

Echoes from the Symposium

The success of the symposium *The St. Lawrence—for Life* which was organized jointly by the Association des biologistes du Québec (ABQ) and St. Lawrence Vision 2000 (SLV 2000), and held in Québec City from October 31 to November 2, 1996, gave the Communications Harmonization Committee the idea to publish this special edition of the newsletter *Le Fleuve* in order to report on the wide variety of viewpoints which cropped up during discussions on the St. Lawrence.

However, this issue is neither a summary on the symposium's workshops nor an exhaustive survey carried out with the many groups and agencies that are dedicated to improving the fluvial ecosystem. It must be viewed, and read, more as the fruit of an open discussion on some of the themes which aroused much interest during the symposium. Through interviews with representatives from scientific, environmental and industrial circles, we sought to ascertain what they thought of the condition of the river and present their viewpoints, which are undoubtedly shared by many of our readers.

We deliberately shied away from interviewing program managers, both from the federal and provincial governments, not because their opinion didn't carry weight, but because we really wanted to give the various interested parties from outside the government milieu the chance to express themselves. Several people to whom we spoke had been able to attend *The St. Lawrence—for Life*; others had not. What mattered was the interest all these people shared in endeavours to improve and enhance the river.

We divided the interviews into seven broad categories dealing with the environment of the St. Lawrence River:

- 1 COMPLETED PROJECTS AND FUTURE AVENUES OF PURSUIT
- 2 THE ROLE OF RESEARCH AND ON-SITE CLEAN-UP PROJECTS
- 3 RECOVERING FORMER USES OF THE RIVER
- 4 NONPOINT SOURCE POLLUTION OF AGRICULTURAL ORIGIN
- 5 ENDEAVOURS AND CONTRIBUTIONS BY THE INDUSTRIAL SECTOR TO IMPROVE THE ECOSYSTEM
- 6 VARIOUS MANAGEMENT APPROACHES
- 7 THE FEASIBILITY OF THE PUBLIC'S INCREASED RESPONSIBILITY FOR THE RIVER

Many topics and themes were not broached, due to a lack of time and room in this issue to discuss them. If you would like to add your comments or relate personal testimony on these themes, the "Letters to the Editor" column is open to all to enrich this discussion on the river. Write us, fax us your comments (418) 648-3859 or send us e-mail: dugas@cpque.am.doe.ca. We would like to hear from you!

Symposium
The St. Lawrence
for Life

Have They Borne Fruit?

Most people interested in the St. Lawrence River will tell you that its condition has improved over the past twenty years. But to what extent have past interventions done their job and in what directions should we be focussing future endeavours?

“Among the major successes of recent years,” comments Pierre Gosselin of the Centre de santé publique du Québec, and former Chair of the Union québécoise de conservation de la nature (UQCN), “we cannot ignore the mass of knowledge, the protection of habitats, and the strides taken by industry. We managed to stabilize a situation that had grown steadily worse over 75 years, ever since Québec first became industrialized.”

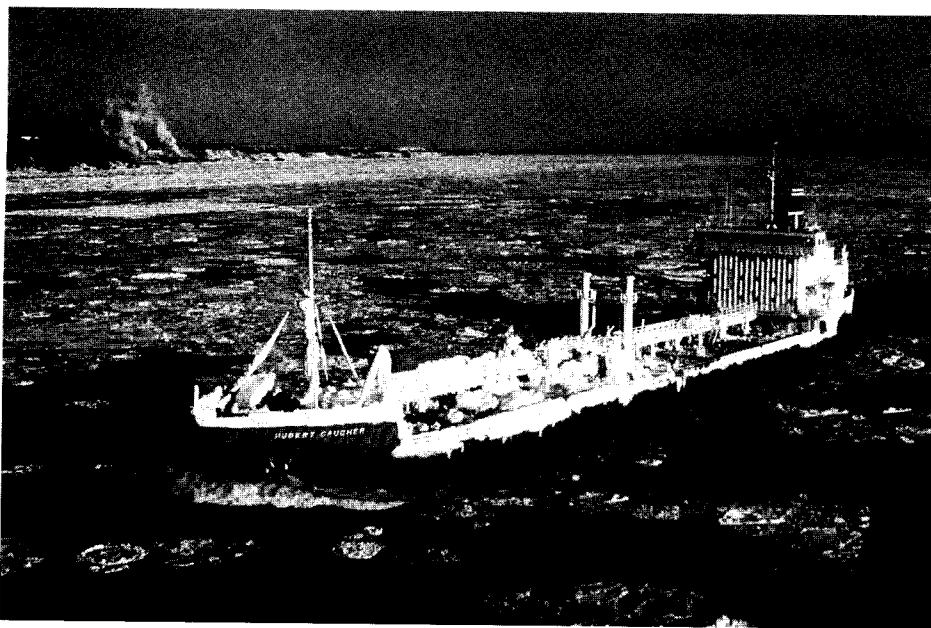
In the opinion of many convention-goers at *The St. Lawrence—for Life*, initiatives such as the Programme d’assainissement des eaux du Québec (PAEQ) (water purification program), the Priority Industrial Plant Program of St. Lawrence Action Plan (SLAP) and of SLV 2000—even though they allowed for a certain decrease in contamination levels of the river’s water—do not mean that we can stop worrying about the quality of the water. According to Jean Bédard, President of the Duvetnor Company and Professor of Biology at Université Laval, much more must be done than what has already been accomplished: “Take the example of wastewater sewage plants built in the past 2 decades in Quebec. Many of those plants don’t do the job properly. Also, the ministère de l’Environnement et de la Faune du Québec (MEF) is short-sighted and not strict enough. With industries, it was logical to start with those that dumped the most waste into the river. But there are many more plants that pollute the river than the one hundred priority plants surveyed by the SLAP and SLV 2000 programs. We must deal with them as well.”

Pierre Bertrand, President of the technological firm Argus and a geomorphologist by training, also broaches the aspect of industrial clean-up initiatives. “It seems to me that these programs, especially the SLV 2000, overly prioritized the toxic

approach, ignoring the biophysical aspect. I think that, in future, in view of the fact that industries are more sensitized to the issues and are doing more now, we should find new avenues and not hesitate to be more interventionist.”



Interventions to protect and conserve natural settings and wildlife have increased over the past 20 years.



Fisheries and Oceans

What seems to be unanimous is the fact that citizens, not just those living on the shoreline, are much more aware of the quality of the environment, in particular, the fluvial ecosystem, and are less reluctant to become more actively involved in their communities. "In the past few years, local ecological initiatives targetting the river have mushroomed," points out André Stainier, Chair of the Amis de la vallée du Saint-Laurent, "and not only in favour of recreational and tourism projects. Much is also being accomplished in the field of habitat conservation. There is a great source of creativity among the local population that we must tap into. Setting up ZIP committees has also been a good thing, since those committees have defined action plans that truly correspond to the needs and desires of the population." It does seem that the public's keenness leaves no doubt. "That is another one of the successful interventions of recent years," comments Pierre Gosselin. "We cannot deny that mentalities have changed a great deal."

Future avenues of pursuit

"The 1970s were years of consciousness-raising, the 1980s, legislation; the 1990s should be seen as the decade of intervention." Pierre Bertrand is convinced the time to act is upon us. The development of expertise in intervention projects is in fact one of the objectives of SLV 2000: "The philosophy underlying the intervention approach today is quite different from that underlying the conservation approach a few years ago," he adds. "Before, conservation meant we couldn't touch habi-

tats or natural sites. We now know that it is possible to intervene without threatening the ecosystems, thanks to effective ecological techniques." André Stainier also pleads in favour of action: "It seems to me that we have carried out enough studies to be able to act now, at least in several fields."

According to Pierre Gosselin, we should alter our approach to intervention by aligning it along the benefits that can be drawn from the river, not focussing solely on the risks that the river presents to our health: "We must invest in the irreplaceable ecosystems that support life. The risks that the river presents to our health are minor; we must take on a more positive outlook."

Much remains to be accomplished in the conservation of both natural environments and wildlife. "Between Trois-Rivières and Québec City," indicates Jean Bédard, "there are no protected sectors. In the sectors of Lac Saint-Pierre and Lac des Deux-Montagnes, there are very few. Research is still needed in the fields of wildlife and natural environments. Many species of fish and birds are still in difficulty, and the environments that are indispensable such as those at Kamouraska are still poorly understood."

In the words of André Stainier, it is not avenues for action that are lacking. "What would be important is the setting up of a management strategy according to each drainage basin, for all tributaries and the St. Lawrence. We also need to obtain the collaboration of the maritime transportation sec-

We also need to obtain the collaboration of the maritime transportation sector in the river's conservation; its absence is an aberration.

tor in the river's conservation; its absence is an aberration. Finally, we have not yet dealt with the problem of access to the river nor the aspect of landscape aspect in terms of quality of the environment. It is as if that aspect didn't exist."

Everyone is rallying behind the urgency to attack nonpoint source pollution of agricultural origin, but not just in any manner nor at any price. "I believe that actions must be prioritized in this field," insists Pierre Gosselin. "It's not true that all 40,000 farm producers are polluters. Something similar to what has been done for industrial wastewater, we must first of all intervene in the more problematic sectors, for instance, the hog industry." But this perfect unanimity in favour of intervention in the farming community makes Jean Bédard fear the worst: "While being convinced of the consequences of agricultural nonpoint source pollution on the river, I am against placing emphasis on it in a future Plan III to the detriment of the other intervention sectors. As it now stands, there is a multitude of environmental farming regulations: let the departments concerned start to implement them, and let us not put the axe to the programs that are working well—the ZIPs, natural environments—to invest in additional, pointless studies on farm pollution."

After twenty or so years of interventions of all kinds, the time has come for concrete accomplishments. "Governments will be judged harshly if they don't deliver the goods," Pierre Bertrand points out. "In my opinion, the public and partners will be highly critical if concrete actions are not taken."

Too Much or too Little?

The 1996 publication of the State of the Environment Report on the St. Lawrence River enabled many experts and the general public to see at what stage we were concerning our body of knowledge on the river. Some think that we know enough about it now, and that the time has come to act in many fields; others are of the opinion that there are still major gaps in our expertise and that research must not be curbed.

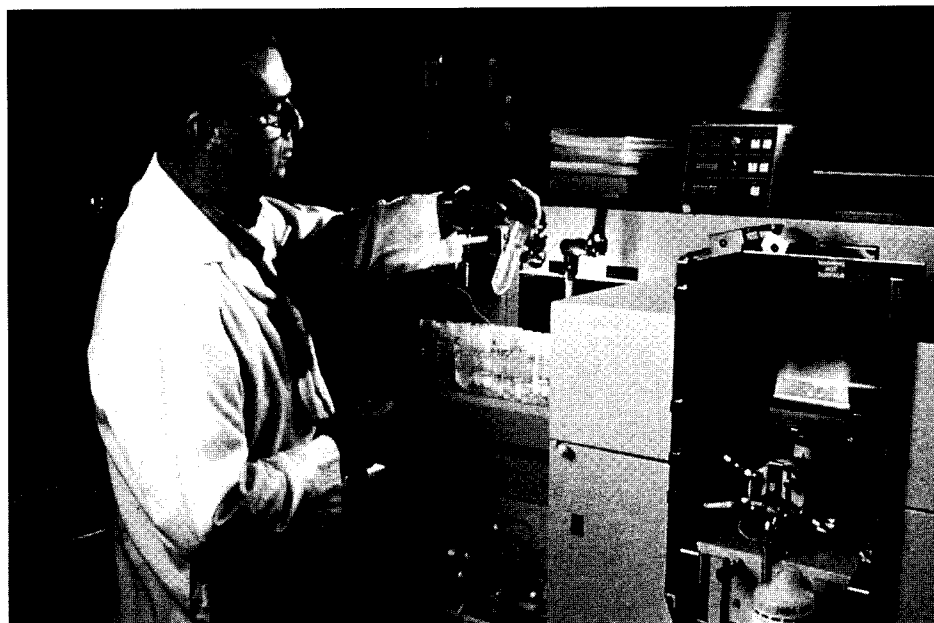
Action and knowledge: two avenues for action

"In my opinion, there exists an imbalance between the mass of knowledge available today and how it can be put to use in concrete actions on the St. Lawrence," declares André Delisle of Transfert Environnement. "I am aware that there are still broad areas with much less documentation, but I feel that we must give priority to empirical studies such as monitoring that are directed more at actions to be taken or that constitute solutions to problems that affect the public."

Can we oppose knowledge and action in an undertaking such as the cleaning up of the St. Lawrence? "Knowledge and action are not in opposition, they are two approaches that go hand-in-hand," explains Bernadette Pinel-Alloul, Biologist, Professor of Environmental Limnology and Toxicology at the Department of Biological Sciences at the Université de Montréal. "Knowledge is needed in order to ascertain what must be done. For example, environmental engineers are in a good position to pinpoint problems and identify solutions. However, if we want to come up with preventive measures, it becomes essential to have more fundamental knowledge at hand. Research and on-site action are therefore two avenues for action."

Less-explored paths

Depending on their field of expertise, researchers may have a vision that is very different concerning what remains to be done with regard to gathering knowledge on the St. Lawrence. "The question of the river's biodiversity is not very well documented as yet," mentions Edwin Bourget, Director of the



Yves Beaulieu/Photograph

Department of Biology at Université Laval, and member of the Groupe interuniversitaire de recherches océanographiques du Québec (GIROQ). "On the other hand, work is being carried out within SLV 2000 on the topic. (Note from the Editor: See the article on this topic called *A Portrayal of Biodiversity of the St. Lawrence* on page 5 in the preceding issue). "We also don't know much about tributaries, for instance, the Saguenay River, or the tidal river, that is the portion located between Trois-Rivières and Québec City, which is a fresh-water estuary with a tide. There are very few similar ecosystems in the world. We also know very little about the river bottom, and the same is true for plankton which has evolved very quickly over the past 5,000 years."

In the opinion of many, the river's biodiversity is indeed a field where much more remains to be done. "Much data in this field dates back 15 to 20 years," Bernadette Pinel-Alloul indicates. "Much more also remains to be discovered on the relations that exist between the contaminants detected in the St. Lawrence and level of risk they pose to the public's health and ecosystems." Pierre Payment, a microbiologist at the Armand-Frappier Institute and a water quality specialist, shares this opinion: "We have seen very little evidence on how this could have an influence on human health. Until now, epidemiological studies have been conducted with very specific populations, for instance, consumers of fish caught in the river. Of course, wide-scale epidemiological studies are expensive." In the area of water quality,

People are Searching for "Directions for Use"

Promoting access to and the enjoyment of rivers by entire population of a country is one of the sur-est foundations of economic and social progress.

Léonce Naud, geographer, in Écodécision, summer 1995

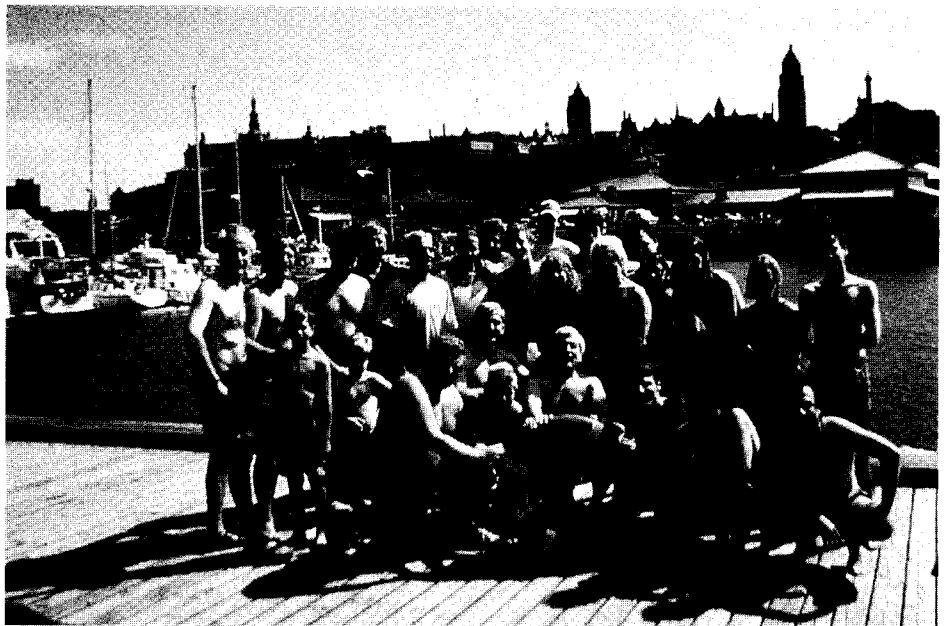
this specialist believes that our body of knowledge is sufficient, at least as far as urban wastewater is concerned: "The quality of what comes out of the wastewater treatment facilities of the CUM [in Montreal] is very low; wastewater is not disinfected, only a cursory job is performed. We have the technology to do more and do it better. At this stage, it becomes a question of choice for society."

"Generally speaking, the bio-ecological component was covered in much more depth than the socioeconomic sector," indicates André Delisle. "It seems that the social value of the river was not adequately taken into consideration."

Taking appropriate action

Many researchers are acutely aware of the need to update our expertise in modelling since it can be used to develop management tools to help in decision-making. "The eutrophication models designed for lakes, closed systems, are not applicable to the river, an open system", explains Bernadette Pinel-Alloul. "Impact studies require a great deal of data and modelling," adds Edwin Bourget. "We have to find models that respond to perturbations in the milieu and that will simplify decision-making, especially in matters of coastal development."

Overall, the people we spoke to readily acknowledge that research conducted on the river has been popularized in several publications for the general public. This is important, since communities need information that helps them pursue their own work in the field. According to Edwin Bourget, this popularization of scientific information is necessary to justify, for the public's benefit, the expenses incurred in research projects. Bernadette Pinel-Alloul goes further: "There should be even more popularized works, since it seems to me that the knowledge is still being shared by a relatively closed circle of people." Among the suggestions made during the workshop on our state of knowledge on the river at the symposium *The St. Lawrence—for Life*, the suggestion of making communities the focal point for discussions between scientists and grass-roots organizations is a step in this direction. Insofar as knowledge is a springboard for action, intervention requirements must guide research.



In Québec City, the time-old tradition of swimming within the city limits is back! Here, the founding group of the Association des Gens de Baignade at the Louise basin on August 24, 1996.

"In Quebec, there's been the river of historical accounts, the river of poets, the river of big money and... the river of fecal coliforms. Then appeared the river of whales, fish, birds, insects and plants of all kinds. As for me, a two-legged frog, held back behind the guardrails of a highway rising above the sea or confined to a pedestrian crossway—what use is left for me of the St. Lawrence?"

For the geographer Léonce Naud, a member of the International Association of Cities and Ports, the daily contact with and the enjoyment people have of the St. Lawrence are the next challenge facing the managers of this ecosystem. "Apart from tourism objectives comes the very exercise of democracy", he says. "In the United States,

for instance, the very strong doctrine of the Public Trust ensures people's enjoyment of the waterfront. Surprisingly, here, down through the centuries, we slipped through the holes of French law (the Colbert Edict) and British *common law* both, however, protecting public access to waterways."

Briefly put, work remains to be done in 1997, and that is exactly what the members of the Association des biologistes du Québec told one another at their 21st convention. "Downstream" from the pollution control interventions carried out over the past 20 years, now we feel the need to reestablish formerly popular activities such as swimming, fishing, pleasure boating and hiking along the shores for ordinary citizens. ►

Splash!

Léonce Naud is the founder of the Association des Gens de Baignade which, on August 24, 1996, performed a symbolic group dive into Québec City's Louise basin. One of the divers on the team was Dr. Éric de Wailly, a physician at the Centre de santé publique du Québec. "There are many areas in the river, even in the city, where the water quality now permits swimming," he explains. "I won't say that you can go in anytime or anywhere, but now it's possible to swim in the river again."

Given the idea people can return to a more "refreshing" use of the St. Lawrence, Dr. de Wailly suggests a new strategy for taking water samples. "Until now, he says, the ministère de l'Environnement has analysed the bacterial content of the water close to the plumes of sewage discharge with a view to restricting uses of the river. I suggest that we adopt a positive and proactive analysis strategy, that is, giving the green light to public bathing in certain locations at certain times."

Dr. de Wailly's suggestion brings food for thought to the Groupe d'initiatives et de recherches appliquées au milieu, or GIRAM, which, among other things, fights against prejudices maintaining the river is polluted everywhere. "Last summer, an analysis of the river water in the eastern sector of Lévis reported only 19 fecal coliforms per millilitre of water at high tide, and 26 at low tide," explains Gaston Cadrin, President of GIRAM. In the coming months, this organization plans on carrying out a series of 350 water analysis samplings between Saint-Nicolas and Saint-Michel. "With those results, we would be in a position to make a serious prognosis as to whether it is advisable to encourage swimming in certain areas."

Warning: private beach

Deciding to go swimming in the river is one thing. But how can you get to it? "Did you know that certain riverside municipalities provide no public access to the St. Lawrence?" Gaston Cadrin bemoans this situation: "There are very attractive beaches reserved for cottage owners who negotiated a renewable lease with the ministère des Ressources naturelles. This is the case in Beaumont."

This appropriation of a public resource by a privileged few is not unique—far from



Jean Burdon

it. "Marinas, quays, sheds and docking areas for recreational boaters are other examples of the river and its shores being cut off from the general public to the benefit of a small group," notes Léonce Naud. "Moreover, these private facilities are paid to a great extent by all taxpayers... who generally cannot take advantage of boating pleasures."

But things are changing. For some time now, the chances that average citizens might be tempted to go sailing on the river to see more of their country is increasing. Of course, there are commercial leisure cruises at affordable prices, but there are also educational initiatives such as those of the Québec City ZIP (priority intervention zone). "Since one of our objectives is making people more aware of the river and its immediate environment, every year we propose conference-cruises which encourage people to adopt new attitudes," explains Hamida Hassen-Bey. "The group also wants to improve citizens' access to the waterfront. With this in mind, the Tibbits creek, in Lévis, was cleaned up and we are currently completing an inventory of the riverside sites with community potential in the eight RCMs of the region."

Catching your own fish

The various uses of the river and its shoreline include sportfishing. "Our neighbours in Ontario are years ahead of us in this regard," points out Léonce Naud. "In Thunder Bay, for instance, you can buy a permit to go fishing on a boat on Lake Superior, take your catch home and eat it." However, industrial pollution has not spared the Great Lakes—far from it. "Twenty years ago, the lakes were dead," confirms the geographer. "But money was invested in the restoration of fish stocks and now the spinoffs of sportfishing in the region exceed five billion dollars."

According to Mr. Naud, this pleasant and profitable pastime for the community could be promoted here in Québec. "We could begin by making smelt fishing accessible to everybody, then striped bass fishing, a species living in the same habitat. With fishing, as with swimming, the hurdle is no longer pollution. The stumbling block comes from the difficulty in the natural renewal of stocks, because spawning grounds and habitats have often been disrupted by rockfill of all types," he explains.

The matter of fish stocks disappearing has taken a dramatic turn along Québec's north shore: in recent years, people have had to give up their traditional subsistence fishing. "The days when each family went to sea once or twice a year to fill up their freezer and treat their friends from the south are over," comments Claudette Villeneuve from the Baie-Comeau ZIP. Although pollution is not the origin of the problem, frustration in the community nevertheless runs deep. However, the mourning has not shaken the attachment people from the North Shore feel for the sea. "The first thing we do in the morning is gaze at the sea. Then we talk about it, we talk about the boats we see, the seals we catch glimpses of. When company comes, we take them down to the shore to walk along the rocks," explains Ms. Villeneuve. "Even though the population of the North Shore has never turned its back on the river, as many Quebecers have done further south, the initiatives to give back citizens the waterfront and the islands are still manifold in that region. In Baie-Comeau, the beach that used to be littered with wood shavings from the pulp and paper mill will soon be open to a variety of recreational activities such as hiking."

Through the testimonies of the various players of the St. Lawrence saga, there are a few paradigms. For instance: pollution is no longer a hurdle for people enjoying the river; citizens want to begin frequenting the river resuming past uses of it. The barriers that must be lifted consist in replacing the restrictive environmental, regulatory approach with a proactive one, raising elected officials' appreciation as to the public's right to enjoy the waterfront and the water, as well stepping up pressure from the public for the respect of the river as property belonging to all.

Urgent Call for a Global Approach

At the symposium *The St. Lawrence—for Life* held at the end of October 1996, many participants stressed the fact that agricultural nonpoint source pollution was a major source of contamination for Quebec's waterways. In fact, recent data compiled on the condition of our rivers reveal noticeable decreases in most pollutants, with the exception of those related to farming activities (e.g., nitrites, nitrates, phosphorous). In some regions, deficient farming practices are the culprit for most of the pollution in rivers, streams and lakes. "In the basin of the L'Assomption River, farming activities are the cause of 80% of the pollution," maintains Arthur Dubé, President of the group *À court d'eau* and Vice-President of Cogenor, one of the three manure surplus management agencies in Quebec.

A recognized problem

The Union des producteurs agricoles (UPA – Quebec's Farm Producers' Union) does not deny the magnitude of the problem. "The farming community is aware that changes must be made to agricultural activities at several levels," points out Laurent Pellerin, President of the UPA. "Quebec farmers have a real will to stick to and even speed up the transition to a "greener" agriculture." Laurent Pellerin stresses that farmers have invested a great deal in recent years to reduce the negative impact of their practices on the environment, and that the initiatives to promote sustainable development abound (e.g., fertilizer advisory clubs, integrated crop pest management, farm fertilizer enhancement).

However, Mr. Pellerin gives one warning: farm producers will not be alone in paying for a policy of sustainable development. Reminding us that "a deterioration in the environment due to farming activities is nevertheless the result of society's desire for a constant supply of high-quality farm produce (in uniformity and in perfection) at the lowest possible costs," the UPA chair insists that society as a whole must define the type of farming it wants for tomorrow. "Sustainable development in agriculture is a societal choice, backed by a societal contract", he notes.

The Réseau québécois des groupes écologistes (RQGE) already has a good idea of what society's choice should be. "For the next ten years, we recommend a transitional approach to Quebec farming towards biological production and regional food self-sufficiency, based on the existence of family and cottage farm businesses," declares Patrick Rasmussen, a spokesperson for the network. The RQGE is particularly opposed to mega hog farms. "Approximately 73% of the manure surplus comes from 405 hog producers who have a sales figure higher than \$500,000," specifies Patrick Rasmussen. "In the short term, we must have a moratorium on the creation of mega hog farms and view today's major producers as a priority target in pollution management initiatives." The RQGE is also calling for a tighter accounting of external outputs of hog production (i.e., risks of epidemics, water contamination and public health notices to boil water).

One of the RQGE's member organizations, the Groupe de recherche et d'intérêt public at the Université du Québec à Montréal (GRIP Québec-UQAM), which is a student organization—there are close to 70 GRIPs in North America—has launched a merciless campaign to denounce hog production methods. "Rather than handing out subsidies for this type of polluting industry," suggests Priscilla Gareau, a spokesperson for the Québec-UQAM GRIP, "the government should support farm enterprises that want to convert to biological farming."

Farm pollution now a major concern

If the debate on farm pollution has heated up a few degrees in recent years, ecologists and spokespeople from rural and farm communities agree on at least one point: the 48,000 Quebec farmers are not all big polluters. "The biggest problems come from huge concentrations of production which are operated in any which way," advances Jacques Proulx, President of *Solidarité rurale*.



Quebec farmers are not all big-time polluters. Indeed, they are stepping up initiatives in favour of sustainable development.

"Most producers are dedicated to protecting resources, but their credibility suffers due to the conduct of a minority." At the convention of the Association des biologistes du Québec (ABQ), Pierre Gosselin from the Centre de santé publique du Québec underlined the fact that it would be no doubt possible to devise priority actions for 4,000 to 5,000 farm enterprises. "Quite often", he remarked, "only a few simple changes are enough to improve the situation."

Nevertheless, for most of the parties involved in the farming and ecological circles, focussing on the most polluting businesses is basically a short-term strategy. In the long run, a more global solution is needed. "Since the past decade or so," remarks Arthur Dubé, "we have been calling for a drainage basin approach to management which would allow us to mobilize everyone to act in sync on all sources of pollution." Arthur Dubé believes that priorities should be determined based on the drainage basins most affected by pollution.

With the past reputation of a denouncer, the head of the group *À court d'eau* is now promoting dialogue to get things done. "In our region," he explains, "we are working closely with the UPA of Lanaudière to promote the introduction of agricultural techniques that are more environmentally friendly. Once the problems are clearly identified and acknowledged by all, it is easier to act."

Shared responsibility

However, certain policies of the past have no doubt left their scars on the farming community. "Until now, farmers have done what they have been asked in terms of protecting the environment and incorporating new production methods," Jacques Proulx points out. "If these measures have not produced the desired results, perhaps the people who demanded the changes might assume their share of responsibility." A similar opinion came from Patrick Plante of Ducks Unlimited at the recent ABQ convention: "The State is also an accomplice in the current state of affairs of agriculture. It gave subsidies to practically all the activities which contributed to the deterioration of farming areas."

Arthur Dubé also believes that the laws and regulations governing the rural regions—which are all too often contradictory—must be overhauled. "The past must not be used to justify inaction," he warns. "The right attitude would be rather to acknowledge the problem and take a united stand in finding solutions."

Jacques Proulx also suggests a certain cool-headedness is needed when discussing this topic. "I find it too bad that farm pollution has become the object of such a debate, and moreover that extremists, be they producers or ecologists, have been given so much say in the matter," he laments. For this defender of farmers and farming, the solution to the problem of agricultural nonpoint source pollution is probably somewhere in-between both extremes. "Citizens and farm producers must sit down together to discuss the possibilities," he explains. "Between a small, barely viable family farm and an agricultural mega-industry, there is a whole range of possibilities that would undoubtedly be environmentally friendly."

INDUSTRIAL pollution

Is Industry Doing its Share?

Since the inception of the St. Lawrence Action Plan in 1988, the reduction in toxic waste from industries has been in the forefront of clean-up operations on the river; this topic was brought up time and time again in workshops held at the symposium The St. Lawrence—for Life. We asked representatives of the industrial community to tell us if they believed industry had invested enough effort and how they are integrating environmental concerns today into their activities.

"**M**uch progress has been accomplished to date in clean-up initiatives of the St. Lawrence River and industries helped," declares Michael Cloghesy, President of the Centre patronal de l'environnement du Québec. "However, further effort is certainly required, but in taking into account the current context of the industries."

"Since 1981, the forest industry has been subject to three generations of environmental regulations," indicates Louis Désilets, Environment Director of the Association des industries forestières du Québec. "At the time, our industry had a very negative image in Quebec of being a polluter, and we had to invest a lot of time and energy in order to comply with the various regulations and to make known to the public our actions to integrate environmental considerations into our operating methods and manufacturing processes."

In the opinion of many environmentalists, the ecological transformation of the pulp and paper industry, in recent years, has been a success. "At the outset, the paper mills objected vehemently," points out Pierre Gosselin of the Centre de santé publique du Québec. "Now, they are using their environmental exploits in their marketing tech-

niques; in addition, their plants are more profitable. It's a big change."

According to Louis Désilets, the most important triggering element of the so-called "green revolution" was the 1988 discovery and publicity surrounding the presence of dioxins and furans in the effluents of certain pulp and paper mills. Pressure from public opinion forced governments to pass increasingly stricter regulations for an industry already suffering from the reputation, at the time, of the "biggest polluter in Quebec". "Reaction from the industry was similar to a patient who is told he is suffering from a terminal illness," interjects Louis Désilets. "Denial, anger, negotiation and depression preceded the acceptance of the problem and the industry taking action. From then on, it became possible to act in constructively, all the more so since the environment had become an inescapable element of our industry at the national and international levels."

"The aluminum industry adapted well to the new environmental restrictions," comments Christian Van Houte, President of the Association des industries de l'aluminium. "Here in Quebec, there were two types of plants: those built before 1980 and those built after 1980. There was obviously less



Industrial effluent treatment (foreground) at the Daishowa plant in Québec City.

The future lies in preventive management, i.e., a review of all manufacturing stages from the viewpoint of a more sustainable development.

a process to treat spent potlining—from tanks—which seems very promising. We will also replace plants that were built prior to 1980 and make sure that all the plants comply with ISO 14,000 standards. Respecting international environmental standards becomes increasingly necessary if we want to remain competitive on the global market.”

Like other industrial sectors, the forest industry is looking at what is being done in the other sectors. “Industry does not develop in a vacuum,” declares Louis Désilets. “It is not enough simply to regulate what happens inside the plants. We talk a lot about broadened approaches, for example, management according to drainage basins. Concerted effort is a must; everyone must sit around the table and each sector must pull its own weight.” Michael Cloghesy and Denis Faucher concur: “Everyone must contribute, not just industry. Take the farming sector as an example, which is less advanced in environmental concerns.”

At the industrial level, the future lies in preventive management, i.e., a review of all manufacturing stages from the viewpoint of a more sustainable development. Many firms also have environmental advisory committees on which representatives from the public or environmental groups sit, a mechanism which allows them to remain receptive to citizens’ concerns. Continuing this dialogue will certainly influence future events in the industrial clean-up sector.

effort to make with the more recent ones in complying with environmental standards since they were already using more environmentally sound technologies. Currently, all our plants comply with standards higher than those set by regulations.”

A more environmentally friendly and profitable management approach

By definition, industrialists are sensitive to anything that influences their activity sector. Grappling with the issues of cost rationalization and global competition, many realized that refusing to integrate environmentally friendly procedures might lead to short-term savings, but in the long term market pressure would not let up.

“We started to change our ways of doing things in the early 1980s,” states Denis Faucher, engineer and Technical Environmental Manager at PPG Canada, a firm that manufactures glass and chemical products in Beauharnois, south of Montreal. “We initially set up an effluent treatment system in 1984; then, in 1989, we built a new plant that used no toxic products. Along with these changes, we undertook, on a voluntary basis, the restoration of the old factory site. The restoration work is due for completion in the year 2000.”

In the words of Denis Faucher, a long-term vision is necessary when such an approach is taken: “The path was not overly arduous; of course, it’s more expensive for us now, but in the long run these changes will be profitable since we consume less energy and no longer use dangerous products. New technologies produce the best results.”

Impact on the river

The progress achieved in reducing toxic waste has been impressive since the inception of the St. Lawrence Action Plans. However, with regard to industrial clean-up efforts, André Delisle of Transfert Environnement offers: “We have now reached a second stage. At the beginning of the programs, we first attacked the ‘easiest’ targets such as reducing the toxic effluents of priority plants. Now, there are more difficult targets to attain. On an industrial level, this requires an environmental management approach that is more ‘fine-tuned’ and complex.”

Future action

“Over the coming years, the aluminum industry will develop a three-pronged approach to its ecological operations,” states Christian Van Houte. “We will target manufacturing waste treatment. Alcan has set up

Les produits forestiers Daishowa

What Management Approaches Should be Prioritized for the Coming Years?

Decentralization, partnership, community input, personal commitments, associative management... The flourishing of non-governmental agencies, the impact of initiatives by conservation groups such as Ducks Unlimited or the Fondation de la faune du Québec and the setting up of ZIP committees have wielded considerable influence in recent years on changing management approaches of the St. Lawrence.

Community involvement

Contribution from the community appears to many players, if not all, as a bid for success in ecological actions to be conducted. "Centralized decisions, taken in Québec City or Ottawa, do not correspond to the reality that is peculiar to each drainage basin of the tributaries, big and small, which flow in the St. Lawrence River," explains Normand Gariépy, head of the Société d'initiative et de conservation du Bas-Richelieu. "In my opinion, people want to take control of and participate in the management of their local environments, and they are in the best position to do so."

Bernard Beaudin, President of the Fondation de la Faune du Québec, agrees. "We adopted a basic line of conduct at the Fondation, in the sense that we gave priority to agreements of voluntary conservation initiatives with citizens. This type of agreement is working out very well, and has often been used in the field of wildlife resources. We believe that the model is entirely applicable to other sectors such as access to waterways, shoreline restoration, and the preservation of wetlands." Voluntary agreements are contracts, commitments, that citizens make with a local association with a view to carrying out a conservation project that influences the quality of life of the community. However, if we want to get results, these agreements must be drawn up according to the rules. "Experience has shown that a meeting of shoreline residents where the discussion lasts but a few hours is not enough for a project to get off

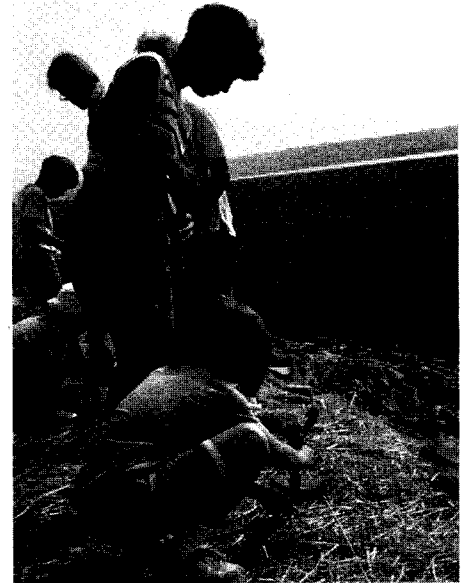
the ground," adds Bernard Beaudin. "It is better to meet the people on an individual basis to ask them to sign a firm agreement, even if that commitment has only a moral value; the fact that it is in written form and is signed gives it great importance. Generally speaking, it is much more respected. In addition, these agreements concern the environment in which people live and to which they can easily identify. That, too, is a condition for success of these initiatives."

A meeting point between a global approach and the grass-roots level

Identification. This word crops up regularly in the speech of many people and groups eager to see concrete results in projects carried out on the St. Lawrence. Many believe that the river itself is too vast an entity to effectively encourage participation and cooperation from citizens. "People want to look after what is happening in their back yards," explains Normand Gariépy. "When actions are carried out beyond their reach, people feel less concerned," adds Bernard Beaudin.

However, this feeling of community must not lead to a divvying up of actions, or losing sight of the overall plan. "We all want a river in good condition and to be able to resume most uses of it," remarks Marc Gagnon, General Manager of the Société de développement économique du Saint-Laurent, "but managers must still retain a global vision. Without having the ideal solution to balance out grass-roots initiatives and a global vision, I believe that decisions should still be taken by governments, but there must be a more consultative structure that allows individuals to make their views known."

Nevertheless, many people are looking farther ahead and believe it indispensable that communities have more than one say in this matter. "It is good to have five-year plans like the two St. Lawrence Action Plans (SLAP and the SLAV 2000), but the operational aspect of it must be handed over to the com-



Tree-planting under the Community Interaction Program.

munity through local initiatives," comments Bernard Beaudin. According to Guy Leblanc, mayor of Trois-Rivières and President of the Corporation de gestion et de développement du bassin de la rivière Saint-Maurice, the solution lies in the adoption of a veritable water management policy for the entire Quebec province, whose application would be conferred to the local authorities such as riverside municipalities. "We must respect the differences; the St. Maurice is not the Saguenay nor the St. François River." For the mayor of Trois-Rivières, the water management policy must be a policy of an integrated management of resources and uses: wood, fish, navigation, historical heritage...

A drainage basin approach to management

With the local initiatives of recent years, and aware of what is done elsewhere, especially in the United States, France and England, we are inevitably led to consider a drainage basin approach to management. This is seen as the most natural unit for an integrated water management scheme. The experience of the Comité de bassin de la rivière Chaudière (COBARIC), set up by the ministère de

l'Environnement et de la Faune du Québec (MEF), identified avenues that could lead Quebec to adopting a management approach based on drainage basins.

Grouping representatives from the municipal, farming, logging, industrial, government, tourism, environmental and public health sectors, COBARIC proposed eight major guidelines for a water management policy. "The floods of the summer of 1996 in the Saguenay heightened the awareness of the need to have a water policy based on drainage basins in Quebec," Pierre-Maurice Vachon points out, the former President of the COBARIC (now disbanded). "In our report to the MEF, we proposed that a drainage basin committee be set up for the Chaudière River that would have the mandate of preparing a master scheme for managing the entire basin, taking into account all uses of the river. As soon as a water policy is adopted for all of Quebec, we believe that the drainage basin committees should have the power to implement that policy within their drainage basin area." "Power" includes the notion of negotiation and tug-of-wars. "We are aware that this aspect of the report did not delight everyone," adds Pierre-Maurice Vachon, "but we are convinced that a drainage basin committee would not be a useless structure, rather a means through which to strike a management approach that would meet the public's needs."

Remarking that the St. Lawrence drainage basin is too vast to devise an efficient mechanism for cooperative action, Normand Gariépy instead proposes to proceed according to each tributary: "Each small tributary has its own concerns; the major tributaries such as the Richelieu River can pose problems if they are not divided into zones, somewhat like we did for the St. Lawrence with the Priority Intervention Zones, or ZIPs as they are known." Drainage basin committees do not yet exist, but the experience of the ZIPs for many were a very valid model for concerted effort. "Without wanting to reinvent the wheel," says Normand Gariépy, "we could seek inspiration from this experience when we want to set up forums on the smaller drainage basins." Setting up an efficient management system of the St. Lawrence drainage basin is undeniably one of the major challenges facing us in the years to come.

The **RESPONSABILITY** for the river

Is it Feasible for the Public to Become Responsible for the St. Lawrence River?

For Marc Hudon, President of Stratégies Saint-Laurent, the idea of having the public become responsible for the river is not only feasible, but unavoidable. "In the St. Lawrence Action Plans I and II, riverside communities were trailing behind the decision-makers. In a future Plan III, people want to be in on the discussions—they are ready." In his opinion, major expectations have been raised among the public, communities have been mobilized and expertise has been rounded up. The situation must now evolve.

The expectations Marc Hudon is speaking of do not seem to be evident everywhere. In the Haut-Saint-Laurent ZIP, the coordinator Claire Lachance deplores the fact that many people in the region live alongside the river on a daily basis... without really seeing it. But this observation does not mean giving up. "On the contrary," affirms Ms. Lachance, "certain experiences have shown that our community is progressing toward the reappropriation of the river and its waters. A group of sportfishers at Lac Saint-François, tired of waiting in vain for Hydro-Québec to install fish passes, decided to take the situation into their own hands." For some time now, these sports enthusiasts no longer speak of the fish they used to catch and disappeared species, they discuss the management of the water level and restoration of the habitat. "The association called Poissons Action Plus asked for a subsidy to conduct a study that would enable it to verify the quality of a recently discovered spawning ground. The sportfishers want to understand why there are no more walleyes less than five years old in the lake."

Their efforts to reappropriate the river for more than just traditional uses call for an overall comprehension of the issue. Claudette Lachance and her team are directing them to the municipalities. "Even if work remains to be done at that level, we are beginning to see results," she exclaims. "For instance, at Saint-Anicet where a ZIP member has been attending municipal council meetings for a year and a half, a farmers' committee was recently formed in a bid to improve the lake water."

In the Magdalen Islands, the situation is different still, since the attachment that island dwellers feel for the sea is practically at a cult level. "A good way to promote public participation is to focus on the pride these people have of their marine environment," comments Lucie d'Amours, Treasurer of the association called Attention Frag'îles. "In addition to this cultural awareness is the fact that the entire economic way of life centres around the river. That is a mighty motivation in itself."

According to Harvey Mead of the St. Lawrence Vision 2000 Advisory Committee, the concept of people taking responsibility for the St. Lawrence River must not overshadow certain responsibilities that do not lie with the population, but with industry. "We must focus on the concerted efforts between the various players," he says. "We must aim for a dialogue of society based on the recognition of the rights, capacities and obligations of all."

RECENT PUBLICATIONS

Population index estimate for the belugas of the St. Lawrence in 1995

Canadian Technical Report of Fisheries and Aquatic Sciences #2117, by Michael C.S. Kingsley, a marine mammal researcher at the Maurice-Lamontagne Institute of Fisheries and Oceans Canada. Copies may be obtained by contacting the Communications Branch of Fisheries and Oceans Canada at Québec City at (418) 648-7747, or at Mont-Joli at (418) 775-0526.

Symposium "Le Saint-Laurent pour la vie" (The St. Lawrence—for Life), organized jointly by the Association des biologistes du Québec and St. Lawrence Vision 2000

A summary of the round table discussions on intervention programs in the St. Lawrence and the plenary session on future avenues for action. Copies may be obtained, in French only, from the Coordination Office of St. Lawrence Vision 2000 by calling (418) 648-3444.

Industrial plants: highlights

A new series of 56 fact sheets on industrial plants was added to the list of priority plants at the launching of the St. Lawrence Vision 2000, in 1994. These 56 fact sheets are in addition to those previously published on the 50 priority plants targeted by the St. Lawrence Action Plan (SLAP) in 1988.

Also available is a new fact sheet called "The virtual elimination of toxic, persistent and bioaccumulative substances, a reality with St. Lawrence Vision 2000".

These documents, produced by the Protection Component of St. Lawrence Vision 2000, may be obtained by calling (514) 496-7319.

Qualité des eaux de la rivière Maskinongé et du Loup, 1979-1996

Patricia Robitaille, biologist, M.Sc., ministère de l'Environnement et de la Faune du Québec, February 1997, Catalogue No. 97-3568-01. Internet: <http://www.mef.gouv.qc.ca>

This *French-language* brochure presents the findings of a study on the quality of the Maskinongé and du Loup River basins, carried out with the use of data gathered between 1979 and 1996.

You may obtain a copy of the brochure from the Information Desk at the ministère de l'Environnement et de la Faune du Québec, 150, boul. René-Lévesque Est, Ground Floor, Québec City (Québec) G1K 4Y1, Tel: (418) 643-3127 or toll-free at 1-800-561-1616.

AGENDA

• From May 12 to 15, 1997

"Health Conference 1997 – Great Lakes/St. Lawrence". This international scientific conference, grouping some 450 researchers in the public health field, will deal with the effects of the environment on human health in the Great Lakes and St. Lawrence River basins. It will be held on next May 12, 13, 14 and 15 at the Sheraton Centre in Montreal. Health Canada, the ministère de la Santé et des Services sociaux du Québec, and the Agency for Toxic Substances and Disease Registry (United States) are the organizers for this first scientific conference to be entirely devoted to the Great Lakes and St. Lawrence River basins. You may obtain more information and a copy of the program by contacting the secretariat of the conference at (514) 287-1070.

• May 16 and 17, 1997

"Baie des Chaleurs: la mer qu'on doit penser". Public consultation on the Baie des Chaleurs, organized by the Baie des Chaleurs ZIP Committee. For information: Michel Chouinard and Éric Giguère, at (418) 759-5880.

LE FLEUVE

NEWSLETTER St. Lawrence Vision 2000

Le Fleuve is published by all the St. Lawrence Vision 2000 partners. It is distributed free of charge to individuals, companies and organizations concerned by the protection, conservation and restoration of the St. Lawrence River. To subscribe, you may contact Nancy Lainé at Environment Canada, 1141, route de l'Église, 6th floor, P.O. Box 10,100, Sainte-Foy, Québec G1V 4H5. Tel.: (418) 648-3444.

Management and Coordination:

Communications Component
St. Lawrence Vision 2000

Clément Dugas, Co-president
of the Communications
Harmonization Committee
Environment Canada

Yvan Bédard, Communications
Consultant
St. Lawrence Vision 2000
Ministère de l'Environnement
et de la Faune du Québec

Editing and Production:

Communications Science-Impact

These texts may be reproduced provided the source is indicated.



ISSN 0847-5334

Legal Deposit:

National Library of Canada
Bibliothèque nationale du Québec
1st quarter 1997

Le Fleuve est aussi disponible en français.

Canada

Québec