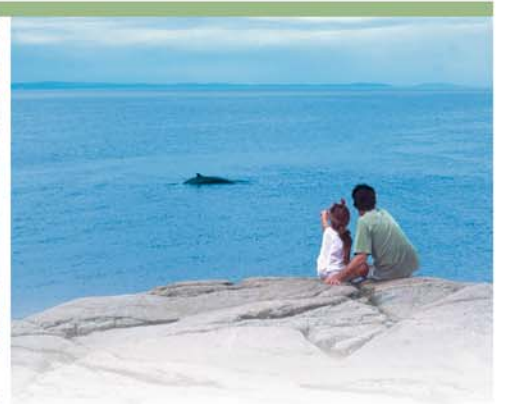
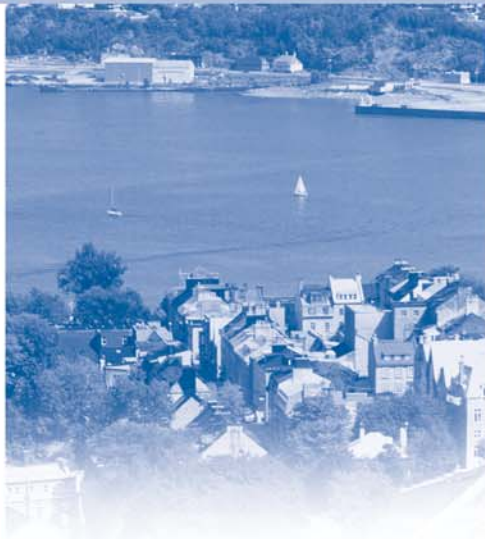
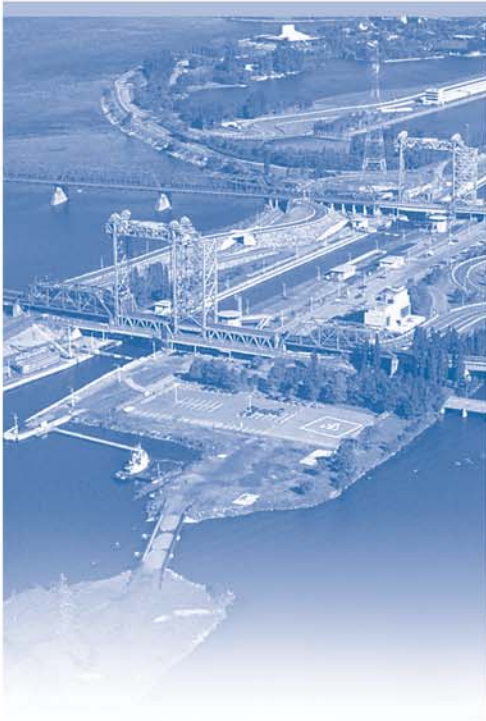


# Biennial Report 2005-2007



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## FOREWORD

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The Management Committee of the Canada-Quebec Agreement on the St. Lawrence River 2005-2010 is committed to ongoing reporting, through regularly published reports, on the progress of the expected results.

The Biennial Report 2005-2007 sets out the main activities carried out in a coordinated manner by the Agreement partners in order to achieve the 27 target results. Moreover, the activities carried out by the Agreement partners between March 2003 (the end of Phase III of the St. Lawrence Plan) and November 2005 (the signing of the Agreement 2005-2010) are documented whenever they have made a significant contribution to advancing or meeting the target results. However, expenses incurred by the partners during this transitional period are not presented in the Report, since they are not part of the financial obligations of the Agreement. The expenses incurred by each partner during the two financial years in question are appended at the end of the Report.

Several links in this document lead to the St. Lawrence Plan Web site, which is regularly updated and expanded. It offers the public additional information for monitoring the achievement of the expected results outlined in the St. Lawrence Plan.



## MESSAGE FROM THE AGREEMENT CO-CHAIRS

In November 2005, the governments of Canada and Quebec signed an Agreement on the St. Lawrence Plan for a Sustainable Development 2005-2010, effectively reiterating their commitment to continuing to implement projects until 2010 that promote ecological integrity, environmentally responsible economic activities, community commitment and informed, concerted and integrated governance of the St. Lawrence.

Phase IV of the plan has been underway for two years, and it is with great pleasure that we present the Biennial Report for the 2005-2007 period. This report briefly outlines the progress on the 27 target results in the six components and in the integrated management of the St. Lawrence.

The approach of this Canada-Quebec agreement is based on cooperation and respect for the expertise of the departments, agencies and non-governmental organizations that have, once again, committed to working together to ensure the protection of the river's ecosystem and the full use of its resources.

On the eve of the 20th anniversary of the St. Lawrence Plan, 2008 will be the perfect time to highlight the environmental progress made since 1988, and to acknowledge the commitment of the people and volunteers who devoted their time, know-how and energy to protect, conserve and enhance the St. Lawrence—an invaluable collective treasure.

We would like to sincerely thank all our partners for their dedication and commitment, and we invite them to continue the activities that are already underway so that this fourth five-year agreement is also a resounding success.



**Albin Tremblay**  
Co-chair for Canada  
St. Lawrence Plan  
for a Sustainable Development



**Bob van Oyen**  
Co-chair for Quebec  
St. Lawrence Plan  
for a Sustainable Development

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## INTEGRATED MANAGEMENT OF THE ST. LAWRENCE

Beyond the objectives to protect, conserve and enhance the St. Lawrence, the current Canada-Quebec Agreement on the St. Lawrence differs from previous agreements in that it has a new priority objective: to establish a different form of governance for the St. Lawrence that will result in the integrated management of the St. Lawrence (IMSL).

Accordingly, the departments and agencies involved in the St. Lawrence Plan have agreed to pool their expertise so as to develop an integrated management approach that will take into account knowledge acquired from past experience as well as current measures. This integrated management approach is consistent, among others, with the *Québec Water Policy* (for Quebec), and with *Canada's Oceans Strategy* and the *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* (for Canada).

In the fall of 2003, this commitment gave rise to an intergovernmental Working Group, whose mandate would be to propose an IMSL concept, including the tools for implementation. This group, called the Intergovernmental Working Group on Integrated Management of the St. Lawrence (IWG-IMSL), is made up of representatives of a number of departments: Environment Canada (EC), Fisheries and Oceans Canada (DFO), Transport Canada, the Ministère du Développement durable, de l'Environnement et des Parcs du Québec (MDDEP), the Ministère des Transports du Québec, and the Ministère des Ressources naturelles et de la Faune du Québec (MRNF).

### Result 1

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

The IWG-IMSL's first step was to gather experiences and expertise acquired in Quebec and elsewhere in the world in the areas of coordination, integrated

resource management, transboundary waters, and coastal and ocean zones. This study resulted in the creation of a pre-consultation document in September 2004.

In 2005-2006, the IWG-IMSL invested time and energy in compiling and summarizing the comments it had received as part of pre-consultations with the various focus groups (July 2005). Comments from the various stakeholders consulted enabled the IWG-IMSL to continue its study of the concept of integrated management, based on the actual situation and on needs.

In 2006-2007, the work conducted by the IWG-IMSL came to fruition. In the spring of 2006, the IWG-IMSL presented a governance model to the Agreement authorities. The proposed model is based on acquired knowledge and assures a transition from the current Agreement structure towards a more integrated and participatory mode of governance of the St. Lawrence. This model was accepted by the Agreement authorities in the summer of 2006, which was also the end of the IWG-IMSL's mandate.

### Result 2

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

As part of its mandate, the IWG-IMSL needed to take into consideration the governance model, as well as the visions, concerns, suggestions and recommendations of the various players with a stake in the IMSL. Initially, two methods were selected for meeting this objective: a focused pre-consultation, followed by a public consultation after completion of the preliminary work. At the same time, ongoing talks between the IWG-IMSL and the Stratégies Saint-Laurent (SSL) and the Area of Prime Concern Committee (ZIP) (ZIP: Zones d'intervention prioritaire) were held, as well as various information and discussion meetings.



The SSL forum entitled “Toward achieving integrated management of the St. Lawrence,” was held on April 30 and May 1, 2004. The meeting, attended by numerous stakeholders from various sectors, was very useful in providing an up-to-date assessment on the IMSL and a forum in which to discuss local, regional and interregional integrated management experiences; it also sparked critical thinking about each individual role, potential partnerships and the common vision to be defined.

In 2004-2005, the IWG-IMSL held focused pre-consultations with stakeholders involved in the management, protection, restoration and use of the St. Lawrence and its resources. In total, 17 focus groups representing 130 organizations were solicited for advice, comments and suggestions using the reflection and discussion tool developed by the IWG-IMSL.

In addition to ongoing development of the public consultation strategy, the IWG-IMSL held several activities and information and discussion workshops with stakeholders in 2005-2006. Among others, the *Rencontre des Grands courants* [meeting on global trends], held on January 23-24, 2006, which brought together representatives from the ZIP committees, the integrated coastal zone management (ICZM) committees and the watershed organizations, was an ideal forum for discussing implementation of the IMSL.

As well, thanks to financial support from DFO and to cooperation with the First Nations of Quebec and Labrador Sustainable Development Institute, work was begun to define a First Nations consultation protocol.

In the summer of 2006, the following two observations—based on the IWG-IMSL’s work and the information and discussion forums held with targeted stakeholders—were drawn from the presentation of the IWG-IMSL governance model:

- Stakeholders support the IMSL approach, which they deem necessary
- Future actions must be based on knowledge gained from previous St. Lawrence Plan agreements

Given these observations, authorities agreed not to submit the IMSL concept to a public consultation as previously planned, but instead decided it would be preferable to devote the energy and available resources to its implementation.

### Implementation of the IMSL

Given that the two IMSL goals stipulated in the Agreement were reached and that the Agreement authorities support the proposed concept, it was agreed in June 2006 to start implementation of the IMSL by creating a provisional St. Lawrence Committee (SLC), made up of members of the Agreement Management Committee. A support team comprising professionals from MDDEP and EC was created and mandated to support the implementation of the provisional SLC and, more generally, the establishment of the IMSL.

At the first provisional SLC meeting on March 16, 2007, information was pooled on the approach and actions selected for implementing the IMSL; the committee’s mandate and operating rules were clarified; and discussion was facilitated on the subsequent steps for establishing a permanent SLC and the St. Lawrence roundtables. At this meeting, the decision was made to create three working groups (organization, territory and strategy) to support the activities of the provisional SLC.

In accordance with the goal of optimizing the available resources, DFO helped SSL develop a strategy to recruit private financial partners for implementing the IMSL and for improving communications activities of the ZIP program.

## COMMUNITY INVOLVEMENT AND AWARENESS

The community involvement component has been a focus since Phase II (1993) of the Canada-Quebec Agreement on the St. Lawrence. In fact, any improvements made to the St. Lawrence depend on coordination among local stakeholders and public involvement and commitment to supporting concrete on-site protection and enhancement activities. The importance of this community role in achieving the Agreement objectives is outlined in the *Overview of Community Action Development under the St. Lawrence Plan*. This document has helped reframe the specific contributions of organizations that have become involved in the St. Lawrence, and it has opened a window into the future.

The current Agreement introduces a new component to community involvement: “awareness.” The overall objective of this component is to raise awareness among community groups, young people, users and decision-makers as to the advantages of choosing sustainable development and the IMSL, and of encouraging the participation of all the players mentioned above.

### ► Result 3

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

The goal of the ZIP program is to promote better understanding of the fluvial environment and, consequently, facilitate the introduction of local action plans for the protection, restoration, conservation and enhancement of the uses and resources of the St. Lawrence, within a perspective of sustainable development. To date, 14 ZIP committees have been established along the St. Lawrence and Saguenay rivers. All the committees are part of SSL, which connects them together, coordinates their activities and provides support for achieving their mandate.

Under the St. Lawrence Plan, the ZIP and SSL committees can count on the financial support of EC to implement their concerted action plans. Furthermore, these action plans are funded by a multitude of governmental and private partners. Support for the ZIP network also involves technical/professional support offered by EC, MDDEP and DFO, particularly for ZIP committees located in marine areas.

More than ever, SSL and the ZIP committees are playing a role in the St. Lawrence Plan through their participation in activities organized by the majority of the coordination committees.

EC and MDDEP produced an analysis report on the Ecological Rehabilitation Action Plans (ERAP); and EC also published an ERAP progress report. These reports provide a perspective on all the work conducted by the ZIP committees.

Moreover, for the last ten years, DFO has provided financial and technical support to the integrated management program in the coastal areas of the St. Lawrence Gulf and Estuary. To date, 12 local ICZMs have been created to promote coordination among representatives of the various sectors.

### ► 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.

The current Agreement provides for the submission of projects in nine rounds, at the rate of two per year (in February and October). To date, four series of projects have been submitted, and around 45 projects have already been launched out of the 150 projects planned by 2010, the Agreement end date.

Information on the CIP has not been adequately disseminated since the end of the last agreement in March 2003, resulting in low public exposure and very few project submissions. To compensate for this lack of exposure, a variety of promotional methods were used:

- Production and distribution of a CIP promotional pamphlet
- Creation of a poster, media kit and banner
- Organization of an information/consultation tour throughout the regions of Quebec

A program funding report for 1998-2003 was published to highlight the 150 successful projects and the results achieved under Phase III of the Agreement.

**Result 5**  
**Provide riverside communities with scientific and technical support**

Ongoing scientific and technical support to organizations is secured through the various partner departments, including EC, MDDEP and DFO. This component helps ensure expert advice on specific projects, the participation of a scientific expert at any conference organized by an organization, and the transfer of georeferenced data. For example, in 2006-2007, EC offered the support of its various branches to the ZIP committees for updating their respective ERAPs.

Partners of the Community Involvement and Awareness Coordination Committee offered various types of training to support the riverside communities in implementing their mandate. A training session on communicating human health risks was offered to over 50 representatives of the watershed organizations, the ZIP committees, Nature Québec and the ICZMs. A second training session on media relations and communications planning was offered to the ZIP committees. SSL drafted a training plan to meet the needs of the ZIP committees, from an IMSL perspective. Moreover, the ZIP committees and SSL benefited from the first training session on strategic planning.

EC is also developing an Internet tool to facilitate reporting and the updating of records contained in each ZIP committee's ERAPs. A workshop on the subject was held in April 2006, to discuss the development of a ZIP program database.

**Result 6**  
**Make more young people aware of sustainable development through educational programs and tools with the Biosphère's local partners**

The Community involvement and Awareness component is a key objective of the Agreement as it aims to increase awareness of sustainable development among young people, as well as help change the mentality of our society.

This objective will be met in large part due to the numerous projects developed and led by EC's Biosphere, and aimed at young people. Some of the projects include:

- Holding of the first Youth Summit on Water and the St. Lawrence River at the Biosphere on March 24-25, 2006, which was attended by about 50 high school students from across Quebec and led to the *Youth Statement on Water and the St. Lawrence River*
- Completion of two observation/environmental action projects for young people: *Mouille et grouille* [action on water woes] (grades 3 and 4), which is designed to inform children about the erosion and sedimentation issues affecting the St. Lawrence and other rivers, and also encourages children to develop and test an environmental action in their community. This project will be available by April 2008 on the Web site of the Comité de valorisation de la rivière Beauport (CVRB). The second project, *Affaire climat* [climate issues], is aimed at Grade 9 students and is conducted within a broader conflict resolution research project with the University of Moncton and in cooperation with ASTER, the station for the popularization of science and scientific activities in the Lower St. Lawrence
- Expansion of the local coordination network for the *Adopt a River* project, under the general coordination of the CVRB

Another highly promising project was implemented in 2006-2007 – the community intervention project on the littoral zone of the St. Lawrence River, commonly referred to as the “CEGEP project.” In fact, the Coordination Committee partners made a concerted decision to launch a joint, motivating project to raise awareness among college students about the issues affecting the St. Lawrence, and to encourage the development of tangible projects for the conservation or enhancement of this ecosystem.

Accordingly, a CEGEP subcommittee was created, with the mandate to develop a new concept for educational projects on the St. Lawrence that would enable CEGEPs and students to work in partnership with regional stakeholders (non-governmental organizations [NGOs], regional municipal counties [RMCs], municipalities, companies, government departments, etc.). The subcommittee’s role is to launch and implement this pilot project, identify potential resources, foster relationships among potential partners, monitor the pilot project’s progress and report to the Community Involvement and Awareness Coordination Committee.

**Result 7**  
**Adapt scientific information and knowledge to meet the needs of stakeholders, decision-makers and citizens, and make them available (by using traditional and electronic tools such as a portal)**

To facilitate decision-making and the definition of program interventions, the public and decision-makers need full access to all information. The St. Lawrence Global Observatory (SLGO) program is designed to offer integrated, rapid and trans-

parent access to data and information from a network of federal, provincial, and university organizations, to ensure sustainable management of the St. Lawrence ecosystem. This project was set up in April 2005, following a proposal submitted by Technopole maritime du Québec, which led in June 2005 to the development of the SLGO implementation agreement by the community of organizations interested in the project.

The SLGO steering committee, comprised for the most part of member organizations of the broader Agreement Management Committee, completed the 2006-2009 business plan and presented it to the community of organizations interested in the SLGO project (April 2006).

Awareness-raising and communications efforts involving the various stakeholders are ongoing, and several talks on the SLGO were given during public events.

For its part, EC continues to implement a knowledge transfer program. To date, three themes have been selected for the transfer of empowering knowledge to non-profit organizations involved in the St. Lawrence Plan: sensitive habitats and species at risk; contaminants; and restoration, enhancement and public access.

In terms of the dissemination of and access to scientific information by the various target groups, DFO continued work on its St. Lawrence Observatory (SLO) Web portal, which has been on-line since January 2000. The Department also added an unexpected result to the Agreement by providing funding for the development of Internet sites for integrated coastal zone management and for the capelin observers network.

## ECOLOGICAL INTEGRITY

The proposed activities are aimed at providing a better understanding of the evolution of wildlife and plant habitats and populations and of the way the St. Lawrence ecosystems function, so as to ensure their maintenance, protection and full use.

Three non-governmental organizations have been added to the list of financial partners for this component: Ducks Unlimited Canada, Nature Conservancy Canada, Quebec Region (NCC Quebec), and the Réseau des milieux naturels protégés.

### Result 8

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

EC has conducted work on about 15 migratory bird species considered of high priority, as well as a study on the dynamics and status of the sensitive habitats of these species, in particular the wetlands. This led to the publication of the *Quebec Management Plan for the Common Eider*, the *2005-2010 Action Plan for the Integrated Management of Greater Snow Geese in Quebec*, and the *Quebec Shorebird Conservation Plan*. Joint funding for the Observatoire d'oiseaux de Tadoussac by EC, MRNF and the Parks Canada Agency (PCA) has led to increased understanding of the population trends of numerous birds of prey and other migratory bird species. NCC Quebec spearheaded inventory work on the yellow rail in Gaspésie, as well as on marsh fish and plants endemic to the St. Lawrence estuary. Monitoring of the spiny softshell turtle was also performed. MRNF continued its inventory of vulnerable wildlife species and their habitats. For its part, MDDEP identified the boundaries for the sites of interest for biodiversity and identification of sensitive plant habitats.

### Result 9

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

Using prediction models created for the St. Lawrence Valley, EC was able to identify priority habitats of bird populations potentially at risk and introduce conservation priorities for the Lower Great Lakes/St. Lawrence Plains and Atlantic Northern Forest conservation regions.

NCC Quebec completed an ecoregional plan for the St. Lawrence Valley and Lake Champlain, and implemented a pilot project in the St. Lawrence Estuary. The goal of the ecoregional plan is to record the natural distribution of biodiversity in an ecological area, i.e. create a portfolio of sites which, if consequently protected or managed, would ensure the long-term survival of viable populations of indigenous species considered of high priority for the conservation of biodiversity and of all types of ecological communities in the region.

PCA continued the implementation of the Saguenay–St. Lawrence Marine Park's Ecosystem Conservation Plan by determining the zoning of the park and conducting several studies, including the 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 was to identify the sources of pollution and determine the extent of contamination in the sediments and in benthic fauna.

MDDEP continued developing conservation plans (two have already been released) for endangered or vulnerable plant species in the St. Lawrence. The first plan covers false hop sedge, present in only very small populations in a 10-km segment along the Richelieu River, while the second covers

the erect arrowleaf (estuary subspecies), only three populations of which are known to exist, within less than 7 km of each other, in Chaleur Bay. High-priority areas for conservation have been identified in the Lanoraie peat bogs, and they will be taken into account during the review of the development plans of the RMCs concerned. A conservation plan has also been prepared for the Villeroy peat bog. Finally, a database and methodology were created for identifying wetlands of national interest in the St. Lawrence Lowlands.

Launched in early 2007 by Canadian Wildlife Service (CWS), six partners and over 30 scientific experts, the *Atlas of Bank Restoration Sites of the St. Lawrence River* contains information necessary for the restoration of banks altered by human activity. Close to 500 sites have been identified, totalling some 700 ha along the St. Lawrence River and some of its tributaries.

#### ► Result 10

##### **Implement concrete actions for the recovery of species at risk based on existing recovery plans and develop or update other plans**

EC continued to implement existing recovery plans, and it acquired new knowledge on other species, such as Bicknell's thrush, in order to determine their status and draft a management plan. EC also determined what conservation actions were necessary over the next few years with respect to several bird species that are vulnerable due to an increase in industrial and farming activities in southern Quebec.

EC, DFO and PCA coordinated the restoration efforts under the federal government's Habitat Stewardship Program (HSP) for Species at Risk, and the recovery plans for species at risk or designated at risk introduced by the governments of Quebec and Canada and by the multitude of non-profit organizations involved in this area. The species targeted by concrete actions over the two-year period are the yellow rail, piping plover and copper redhorse; plant species include the Bigelow dwarf huckleberry, the Gaspé Peninsula arrow-grass, the Gulf of St. Lawrence aster and the green dragon. As well, American waterwillow

colonies were monitored and mapped in detail, and great efforts were made to increase the natural populations of false hop sedge. The Habitat Stewardship Program for Species at Risk Web site contains more information on projects underway in the St. Lawrence corridor.

As for amphibians and reptiles, MRNF continues to coordinate the teams responsible for implementing recovery plans for spiny softshell turtles, aquatic salamanders, Western striped chorus frogs and five other turtle species (Blanding's turtle, musk turtle, wood turtle, map turtle and spotted turtle). The 2005-2007 actions focused on knowledge acquisition, habitat protection and awareness-raising.

MRNF's birds of prey recovery team conducted an inventory of two species across Quebec: the peregrine falcon and the bald eagle. A report and a scientific paper on the peregrine falcon inventory were published in 2006. Moreover, the inventory of certain nesting sites (confirmed and potential) of the golden eagle was established for several drainage basins of the Lower St. Lawrence, the Gaspé Peninsula and the North Shore, and various awareness and protection projects were implemented.

Artificial reproduction and stocking of copper redhorse is one of the priority actions carried out by the restoration team for this species. This activity resulted in the production and stocking, in the Richelieu River, of 491,800 larvae and 39,370 fry in 2005, and 184,300 larvae and 33,459 fry in 2006. On-site recruitment monitoring was also performed each year. Telemetric monitoring led to the publication of the *Atlas of Copper Redhorse Habitats*, and various critical habitat protection measures were instituted at the Pierre-Étienne-Fortin Wildlife Preserve (a spawning ground) and around Jeannotte Island in order to protect a key growth area.

As for the reintroduction of the striped bass, development work is ongoing on a fish farming technique that was started in 2004. Mass production is scheduled to begin in 2008. An inventory of the various bait fish used in commercial fishing was performed in order to assess the impact on vulnerable cyprinids and small percids.

**Result 11**

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

EC, MDDEP, MRNF and several owners of private lands (conservation organizations) worked together to implement an inventory program for wildlife and plants located in protected areas in southern Quebec, along the St. Lawrence. Accordingly, 21 territories were inventoried in an effort to identify species at risk and to update knowledge on the biodiversity profile of these areas. The inventory reports will be published in 2008.

EC also supported NGOs involved in awareness raising, public education, and the enhancement of a number of national wildlife reserves.

DFO continued to develop the marine protected areas in the St. Lawrence Estuary and the Manicouagan, while PCA set out guidelines for developing the Saguenay–St. Lawrence Marine Park zoning plan.

NCC Quebec began negotiations to purchase properties on the St. Lawrence Islands, as well as shoreline properties along the Estuary and Gulf of St. Lawrence. Properties were purchased in the Montreal area and along the Ottawa River.

MDDEP also held public consultations on the projected Bonaventure River estuary aquatic reserve in Chaleur Bay, in anticipation of its being accorded permanent protected area status.

**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**

Since 2003, EC has worked on finalizing the digital terrain model for the Trois-Rivières–Quebec City section. Numerous scientific publications stem from the application of the digital model: historical evolution of hydrodynamics in the St. Lawrence, production of a digital terrain model, aquatic plants, atlas of copper redhorse habitats, etc.

The fluvial temperature model was also used for analysis, in cooperation with MRNF, of the impacts of extreme temperatures on habitats and fish populations. The model is used in the development of EC's adaptive management strategy under the new regulation plan for Lake Ontario and the St. Lawrence River to be submitted by the International Joint Commission (IJC).

Increased knowledge about Quebec plant species enabled MDDEP to publish "A botanical survey of Chaleur Bay–Restigouche shoreline vascular plants." The list of identified plants comprises 393 taxa in 223 genera and 81 families.

**Result 13**

**Study the 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**

EC is continuing its research aimed at describing the stress effects on the St. Lawrence ecosystem caused by urban pollution, climate change (water level fluctuations), exotic species and emerging contaminants. An environmental synthesis was performed on the NIVODO program results; the objective was to complete the study mandate established by the IJC in Phase III of the St. Lawrence Plan. The St. Lawrence Centre published a report entitled *Water Availability Issues for the St. Lawrence River: An Environmental Synthesis*.

Several studies show that urban pollution is one of the main causes of disruption and risks to the St. Lawrence ecosystem. This waste represents a significant source of pollution due to conventional and emerging contaminants. An assessment was done on the fate of pharmaceutical antibiotics in the dispersion plume of municipal effluents in the City of Montréal, as well as on the elimination of pharmaceutical substances by wastewater treatment processes. The toxicity potential of 12 pharmaceutical products quantified in the treatment plant effluent was also determined. An article summarizing their hazard potential is available from the St. Lawrence Centre. Moreover, several

effect biomarkers for pharmaceutical products have been identified. These techniques are important new tools for ecotoxicology risk assessments and for applying the results to the health of ecosystems and humans.

In collaboration with university partners and the Saguenay–St. Lawrence Marine Park, a list was drawn up of the various anthropic stresses that affect bivalves in the Saguenay tidal zones.

The link between water level fluctuations and the biological productivity of various plant species in Lake Saint-Pierre, as well as the propagation of an invasive plant species (common water reed) in the St. Lawrence wetlands, were quantified and modelled. The response of wetlands to the regulation of Lake Ontario and the St. Lawrence was evaluated. The effects of climate change were also

assessed, and issues were reviewed regarding the availability of water in the St. Lawrence for a wide range of uses. The effect of nutrients on algae composition in Lake Saint-Pierre led to the discovery of a proliferation of benthic cyanobacteria in 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.

Research on invasive species is continuing, with priority on the environmental risk assessment of ballast water discharges, the analysis of the genetic variability of the Chinese mitten crab (recently discovered in the St. Lawrence) and the importance of round goby in the diet of various predator fish species in the river.



## STATE OF THE ST. LAWRENCE MONITORING

The State of the St. Lawrence Monitoring Program is the result of collaboration among seven partners of the Canada-Quebec Agreement on the St. Lawrence River: EC, DFO, PCA, MDDEP, MRNF, SSL and the Canadian Space Agency. Since the signing of the Canada-Quebec Agreement 2005-2010, the State of the St. Lawrence Monitoring Coordination Committee has been fully responsible for implementing this program.

The program includes approximately 23 recurrent monitoring activities covering five components of the ecosystem, i.e. water, sediments, riverbanks, 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**

In order to draw an accurate portrait of the state of the St. Lawrence, the Coordination Committee developed new indicators, taking into account the shortcomings noted at the time the program was launched in 2003. The indicators, which are based on satellite data, apply to land-use patterns in the Great Lakes–St. Lawrence Basin, as well as to benthic communities, the erosion of fluvial banks, recreational uses and invasive plant species. The last three monitoring activities are implemented in collaboration with communities, specifically in the fluvial section of Lake Saint-Pierre. Data collection guidelines were developed in addition to the training sessions and scientific and technical support offered to communities to ensure adequate transfer of the methodology.

The trends observed in 2003 have remained stable with respect to toxic substances that can affect water quality. However, physicochemical water quality in the St. Lawrence degraded between 1995-2001 and 2003-2005. The main cause appears to be increased turbidity and phosphorus in the water, as a result of increased flow in the St. Lawrence between 2001 and 2005.

Sediment quality in Lake Saint-Pierre has greatly improved since the 1970s and 1980s, and mercury and PCB levels have fallen by over 90%. The Sorel Islands archipelago, however, remains vulnerable to accumulation of contaminated sediments. Test results on PBDE levels in sediments and suspended solids in Lake Saint-Pierre have shown a significant increase since the 1980s.

Interpretation of the images from the early 2000s confirms that the phenomenon of shrinking wetlands along the St. Lawrence has stabilized, or even reversed. Most of the sections along the St. Lawrence posted positive results, i.e. a gain in surface area, between 1990 and 2002. However, certain sectors in the Montréal area and Lake Saint-Pierre still present a negative portrait, i.e. a net loss in wetland surface area. The results reflect the changes and dynamics in these environments, in terms of spatial distribution as well as composition.

With respect to biological resources, ichthyological monitoring seems to indicate that the number of species present in the St. Lawrence is relatively stable. Moreover, the reintroduction of the striped bass seems to have worked; these efforts will therefore be continued. The current issues of special concern are the disappearance of the coho-chinook, the increased presence of tench and round goby, the presence of invasive exotic species and the decrease in the eel population. Efforts to restore populations include the stocking of elvers in the Richelieu.

**Result 15**

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

Since 2005, seven of the 16 fact sheets on the indicators for monitoring the state of the St. Lawrence have been updated, and a new fact sheet has been drafted on sediment quality in Lake Saint-Pierre. EC has also produced four new fact sheets on the issues common to the Great Lakes and St. Lawrence ecosystems. The fact sheets report on the state of the Great Lakes-St. Lawrence Basin using environmental indicators for water contamination, sediment contamination, wetland surface area and health of aquatic bird populations.

In terms of communications activities, the second Rendez-vous St. Lawrence was held in June 2006,

during which new knowledge acquired from environmental indicators on the St. Lawrence was presented, and plans for improving the State of the St. Lawrence Monitoring Program were explored. This event brought together over 175 people from NGOs, industry, as well as the university, municipal and government sectors.

As well, numerous talks on the program and its results were presented in various forums, for example, conferences and scientific seminars, and public meetings and events. Booths supervised by SSL were set up to disseminate general information on the state of the St. Lawrence, mainly to ZIP committees.

Every activity or piece of information relating to the St. Lawrence arouses a great deal of media interest. Our managers and scientists experts responded to many requests, from regular contributions to television shows to more specific requests for interviews regarding one of the program 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 involved in agriculture are relying on a more integrated form of management 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 beneficial management practices.

### Result 16

#### Reduce the impact of agricultural activities on tributaries or sections of the St. Lawrence

Various projects conducted by St. Lawrence Plan partners have effectively reduced the impact of farming activities. The area of activity targeted by EC is that of pesticide use in the agricultural sector. Several ongoing projects are aimed at monitoring water quality at the mouth of certain tributaries of the St. Lawrence, such as the Yamaska River. In the Baie-Saint-François sector, the pesticide concentrations in the air, water and soil are being quantified in order to determine their origin and how they are transported, with the aim of introducing and promoting practices to limit their presence in the environment. Digital simulators are being used to assess the effectiveness of various pesticide-use practices and to help select those that have the least impact on the environment. These best practices are being disseminated through presentations to users and organizations in the sector.

MRNF prepared and published two documents: *Portrait et enjeux* [Portrait and issues] and *Plan d'action* [Action plan], which outline its approach towards integrated resource management in farm areas. This approach clearly defines the role of MRNF within the Agriculture Coordination Committee.

Moreover, it sets out the main issues of conservation, restoration and enhancement of wildlife and its farmland habitats, as well as some concrete implementation plans. Each year, a number of projects are launched in partnership with farmers' associations or local organizations to preserve the various species present in the farm areas and improve wildlife habitats.

### Result 17

#### Improve knowledge to develop new agricultural management practices and for better monitoring the tributaries state of the St. Lawrence or its sections

Agriculture and Agri-Food Canada (AAFC) continues to develop long-term research projects aimed at improving agricultural knowledge. The projects are being conducted in three of the four AAFC research centres in Quebec (Saint-Jean-sur-Richelieu, Lennoxville and Sainte-Foy), within the framework of six national studies on the following themes:

- 1- Impact of agriculture on water resources
- 2- Beneficial management practices for improving water resources
- 3- Safe and effective use of inorganic and organic fertilizers
- 4- Beneficial management practices for the control of insects in field crops
- 5- Beneficial management practices for the control of crop diseases
- 6- Beneficial management practices for the control of weeds

Furthermore, a number of research activities regarding the St. Lawrence encompass the following aspects: Canadian soil resources and environmental monitoring, interpretation of national soil resources, and the national network of long-term studies on agricultural ecosystems.

In partnership with Ducks Unlimited Canada, advisory clubs and watershed organizations, AAFC has also developed a project for mapping farmland ecological resources on an ecosystemic scale. The overall objective of this project was to support the production of diagnostic workbooks for shoreline property owners.

With the aim of developing a strategy based on beneficial management practices that help reduce non-point-source pollution and the erosion of farmland riverbanks, AAFC, in partnership with the Comité de concertation et de valorisation du bassin de la rivière Richelieu (COVABAR), implemented a strategic plan for improving the quality of copper redhorse habitats. Finally, AAFC is monitoring the application and adaptation of a buffer strip modelling system.

At MDDEP, integrated watershed-based management in agricultural areas is an important focus. A number of activities aimed at limiting the impacts of non-point-source agricultural pollution are being implemented in partnership with the agricultural sector. Included in these projects is the characterization and improvement of water quality in the St. Lawrence and its tributaries, through the selection and application of good agri-environmental management practices, as well as the establishment of new indicators for monitoring the quality of waterways in agricultural areas.

## NAVIGATION

The mandate of the Navigation Coordination Committee, set up in 1998, is to harmonize commercial shipping and recreational boating practices with the protection of St. Lawrence ecosystems. In 2004, the committee unveiled its Sustainable Navigation Strategy, made possible by the anticipated results of the Canada-Quebec Agreement on the St. Lawrence 2005-2010.

### ► Result 18

#### Maintain concertation among navigation stakeholders in relation to the broad issues affecting the St. Lawrence

The Navigation Coordination Committee is made up of over 25 members from four sectors of activity (shipping industry, recreational boating, riverside communities and environmental groups), as well as government officials. The coordinated efforts of all group members have brought results in the form of action plans and partnerships that would otherwise not have been created. The consensus-building process is the greatest achievement of this Committee to date—it is both the foundation and the driving force behind every project.

The Coordination Committee is governed by five guiding principles: protection of ecosystems and water resources, safety of people and ships, development of commercial navigation activities, development of recreational boating activities and harmonization of uses and involvement of riverside communities.

### ► Result 19

#### Raise the awareness of the public and decision-makers about the advantages and constraints related to navigation

The Navigation Coordination Committee helped organize a public information campaign for the Amis de la vallée du Saint-Laurent [friends of the St. Lawrence Valley], which will include a tour of various cities across Quebec to present the environmental benefits, limits and challenges of this

mode of transportation. The content of the tour was based on the Sustainable Navigation Strategy, the Quebec Marine Transportation Policy and other relevant strategies. The ZIP committees were asked to help organize this tour in the various cities.

In line with the awareness-raising component, presentations on the Navigation Coordination Committee and the Committee for the Environmental Planning and Assessment of Dredging were given at public events.

### ► Result 20

#### Implement integrated management of dredging and sediments

Two subcommittees are working on implementing the integrated management of dredging and sediments. The first is the Committee for the Environmental Planning and Assessment of Dredging, which amongst other things, is establishing a registry of dredging activities, updating the legislative framework for sediment management in Quebec and helping to develop a global approach for evaluating fish habitat losses due to dredging activities.

The committee provides technical support to three restoration projects on contaminated aquatic sites. In area 103 of the Port of Montreal, activities were undertaken in the summer of 2007 to dredge 52,000 m<sup>2</sup> of contaminated sediments. These sediments will be dried and disposed of by 2012. At the mouth of the Saint-Louis River, 6,000 m<sup>2</sup> of contaminated sediments were dredged in 2006, and placed in a confinement hold. Aquatic and terrestrial revegetation activities on the site were done in the summer of 2007. For the restoration project at the Port of Gaspé (Sandy Beach), various options are under consideration, only one of which will be selected. Monitoring of these three restoration projects will help identify the elements of a standardized approach for the restoration of contaminated sites. A study is expected to begin in 2007-2008, which will lead to the selection of other contaminated aquatic sites for assessment.

The second committee, the *Comité de concertation de la recherche sur le dragage* [Coordination committee for dredging research] has reviewed the criteria for evaluating sediment quality and will table the final report in 2008. As well, a study was conducted on the impacts of storing dredged materials at the Île Madame site, and a work group was set up and mandated to assess the impacts and identify potential solutions.

#### ► Result 21

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

In the Great Lakes–St. Lawrence system, climate change could potentially lead to a significant drop in water levels, which would seriously impact the sector located upstream from Trois-Rivières. In a pessimistic scenario, predictions for 2050 call for a possible 1-m drop in water levels in Montreal, and a 30-cm drop in Trois-Rivières, below chart datum. Several uses of the St. Lawrence, in particular commercial navigation, would be affected by this scenario.

The Navigation Coordination Committee acknowledged the economic and environmental importance of this issue and thereby conducted a study entitled *Climate change and marine transportation on the St. Lawrence River: Exploratory study of adaptation options*, to assess the various potential adaptations that would help maintain commercial shipping activities on the St. Lawrence.

#### ► Result 22

##### **Prevent the impact of wave action of ships and recreational boats on sensitive areas of the St. Lawrence**

The commercial shipping industry's voluntarily imposed speed reduction measure was adopted in the fall of 2000, and is applicable along a 25-km stretch of the river between Sorel and Varennes. This sector had previously been designated as especially vulnerable to erosion, due particularly to the nature of the shoreline and its proximity to the shipping channel.

The compliance rate with this voluntary measure ranges from 70 to 90%, depending on the sector. In 2004, the Canadian Wildlife Service monitored the efficacy of the measure in reducing shoreline erosion. The results show a non-negligible positive effect, which encouraged the shipping industry to continue applying this voluntary measure to reduce speed and to set a 90% compliance rate for all sectors identified.

Recreational boaters are also being asked to do their part to conserve the shorelines and sensitive areas of the St. Lawrence by minimizing the wave action created when their boats are too close to shorelines or in small channels. This voluntary action also encourages a more harmonious cohabitation with other river users and shoreline residents.

#### ► Result 23

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

During one summer season, a fleet of 200,000 pleasure craft would produce a volume of untreated wastewater equivalent to the annual discharges of a population of 32,000 inhabitants. Estimates of the number of recreational boaters on the St. Lawrence during high season are about 500,000 and, contrary to other provinces, their discharge is not subject to specific legislation in Quebec. However, regulations did come into force in 2007 requiring all ships, including recreational craft, to discharge their wastewater in land collection units.

When a commercial ship changes load type, the holds are cleaned, usually through sweeping and rinsing with water to avoid possible cross-cargo contamination. Referring to common practices on the Great Lakes regarding the discharge of cargo residues and wash water, Transport Canada drew up interim guidelines for the St. Lawrence. The guidelines concern unregulated substances that do not have dangerous chemical properties and whose principle effect on the aquatic environment is to form deposits on the seabed. Therefore, the Sustainable Navigation Strategy proposes to harmonize management of discharges of wastewater and cargo residues with Great Lakes practices, and implement control procedures.

► **Result 24**

**Reduce the risk of introducing exotic organisms for all types of ships**

The Coordination Committee monitors the enforcement of regulations that have been in force since June 8, 2006, under the *Canada Shipping Act*. These regulations stipulate that carriers must have a ballast water management plan to prevent the introduction of non-indigenous aquatic species and pathogenic organisms.

► **Result 25**

**Encourage the collaboration of riverside communities with emergency response specialists in case of dangerous goods spills**

In collaboration with the relevant organizations, training and information workshops were held in various shoreline municipalities.

**Other initiative**

The Coordination Committee recognized the importance of supporting a project proposal submitted by recreational boating representatives. The Association maritime du Québec (AMQ) [Quebec maritime association] received financial support for developing its eco-marinas program. Adapted from a similar initiative that has been successful in Ontario, the project is designed to award marinas with environmental certifications, evaluated against a set of criteria: recovery of petroleum products (waste oils, antifreeze, etc.) and of winter storage boat covers, measures for dealing with oil spills, rules for boat cleaning, paper recycling, etc. The certification is based on eco-ratings of zero (lowest quality) to five (highest quality) gold anchors. Any marina interested in participating must send a self-evaluation form to the AMQ. The first inspections by auditors took place in May 2007, when marinas opened.

## ACCESS TO RIVERBANKS

For over 20 years, efforts to improve the quality of the St. Lawrence have proven successful. Today, the Quebec public is showing increased interest in the St. Lawrence and all its attractions, and in finding ways to reappropriate ownership of this important ecosystem. However, despite the strong public desire for increased access, the reality is that public access to the St. Lawrence is very limited. Accordingly, the Access to Riverbanks component was created to essentially provide support for the creation, development and restoration of public access to the St. Lawrence, in the form of scenic viewpoints, parking lots, launching ramps for watercraft or ecosystem interpretation sites.

**Result 26**  
**Support five municipal projects aimed at improving access to the St. Lawrence**

MRNF supports the development of a number of municipal projects aimed essentially at providing access to fishing sites. To date, three infrastructure and redevelopment projects have been conducted in collaboration with various municipalities. Three other projects are currently under development, and two new projects are in the planning phase. As such, the initial objective of five projects will be surpassed, since a total of eight projects will be completed.

**The completed projects are:**

- The construction of an access ramp and the purchase of a wharf at the mouth of the Saint-François River in Pierreville, in collaboration with the Corporation de développement du Bas-Saint-François
- Digging at the mouth of the Du Loup River at Lake Saint-Pierre, completed in cooperation with the City of Louiseville and the Action Plein Air corporation

- Installation of breakwaters, stabilization of banks and construction of an access ramp and a path on the foreshore of Isle-aux-Grues, in collaboration with the municipality of Saint-Antoine-de-l'Isle-aux-Grues

**The projects underway are:**

- Development of a parking lot, a bird-watching trail, and a walking trail on pilings, as well as the construction of an observation deck in Yamachiche, at Lake Saint-Pierre
- Dredging of the Tardif channel to restore boat access to the St. Lawrence at Notre-Dame-de-Pierreville, at Lake Saint-Pierre, in collaboration with the Department of National Defence
- Mine sweeping by DND due to the possible presence of shells and dredging of the Landroche channel to restore access to the river at Baie-du-Febvre (Lake Saint-Pierre).

The two projects currently in the planning phase are taking place in Quebec City and Lévis. In Quebec City, the project is aimed mainly at making the infrastructure of the former Irving Wharf accessible, and building three other access points along Samuel-De Champlain Esplanade. This project will be reviewed on the basis of the development of Champlain Boulevard. In Lévis, the joint MRNF-municipal project involves the redevelopment of an old wharf to promote fishing at Davie-Wilson Cove.

**Result 27**  
**Repair marine infrastructure that provides 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.



Under the port divestiture program, Public Works and Government Services Canada was mandated to dispose of 38 surplus marine and riverside facilities in Quebec, such as wharves, lots or other port facilities not needed for government activities. One of this program's objectives was to help communities take control of sites or port facilities that are a part of their local heritage and preserve safe public access to the river.

To date, the projects have resulted in the repair or stabilization of a dozen wharves, 18 breakwaters and 21 riverside properties including the Grande-Rivière, Marsoui, Matane, Berthier-sur-Mer, Forestville, Sainte-Rose-du-Nord and Saint-Irénée wharves, which were then turned over to communities interested in acquiring them. Currently, four other projects to hand over port facilities are underway, involving two wharves at Bonaventure, one wharf and a breakwater at Rivière-Madeleine in the Gaspé Peninsula and one wharf at Plaisance in the Magdalen Islands.

DFO is also proceeding with the restoration and handing over of smaller marine facilities designed for light watercraft. To date, 14 sites have been handed over to municipalities:

- Ten sites directly on the St. Lawrence, upstream from Île d'Orléans: Coteau-Landing, Longueuil, Saint-Lambert, Lanoraie, Champlain, Île d'Orléans, Saint-Jean-Port-Joli, Rimouski, Anse-Saint-Jean and Bonaventure
- Four sites along the Richelieu River: Beloeil, Saint-Antoine, Saint-Denis and Saint-Ours

PCA, while retaining ownership, is proceeding with the restoration of three sites located on the north shore of the estuary:

- Restoration of a diving site in Escoumins, including two exhibition rooms
- Restoration of the Port-au-Persil wharf and development of an interpretation trail
- Construction of a reception and interpretation centre in La Malbaie (Saint-Fidèle sector)

With this result nearly achieved, other sites will be identified depending on the priorities of each partner department and the financial resources available, in accordance with the issues defined by the Coordination Committee.

### **Other projects related to the use of the St. Lawrence**

Alongside these projects, other partner departments are conducting activities aimed essentially at inventoring and promoting access sites. Accordingly, Health Canada, in collaboration with the Jacques-Cartier and Ville-Marie ZIP committees, has drawn up a map of potential access sites on the Island of Montreal.

### **Other initiative**

The Coordination Committee was mandated to create a development framework for access to the St. Lawrence. It initiated a study to guide the development of the framework and to optimize results up to the Agreement end date. Therefore, the departments involved in this component jointly decided to review the objectives, determine new action priorities and plan activities up until 2010.

In 2006-2007, the Coordination Committee began an examination of available information concerning supply and demand for access to the St. Lawrence for a variety of activities (e.g. fishing, observation, swimming, etc). Through its assessment, which will focus specifically on access points in the large urban centres (Montreal, Quebec City, Trois-Rivières), the Coordination Committee will attempt to identify the shortcomings and difficulties related to each type of use, for the different sections of the river, as well as the need to create and enhance access to the St. Lawrence River. Upon completion of this first assessment, the Committee, in collaboration with the various stakeholders—groups of community users, and municipal, provincial and federal authorities—will develop an access framework for the St. Lawrence.

# GOVERNMENT EXPENDITURES

## 2005-2006 • 2006-2007

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## GOVERNMENT EXPENDITURES 2005-2006

	COMPONENTS								TOTAL
	IMSL*	Community Involvement and Awareness	Ecological Integrity	State of the St. Lawrence Monitoring	Agriculture	Navigation	Access to Riverbanks	Communications and Coordination	
<b>Government of Canada</b>									
Environment Canada	49.00	1 935.50	4 389.30	2 397.60	230.00	334.90	10.00	437.00	<b>9 783.30</b>
Fisheries and Oceans Canada	242.50	668.00	405.00	1 485.00		596.26	210.00		<b>3 606.76</b>
Parks Canada Agency		505.00	375.40	15.00					<b>895.40</b>
Canadian Space Agency				81.00					<b>81.00</b>
Agriculture and Agri-Food Canada					2 380.00				<b>2 380.00</b>
Transport Canada	20.40					287.80			<b>308.20</b>
Public Works and Government Services Canada						9.80			<b>9.80</b>
<b>Government of Quebec</b>									
Ministère du Développement durable, de l'Environnement et des Parcs	245.30	485.40	87.80	426.50	703.60	353.80		146.00	<b>2 448.40</b>
Ministère des Ressources naturelles et de la Faune	26.10		204.60	310.70	123.50	31.80	587.30		<b>1 284.00</b>
Ministère des Transports	16.80					30.60			<b>47.40</b>
<b>Total (in thousands \$)</b>	<b>600.10</b>	<b>3 593.90</b>	<b>5 462.10</b>	<b>4 715.80</b>	<b>3 437.10</b>	<b>1 644.96</b>	<b>807.30</b>	<b>583.00</b>	<b>20 844.26</b>

\* Note that IMSL-related amounts correspond to expenditures incurred between October 2003 (the IWG-IMSL creation date) and March 31, 2006.

## GOVERNMENT EXPENDITURES 2006-2007

	COMPONENTS								TOTAL
	IMSL*	Community Involvement and Awareness	Ecological Integrity	State of the St. Lawrence Monitoring	Agriculture	Navigation	Access to Riverbanks	Communications and Coordination	
<b>Government of Canada</b>									
Environment Canada	60.25	1 873.12	4 285.00	2 347.00	180.00	397.10	10.00	477.50	9 629.97
Fisheries and Oceans Canada	117.60	505.70	289.40	1 539.00		172.80	60.00		2 684.50
Parks Canada Agency		381.00	280.00	50.00					711.00
Canadian Space Agency				60.00					60.00
Agriculture and Agri-Food Canada					2 380.00				2 380.00
Transport Canada	4.80					137.80			142.60
Public Works and Government Services Canada						14.30	160.00		174.30
<b>Government of Quebec</b>									
Ministère du Développement durable, de l'Environnement et des Parcs	73.80	495.00	135.60	503.00	753.40	332.80		194.70	2 488.30
Ministère des Ressources naturelles et de la Faune			285.50	384.20	231.60	49.80	77.00		1 028.10
Ministère des Transports						35.00			35.00
<b>Total (in thousands \$)</b>	<b>256.45</b>	<b>3 254.82</b>	<b>5 275.50</b>	<b>4 883.20</b>	<b>3 545.00</b>	<b>1 139.60</b>	<b>307.00</b>	<b>672.20</b>	<b>19 333.77</b>



