrence and related issues; to provide a better understanding of the government interventions, issues, and objectives being pursued under the St. Lawrence Plan; to showcase key achievements, as well as the cooperation taking place between Canada, Quebec, the private sector and community organizations; and to report on the work being done to fulfill commitments and achieve results.

A number of institutional communication activities were conducted in 2008 to mark the 20th anniversary of the St. Lawrence Plan. For example, a refurbished Internet site went online in June 2008. The SLP anniversary was marked by the dissemination of a special 20th anniversary e-bulletin<sup>30</sup> showcasing government interventions and outlining the achievements and milestones of the past 20 years.

In the summer of 2008, SSL and the ZIP Committees partnered to organize a variety of St. Lawrence awareness and rediscovery activities for the benefit of shoreline communities. The

20th anniversary celebrations were capped with a science week<sup>31</sup> held in October 2008 at the Musée de la civilisation de Québec under the banner “The Secrets of the St. Lawrence.” The event provided an opportunity for governmental and non-governmental partners to share recent knowledge on the St. Lawrence. Worthy of special mention is the remarkable work of the St. Lawrence Plan coordination committees, which presented 35 scientific posters on the research work then underway (see list on page 23).

The St. Lawrence Plan was also showcased at different public events during this period. Some of the most important events included the Salon national de l’environnement de Montréal (in 2007 and 2008), the Semaine de la navigation et de la relève maritime, organized in Quebec City in the fall of 2008 by Les Amis de la vallée du Saint-Laurent, and a forum on community involvement organized by SSL and held in Trois-Rivières in the spring of 2009.

Finally, the St. Lawrence Plan coordination committees also conducted a number of information and awareness activities during this period. For more information on these activities, please consult the sections in this report that review the achievements of each Committee.

30 [www.planstlaurent.qc.ca/sl\\_bm/interventions\\_g/vingt\\_ans/20\\_ans\\_deja\\_e.html](http://www.planstlaurent.qc.ca/sl_bm/interventions_g/vingt_ans/20_ans_deja_e.html)

31 [www.planstlaurent.qc.ca/sl\\_bm/interventions\\_g/vingt\\_ans/science/progr\\_e.html](http://www.planstlaurent.qc.ca/sl_bm/interventions_g/vingt_ans/science/progr_e.html)

## LIST OF SCIENTIFIC POSTERS PRODUCED BY PARTNERS

1. *Plan de conservation de la vallée du Saint-Laurent et du lac Champlain, région du Québec*
2. *Évaluation de l'état du parc marin du Saguenay-Saint-Laurent, dix ans après sa création*
3. *La réintroduction du bar rayé dans le Saint-Laurent*
4. *Integrated Modelling of the St. Lawrence River: A Tool to Evaluate Impacts and Possible Adaptations*
5. *The Digital Elevation Model: The Basis of Support for Integrated Modelling Activities on the St. Lawrence River*
6. *Contamination of Sediments in the St. Lawrence: Trends and Concerns*
7. *A Current Issue: Erosion of the Banks of the St. Lawrence*
8. *Invasive Plant Species of the St. Lawrence Wetlands: Community Groups are Watching!*
9. *The Northern Gannet: A Sentinel Species for the Gulf*
10. *St. Lawrence Beluga Whale Monitoring Program*
11. *Développement d'un réseau de suivi ichtyologique pour l'estuaire du Saint-Laurent*
12. *État de santé des communautés de poissons d'eau douce du Saint-Laurent*
13. *Monitoring Land Use Along the Great Lakes and the St. Lawrence*
14. *Input of Pesticides to Lake Saint-Pierre*
15. *Recent Degradation of the Lavallière Bay Marsh: Agri-Environmental Issues*
16. *Cours d'eau en milieu agricole : un compromis agriculture faune*
17. *Pesticide Fate in Fluvial Wetlands Under Intensive Agricultural Activities*
18. *Indicateur de risque des pesticides du Québec (IRPEQ) – Santé et environnement*
19. *L'indicateur de risque de contamination de l'eau par le phosphore des terres agricoles à l'échelle des bassins versants*
20. *Le projet ouaouaron de la rivière Yamaska*
21. *Restauration du bassin de la rivière La Chevrotière : des pratiques agroenvironnementales mieux adaptées*
22. *Integrated Management of Dredging on the St. Lawrence River*
23. *Criteria for Evaluating Sediment Quality in Quebec*
24. *Do Sediments From Dredging Constitute a Risk to the Quality of Aquatic Areas? How Can We Answer This Question?*
25. *Changements climatiques et transport maritime sur le Saint-Laurent : étude exploratoire d'options d'adaptation*
26. *Voluntary Speed Reduction Measure for Commercial Vessels to Mitigate Shoreline Erosion*
27. *Thousands of Migrating Birds...and Significant Economic Benefits for Local Communities Located Along the St. Lawrence*
28. *Stratégie de navigation durable pour le Saint-Laurent*
29. *Overview of the Benthic Fauna at Two Ocean Disposal Sites: Lower Estuary and Gulf of St. Lawrence*
30. *The Atlantic Zone Monitoring Program (AZMP): Monitoring Oceanic Conditions in the Estuary and Gulf of the St. Lawrence*
31. *Fish Habitat Management Information System*
32. *Operationalization of a Hydrodynamic Model of the St. Lawrence River: From Research to Application*
33. *The Resident Goose: A Newcomer to the Urban Landscape*
34. *Indicateurs de performance de l'état de l'écosystème du Saint-Laurent fluvial : un outil de prévision environnementale*
35. *Community Networks: Marine Environment Information Sources*

# GOVERNMENT EXPENDITURES 2007-2008

		COMPONENTS							TOTAL
		Integrated management of the St-Laurence	Community Involvement and awareness	Ecological Integrity	Monitoring the state of the St-Laurence	Agriculture	Navigation	Shoreline access	
Government of Canada									
Environment Canada	87.0	1 689.5	2 969.2	1 899.2	175.0	289.6	15.0	444.3	7 568.8
Fisheries and Oceans Canada	34.2	207.1	30.0	1 529.0		26.0	130.0		1 956.3
Parks Canada Agency		185.0	362.6	50.0					597.6
Canadian Space Agency				43.0					43.0
Agriculture and Agri-Food Canada					2 000.0				2 000.0
Transport Canada							30.0		30.0
Public Works and Government Services Canada						5.0	183.0		188.0
Government of Quebec									
Ministère du Développement durable, de l'Environnement et des Parcs	162.0	360.8	162.0	641.6	797.8	211.0		200.0	2 535.2
Ministère des Ressources naturelles et de la Faune			359.1	386.0	223.3	15.0	355.0		1 338.4
Ministère des Transports						36.5			36.5
Total (in thousands \$)	283.2	2 442.4	3 882.9	4 548.8	3 196.1	613.1	683.0	644.3	16 293.8

# GOVERNMENT EXPENDITURES 2008-2009

		COMPONENTS							
	Integrated management of the St-Laurence	Community Involvement and Awareness	Ecological Integrity	Monitoring the state of the St-Laurence	Agriculture	Navigation	Shoreline access	Communications and Coordination	TOTAL
Government of Canada									
Environment Canada	50.6	1 755.7	2 059.0	1 417.5	175.0	342.0	16.0	499.3	6 315.1
Fisheries and Oceans Canada	22.5	523.4	30.0	1 975.0		83.5	2 300.0		4 934.4
Parks Canada Agency		105.0	420.0	50.0					575.0
Canadian Space Agency				20.0					20.0
Agriculture and Agri-Food Canada					2 000.0				2 000.0
Transports Canada						595.0			595.0
Public Works and Government Services Canada						23.0	44.0		67.0
Government of Quebec									
Ministère du Développement durable, de l'Environnement et des Parcs	93.9	121.9	14.0	683.0	814.5	271.5		220.0	2 218.8
Ministère des Ressources naturelles et de la Faune			623.9	391.0	221.5	15.0	116.0		1 367.4
Ministère des Transports						16.0			16.0
Total (in thousands \$)	167.0	2 506.0	3 146.9	4 536.5	3 211.0	1 346.0	2 476.0	719.3	18 108.7

