

I N T U N E

Biodiversity

Two new habitat enhancement projects on the St. Lawrence: a historic site is revitalized and integrated coastal zone management projects are launched.

Agriculture

Positive findings on efficacy of reduced herbicide use in weed management.

Community Involvement

ZIP Chronicle

Quebec City and Chaudière-Appalaches ZIP Committee project to create new links between the north and south shores of the St. Lawrence River.

Two enhancement and integrated management projects for the St. Lawrence

Under the Biodiversity component of the St. Lawrence Vision 2000 (SLV 2000) Action Plan, the Habitats Subcommittee has included a large number of projects to promote the conservation and enhancement of St. Lawrence habitats in its program. This article profiles two of these projects. The first, revitalizing the Lachine Canal National Historic Site, is aimed at enhancing the river at the heart of an urban ecosystem. The second, a project to set up integrated coastal zone management committees, focuses on preserving the St. Lawrence by harmonizing uses of the river.

Restoring public access to The Lachine Canal National Historic Site of Canada, a rich part of our heritage

One of the objectives of the Habitats Subcommittee is to help restore public access to the St. Lawrence. The Lachine Canal revitalization project is in line with this objective. In spring 2002, thirty years after the canal closed, the locks will once again open to recreational boaters.

In the 1990s, Parks Canada began to consider the possibility of making the Lachine Canal navigable to pleasure craft. Several studies were done to address environmental concerns. Because the canal was the main artery of an intensely industrial area for over a century, Parks Canada had to decide what needed to be done about contaminated sediments on the canal bottom. Tests in 1998 and 2001 showed that having boats use the canal under normal conditions would not cause any significant resuspension of sediments.

The Lachine Canal revitalization project therefore went ahead, under the aegis of Parks Canada, with

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Installation of reinforcing steel and formworks, St Gabriel Lock
Photo by: Jean Mercier, Parks Canada

financial support from Canada Economic Development and Public Works and Government Services Canada. "The federal government has invested up to \$37 million in this project so far," explains François Granger, the Parks Canada official responsible for environmental issues related to the Lachine Canal National Historic Site. "In addition to laying the environmental protection groundwork, these organizations have made it possible to carry out such projects as refitting the locks and refilling the Peel Basin."

Excavating the Peel Basin alone cost \$7 million. More than 250,000 m³ of earth were moved to return the basin to its original shape and restore another part of Montreal's rich heritage as a shipping port. In order to limit the impact on species living in the canal habitat, as many as 9,000 fish representing 22 species were moved for the duration of the work. The Peel Basin will give boaters access to marinas and the general public access to the river.

In other work to protect the environment and stop contaminated sediments being exported into the St. Lawrence ecosystem, Parks Canada and Environment Canada have agreed to set up an environmental monitoring program along with an intervention plan when the Lachine Canal officially opens to navigation next May. If sediments do become resuspended, it may become necessary to take measures such as reducing the speed of boats or increasing the distance between them.

Testing the integrated approach to coastal zone management

It is the policy of Fisheries and Oceans Canada to invite those who live in coastal areas to take part in the decision making and planning that go into managing their zones. Therefore, the Department is providing financial and professional support for integrated coastal zone management projects

now running in five communities. Integrated management means managing all of the natural resources and activities in a given area as part of a whole. Users must develop and implement measures that encompass all of the ecological, economic and social considerations pertaining to their zones.

Fisheries and Oceans Canada first tested this approach on the Upper North Shore, in the marine estuary of the St. Lawrence. The Les Escoumins to Betsiamites River integrated coastal zone management pilot project assembled contributors from all sectors. These local stakeholders worked together to write an integrated management plan in 1998, and the measures recommended in the plan are now being carried out.

Bolstered by this success, Fisheries and Oceans Canada has supported the creation of four new integrated coastal zone management projects since 2000, in the Magdalen Islands, at Bonaventure and in Gaspé and Cascapédia bays. "It is interesting to see the role various Area of Prime Concern (ZIP) committees have played in setting up these projects," says Marie-France Dalcourt, of Fisheries and Oceans Canada. For example, it was the Magdalen Islands ZIP Committee that began the consultative process that led to the creation of five lagoon management committees to promote the harmonized use of these inland bodies of water and ensure that their ecosystems are preserved. The ZIP Committee now provides the lagoon committees with support.

On the Upper North Shore, the ZIP Committee for the north shore of the estuary has been collaborating on the Les Escoumins to Betsiamites River integrated coastal zone management project since its inception. The



Shellfish harvesters

Photo by: Îles de la Madeleine ZIP Committee

consultative process used to design the environmental remedial action plan and in integrated coastal zone management entails the statement of regional priorities. The ZIP Committee sees this kind of collaboration as a way of achieving its own objectives within the vast territory it serves.

The Chaleur Bay ZIP Committee is collaborating on three local integrated management projects. The Committee has been using its consultative expertise to direct the work of the Cascapedia Bay Integrated Management Committee. The Chaleur Bay ZIP Committee is also supporting the launch of the Bonaventure integrated coastal zone management project, as well as participating in the activities of the Gaspé Bay Committee.

"The ZIP committees have an excellent knowledge of the territory and have acquired invaluable expertise in how to bring about sustainable development. Their role in ensuring the success of integrated management projects is clearly vital," says Ms. Dalcourt.

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Using reduced amounts of herbicides—an additional weed management tool



Photo by: Valérie Chabot, Coopérative fédérée du Québec

Known to have a negative effect on water quality and habitats along tributaries of the St Lawrence River in agricultural areas, pesticides exert enormous pressure on the environment. As part of the agriculture-related activities of St Lawrence Vision 2000, researchers conducted studies to determine the effectiveness of consistently using reduced amounts of herbicides on large farms. The findings revealed that this practice was feasible and could become a component of a formal, integrated weed management program.

In Quebec, 70% of pesticides used in agricultural areas are employed to combat weeds. Corn crops alone, which cover almost 350,000 ha,

account for two-thirds of all pesticides used. Since 1992, Environment Quebec has been conducting a pesticide sampling program in rivers in intensive corn-growing regions. Herbicides have been detected in all rivers sampled. Concentrations are higher in rivers shortly after herbicides are used in the fields and can, in some cases, exceed the established criteria for the protection of aquatic life.

It was within this context that the Quebec Department of Agriculture, Fisheries and Food (MAPAQ) launched the Phytosanitary Strategy in 1992. One major goal of the Strategy is to reduce the quantity of pesticides used in agriculture in Quebec.

Less pesticide but the same yield—a viable solution

Using less herbicide in agriculture could help to improve the ecosystem of the St Lawrence and would also save farmers money. Using reduced amounts of herbicides in large-scale farming operations (grain, corn and soy) is in keeping with these objectives.

Using reduced amounts of herbicides means using less than the minimum amount recommended by the manufacturer on the product label. Manufacturers recommend specific amounts so as to guarantee the effectiveness of the herbicide in various situations, including sub-optimal application conditions. However, when optimal conditions exist, it appears that less than the recommended dose may, in the case of some herbicides, provide satisfactory results, i.e., crop yields are not reduced. Proceeding empirically, some Quebec farmers are already using reduced quantities of herbicides in their weed management programs.

Testing reduced quantities

With a view to determining the conditions under which farmers could adopt weed management practices that include reduced quantities of herbicides, researchers at Agriculture and Agri-Food Canada (AAC), MAPAQ and the Agri-Environment Research and Development Institute (ARDI) conducted a two-part research project in 1997 and 1998 with the help of the Federation of Quebec Producers of Cash Crops. The first part consisted in conducting effectiveness tests to determine the conditions under which reduced quantities could be used successfully. The second part used existing

information to create a searchable database for determining the likelihood of success in using reduced quantities of herbicides.

The researchers conducted experiments under controlled conditions in cornfields so as to determine the effectiveness of using various herbicides in quantities that were lower than those recommended on the product labels. Experimental fields were set up and monitored at two research centres, in St Hyacinthe and Deschambault, which were under the supervision of the ARDI and MAPAQ, respectively. Farmers in the St Hyacinthe region also conducted additional tests.

Under the study conditions, it was possible, in some cases, to reduce the recommended quantities of herbicide by up to 75% with no drop in yield; however, it should be noted that the findings are only valid for the weeds present in the studies. Some types of weeds are highly susceptible to herbicides, while others are far more resistant.

Researchers also conducted parallel studies to evaluate the effectiveness of reduced quantities mixed with vegetable oil or acid. Although no study had been conducted, these additives were presumed to increase the effectiveness of herbicides used in reduced quantities. The findings did not reveal any significant advantage to adding additives to the herbicides.

Determining reliability before acting

Finally, researchers studied various experiments, conducted primarily in Canada, into the use of reduced quantities of herbicides. Using the information collected, it was possible to create a database comprising

several thousand herbicidal treatments, including several pertaining to reduced quantities. The database may only be used for experimental purposes at this time. Nonetheless, it may be used to obtain a rough evaluation of the chances of success attributable to the use of reduced quantities of herbicides under the conditions specified in the search. Researchers now hope to verify the effectiveness of the database in field trials.

One approach among many... and a calculated risk

According to Claudel Lemieux, head of the soil, water and air research program at Agriculture and Agri-Food Canada's Soils and Crops Research and Development Centre, using reduced quantities of herbicides may serve as an additional weed management tool. This practice does not, however, lend itself to all types of farming operations. Producers who decide to adopt the practice must use it as but one component of a well-organized, integrated weed management program that includes a number of other measures (regular, careful identification of weeds present in the fields, crop rotation, mechanical weeding, etc.). Time and effort are required, and producers must be willing to accept the associated risks. Although the problems associated with using reduced quantities of herbicides are relatively minor when they occur, farmers have no recourse against phytosanitary product manufacturers or distributors. Caution is therefore required.

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Sources:

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Chronicle

ZIP Committees in
the Heat of the Action

The Quebec City and Chaudière-Appalaches Zip Committee



River ferry

Photo by: Quebec City and Chaudière-Appalaches ZIP Committee

Enhancing both shores of the St Lawrence River

In recent years, cyclists and hikers have been discovering the natural and cultural landscape of the St Lawrence River, thanks to the numerous multipurpose trails that have been opened on the shoreline. However, there are currently few means for people to cross the St Lawrence and thus discover both shores by means of organized trails. The Quebec City and Chaudière-Appalaches ZIP Committee conducted a study to evaluate the feasibility of setting up ferries on its territory.

Stunning vistas, natural habitats for riverside wildlife and plant life, villages known for their heritage value: a myriad of discoveries await visitors to the recreational corridors that run alongside the St Lawrence River on the territory of the Quebec City and Chaudière-Appalaches ZIP Committee. Designed for cyclists, hikers and, in some cases, in-line skaters, and used by residents and

tourists alike, the multipurpose trails contribute to the enhancement of the St Lawrence.

When cyclists and hikers wish to cross from one side of the river to the other, they can take the ferry between Quebec City and Lévis; however, many cyclists and hikers find using the bridges linking the north and south shores and Île d'Orléans to the mainland to be dangerous.

With the financial support of the Community Interaction program of St. Lawrence Vision 2000 and Croisières AML, the Quebec City and Chaudière-Appalaches ZIP Committee considered whether additional links could be added between the north and south shores for recreational trail users. The ZIP Committee thus began phase 1 of a project approved under the 1998 Quebec City/Lévis Sector Environmental Remedial Action Plan.

A new way to discover the St Lawrence

During the course of the study, close to 80 potential locations where cyclists and hikers could board ferries were considered. Based on the most appropriate boarding locations, a map of about 10 possible ferry routes was then drawn up. The routes were then analysed in accordance with a number of criteria, including facilities required for docking and loading, water levels at low tide, the type of ship required, the proximity of recreational trails and the quality of the experience to be offered.

The selected routes include links between the Irving Wharf in Sillery and the Chaudière Marina in St Romuald, Quebec City's Old Port and the Parc Nautique Île-de-Bacchus (on Île d'Orléans), and Domaine Joly-De Lotbinière and the Parc

Récréonautique de Portneuf.

Combined with the existing ferry service between Quebec City and Lévis, these new links would provide short, medium-length and long routes, and thus attract a wide variety of people.

The ZIP Committee set up an advisory committee comprised of regional players. The committee was mandated to choose, from among the available options, a pilot project for implementation. The advisory committee unanimously proposed the route linking the Chaudière Marina with the Irving Wharf. When combined with the Quebec City–Lévis ferry, the route created would measure about 20 kilometres. The total cost of building docks and a boat have been estimated at \$1.4 million.

“The many recreational trails along the banks of the St Lawrence are an important component of the projects which have thus far allowed residents and tourists to rediscover the river,” explains Hamida Hassein-Bey, Co-ordinator of the Quebec City and Chaudière-Appalaches ZIP Committee. “Setting up new ferry services is in keeping with the goal of enhancing the St Lawrence, and it should also generate additional spending on tourism in the region,” she continues, noting that the Montreal Region has three ferries operating between the bike trails on the north and south shores of the river.

When the concept was launched in October 2001, the ZIP Committee called upon regional players to join with the Committee in offering residents and tourists additional ways of enjoying the stunning panoramas of the St Lawrence. “The more we improve public access to the river, the more the public will come to appreciate and wish to preserve the St Lawrence,” concludes Ms Hassein-Bey.

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QUEBEC CITY AND CHAUDIÈRE-
APPALACHES ZIP COMMITTEE,
2001. *Concept de mise en valeur
du fleuve Saint-Laurent par des liens
interrives : navettes fluviales*, Québec
City and Chaudière-Appalaches ZIP
Committee, 93 pp. + appendix.
(Available from the Committee: \$35
[non-members] or \$30 [members]
plus handling.) ■

News *in* BRIEF

MAGDALEN ISLANDS ZIP COMMITTEE

On March 12, the Magdalen Islands ZIP Committee will validate its Environmental Remedial Action Plan (ERAP). The ZIP committee has produced 19 fact sheets that present projects on priorities for environmental action that came out of public hearings held in May 1999. The projects will be tabled for public validation at the meeting. The ERAP launch is planned for June 2002.

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SAGUENAY ZIP COMMITTEE

The Saguenay ZIP Committee will hold a press conference on Tuesday, February 26, 2002 at 1:30 p.m. at the Auberge des 21 in La Baie. The press conference is being held to announce the findings of the ZIP Committee's characterization study of the Gauthier River and the Ruisseau à Benjamin.

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