



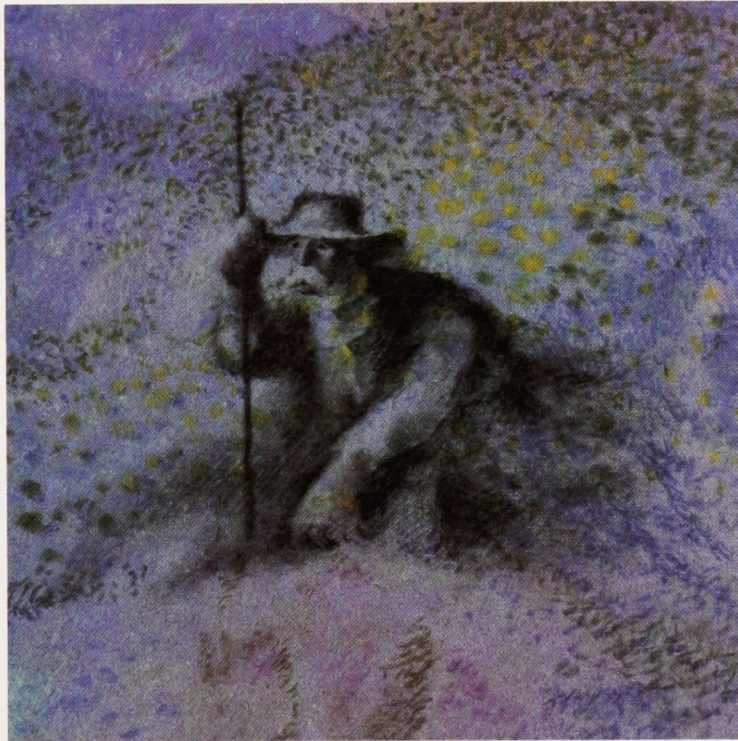
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E N V I R O N M E N T

Update

Volume 9, Number 2, December 1989



Canada

A Word from the Editor

This issue of *Environment Update* was prepared during high summer, and so it includes an article about Canada's great summer venues — the national parks. But the article deals with an element of park life that is unnoticed by the ordinary visitor: poaching.

Hunting is illegal in our national parks, but there are still those who venture into the preserves looking for meat and trophies. Bill C-30, passed last year, amended the National Parks Act to give the Canadian Parks Service a strengthened mandate to fight poachers, and in this issue we examine the efforts to stop poaching in Canada's parks.

Besides the national parks, other popular summer attractions for Canadians are the country's three major fairs, such as the Canadian National Exhibition in Toronto. For the past five years, the federal government has put on an exhibit, entitled *Bravo Canada!*, at these fairs. This year's display focussed on the environment.

A summer fair is a challenging place for such an exhibit — as one of the organizers said, it's hard to talk about the environment in a place where people come to buy candy floss and ice cream and have a good time — but the display turned out to be a great success. It didn't lecture people about environmental problems; it showed them how to get involved. Now the display has been taken back to Ottawa, and components will be touring other towns and regional fairs next spring. In this issue we include a report on the exhibit as it appeared at the CNE.

The organizers of the *Bravo Canada!* exhibit had the right idea. Environmental problems are so huge and pervasive that we can hope to solve them only through the combined efforts of many individual

citizens, companies, towns and organizations. The annual Environmental Achievement Awards, inaugurated by Environment Canada this year, recognize just this sort of individual action.

The awards celebrate the accomplishments of Canadians in six categories — outstanding contribution by a non-profit organization, corporate environmental leadership, environmental leadership by a municipality, excellence in environmental communication, lifetime achievement, and (for young people) excellence in an environmental science fair project. Winners of the 1989 awards are profiled in this issue of *Environment Update*.

One Canadian who has dedicated himself to the environmental cause is Frédéric Back, naturalist, artist and creator of the Oscar-winning animated film, *The Man Who Planted Trees*. Back's view of his own work is refreshingly down-to-earth. He prefers to think of himself as an "animalist" rather than a humanist, and says that one of his goals is to show that "you can do things that are interesting and significant even though you may be very ordinary yourself." Back is now at work on another film, based on the book *Des animaux malades de l'homme?* by the ecologist and writer Claude Villeneuve. In this issue we are proud to feature an exclusive interview with Mr. Back, as well as a review of the book that inspired his current project.

Finally, a note of clarification. In the summer issue of *Environment Update* we included a short quiz designed to cover all environmental bases. However, Greenpeace wrote in to say that we didn't cover those bases as thoroughly as we should have.

Question 8 in the quiz reads: "Dioxins and furans are chemical by-products created in (a) the manufacture of some herbicides, (b) waste incineration, (c) wood burning, (d) all of the above." We gave (d) as the correct answer.

Greenpeace pointed out that we missed an important source of dioxins and furans: pulp and paper mills. "For some time now," wrote Gord Perks, the Pulp and Paper Campaigner for Greenpeace, "it has been known that the manufacture of high brightness pulp (using chlorine as a bleaching agent) creates dioxins and furans." Mr. Perks also took us to task for including wood burning as a source of dioxins and furans. This source, he says, contributes little or no dioxin to the environment.

We agree that the bleaching process in pulp and paper mills is an important source of dioxins and furans, certainly more important than wood burning. Our quiz should have included the former as well as the latter. We regret the omission and thank Greenpeace for writing in.

Jamie Findlay

Think Recycling!



Pensez à recycler!

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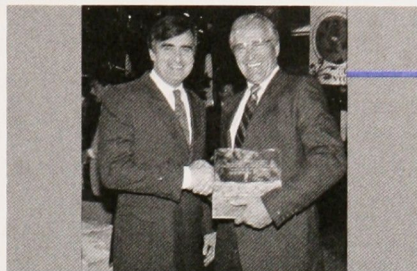
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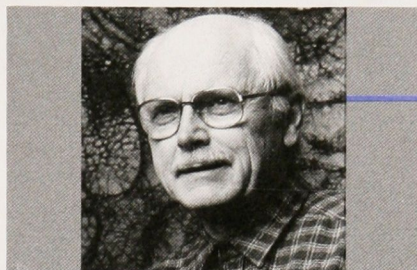
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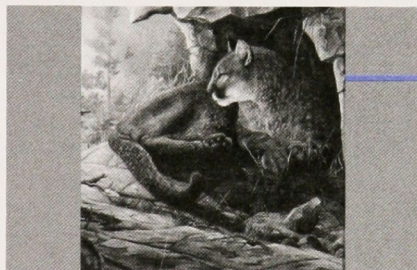
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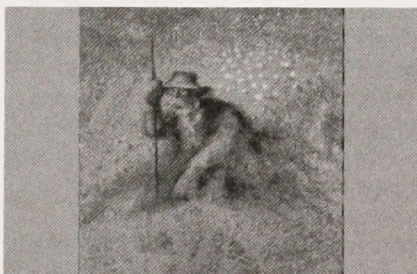
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Cover photo: Illustration by Frédéric Back, The Man Who Planted Trees

Environment Update

Environment Canada was created by the Parliament of Canada in 1971. The Atmospheric Environment Service, the Conservation and Protection Service, and the Canadian Parks Service of Environment Canada work to preserve and enhance the quality of Canada's environment.

Environment Update publishes a variety of articles on environmental and heritage issues relating to the mandate and work of Environment Canada.

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Readers may address comments and enquiries to: The Editor, Environment Update, Communications Directorate, Environment Canada, Hull, Quebec K1A 0H3.

Environment News

Remote Sensing to Monitor St. Lawrence River Pollution

In association with the St. Lawrence Action Plan, the federal departments of the Environment and Energy, Mines and Resources have signed a co-operative agreement to use remote sensing to monitor sources of pollution in the St. Lawrence River.

Remote sensing uses special equipment aboard aircraft or satellites to observe the earth. The process will help to track pollution from industrial sources, and will highlight dispersion of suspended sediments. It will also monitor shoreline uses and map wetlands, especially the distribution of aquatic plants.

Federal and Provincial Governments Co-ordinate St. Lawrence River Clean-up

Canada and Quebec signed an agreement in June to co-ordinate their respective activities to clean up the St. Lawrence River.

Under the agreement, the federal and provincial governments set as their objective the clean-up, protection, restoration and conservation of the St. Lawrence River and the development of environmental technology.

The four-year agreement covers all components of the St. Lawrence Action Plan announced by the federal government in June 1988.

At the same time, the federal and Quebec Environment ministers released a list of 50 industrial plants located along the St. Lawrence River that will be given priority for pollution-control measures by the two governments in the next few years. The list includes pulp and paper, metallurgy, chemical, petroleum, mining and surface-finishing plants.

A special federal/provincial team of approximately 30 industrial pollution-control specialists will work with the listed

plants. The team will be charged with ensuring that the main objective of the St. Lawrence Action Plan is attained: a 90-per-cent reduction, by 1993, in the liquid toxic waste discharged into the St. Lawrence River by the 50 worst industrial polluters.

Federal Government Announces Regulations to Eliminate Lead from Gasoline

Federal regulations to eliminate lead from gasoline, effective December 1, 1990, were announced in July.

Under the new regulations, lead in gasoline will be banned for use in all vehicles, with a very limited list of exceptions for critical commercial, farm and marine equipment that requires minimum levels of lead to avoid premature engine failure. Fuel for such equipment will be regulated at 26 mg of lead per litre of gasoline. Leaded gasoline currently available at service stations in Canada contains 290 mg of lead per litre.

Details of \$50-Million Partners Fund Announced

Details of the new Environmental Partners Fund, a \$50-million, five-year federal government program, were announced in June.

The Partners Fund is the first environmental program established on the basis of a fifty-fifty partnership between the federal government and the private sector.

Community groups, service clubs, environmental organizations, schools and youth groups can apply to Environment Canada for matching funds up to \$200,000 to clean up and rehabilitate the environment at the community level.

Application forms and guides are available from Environment Canada offices in each province and territory.

Tighter Controls on Transportation of Hazardous Wastes

Canada is strengthening the legal provisions that govern transportation of hazardous wastes, through amendments to the Transportation of Dangerous Goods Regulations. The amendments, which came into force on June 1, broaden the application of the existing regulations and establish a better tracking system for domestic and international movement of hazardous wastes.

The amended regulations:

- extend the existing provisions governing hazardous wastes to include materials destined for recycling;
- establish a uniform manifest system;
- improve the notification requirements for international shipments; and
- require 30 days' advance notice of PCB shipments destined for interprovincial transportation.

Rafferty-Alameda Dam Licence Issued

Environment Canada has issued a licence for the Rafferty-Alameda dam project in Saskatchewan, but has attached 22 stringent conditions to mitigate the project's adverse environmental impacts.

The conditions stipulate that, among other things:

- there must be no net loss of waterfowl populations in Saskatchewan;
- riverine fish habitat losses in Saskatchewan must be fully offset by habitat replacement and by the development of a fisheries management plan;
- water quality objectives, to which all affected jurisdictions in Canada and the United States must agree by April 1991, must be met;

- approximately 1,700 hectares of federal community pasture lands that will be flooded must be replaced;
- impacts on threatened species – the ferruginous hawk and the Baird's sparrow – must be fully mitigated;
- impacts on seven plants considered rare in Canada must be mitigated to the fullest possible extent;
- the direct or indirect pumping of groundwater and the draining of wetlands to fill the reservoirs are prohibited.

The licence is conditional on federal approval of several mitigation plans. Environment Canada will hold public consultations on the plans.

Regulations on the Operation of Mobile PCB Incinerators

Environment Canada has announced federal regulations to govern the operation, at federal facilities, of mobile PCB incinerators and chemical treatment systems that destroy PCB-contaminated wastes.

The Canadian Environmental Protection Act empowers the government to issue comprehensive regulations covering performance standards for both incinerators and treatment systems. The regulations specify stringent standards for air emissions of hydrogen chloride, PCBs, dioxins, furans and particulates, and for the release of liquid and solid wastes from the systems.

Two mobile incinerators will be used to dispose of PCBs at federal facilities. One will be located at Goose Bay, Labrador. The second site has not yet been selected.

Fifth Annual Wildlife Conservation Stamp



Canadian Wildlife Habitat Conservation Stamp 1989 Timbre sur la conservation des habitats fauniques du Canada

Canada's fifth annual Wildlife Habitat Conservation Stamp features a painting by renowned Canadian wildlife artist Jean-Luc Grondin entitled "Snow Geese at Nest." The stamp is sold as part of the federal migratory game bird hunting permit, and is also available to collectors in a souvenir booklet format from Canada Post philatelic services.

Proceeds from the sale of the stamps and limited edition prints of the stamp go to Wildlife Habitat Canada, an independent, non-profit foundation. The foundation uses the revenue to fund projects and activities

across Canada to conserve, restore and enhance wildlife habitat.

Since its establishment in 1984, Wildlife Habitat Canada has provided over \$15 million to more than 130 projects, most of which focus on wetlands and waterfowl.



Green Laurels: The Environmental Achievement Awards

A respected ecologist, a pioneering municipality and two down-to-earth grade eight students were among this year's winners of the first annual Environmental Achievement Awards.

The awards, which were presented on June 4, the opening day of Environment Week, celebrate outstanding contributions by Canadians to the environmental cause. Six categories of achievement are identified: outstanding contribution by a non-profit organization, corporate environmental leadership, environmental leadership by a municipality, excellence in environmental communication, lifetime achievement, and (for young people) excellence in an environmental science fair project.

Winners in the first five categories were chosen by an independent committee of environmentalists, academics and business people; the science fair winners were selected by Environment Canada in conjunction with the Youth Science Foundation.

The winners included several long-time stalwarts of the environmental movement. World Wildlife Fund (WWF) Canada, one of the country's most energetic and visible conservation groups, was the winner in the non-profit organization category. Last year alone, this organization supported no fewer than 191 projects in Canada and 18 internationally.

Typical WWF activities include both immediate, practical measures to save endangered species, and long-term environmental education through school programs and publications. Two recent projects,



Environment Minister Lucien Bouchard presents Environmental Achievement Awards to Arthur Meyer, President of Mohawk Oil . . .

carried out in conjunction with Environment Canada and other partners, are the Wildlife Toxicology Fund and the Endangered Species Recovery Fund. The former supports research on the protection of Canadian wildlife from toxic chemicals, while the latter has helped to remove the white pelican and the wood bison from the endangered species list.

The winner in the lifetime achievement category was Pierre Dansereau, 77, a pioneering ecologist and professor emeritus at the Université du Québec à Montréal. Dr. Dansereau became an ecologist over 50 years ago, when the science was just emerging as a discipline. Over the years, he has won international acclaim for his work in human ecology, botany and biogeography. In 1969 he was named a Companion of the Order of Canada. In recent

*The winner in the lifetime
achievement category was
Pierre Dansereau.*

years he has taken part in a scientific expedition to the Galapagos Islands, advised Nicaragua on land use planning, and been a consultant in Mexico on a new national park.



It was in Kitchener, in 1983, that the now-famous blue box first began to make an appearance on curbsides.

Another pioneer in environmental matters was the City of Kitchener, which won this year's award for leadership by a municipality. It was in Kitchener, in 1983, that the now-famous blue box — the plastic container into which conscientious citizens place cans, bottles and newspapers for recycling — first began to make an appearance on curbsides. The idea spread throughout Ontario and today there are more than one million blue boxes in use.

The Mohawk Oil Company of Burnaby, B.C., won the corporate leadership award for its own recycling initiative. Mohawk collects used oil from around the province and transports it to the company's recycling plant, thereby turning an environmental hazard into a profit. Mohawk's plant in North Vancouver uses an oil distillation and treatment process that has attracted international interest.

This year's winner of the environmental communication award, Annabel Slight, has brought children and nature together through her work as president of the Young Naturalist Foundation. The Toronto-based foundation publishes two world-class children's magazines, *OWL* and *Chickadee*. Slight also helped launch *OWL/TV*, a science and nature series that has been sold in several countries and won many awards. Slight is a member of WWF

Canada's Educational Advisory Committee and is past chairperson of the Metro Toronto Zoological Society's education committee.

Heather Meredith and Melissa Thompson, two grade eight students from Queenston Drive Public School in Mississauga, Ontario, won an award for their science project, "Compost — the King of Rot and Roll." It consisted of experiments designed to pinpoint the way compost works and to encourage composting as an alternative to conventional waste disposal.

In a speech made shortly after the awards ceremony, Environment Minister Lucien Bouchard emphasized the sense of determination and commitment that is uniting Canadians in the face of serious environmental problems.

"Whatever the issue and in whatever part of Canada, people have made it clear that they consider environmental protection an important factor in their vision of their country and their lives," said Mr. Bouchard. That unifying awareness is memorably presented in the cross-section of Canadians — young and old, individuals and organizations — who won this year's Environmental Achievement Awards. ■



... and to Dr. Pierre Dansereau.



Bravo Canada!

A Rallying Cry for the Environment

Despite stiff competition from neighbouring attractions – the Kentucky Fried Chicken Fantasy Forest, the arts and crafts building and the petting zoo – the federal government's exhibit on the environment attracted a good share of visitors at this summer's Canadian National Exhibition in Toronto.

A summer fair is always a difficult place to get any sort of earnest message across. "Look at the atmosphere here," said Branth Buckwell, chief of promotion for the Canadian Exhibit Program. "You've only got people for twenty minutes, or less. They're here to have fun, so we had to make the exhibit light enough so that they would stop and read something." Judging by the written comments in the visitors' guest book ("fascinating," "loved it," "most bodacious and totally awesome") the organizers achieved what they set out to do.

Since 1985, the Canadian Exhibit Program – a branch of the Secretary of State department – has put on an exhibit at the three major summer fairs in Canada (the Canadian National Exhibition in Toronto, the Pacific National Exhibition in Vancouver, and Expo-Québec in Quebec City). These exhibits have always emphasized the accomplishments of Canadians – hence the perennial name, *Bravo Canada!* This year the organizers wanted to retain that emphasis, and yet inform people about the state of the environment and the necessity for action. Consequently, they decided to devote a lot of space to the environmental achievements of individual citizens.

"The theme of this exhibit is – you've got to get out there and do it yourself!" said Mr. Buckwell. "Take Leone Pippard. In 1972 she went camping and saw a Beluga whale washed up on the shores of the St. Lawrence. She said, 'What's this?' and they told her that the water was so toxic that the whales were dying. And she got upset enough to do something about it. That's one person – one individual Canadian – who got involved and got something done."

An exhibit of this sort stands or falls by the amount of active, hands-on material it contains, and in this respect *Bravo Canada!* stood up well. As visitors walked in, they were handed a brief, four-question "eco-quizz." The answers could be found in the display material; it was just a matter of walking around with one's eyes open. (The completed eco-quizzes became entry forms in a draw for a cedar canoe.) And there was plenty to keep visitors walking around. The exhibit covered seven areas – the changing atmosphere, acid rain, soil, water, waste, wildlife habitat, and "seeing the forest for more than the trees" – and each section had its own artifacts, visual displays and interactive games.

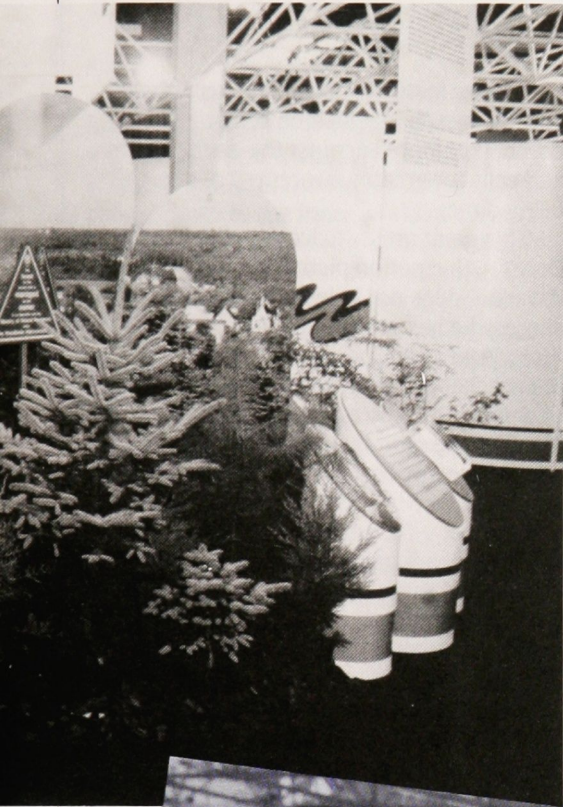
Children especially found a lot to keep them interested. They took part in the "eco-toss" bean-bag throw and gazed up at the large weather balloon that was suspended in the atmospheric change section. Many were fascinated by a tank of large leeches, which, according to the accompanying text, are used by the Canada Centre for Inland Waters to test for the presence of chlorophenols in B.C.'s Fraser River. In the acid rain section they peered into three aquariums that demonstrated, in stages, the death of an acidified lake. The soil section featured a worm farm and an ant farm. There were also, of course, computer displays, games and videos – no exhibit these days can do without them.



Bravo Canada! exhibition and visitors, Vancouver

"The theme of this exhibit is – you've got to get out there and do it yourself!"

One of the most important aspects of the exhibit was its emphasis on individual action. *Everybody*, it made clear, can take measures to save the environment. One computer display gave a list of harmless substitutes for hazardous household products – baking soda instead of oven cleaner,



cedar chips instead of mothballs, white vinegar instead of fabric softener. In another attraction, the recycling game, visitors were given bags of mixed garbage and asked to sort out the recyclable items.

Throughout the display were short profiles of "green citizens" and their achievements. The whole thrust of the exhibit was nicely captured in a quote from Roberta Bruce, a community and environmental activist in Nova Scotia: "You can't depend on the government to do everything to protect your community; citizens have to take responsibility."

Although the display covered a wide range of environmental issues, it could touch only the tip of the iceberg. Visitors who wanted additional information could use a data base to find out about environmental groups and their particular areas of concern.



As for negative comments about the exhibit, Mr. Buckwell said he received only a single significant one. "A lady said to me, 'This is a nice exhibit, and obviously a lot of money went into it; but what about all those trucks on the road that are belching smoke? Why don't you put your money into stopping that sort of stuff?' I told her that was a good point, and took her over to see the profile of Leone Pippard. I said, 'You're upset about it? That's great! Why not get involved?' That's what this exhibit is about — making visitors think: 'Well, other people have gotten upset enough to do something about it, so I will.'"

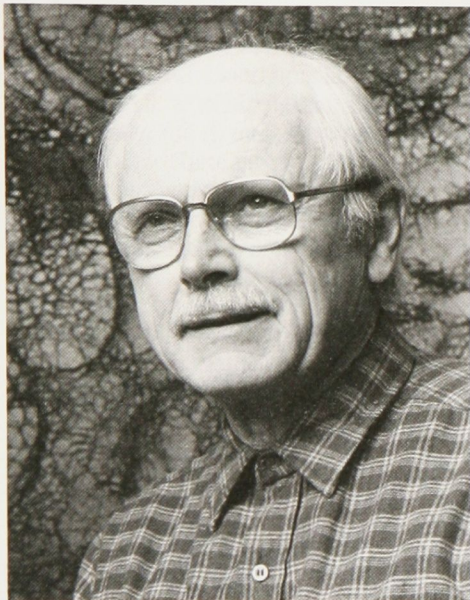
Visitors leaving the exhibit were generally enthusiastic. One lady said that the government had found an excellent way to spend the taxpayers' money. A man with several children said that the eco-quiz was a great idea — "Once the kids found out that all the answers were in here, they really got into the spirit of the thing."

The exhibit has not ceased to exist with the summer. At the close of the different exhibitions, it travelled back to Ottawa, where the organizers are selecting the most popular elements for inclusion in three travelling displays. Next spring those will begin journeying by tractor-trailer to local and regional fairs in western, central and eastern Canada.

The organizers, like the visitors, found the experience rewarding. "One man in Vancouver wanted to know more about the ozone layer and the greenhouse effect," said Ingrid Kadoke, exhibit co-ordinator at the PNE. "I told him as much as I could. At the end, he said: 'Finally, I know enough about the basics to answer my children's questions.' A comment like that lets you know that people are really getting involved in environmental issues. It gives you hope for the future." ■



Frédéric Back: The Man Who Spreads Hope



Frédéric Back

Moviemakers hail his animated films as masterpieces. Environmental groups seek to turn him into a guru, a symbol of the struggle to protect the environment.

Frédéric Back has reached retirement age. He has already won international acclaim for his films *The Man Who Planted Trees* and *Crac*. He could well rest on his laurels, but the temptation does not even cross his mind. Rather than glorying in his achievements, he thinks only of serving humanity and of conveying messages that will benefit present and future generations.

Back is a humanist who refuses to take life easy. He was an environmentalist long before the word was coined. Now this peaceful rebel, this poet who creates magical pictures, has started work on a new film. It is to be a tale of wonder about the St. Lawrence River, a true story of the great waterway's past glory, its deterioration and the possibility of its restoration. It is a film designed to move viewers to action so as to avert a catastrophe.

Back considers that the only way to effect a worthwhile revolution is "by inducing a gradual change in attitudes – teaching people to recognize what they refuse to see."

In his tiny studio in the Montréal offices of the CBC, Back recently spoke with *Environment Update* about his life, his principles, his plans, hopes and fears. He offers the most comfortable seat to the interviewer, taking his small straight draftsman's chair for himself. He seems almost to make excuses for this choice: the many hours he has sat there drawing, he says, have made him used to it. His voice is subdued, his gestures restrained. He channels

his energy instead into vivid, direct, even cutting speech in which he deplores the crimes committed against the environment and calls for greater awareness of what is being done.

This great artist, twice winner of an Oscar – the motion picture Academy Award – does not hide his pride in the success he has gained. It is not the fame that pleases him, however, but rather the impact that his work has had.

Speaking softly and with disarming humility, he says that he would find it difficult to stop. "Because of the success of *Crac* and *The Man Who Planted Trees*, my other films, which are also on environmental themes, are being shown again. Regrettably, their message remains timely; since they were made, the situation has scarcely improved. I can see that now their message is at last getting through. And that is what matters: they get people moving. So it's hard for me to say, 'Well, I've done my bit; now it's up to you others to carry on.'"



It would be all the harder because Back is without equal as an animator. His impressionistic drawing style is unique. It stands out from the work of others and comes closer to the inner world of viewers.

Back's love of drawing and of nature date back to his earliest years. He was born on April 8, 1924, in Sarrebrück, just on the German side of the border with France. His father was a musician, avidly interested in political history and technological development. His mother, from a poor farming family, taught him the peasants' simple way of living, of working humbly and hard.

At school, he recalls, he filled his notebooks not so much with writing as with drawings, mostly of birds and animals. (Later, history repeated itself. In 1952, four years after his arrival in Canada, television broadcasting began and he was hired by the CBC in Montréal to do lettering for titles. As he had done in his school assignments, he added pictures to the words. The outcome was fortunate for him: his talent was recognized, and in the end he was offered a job as a graphic artist.)

Back also studied music at the Strasbourg conservatory, but drawing was his first love. "It seemed to me a wonderful way to communicate ideas directly, to achieve rapid results that would please others — far more than by working away at a musical instrument."

Summer vacations in his childhood were spent at his aunts' home in the country. There he would look after the animals — sometimes in his own peculiar way. He was so concerned for their happiness that in addition to feeding them and carefully cleaning their troughs, he would open the gates of their pens to grant them a little liberty.

Cruelty to animals shocked him even then. At that time there were very few trucks; horses were the usual means of



transport. "The loads were often too heavy, and I would bawl out the drivers who whipped horses that had fallen beneath the weight. The treatment of animals, I thought, was most unjust, and it still is today. At cattle auctions or in slaughterhouses, the suffering inflicted on animals is something abominable."

Later the young Back went to study drawing in Rennes and then in Paris. The well-known painter Mathurin Méheut led him to discover the world of underwater life. "This was long before Jacques Cousteau. The works of Méheut were a revelation for me," he remembers.

As part of Back's training, Méheut suggested to him subjects for field study. "I chose to work on the theme of animals and violence. I went to draw in a slaughterhouse where a friend of mine, a veterinarian, was in charge. I faithfully depicted the different methods of slaughtering animals.

I also fought with the butchers. The way they treated the poor creatures was atrocious."

He has not lost his youthful impulse to rebel, but rather than being destructive, this urge has become a source of creativity. Back rejects violence as a way of solving problems. He considers that the only way to effect a worthwhile revolution is "by inducing a gradual change in attitudes — teaching people to recognize what they refuse to see."

In his view, individual deeds alone are not enough to achieve this transformation; the concerted efforts of many groups are needed to wake people up and motivate them to act. This deep conviction spurred him to create a film inspired by Jean Giono's story, *The Man Who Planted Trees*



[*L'homme qui plantait des arbres*]. "Giono does not speak of ecology nor of altruism. He leads people to discover their own abilities, to act positively."

It is not surprising that Giono touched a chord deep within Back; he himself has the same approach, as can be seen in his handling of a telephone call that interrupts the interview. The caller seems to want to flatter Back, but he refuses to play along. Instead he steers his would-be admirer to people committed to practical action, people whose example may inspire similar conduct.

He does, however, take part in a number of volunteer activities, which he mentions only with reticence. He talks not of what he does personally but of what the group as a whole accomplishes. In the early 1970s, for example, he belonged to the Société pour vaincre la pollution. "In

Why did he choose the St. Lawrence? Because aside from having interested him for many years, the subject concerns the people of Quebec, of Canada and of all North America.

those days," he says, "people would laugh when you talked to them about pollution. Only a few hunting and fishing groups had some awareness that the environment was deteriorating."

Around this time Back came across Giono's story about a man who made a forest grow, giving new life to an entire region

that had been desolate. He was profoundly struck by the tale: it illustrated with marvellous clarity what he had long been trying to express. *The Man Who Planted Trees* was then little known, but with his skill as an animator and his position at the CBC, Back could remedy that situation. He dreamed of recreating the parable in visual images and music, so as to win for it a wider audience.

With Hubert Tison, the associate producer of all his animated films, Back closely studied the various ways this project might be carried out. They did not want to turn the story into another documentary: that, they felt, would be falling into a rut. At one point they considered including some sequences of real-life footage. Ultimately, they decided in favour of animation alone; in this way they would produce a more original film that could present Giono's tale within half an hour.

"A picture is worth a thousand words," says Back. He wanted to do more than merely illustrate the story; instead, his aim was to capture the idea that inspired the book. "Animation can be realistic and at the same time can create the mood of a half-forgotten dream. Though vaguer than the immediate reality, animation can be clear enough to communicate effectively."

Is he satisfied with his work? "Yes, beyond my wildest hopes. I never thought that the film would be given such a warm reception. Above all, I am pleased that it seems to be such a powerful catalyst for action, because that is most important." Back has been deluged with accounts from around the world "of unassuming people who work for the common good without seeking fame." In the same breath he hastens to add, "But I am not solely responsible for the success. If the film reached and inspired so many people, it is because the CBC was involved."

Now that he had hit his stride, Back was not ready to retire, despite his age. Instead, he looked around for another project.



Before deciding on the St. Lawrence River, a subject that had concerned him for 20 years, he was attracted by several other environmental themes.

"My desk drawers are filled with suggestions for scenarios. I had several projects dealing with the environment. One was quite light and simple, a version of *The Goose that Laid the Golden Eggs*. Another was about Noah in the year 2000, trying to save what is left of the animal kingdom. The last surviving wild beasts have been rounded up in zoos, and Noah must try to save them from the flooding caused by the greenhouse effect. In the ark the humans reproduce rapidly and end up eating the animals.

"It's a scenario that illustrates a reality experienced throughout the world: people take over an area, use it to support themselves, and in the process destroy and then abandon it within a short time. I laid aside this project because the ending, though quite logical, could be seen as demoralizing."

Why then did he choose the St. Lawrence? Because aside from having interested him for many years, the subject concerns the people of Quebec, of Canada and of all North America. It is also relevant to what is happening on other continents. Finally, the river constitutes a complete world, one that can still be saved; and so people must be galvanized to do something about it.

In his next film, Back will trace the history of the river over the past 500 years. His object is to tell the story of the life, vigour and decline of the St. Lawrence, and then by implication to suggest the danger of still greater damage as well as the possibility of restoration.

He will begin by representing the wonder of the first European explorers, who were dazzled by the profusion of fish, mammals and vegetation. Next he will show how the river was plundered and devastated, and how it could instead be cultivated. Back is horrified at the damage caused by hydro-electric dams, and the



harmful effects of these are sure to figure in the film. Oil tankers are also likely to appear in an unflattering light.

By his art, Back hopes to bring the river to life so that people can feel a stronger kinship with it. The accompanying soundtrack will feature the words of Cartier and Champlain as well as traditional music. "I am trying to create something that stirs the emotions of viewers and touches them."

Asked about his fears for the environment, Back is politic in the widest sense of the term. "Nothing is worse than compromise," he says. "We entangle ourselves in immediate problems and short-term remedies. We always put off long-term solutions until later. We are as heedless of the future as animals, but our power to destroy is far greater."

"Our fishing practices today amount to a war of extermination. We are destroying all our resources at a dizzying pace, as we have exhausted the forests, which no longer occupy the role they filled for millions of years. The same may be said of the oceans. We live in a throwaway society. We must stop our assaults on nature. For example, instead of pulp and paper mills we should build paper-recycling plants. They would provide just as many jobs while causing less harm to the natural environment."

Another concern is the lax enforcement of pollution control regulations. Back's gentle manner changes into vehemence: "There are not enough people doing inspection and monitoring. You have to wonder sometimes whether the data gathered will actually be used to impose strict controls, to bring polluters to justice. The polluters are all assassins. Their actions today may cause death for thousands of years to come."



He singles out oil tankers that operate without watertight compartments. "We take all kinds of security measures in the case of airplanes, because they carry large numbers of passengers who would be directly affected by any problem. At the same time we let thousands of oil tankers ply the seas at far greater risk to the environment – a risk for which future generations will have to pay the bill. We should not wait as we did with PCBs until the bomb explodes beneath our noses, or next door to us, before we take precautions."

As Back speaks of the greenhouse effect, his face darkens. "We cannot know whether the work being done now will be of any use. It is deeply distressing. The entire environment is going to change; cataclysms clearly lie ahead. But as soon as you raise the subject, you're considered a pessimist. In reality, you have given proof of your optimism: you are doing something, fighting to achieve a solution. A pessimist would simply laze in the Florida sun, as so many do, and say to hell with the rest of the world."

Yet there is still hope. "It comes mainly from dedicated groups who try to pressure the authorities. It depends on people's willingness to make sacrifices. We won't solve the problem by continuing to sell more automobiles and build more highways, still less through the present cuts in mass transit services or through higher fares. The global, long-term solution is to improve public transportation.

Progress will come, Back believes, from the efforts of ordinary people such as the young, teachers, environmentalists and all who are working to transform society. "I feel a bond with all environmental groups. Many young people invest their time, their talents, their hopes in such groups, even though they could take it easy working in the offices of a megacorporation."

As for governments, Back insists emphatically that they must understand that environmental groups "may seem to be adversaries, but are in fact their closest allies. They carry tidings of the future, alerting us to issues that will become ever more urgent as time passes. The more these people criticize, attack and stick their noses into problems, the more they ought to be encouraged and supported, not thrust aside. They should be helped to perform their task instead of ostracized. They do not meddle for the fun of it, but because they recognize the pressing need for action."

"If a rich, industrialized country like Canada does not make a serious effort to protect its environment, how can you expect things to change in the world, how can you expect Canada to give guidance to others?"

Does he see an international role for Canada, particularly in helping Third World countries? Yes, says Back, principally in setting an example. "Canada has a duty to be in the forefront on environmental matters because we are one of the few countries able to allow ourselves this luxury. If a rich, industrialized country like Canada does not make a serious effort to protect its environment, how can you expect things to change in the world, how can you expect Canada to give guidance to others?"

And what does he suggest that ordinary consumers do in their daily lives? "We must follow the advice that Giono gave in his analogy of seeds sown in the earth. Good or bad, all our daily acts are seeds that will grow to a size we never dreamed of. Before taking any action, we ought to think twice about the consequences."

Back is encouraged by some signs, slight though they may be, that he believes are harbingers of a general awakening. As an example, he mentions the recent proposal of the Caisse Populaire Desjardins that environmental impact be one of the criteria for evaluating loan applications. Another glimmer of hope is the possibility of a special federal tax to provide funds for tackling costly environmental problems. Back also favours making public transportation tax-exempt, and raising the tax on gasoline instead.

The work and words of this peaceful rebel are testimony to his belief that the battle for the environment will gradually be won by considered, positive and unremitting action.

When his new film appears three years from now, Frédéric Back is sure to win fresh praise and inspire still more people to build a better world. ■

By Reine Degarie, a freelance journalist living in Ottawa.

To the foregoing, Frédéric Back adds: "It is important to note that I have been able to do this work because of an exceptional wife (Ghylene Paquin) who has always given me encouragement and helpful criticism."

© 1983 Éditions Gallimard for the title, *The Man Who Planted Trees*

© 1989 CBC Enterprises for the illustrations of Frédéric Back



The Rogue Hunters



Some Rocky Mountain bighorn sheep in Jasper National Park are tame enough to approach visitors on the highway.

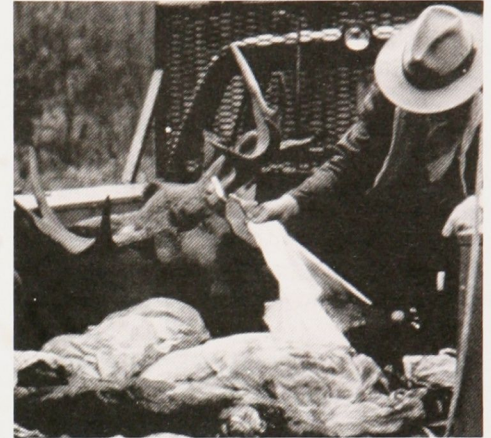
Early one fall morning in 1988, wardens in Gros Morne National Park in Newfoundland stopped two vehicles at different locations on a quiet backcountry road. In one vehicle were two freshly killed and quartered moose; in the other, a rifle and an axe. The wardens charged the occupants of the vehicles — six men — with poaching, but that was only the beginning of the battle.

To build a court case, the wardens had to go back to the sites of the kill and gather evidence to link the poachers with the illegally taken animals. Empty bullet cartridges were collected; the hooves of the butchered moose were retrieved and matched with the carcasses; and the axe found in the vehicle was sent to an RCMP laboratory, where analysis determined that it had been used to quarter the two moose. As a result of the investigation, all six men were eventually convicted.

Big-game trophy poaching, in particular, is a growing threat to Canada's national parks.

Poachers in Canada's national parks are often well organized and well equipped, and catching them often involves the same methods employed against accomplished criminals anywhere — detection, laboratory analysis, surveillance, even undercover infiltration.

Until recently, says John Steele, law enforcement officer for the Canadian Parks Service's Atlantic Region, the great majority of poachers were caught by accident rather than design. "You have to catch them within hours of their committing the offence," he says. "That is quite different from the norm in the law enforcement community, where a minority are caught in the act and a majority are caught as a result of an investigation, or through putting



A warden examines remains of a moose seized from poachers in Kouchibouguac National Park.

together information obtained from intelligence work. That's the difference between the old way of doing things, and the way we have to do things now.'

There are basically two kinds of poacher at work in our national parks. The first sort is after meat, either for their own consumption or for sale. The second is after trophies — elk antlers, or the horns of a Dall's sheep, or the hide of a grizzly. Trophy animals can also be taken live, as is the case with peregrine falcons that are sometimes trapped and sold to falcon fanciers in North America and the Middle East. Another branch of trophy poaching involves the killing of animals for certain parts — the gall bladders of bears, for example, which are prized in certain oriental markets for their supposed medicinal value.

Big-game trophy poaching, in particular, is a growing threat to Canada's national parks. "I think it's reasonable to say that trophy poaching is on the increase," says Duane Martin, law enforcement specialist



for the Parks Service's Western Region. "The national parks, both here and in the United States, are becoming the last refuges for trophy animals. The animals grow to a good size because of the parks' protected status. It's getting harder and harder to find their like elsewhere." He points out that hunting these species legitimately is often an expensive and arduous enterprise, with no guarantee of success. A zealous (and unscrupulous) hunter who has been unsuccessful for several years might well be tempted to take up his quest in a national park.

The battle against poachers got a boost in September 1988 with the passage of Bill C-30, which set out some much-needed amendments to the National Parks Act. One amendment involved penalties for poaching in Canada's parks. Previously, the maximum fine, set in 1919, had been \$500. This sum was obviously inadequate to deter today's poachers, some of whom are willing to pay up to \$50,000 for the chance to bag a trophy sheep; so the maximum fine for poaching trophy animals or endangered species was set at \$150,000. (These categories include Rocky Mountain bighorn and Dall's sheep, grizzly and polar bears, mountain goats, gyrfalcons and peregrine falcons.)

The maximum fine for poaching protected species – Atlantic salmon, bison, black bear, caribou, moose, elk, cougar, white-tailed and mule deer, and wolf – was set at \$10,000. Along with the fines, the amended Act provides for jail terms of up to six months for poaching trophy animals or endangered or protected species.

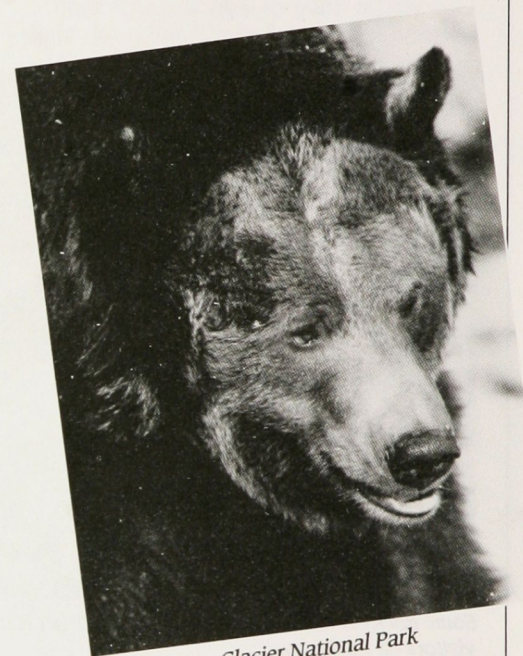
In addition to the stiffer penalties, the Act gives Parks authorities the wherewithal to fight poachers. Three law-enforcement positions have been created at the Parks Service's headquarters in Hull, and one position has been established in each of the Service's five regions – Atlantic, Quebec,

Ontario, Prairie and Northern, and Western. The Service is now forming specialized anti-poaching teams in each region, to conduct investigations and zero in on poaching operations. The wardens are being equipped with specialized equipment, and park authorities and the RCMP have developed a formal agreement to co-operate in anti-poaching measures.

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The different regions of Canada have their own particular poaching problems. The mountain parks in the west – Banff, Jasper, Kootenay and Yoho – have become a special target for trophy seekers. These parks are popular with poachers for one of the same reasons they are popular with tourists: many of the animals have grown accustomed to people and do not scare easily.

One of the best-known cases of trophy poaching in the western parks involved Michael Shipsey, an American millionaire and big-game enthusiast. In 1985 Shipsey engaged a B.C. guide named William Rankins to take him into Banff and Jasper national parks, where they bagged an elk and a huge Rocky Mountain bighorn. The latter was so tame that on an earlier occasion Rankins had photographed the animal while it sniffed his boot.



Grizzly bear, Glacier National Park

Rankins registered the animals falsely as having been taken in his own guiding territory, and his client returned to the United States with the trophies. But wardens in Banff and Jasper found the headless carcasses, and together with B.C. and American wildlife officials they eventually tracked down the culprits. A crime laboratory in Sacramento, California, played an important role in the investigation: it matched Shipsey's bighorn trophy with Rankins' close-up photograph of the animal.

Shipsey was eventually convicted in the United States of possessing and transporting illegally killed game. He was fined a total of \$14,000 (U.S.) and sentenced to 40 days in jail and five years' probation. In Canada, Rankins was fined \$5,000, spent 75 days in jail, and – the coup de grace – lost his guiding licence.



As the Shipsey-Rankins case showed, trophy poaching can be a highly organized business. "It's not just the opportunistic hunter who has been hunting sheep for several years and can't contain himself when he sees one in a national park," says Duane Martin. A lot of poaching deals are struck at fish and game shows across North America, where sportsmen mingle with guides and outfitters – the shady ones as well as the legitimate ones.

"In some circles," says Martin, "if you contact the right individuals, you will be shown a photo-album of sheep – Rocky Mountain bighorns, desert bighorns, and Dall's sheep. You select a head that appeals to you, and they will either take you into the area to get the sheep or provide the head themselves."

As poachers become more and more organized, undercover infiltration becomes an increasingly effective tool for gathering pertinent evidence to prosecute suspects. "You can go only so far with overt methods," says one park authority. "A really well-organized group of poachers can operate independently of us, and we can only occasionally reach a few of the tentacles, never the hub. But one very effective way to collect evidence is to infiltrate the group. The intelligence you gather is far superior to anything you can get otherwise; the case you can make against individuals has a far greater chance of succeeding in court; and the deterrent represented by it exceeds anything we could do."

The big northern park reserves, such as Kluane and Northern Yukon, also face a threat from trophy poachers. In these parks, the wardens – like the poachers – may know generally where the animals are to be found at a particular time of year; but the parks are so huge and remote that policing them is difficult.

Gros Morne National Park does not have a big problem with trophy poaching, but it has the dubious distinction of losing the most animals to meat poaching of any of the national parks. Part of the problem is that poaching doesn't carry the same stigma there as elsewhere. It is an accepted, and relatively painless, way of making some extra money. "An individual can go out in the evening and take a moose in less than two hours, with minimal risk, and sell it locally for \$400 to \$600," says one member of the park staff. "That's going to continue, human nature being what it is – especially when there is little shame associated with it, as is the case in this area."

As wildlife vanishes in other parts of the world, Canada's national parks are bound to face increasing pressure from poaching. For the moment, the changes brought in by the amended National Parks Act are a good start. "More and more poachers are already seeing the effects," says Claude Scott, headquarters manager of the Parks Service's law enforcement operations. "As a rule, the opportunistic poachers are afraid now to go into the parks. They know about the fines and the jail terms."

The penalties are not yet a deterrent to well-organized groups seeking trophies or meat for financial gain. "Specialized and dedicated law enforcement may have to be the order of the day," Claude Scott says. "Some wardens may have to devote their energies primarily to catching poachers, while others look after the usual duties of resource management. It will take special training and vigilance if the Canadian Parks Service is to tackle this growing problem successfully." ■



Dall's sheep, Kluane National Park Reserve



Update Reviews

Wildlife: A Question of Survival

Why do migratory wildfowl fly to northern lands to lay their eggs and raise their young? How do hydro-electric dams affect fish stocks in the St. Lawrence River? Are politicians aware that they are factors in the environmental equation?

These questions and many others are answered at length in a book that bears a striking title: *Des animaux malades de l'homme? [Is Humanity the Scourge of the Animal World?]*

The author, Claude Villeneuve, is a biologist and professor at the CEGEP de Saint-Félicien, near Lac Saint-Jean in Quebec. He draws the reader into a wide-ranging account of the bonds that join wild creatures and their environment, in a world laid waste by human thoughtlessness and rapacity.

This is a book to instruct and delight experts in the field, as well as nature-lovers in general. Villeneuve writes for all who seek a better understanding of how wildlife resources develop, and of the impact we have individually and collectively on the environment. Although he confines his discussion to the wildlife of Quebec, there is a universal dimension to his work.

Right from the foreword, Villeneuve shows his colours. He begins with a sobering question: whether there still exist "places in Quebec where wildlife survival is not at the mercy of human beings." And he concludes with the hope that by the year 2001, people will know that they must protect wildlife resources, must use them sensibly and with respect, must ensure the survival of those resources and their environment. This hope can be fulfilled, however, only if in the meantime we see to it that some wildlife remains to be protected and admired.

After an introduction to the ecology of Quebec, Villeneuve explores his subject under three main headings: maritime Quebec, freshwater habitats and land-based ecosystems. For each group and species of animal that he discusses, he presents its historical background and a description of its ecology.

He lays out his case unflinchingly, in language that is sometimes impassioned and politically committed. On the subject

of seal-hunting, for example, he notes, "Human beings have a strange idea of the fate reserved for animals. While people are tortured in El Salvador and other countries, while we systematically destroy species that we consider unattractive or unproductive, while we squander for all time environments that are unique, and rapidly acidify Quebec's lakes, public opinion is aroused by the suffering inflicted on a species that, although of undoubted environmental importance, already receives adequate government protection."

In trying to provide an overall view of the state of wildlife in Quebec — something few other writers have attempted — Villeneuve examines the interaction of wildlife and politicians. He explains, "Politicians make the decisions, and therefore control the implementation of policy dealing with wildlife and the environment. The power lies primarily in the hands of the ministers responsible for this particular area, but is also shared by the entire Cabinet.

"Politicians in general," he continues, "have such an important influence on wildlife and the quality of the environment that they can be classified as factors in the environmental equation."

Villeneuve also acknowledges positive government actions, such as the creation of controlled harvesting zones in 1978, which replaced the practice of leasing wildlife areas to private groups. By providing the general public with access to wildlife, the zones, according to Villeneuve, "will allow Quebec to make the most rational possible use of its wildlife resources in the next decade." But, he notes, "for the new policy to be successful, education and public awareness are essential."

Villeneuve's book is an invaluable aid in achieving that widespread awareness and understanding. His work will help to ensure that coming generations can appreciate wildlife in its natural habitat, not just in aquariums and zoos. ■

Des animaux malades de l'homme? is published by the Presses de l'Université du Québec. It is available in French only, and costs \$14.95.

Reviewed by Reine Degarie, a freelance journalist living in Ottawa.

L'homme et son environnement

This new publication by CBC Enterprises presents transcriptions of five hour-long broadcasts on ecology. Environmental issues in Quebec and North America are discussed by 14 renowned speakers, including Bernard Lamarre of the Groupe Lavalin, former Quebec Environment Minister Clifford Lincoln, and Michael Fainstat of the Executive Council of the City of Montréal. The foreword is by Pierre Dansereau. ■

Available in French only, price \$10, from CBC Enterprises.

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