



Proceedings of the Rendez-vous St. Lawrence 2016



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Background

The fifth Rendez-vous St. Lawrence was held on October 12 and 13, 2016, in Quebec City. The theme was “Meeting the Information Integration Challenge.” The event attracted about 100 participants, including experts and representatives of communities, non-government organizations (NGOs), industry, universities and government.

The Rendez-vous St. Lawrence is one of the dissemination mechanisms for the State of the St. Lawrence Monitoring Program (SSLMP), provided for in the Canada–Quebec Agreement on the St. Lawrence 2011–2026 (St. Lawrence Action Plan). The primary objectives are to share the most recent results obtained for environmental indicators monitored as part of the program and to explore ways to improve the state of the St. Lawrence. Speakers from government and the ZIP (*zone d'intervention prioritaire*, or area of prime concern) committees presented the results of various activities undertaken to monitor the state of the St. Lawrence. On the second day, a discussion was held about the dissemination products to obtain feedback from the client groups.

The State of the St. Lawrence Monitoring Program, which was officially launched in 2003, enables Environment and Climate Change Canada (ECCC) and its agency Parks Canada, Fisheries and Oceans Canada (DFO), Quebec's Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) and Ministère des Forêts, de la Faune et des Parcs du Québec (MFFP), and Stratégies Saint-Laurent (SSL) to pool their expertise to produce data, at regular intervals, on the state of the St. Lawrence River and the changes it has undergone. The results of this monitoring program are disseminated on the St. Lawrence Action Plan website (<http://planstlaurent.qc.ca/en/home.html>) in a series of monitoring sheets, in an overview of the state of the St. Lawrence published every five years, and during the Rendez-vous St. Lawrence.

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Program


Wednesday, October 12, 2016

10:00 am	Welcome and coffee
10:45 am	Opening remarks, history of the State of the St. Lawrence Monitoring Program, objectives of the Rendez-vous St. Lawrence, and overview of the day's activities Hélène Bouchard, Environment and Climate Change Canada (ECCC) Patricia Robitaille, Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC)

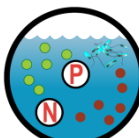


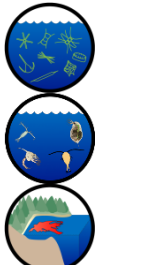
OVERVIEW OF THE STATE OF THE ST. LAWRENCE

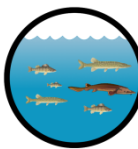






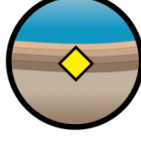
11:05 am	Overview 2014: A delicate balance Caroline Savage, ECCC
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STATE OF THE ST. LAWRENCE MONITORING INDICATORS: Evolution of a key species over time

11:20 am	 State of a small population of belugas in a changing environment Véronique Lesage, Fisheries and Oceans Canada (DFO)
11:35 am	Question period
11:50 am	Lunch provided on-site

UPDATE ON STATE OF THE ST. LAWRENCE MONITORING INDICATORS: Simultaneous sessions

	Room A: Freshwater ecosystem functioning		Room B: Marine ecosystem functioning	
13:15 pm		Water quality in the fluvial sector: Physicochemical and bacteriological parameters, 2000–2014 Serge Hébert, MDDELCC		Recent trends in physical conditions in the Estuary and Gulf of St. Lawrence Peter Galbraith, DFO
1:30 pm		What do the St. Lawrence benthic communities reveal about the state of aquatic ecosystems? Alain Armellin, ECCC		Recent trends in chemical oceanographic and biological conditions (phytoplankton, zooplankton and toxic algae) in the Estuary and Gulf of St. Lawrence Michel Starr, DFO

1:45 pm		Health status of freshwater fish in the St. Lawrence Marc Mingelbier, MFFP		Status of invasive aquatic species in the St. Lawrence marine environment Nathalie Simard, DFO
2:00 pm	Question period for all three presenters		Question period for all three presenters	
2:15 pm	Coffee break			
	Room A: Freshwater ecosystem functioning (continued)		Room B: Contamination by toxic substances	
2:45 pm		Evolution of land cover along the St. Lawrence, 2000–2015 Guy Létourneau, ECCC		Water quality monitoring: Toxic contaminants Myriam Rondeau, ECCC
3:00 pm		Freshwater wetlands: 2012 status report Martin Jean, ECCC		Water quality in the Richelieu and Yamaska rivers: Contamination by toxic substances Denis Laliberté, MDDELCC
3:15 pm		Monitoring of invasive exotic plants in St. Lawrence wetlands, in cooperation with communities Isabelle Simard, MDDELCC		Lake Saint-Pierre sediments: Legacy and emerging contaminants Magella Pelletier, ECCC
3:30 pm	Question period for all three presenters		Question period for all three presenters	
3:45 pm	Recap of the day		Recap of the day	
4:00 pm	Networking and collaborators' presentation of posters pertaining to issues			

Thursday, October 13, 2016

8:30 am	Welcome and coffee
9:00 am	Opening remarks and explanation of the morning's activities Hélène Bouchard, ECCC, and Patricia Robitaille, MDDELCC
ENGAGING COMMUNITIES TO IMPROVE THE ST. LAWRENCE: Experiences to share	
	Freshwater presentations – Role of communities
9:05 am	Status of Japanese knotweed in the Greater Montreal area Ophélie Drevet, Des Seigneuries ZIP Committee
9:20 am	The Saint-Éloi marsh: Wildlife developments in agricultural areas Mylène Vallée, Deux-Rives ZIP Committee
9:35 am	Question period for both presenters
9:50 am	Coffee break
	Marine presentations – Role of communities
10:15 am	Characterization of wetlands and invasive exotic species in the Charlevoix region, 2014–2015 Joanie Bélanger, Saguenay–Charlevoix ZIP Committee
10:30 am	Experimental restoration of an eelgrass bed in Mitis Bay Étienne Bachand, Sud de l'Estuaire ZIP Committee
10:45 am	Study of surface currents using drifting buoys in Chaleur Bay Geneviève Lemoyne, Baie des Chaleurs ZIP Committee
11:00 am	Question period for all three presenters
STATE OF THE ST. LAWRENCE MONITORING PROGRAM: INFORMATION DISSEMINATION PRODUCTS	
11:15 am	Small-group discussions about the dissemination products: monitoring sheets and overview
12:00 pm	Lunch provided on-site
OVERARCHING ISSUES RELATED TO THE STATE OF THE ST. LAWRENCE: Presentations and Discussions	
1:30 pm	Freshwater issue: Restoring the Lake Saint-Pierre ecosystem: A critical challenge for the St. Lawrence River Philippe Brodeur, MFFP
2:00 pm	Questions and discussion (freshwater issues)
2:15 pm	Marine issue: Developing ecosystem indicators for the marine sector of the St. Lawrence Yvan Lambert, DFO
2:45 pm	Questions and discussion (marine issues)

3:00 pm	Recap of both days / plenary session
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3:30 pm	Closing remarks Hélène Bouchard, ECCC, and Patricia Robitaille, MDDELCC
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Presentation summaries and biographical notes

Alain Armellin

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Project Manager, Aquatic Plants and Animals

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

After studying biology at the Université du Québec à Montréal (UQAM) and environment and prevention at the Université de Montréal, Alain Armellin joined the Water Science and Technology Directorate of ECCC, where he has worked as a specialist in biomonitoring of water quality since 2004. He has coordinated the activities of the Canadian Aquatic Biomonitoring Network (CABIN) in Quebec since 2006.

What do the St. Lawrence benthic communities reveal about the state of aquatic ecosystems?

Benthic invertebrates show a wide range of sensitivities to physical, chemical and biological disturbances. Monitoring the variations in their diversity and abundance is a way of evaluating the integrity of freshwater aquatic ecosystems. This presentation focused on the temporal variations in the health of aquatic ecosystems in Lake Saint-Pierre from 2004 to 2014. During that period, more than 241 invertebrate genera were studied in Lake Saint-Pierre. The lowest abundance was observed in 2006; the highest, in 2012.

Serge Hébert

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Coordinator of Water Quality Monitoring in Watercourses

Direction générale du suivi de l'état de l'environnement

Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDDELCC)

After studying biology and water sciences at Université Laval and the Institut national de la recherche scientifique – Centre Eau Terre Environnement (INRS-ETE), Serge Hébert became a water quality specialist with MDDDELCC's Direction générale du suivi de l'état de l'environnement [State of the Environment Monitoring Branch] in 1991. Currently, he coordinates the network for monitoring water quality in watercourses, and he has conducted numerous studies on water quality in the St. Lawrence.

Water quality in the fluvial sector: Physicochemical and bacteriological parameters, 2000–2014

For the years 2012 to 2014, water quality in the St. Lawrence was rated as moderate–good; 52% of the 27 monitoring sites had good water quality according to IQBP₅. From 2000 to 2014, the situation did not change much: the percentage of sites whose water quality was considered good or satisfactory hovered around 81%. The percentage of sites with poor or very poor water quality decreased, from about 13% between 2000 and 2007 to about 8% between 2008 and 2014.

Marc Mingelbier

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Research Biologist in Aquatic Ecology

Direction de l'expertise sur la faune aquatique

Ministère des Forêts, de la Faune et des Parcs (MFFP) du Québec

Marc Mingelbier is a research biologist in aquatic ecology who has worked since 1996 for what was then Quebec's Ministère responsable de la Faune (now the Ministère des Forêts, de la Faune et des Parcs). His work focuses largely on fish habitat in the St. Lawrence and involves analyzing historical landings of fish, designing spatial models of fish habitat to study the effects of climate change and of flow regulation in the St. Lawrence, studying the biological productivity of managed marshes in the St. Lawrence floodplain, and designing new multi-species fish ladders.

Health status of freshwater fish in the St. Lawrence

Fish communities in the St. Lawrence are spatially disparate and temporally dynamic. Their dynamic nature can be explained by factors including the natural characteristics of the habitats and disturbances caused by human activity. It is important to understand the effects of these factors in order to correctly interpret the temporal fluctuations observed in the fish communities. The results of 20 years of monitoring the St. Lawrence reveal some issues that affect the entire system and others that have regional-scale impacts. This presentation reports on the health status of freshwater fish in the St. Lawrence, based on indicators related to the fish community, certain harvested stocks and important habitats, and it paints a picture of the major pressures acting on these components of the St. Lawrence ecosystem.

Magella Pelletier

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Sedimentologist

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

Magella Pelletier has a bachelor's degree in geology from Université Laval and a master's in environmental geology from INRS. He has worked as a sedimentologist at ECCC since 2001. He is currently responsible for monitoring sediment quality in the St. Lawrence and for the Chemical Management Plan (CMP) at the national level. He has conducted a number of studies on the fluvial lakes in the St. Lawrence and on emerging substances of concern.

Lake Saint-Pierre sediments: Legacy and emerging contaminants

The sediments in Lake Saint-Pierre have been monitored for more than 30 years. In a new sampling campaign in 2013, about 100 samples were taken, mostly in the northern part of Lake Saint-Pierre and in the channels of the Sorel Islands and the Berthier Islands. The chemical results for legacy contaminants show recovery of the environment in recent decades, in terms of metals and polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). Recent assessments of contaminants of emerging concern show relatively high levels of sediment contamination by PBDEs and provide a first glimpse of the situation for siloxanes, phthalates, triclosan and BPA.

Myriam Rondeau

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Senior Specialist in Fluvial Geochemistry

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

After completing a bachelor's degree in geology and a master's in geochemistry at UQAM, Myriam Rondeau started working at ECCC in 1990 as a water quality project manager. She was particularly interested in the presence and transport of contaminants in the St. Lawrence. Since 2006, she has been a senior specialist in fluvial geochemistry, and she is involved in many water quality projects in Canada.

Water quality monitoring: Toxic contaminants

Contaminants were monitored between 2006 and 2011 at four stations in the St. Lawrence and the Ottawa River. Analysis of the results for metals, pesticides, pharmaceutical and personal care products, and polybrominated diphenyl ethers (PBDEs) showed few exceedances of the quality guidelines for protection of aquatic life. Overall, at the four stations sampled, the results were in the moderate–good category. The PBDE concentrations showed a downward trend, but the levels of estradiol are cause for concern.

Denis Laliberté

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Aquatic Environment Analyst

Direction du suivi de l'état de l'environnement

Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) du Québec

Denis Laliberté has been an aquatic environment analyst at the MDDELCC's Direction du suivi de l'état de l'environnement [State of the Environment Monitoring Branch] since 1980. His work focuses on evaluating contamination of aquatic environments by toxic substances.

Water quality in the Richelieu and Yamaska rivers: Contamination by toxic substances

The data show the changes over time (2001 to 2013) in concentrations of PCBs, PAHs, PCDD/Fs and PBDEs in the waters of the Richelieu River at Sorel-Tracy and the Yamaska River at Saint-Hyacinthe.

Peter Galbraith

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Research Scientist in Physical Oceanography

Ocean and Environmental Science Branch

Fisheries and Oceans Canada

Peter Galbraith is a physical oceanography researcher whose focus is winter conditions affecting the water masses in the Gulf of St. Lawrence and their continued effect on oceanographic conditions during the following summer. He is a member of the Atlantic Zone Monitoring Program (AZMP)'s permanent coordinating committee and is responsible for delivering his scientific program for Quebec Region. Every year, with the help of collaborators, he writes a research document on the physical oceanographic conditions in the Gulf of St. Lawrence.

Recent trends in physical conditions in the Estuary and Gulf of St. Lawrence

Certain oceanographic conditions in the Gulf of St. Lawrence are considered, and their status is combined in a single indicator. The temperature of the three layers of water in the Gulf (surface layer, cold intermediate layer [CIL] and deep layer), the state of hypoxia and acidification in the

St. Lawrence Estuary are studied. Deep water temperatures are the highest seen in 100 years, while record levels of hypoxia and acidity (pH) have been observed in the Estuary.

Nathalie Simard

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Senior Biologist

Fisheries and Oceans Canada

Nathalie Simard has a bachelor's degree in biology (1988) and a master's in marine ecology from the Université Laval (1994). As a senior biologist, she coordinates Fisheries and Oceans Canada's aquatic invasive species (AIS) monitoring program in the Quebec Region and participates in numerous AIS research projects.

Status of invasive aquatic species in the St. Lawrence marine environment

Results from an index of aquatic invasive species in Quebec's marine sectors will be presented and the situation of these species assessed.

Isabelle Simard

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Coordinator, Invasive Exotic Plant Species

Direction du patrimoine écologique et des parcs [Ecological Heritage and Parks Branch]

Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) du Québec

Isabelle Simard has a Ph.D. in environmental science from the Université du Québec à Chicoutimi. She has been coordinating the invasive exotic plant species file at MDDELCC since 2006. She is currently setting up detection and monitoring networks for invasive exotic plants and developing awareness and prevention tools for limiting the introduction and spread of invasive exotic species.

Monitoring of invasive exotic plants in St. Lawrence wetlands, in cooperation with communities

A number of introduced species are impacting wetlands along the St. Lawrence. Since 2007, communities have been monitoring spread of the most problematic species. This presentation focuses on the trends observed, the sectors that are most affected and the sectors to watch.

Caroline Savage

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Environmental Indicators Specialist

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

Caroline Savage has a bachelor's and a master's degree in biological sciences from the Université de Montréal and has worked at ECCC since 2002, including stints as a plant ecology specialist and a geomatics specialist. She has participated in a number of projects, including the International Joint Commission's research on the impact of water level fluctuations on marsh bird habitat along the St. Lawrence. She has collaborated on wetland, invasive plant, and benthic macro-invertebrate monitoring projects. Currently, her primary area of research is the development and integration of environmental indicators for the St. Lawrence Monitoring Program.

Overview 2014: A delicate balance

For the third time, the Working Group on the State of the St. Lawrence took up the challenge of producing an overview of the state of the St. Lawrence as called for in the Canada–Quebec

Agreement on the St. Lawrence, also known as the “St. Lawrence Action Plan 2011–2026.” In the report, the group incorporated the findings obtained by many scientists belonging to organizations involved in implementing the State of the St. Lawrence Monitoring Program.

Guy Létourneau

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Project Manager, Remote Sensing

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

Guy Letourneau has a bachelor's degree in physical geography and a master's in geography and remote sensing from the Université de Sherbrooke. He has worked at Environment and Climate Change Canada since 1991, managing remote sensing projects. He is responsible for two indicators used in the State of the St. Lawrence Monitoring Program: wetland composition and land cover. He also works on implementing water quality monitoring by remote sensing in some waterbodies.

Evolution of land cover along the St. Lawrence, 2000–2015

Land cover along the St. Lawrence is constantly changing. An analysis of watersheds selected on the basis of the results compiled in the most recent monitoring sheet was carried out in order to better understand the pressures exerted by changes in land cover on water quality in the St. Lawrence. Land cover maps from 2000 and 2015 were compared to identify changes and determine the status of this indicator.

Michel Starr

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Michel Starr is a research scientist in biological oceanography at Fisheries and Oceans Canada's Maurice Lamontagne Institute. His research focuses on human-induced disturbances of the pelagic ecosystem in the Gulf of St. Lawrence, particularly eutrophication and acidification, but he is also interested in the ecology of toxic algae. He is involved in the Atlantic Zone Monitoring Program (AZMP) and is a member of a number of working groups of the International Council for the Exploration of the Sea (ICES).

Recent trends in chemical oceanographic and biological (phytoplankton, zooplankton and toxic algae) conditions in the Estuary and Gulf of St. Lawrence

The presenter reviews recent trends in oceanographic conditions, both chemical (nutrients and acidification) and biological (phytoplankton and zooplankton), in the Estuary and Gulf of St. Lawrence. The main source of the information is Fisheries and Oceans Canada's Atlantic Zone Monitoring Program. This program was set up to monitor the state of the marine ecosystems in the North Atlantic, including those of the Estuary and Gulf of St. Lawrence. Although the AZMP was only created in 1998, it encompasses monitoring programs begun long before then, including the oceanographic monitoring program at the Rimouski station (launched in 1990) and the program for monitoring toxic and harmful algae (launched in 1989).

Véronique Lesage

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Research Scientist, Marine Mammal Biology and Conservation

Fisheries and Oceans Canada

For 16 years, Véronique Lesage (Ph.D.) has worked at Fisheries and Oceans Canada (DFO)'s Maurice Lamontagne Institute in Quebec as a research scientist specializing in cetacean ecology, especially the ecology of species at risk. She has been studying the beluga whale and other

marine mammals for 25 years. Most of her work focuses on the ecology and behaviour of belugas and baleen whales. She is the lead author of three assessment reports on the status and biology of the St. Lawrence Estuary beluga and has published about 30 scientific articles and written more than 50 reports and scientific advisory documents for DFO, half of them on the Estuary and Arctic beluga populations.

State of a small population of belugas in a changing environment

The St. Lawrence Estuary beluga population was devastated by hunting in the 20th century, which led to the species being protected in the early 1980s. But despite that protection, the population has seen little or no growth in the intervening decades. In 2008, 2010 and 2012, the abnormally high mortality of newborn calves led to an in-depth review of the situation, which revealed that this population is declining by about 1% per year. Multiple factors may be contributing to the belugas' decline; Dr. Lesage has examined pollutant loads, changes in the abundance of potential prey, warming of the environment, the increase in recreational and tourism activities, and occasional toxic algae blooms.

Yvan Lambert

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Director

**Demersal and Benthic Science Branch
Fisheries and Oceans Canada**

Yvan Lambert has a Ph.D. in biology from Université Laval. He is the Director of the Demersal and Benthic Science Branch at the Maurice Lamontagne Institute, Fisheries and Oceans Canada's research centre for Quebec Region. He directs and manages assessments of groundfish and marine invertebrates in the Estuary and Gulf of St. Lawrence Gulf, as well as directing research programs on groundfish, marine invertebrates, aquaculture and aquatic invasive species in marine environments for the Quebec Region.

Developing ecosystem indicators for the marine sector of the St. Lawrence

Significant changes in oceanographic conditions in the Estuary and Gulf of St. Lawrence have been observed in recent years. According to various climate scenarios, those changes are expected to increase in frequency and intensity in the future. The composition and structure of the St. Lawrence ecosystem will inevitably be modified by these variations in environmental conditions. Hence the need to design different indicators for tracking changes in the state of the ecosystem. An analysis of the various marine species monitoring programs will be conducted to identify the ecosystem indicators that could be useful for assessing and monitoring the state of the St. Lawrence.

Philippe Brodeur

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Biologist

Director of Wildlife Management, Mauricie and Centre-du-Québec

Ministère des Forêts, de la Faune et des Parcs du Québec

Philippe Brodeur has a master's degree in environmental science from the Université du Québec à Trois-Rivières (UQTR), where he wrote his thesis on control of the white sucker in brook trout lakes in Quebec. He has been a biologist for the Ministère des Forêts, de la Faune et des Parcs since 2002 and is currently working on monitoring and managing fish populations in the St. Lawrence in the Mauricie and Centre-du-Québec regions. He has participated in a number of studies of the health of wetlands and fish communities and in habitat enhancement work on the St. Lawrence floodplain.

Restoring the Lake Saint-Pierre ecosystem: A critical challenge for the St. Lawrence River

The yellow perch population in Lake Saint-Pierre has seen a major decline since the mid-1990s. The situation has become so critical that the Government of Quebec declared a five-year moratorium on commercial and sport fishing of the species. The decline of the yellow perch in Lake Saint-Pierre has become an indicator of the ecosystem's deterioration. A recent study indicates that the yellow perch in Lake Saint-Pierre are in poorer health than those in other sectors of the St. Lawrence, likely because of poor water quality or insufficient food resources. By bringing together all of the expertise available and creating a common vision, the parties involved will be able to take effective, sustainable measures to restore fish habitat and fish populations in Lake Saint-Pierre.

Martin Jean

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Project Manager, Wetlands

Water Quality Monitoring and Surveillance

Environment and Climate Change Canada (ECCC)

Martin Jean has a Ph.D. in biological sciences from the Université de Montréal and has worked for ECCC since 1993. He has been a specialist in wetlands biomonitoring at ECCC's Water Science and Technology Directorate since 2002. He has managed many wetland and invasive plant monitoring projects and has collaborated on monitoring benthic macro-invertebrates. Currently, most of his work involves biological monitoring, information integration and dissemination, and quality assurance for environmental monitoring projects.

Freshwater wetlands: 2012 status report

The surface area of freshwater wetlands indicator was modified to incorporate four components: direct anthropogenic pressure on the surface area; the internal dynamics of wetlands; the diversity of wetland habitats; and the protection of wetlands from external stresses. The Boucherville Islands and Lake Saint-Pierre sectors were studied from the 1970s to 2010. The general state of the wetlands in those sectors is rated as moderate–good, and the overall trend is stable.

Joanie Bélanger

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Bureau d'écologie appliquée

Saguenay-Charlevoix ZIP Committee

Joanie Bélanger has acquired expertise in characterization of ecosystems and in botany by carrying out numerous ecological inventories in various regions of Quebec. She uses that expertise as a project manager at the Bureau d'écologie appliquée [office of applied ecology]. The subjects of her inventories have included rare plants, wetlands and invasive species. She is also interested in the preservation, transfer and promotion of plant-related knowledge. She conducted the wetland characterization and the inventory of clandestine dump sites in the Charlevoix region for the Saguenay-Charlevoix ZIP Committee during the 2014 inventories.

Characterization of wetlands and invasive exotic species in the Charlevoix region, 2014–2015

The project involved conducting an inventory of illegal dump sites and a characterization of wetlands in the St. Lawrence River corridor within the two RCMs in Charlevoix. It enabled the participants to produce an initial picture of the diversity and richness of the wetlands in this part of the St. Lawrence and to evaluate the problem of invasive exotic species in this corridor.

Étienne Bachand

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Assistant Director

Sud-de-l'Estuaire ZIP Committee

Étienne Bachand has a master's degree in coastal geomorphology from the Université du Québec à Rimouski. He joined the ZIP Committee team in 2010 as a project manager and has held the position of Assistant Director since 2014.

Experimental restoration of an eelgrass bed in Mitis Bay

In October 2013, the Sud-de-l'Estuaire ZIP Committee launched an experimental project to restore 1,300 eelgrass (*Zostera marina* L.) plants in Mitis Bay. The project involved testing three transplanting techniques and cultivation of eelgrass in continuous flow-through tanks.

Ophélie Drevet

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Project Manager

Jacques-Cartier ZIP Committee

Ophélie Drevet has a bachelor's degree in biological and ecological sciences from UQTR and a master's in water science from INRS-ETE. Her research focused on the metabolic consequences and subcellular distribution of the metals accumulated in juvenile perch exposed to a mix of cadmium and nickel. Ms. Drevet has acquired experience in various areas including agriculture, environmental education and ecotoxicology. After working for more than a year as a project manager with a watershed group, the Organisme de bassin versant du Témiscamingue, she joined the Des Seigneuries ZIP Committee team to pursue her career in water management.

Status of Japanese knotweed in the Greater Montreal area

From 2012 to 2015, the Jacques-Cartier ZIP Committee studied Japanese knotweed in order to halt its introduction and slow its spread. A characterization was carried out, methods of controlling the plant were tested, and awareness tools were prepared.

Mylène Vallée

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Director

Les Deux Rives ZIP Committee

Mylène Vallée is the Director of Les Deux Rives ZIP Committee. She has a bachelor's degree in geography and a master's in environmental science from the Université du Québec à Trois-Rivières. With her team, she coordinates a number of projects aimed at enhancement and conservation of the St. Lawrence River.

The Saint-Éloi marsh: Wildlife developments in agricultural areas

The wildlife development project in an agricultural area at the Saint-Éloi marsh is an initiative promoting synergy between several sectors of activity, including agriculture, municipal government, wildlife conservation and research. It is an example of a collaborative project that leads to action which is likely to benefit the different users of the site.

Geneviève Lemoyne

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Director

Baie des Chaleurs ZIP Committee

Geneviève Lemoyne has been the Director of the Baie des Chaleurs ZIP Committee for four years. She has a bachelor's degree in biology and has spent the past six years raising awareness of and promoting collaboration on environmental issues. Her work has involved a variety of projects, including preparing a water management plan, carrying out wildlife inventories, and mobilizing for action on climate change.

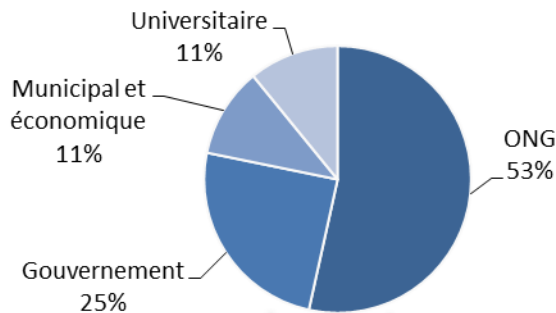
Study of surface currents using drifting buoys in Chaleur Bay

In response to citizens' concerns about plans to build a quarry, cement plant and marine terminal at Port-Daniel-Gascons and an oil terminal at the Port of Belledune, the Baie des Chaleurs ZIP Committee and the [Institut des sciences de la mer de Rimouski](#) (ISMER) collaborated on a project to deploy drifting buoys in order to characterize the drift and dispersion of surface waters, which are subject to the combined effects of wind, currents and waves, and to test the validity of Fisheries and Oceans Canada's forecasting model.

Feedback on the dissemination products

Here are the main points that emerged from the group discussion on the St. Lawrence Monitoring Program dissemination products (the monitoring sheets and the overview):

Type of data	Data presented and analyzed in maps and other graphics, at the site scale, is the type of information that client groups find most useful.
Participation	56 people participated in the workshop on the dissemination products, held on the second day of the Rendez-vous St. Lawrence, and 53% of them represented NGOs.



Complexity	Opinions were mixed concerning the level of complexity in the overview: about half the participants thought the information was clear enough, but almost 60% of the NGO representatives found it difficult to understand or only somewhat clear.
Publication	72% of the participants thought the monitoring sheets should be distributed no later than two years after the data are gathered.
Integration	The majority preferred integration by theme and by sections of the river; 70% of the NGO representatives would like to see integration by river section in the overview.
Visual elements	64% of the participants thought the proportion of visual elements included in the overview was appropriate.
Pictograms	69% of the participants thought the pictograms helped somewhat or a great deal in understanding the information about the indicators.

General

Many general comments were made during the workshop and in the survey. Similar percentages of comments were made about improvement of the indicators, the dissemination products, the dissemination tools, and the program.

Closing remarks

The co-chairs of the Working Group on the State of the St. Lawrence, who are responsible for the implementation of the State of the St. Lawrence Monitoring Program (SSLMP), wrapped up the event with a recap of the major issues raised during the two days of the Rendez-vous.

Regarding participation in and access to the event, the participants expressed interest in holding this type of meeting in order to get access to the most up-to-date data generated by the SSLMP. They also indicated that the audience for this activity should be broadened through other means of communication.

Rendez-vous participants also identified several general issues related to the SSLMP. For example, the comments received during the two days of activities highlighted the fact that a real challenge for the program is the integration and use of the environmental indicators, as a way of simplifying complex phenomena in scientific communication. The challenge lies in using these synthetic environmental indicators to access different levels of information, without compromising scientific rigour. A related issue facing the SSLMP is the accessibility of scientific data and the dissemination products. Enhancing the attractiveness and interactivity of communication products, facilitating access to scientific data and increasing the program's visibility poses considerable challenges for the SLAP's partners.

The presentations and discussions demonstrated that citizen science supplements the work carried out in the SSLMP. Communities' ongoing commitment to implementing monitoring activities, their knowledge of the territory and their ability to work together add value. These communities also relay information to client groups that are not priority target clienteles of the SSLMP.

The final session of the Rendez-vous St. Lawrence, which focused on overarching issues, highlighted science in support of action. As illustrated by the restoration of Lake Saint-Pierre, knowledge of existing pressures and their impacts is considered a sufficient basis for action, even if we can still improve our knowledge. In the marine sector of the St. Lawrence, the choice of indicators for monitoring changes in the state of the ecosystem in a context of climate change must enable us to guide decision making about fisheries management. That example illustrated the need for regular interactions between research and environmental monitoring.

To complement the work of the State of the St. Lawrence Monitoring Program, the participants expressed an interest in and a need for follow-up on the pressures applied and actions taken by the various stakeholders to improve the state of the St. Lawrence.

The participants are encouraged to follow the results of the State of the St. Lawrence Monitoring Program's work directly on the SLAP website and to mark their calendars for the next Rendez-vous St. Lawrence, planned for 2020.



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