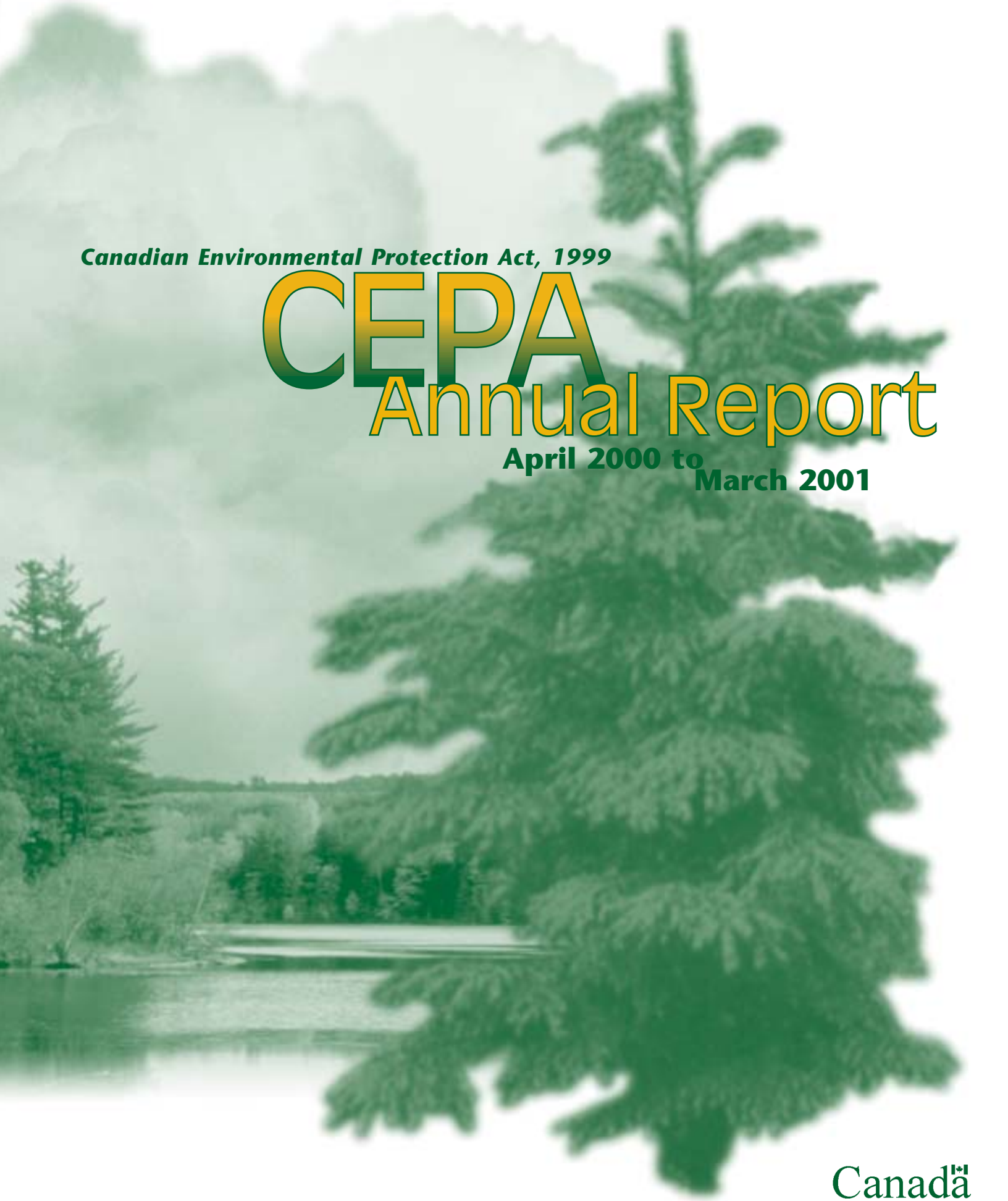
Environment Canada Environnement Canada



Canadian Environmental Protection Act, 1999

CEPA Annual Report

April 2000 to March 2001

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The internet Web site addresses in this report were current at the time of printing and are subject to change.

Additional information can be obtained at Environment Canada's Web site at **www.ec.gc.ca** or at the Inquiry Centre at **1-800-668-6767**.

Canadian Environmental Protection Act, 1999

CEPA Annual Report

April 2000 to March 2001

December 2001

Minister's Message

I am pleased to provide all Canadians with the Government of Canada's first Annual Report on the administration of the *Canadian Environmental Protection Act, 1999* (CEPA 1999). The *Canadian Environmental Protection Act, 1999*, which came into force on March 31, 2000, gives the government stronger powers and new tools to protect the environment and human health. The Act emphasizes pollution prevention as the preferred approach to environmental protection, imposes tough new deadlines for action on toxic substances, and places a new emphasis on public accountability and transparency.

This report focuses on the key actions and accomplishments achieved under the Act from April 2000 to March 2001. It highlights the early successes in implementing CEPA's powerful new tools, such as providing cleaner air to Canadians through an agenda on vehicles and fuels and improved international commitments. It also describes the efforts to develop new policies and establish new processes that will enable Environment Canada to access the full range of CEPA tools, such as pollution prevention plans, environmental emergency plans, and new enforcement powers. All of these actions will provide industry and the public with a clear understanding of when and how these tools will be used in the coming years.

CEPA 1999 also provides greater opportunities for citizen participation in decision making on environmental issues and improved access to environmental information. I encourage readers to visit CEPA's Environmental Registry (www.ec.gc.ca/CEPARegistry), an online tool that provides a comprehensive source of public information on the Act, and become involved in the decisions that affect the Canadian environment.

I am proud of the environmental achievements we have made this year. This first year has been challenging, not only for government, but for industry and the public alike, as we implement the new provisions of this Act. But we have demonstrated that CEPA 1999 is a powerful and effective law. These early successes have laid the foundation for the exciting years ahead, when we will continue to take advantage of CEPA's stronger tools and implement actions to improve the health of Canadians and our environment.

David Anderson, M.P., P.C.
Minister of the Environment

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Foreword

This is the first Annual Report on the administration of the Canadian Environmental Protection Act, 1999 *(CEPA 1999). CEPA 1999 is powerful legislation. It provides new authorities with which to protect the environment, and it also imposes new requirements and strict new deadlines on the federal government.*

It is significantly improved over the former Act (CEPA 1988) in five priority areas:

- promoting cleaner air and water;
- managing toxic substances;
- better tools for public participation;
- preventing and responding to environmental emergencies; and
- enforcement.

This report responds to the requirement under CEPA 1999 to present an annual report to Parliament on the administration and enforcement of the Act. It provides an overview of the key accomplishments and results achieved under the Act from April 2000 to March 2001. The chapters in this report are organized along CEPA's 11 major Parts. Each chapter contains an introductory section on the new provisions of CEPA 1999, followed by a description of the key results achieved under that Part. The sources listed at the end of this document contain all the necessary content information.

www.ec.gc.ca/CEPARegistry

This report is not intended to cover every section of CEPA 1999 or to describe all of the work undertaken by Environment Canada and Health Canada in the context of the Act. If there were no major actions achieved under a certain section or authority of CEPA 1999, then that section or authority is not addressed in this report. To ensure a manageable and informative document, this report takes a results-oriented approach by focusing on the key CEPA-related actions or products delivered in the reporting period.

Specific Reporting Requirements

CEPA 1999 also makes specific mention of several provisions of the Act that need to be addressed in the report to Parliament. A brief description of these provisions, including the sections of this report in which they are addressed, follows:

- ***Activities of the CEPA National Advisory Committee and of any committees established under paragraph 7(1)(a)*** — Section 1.1 of this report highlights the activities of the CEPA National Advisory Committee during 2000–01. There were no other committees established under paragraph 7(1)(a) of CEPA 1999 in 2000–01.
- ***Administration of the Act under administrative agreements*** — Section 1.2 of this report describes the activities under the Canada–Saskatchewan Administrative Agreement during 2000–01.
- ***Administration of agreements respecting equivalent provisions*** — Section 1.4 of this report describes the activities under the Canada–Alberta Equivalency Agreement during 2000–01.
- ***Administration of the international air pollution provisions*** — Although there were no activities under these provisions (Division 6 of Part 7) of CEPA 1999 during 2000–01, Section 7.6 of this report highlights activities during 2000–01 on several international agreements respecting air pollution.
- ***Administration of the international water pollution provisions*** — There were no activities under these provisions (Division 7 of Part 7) of CEPA 1999 during 2000–01.
- ***Research conducted under the authority of the Act*** — Environment Canada and Health Canada scientists published hundreds of reports, papers, book chapters, articles, and manuscripts on CEPA-related subjects during 2000–01. This impressive body of work appeared in books and scientific journals that are available in libraries and from the publishers. Although it is not possible to describe all of these activities in this report, Section 3.2 of this report provides examples of the types of research initiatives under way and their key contributions in 2000–01. The CEPA Environmental Registry contains more information on research and monitoring activities.

www.ec.gc.ca/CEPARegistry/SandT/default.cfm

1. Administration (Part 1)

Section 6 Part 1 of CEPA 1999 requires the Minister to establish a National Advisory Committee (NAC) composed of one representative of each of the federal Ministers of Environment and Health, representatives from each province and territory and six representatives of aboriginal governments drawn from across Canada.

The duties of the NAC include advising the Minister of the Environment and the Minister of Health on:

- proposed regulations for toxic substances;
- a cooperative, coordinated approach to the management of toxic substances; and
- any other matter of mutual interest.

CEPA 1999 also requires the Ministers to consult NAC on many other CEPA-related initiatives. Part 1 also allows the federal government to enter into administrative agreements with provincial and territorial governments and contains new provisions to allow for administrative agreements with aboriginal governments as well as an aboriginal people. Furthermore, Part 1 includes provisions for equivalency agreements. These are arrangements where a regulation under CEPA 1999 no longer applies in a province, a territory, or an area under the jurisdiction of an aboriginal government that has equivalent requirements.

1.1 National Advisory Committee (NAC)

The CEPA NAC provides for a new direction in consultations under the Act with governments in Canada. For example, unlike under the previous CEPA, the Act now goes beyond consultation on regulations, and aboriginal governments are now represented. In fiscal year 2000-2001, the first year of CEPA's implementation, the NAC held telephone conferences on average once a month and held two face-to-face meetings. Some of the Federal initiatives brought to the NAC for discussion included:

- Proposal to publish a notice of intent to recommend that ozone and its precursors be added to Schedule 1 under CEPA 1999;
- The Canadian Council of Ministers of the Environment (CCME) request to develop a linkage between the CEPA NAC and the Environmental Planning and Protection Committee (EPPC) of the CCME;
- Proposed amendments to *Prohibition of Certain Toxic Substances Regulations and draft Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulation*, in fulfillment of the obligation imposed on the Minister of Environment and Health to seek the NAC's advice under s.6(1) on regulations for toxic substances;
- Implementation Strategy for Toxic Substances Management Policy for New Substances: Chemicals and Polymers;
- Policy Framework on Environmental Performance Agreements;

- Guidelines for the Implementation of the Pollution Prevention Planning Provisions of Part 4 of CEPA 1999;
- Guidelines for the Implementation of CEPA 1999 Section 199, Authorities for Requiring Environmental Emergency Plans;
- Status of CCME initiatives, including Canada-wide Standards;
- Update on the Modernization of Federal PCB Regulations;
- Biosafety Protocol and initiatives on biotechnology under CEPA 1999;
- Guidelines for the Use of Information Gathering Authorities under Section 46 of CEPA 1999; and
- Notice of Intent on Cleaner Vehicles, Engines and Fuels.

In addition to providing advice and input on matters such as those listed above, the NAC received continuous updates on the progress of other activities under the Act, such as assessments of substances to determine whether or not they are toxic; the proposed integration of an inventory of air contaminants with the National Pollutant Release Inventory (NPRI); and the proposed approach to comply with the requirement in CEPA 1999 for the Ministers of Environment and Health to categorize the Domestic Substances List.

www.ec.gc.ca/CEPARegistry/gene_info/nac.cfm

1.2 Canada–Saskatchewan Administrative Agreement

The Canada–Saskatchewan Administrative Agreement for the *Canadian Environmental Protection Act*, in force since September 1994, is a work-sharing arrangement covering certain provincial legislation and seven regulations under the original CEPA 1988 and CEPA 1999, namely those related to the pulp and paper sector, ozone-depleting substances, and polychlorinated biphenyls (PCBs).

www.ec.gc.ca/CEPARegistry/agreements/Admin_Agree.cfm

There were no prosecutions under CEPA 1999 during 2000–01:

- ***Pulp and paper regulations*** — Only one of two mills is subject to pulp and paper regulations (the *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations*), and it was in compliance.
- ***Ozone-depleting substances regulations*** — Environment Canada and the province are sharing inspection activities. Environment Canada conducted 26 inspections on the sale of small containers. No violations were detected in the 54 aerosol products that were analyzed. The province focused inspections on certification and recovery activities.
- ***PCB regulations*** — Environment Canada conducted one inspection under the *Chlorobiphenyls Regulations* and eight inspections under the *Storage of PCB Material Regulations*. The province conducted 10 PCB storage site inspections. The province, which serves as the 'single window' for reporting spills, received reports of 24 releases of electrical fluids that potentially contained PCBs. Officials confirmed that none of the spills contained PCBs over 50 parts per million and that the appropriate corrective actions, including cleanup, were taken.

1.3 Quebec Pulp and Paper Administrative Agreement

Since 1994, Administrative Agreements have been in place between the province of Quebec and the Canadian government concerning the pulp and paper sector. The second agreement expired on March 31, 2000. Since this time, Environment Canada has been negotiating a renewed agreement. It is expected that the third agreement will be completed by spring 2002.

The province provides a 'single window' to collect data from the Quebec mills and gives this information to Environment Canada to employ its regulatory mechanisms. Each level of government retains full responsibility for verifying industry compliance with its respective regulatory requirements and conducting inspections and investigations.

In 2000–01, Environment Canada reviewed 946 monthly and quarterly reports from mills and municipalities (787 reports concerned the *Fisheries Act*, 159 reports concerned CEPA 1999), produced monthly reports on compliance, and discussed problematic mills with Quebec. Federal enforcement officers issued 16 warning letters and conducted five investigations of alleged violations of the *Fisheries Act*. No enforcement actions were taken under CEPA 1999.

1.4 Canada–Alberta Equivalency Agreement

In December 1994 an Agreement on the Equivalency of Federal and Alberta Regulations for the Control of Toxic Substances in Alberta, came into effect. This agreement recognizes that provincial regulations are 'equivalent' to CEPA 1999 regulations governing the pulp and paper sector, secondary lead smelter releases, and vinyl chloride releases. These CEPA 1999 regulations no longer apply in Alberta.

www.ec.gc.ca/CEPARegistry/agreements/Eqv_Agree.cfm

Under the agreement, the province shares compliance and inspection reports and other information with Environment Canada in order to meet reporting obligations. The implementation and administration of the equivalency agreement have been successful in eliminating duplication of legislative requirements. The regulated facilities continue to remain in compliance with their provincial operating licences for dioxin, furan, and vinyl chloride emissions. The regulated industries affected by this agreement include four kraft mills, one vinyl chloride plant, and one polyvinyl chloride plant. There are no secondary lead smelters currently operating in Alberta.

2. Public Participation (Part 2)

Part 2 requires the establishment of an Environmental Registry of information relating to the Act that is published or made publicly available. The goal of the Registry is to make it easier to access public documents, such as proposed administrative and equivalency agreements, regulations, Ministerial notices, and inventories such as the NPRI.

Part 2 also outlines enhanced rights of individuals:

- It provides enhanced 'whistleblower protection' by prohibiting the disclosure of the identity of individuals who voluntarily report CEPA 1999 offences. In addition, it is an offence to dismiss, harass, or discipline any employee who voluntarily reports a CEPA 1999 violation. CEPA 1999 shows the federal government's strong commitment to encourage and support public participation in the decision-making process.
- It allows for an individual who is at least 18 years of age and a resident of Canada to request an investigation of an alleged offence. Should the Minister fail to conduct an investigation or responds unreasonably, and if there has been significant harm to the environment, then the individual has new rights to proceed with an 'Environmental Protection Action.' This is a civil suit and seeks redress for damage to the environment. The individual is not entitled to any personal damage award under the CEPA 1999 provisions.
- It reiterates the common law and the Quebec Civil Code right to seek compensation through civil action for loss or damage as a result of an alleged violation of the Act or regulations.

2.1 CEPA Environmental Registry

The CEPA Environmental Registry was launched with the proclamation of CEPA 1999 on March 31, 2000. It is a key instrument in meeting the commitment to public participation by providing comprehensive access to information related to the administration of the Act. It also provides an opportunity for the Canadian public to understand how the federal government administers CEPA 1999 by facilitating access, directly and through search capabilities, to public documents.

The content and structure of the Registry continues to evolve as new documents are added and improvements are identified and implemented. Software is in place to monitor access and inquiries, as well as to evaluate use. Quarterly reports provide Environment Canada with information on use statistics, adjustments, additions, and direct public feedback. Use by the public has steadily increased as the site becomes

more popular and well known. Reports indicate that the Registry has experienced a nearly fourfold increase in overall use since April 2000.

www.ec.gc.ca/CEPARegistry

3. Information Gathering, Objectives, Guidelines, and Codes of Practice (Part 3)

Part 3 sets out new requirements to establish, operate, and maintain an environmental monitoring system, conduct research and studies, and publish information, including a periodic report on the state of the Canadian environment. The Minister of Health is obliged to research the effects of substances on human health. New provisions require both Ministers to conduct and report on research on hormone-disrupting substances.

Part 3 also expands the Minister's authority to gather information and reaffirms the requirement to issue objectives, guidelines, and codes of practice. These are non-regulatory science-based targets or recommended practices.

New provisions require the Minister to issue guidelines respecting the use of the information-gathering powers in section 46 and to establish and publish the NPRI.

3.1 Monitoring

Environment Canada manages and participates in programs that monitor water quality, wildlife and biodiversity, climate and weather, and air quality. The following sections provide an example of the types of initiatives under way and their key contributions in 2000–01. Refer to the CEPA Environmental Registry for more information on monitoring activities.

www.ec.gc.ca/CEPARegistry/SandT/monitoring.cfm

3.1.1 Environmental Monitoring Inventory

In 2000–01, Environment Canada initiated the development of the Environmental Monitoring Inventory, a database that contains information on Environment Canada's environmental monitoring programs. There are several hundred programs in the inventory that fall under four main categories — water quality, wildlife/biodiversity, climate/weather, and air quality. The Inventory does not contain monitoring data, but describes the monitoring programs and provides contact information for obtaining further information. To supplement the inventory, a mapping application is being developed that allows the user to query the inventory database and display the monitoring sites on a map of Canada along with specific information regarding the monitoring program. The mapping application is being integrated with the State of the Environment website on the Green Lane and will be made available to the public in the near future.

3.1.2 National Air Pollution Surveillance Network

The National Air Pollution Surveillance Network, established in 1969, is the primary air monitoring network in Canada. This joint federal, provincial, territorial, and municipal network manages 252 monitoring stations in 153 municipalities across Canada. In February 2001, the government announced that it will invest more than $29 million over five years to expand and refurbish monitoring stations across Canada. In 2000–01, air quality data were collected on components of and precursors to smog, such as sulphur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulates, and volatile organic compounds. (The 1999 annual data report was published on the Internet in June 2001 and on hard copy in October 2001.)

www.etcentre.org/publications/biennial_e.html

3.1.3 Ecological Monitoring and Assessment Network

The Ecological Monitoring and Assessment Network, managed by Environment Canada, links the many groups and individuals involved in ecological monitoring in Canada to better detect, describe, and report ecosystem changes. Essential elements include various national and regional monitoring programs, more than 80 long-term integrated ecosystem monitoring sites, and a diversity of ecological monitoring initiatives conducted by numerous partners at all levels of government, non-government organizations, and volunteers. Notable results in 2000–01 include the collaborative development and initial implementation of a standardized set of ecosystem monitoring protocols, a single approach to metadata-based dispersed data management systems, community-based monitoring protocols, and the coordinated reporting of ecosystem status and trends. Major reports on biodiversity and land-use change were produced in partnership with a variety of agencies.

www.eman-rese.ca

3.2 Research

Environment Canada and Health Canada scientists published hundreds of reports, papers, book chapters, articles, and manuscripts on CEPA-related subjects during 2000–01. This impressive body of work appeared in books and scientific journals that are available in libraries and from the publishers. The following sections provide an example of the types of research initiatives under way and their key contributions in 2000–01. Refer to the CEPA Environmental Registry for more information on research activities.

www.ec.gc.ca/CEPARegistry/SandT/default.cfm

Environment Canada Research Institutes

National Water Research Institute
- *conducts a comprehensive program of research and development in the aquatic sciences*

Wastewater Technology Centre
- *develops improved wastewater treatment technologies*
- *develops clean technologies*

Environmental Technology Centre
- *coordinates the federal–provincial National Air Pollution Surveillance Network*
- *studies air emissions from mobile and stationary sources*
- *conducts research on pollution measurement and remediation*

St. Lawrence Centre
- *works to support the St. Lawrence Vision 2000 Project to protect and conserve the St. Lawrence River ecosystem*

National Wildlife Research Centre
- *studies the impact of toxic substances on wildlife*

Meteorological Services of Canada
- *studies the levels and movements of pollutants in the atmosphere*

3.2.1 Hormone-disrupting Substances

CEPA 1999 requires both Ministers to conduct research on hormone-disrupting substances. A significant amount of research is under way, particularly to identify substances that are not highly persistent, but are still widespread in the environment (e.g., substances in industrial and municipal effluents, agricultural runoff, natural estrogens in plants, and pesticides). Even at low levels, they can affect growth, development, or reproduction of organisms in Canadian ecosystems.

www.ec.gc.ca/eds/

A key program to assess these substances is the Endocrine Disrupting Substances Strategy, being led by the five natural resource departments (Environment Canada, Agriculture and Agri-Food Canada, Fisheries and Oceans Canada, Health Canada, and Natural Resources Canada). In 2000–01, the National Water Research Institute ran a workshop to establish a national agenda on the scientific assessment of endocrine-disrupting substances. This work has resulted in a federal research agenda on the scientific assessment of these substances in the Canadian environment that has strongly influenced the direction of Canadian research on this issue within the departments, academia, and industry. (The proceedings, executive summary, and several manuscripts from the workshop were published in a special issue of the *Water Quality Research Journal of Canada, 36(2): 169–346 (2001).*)

What Are Hormone-disrupting Substances?

Hormone-disrupting substances, also referred to as endocrine-disrupting substances, interact with the hormone systems of many species, adversely affecting growth, development, or reproduction. They can disrupt normal function in several ways:

- *by acting like a natural hormone and binding to a receptor, causing a similar response by the cell;*
- *by binding to a receptor and preventing a normal response; and*
- *by interfering with the way in which natural hormones and receptors are synthesized or controlled.*

www.cciw.ca/nwri/issues/eds/intro.html

The National Water Research Institute continued to develop and apply methods for screening the effects of endocrine-disrupting substances on aquatic ecosystems. Key activities in 2000–01 included:

- a project in New Brunswick to identify the role of waste streams from pulp mills;
- field studies in southwestern Ontario to investigate the potential for agricultural animal wastes to enter Great Lakes waterways and for exposure of fish;
- successful application of toxics identification evaluation methods to isolate and identify chemicals with potential to alter endocrine systems (several compounds were identified in municipal effluents); and
- evaluation of methods to screen for the effects of endocrine-disrupting substances in the environment.

The National Wildlife Research Centre developed two methods that will now be used for the systematic detection and assessment of certain endocrine-disrupting substances in birds. A bioassay was successfully used to determine the estrogenic and anti-estrogenic properties of a number of different environmental contaminants in chicken and herring gull embryo cultures.

Environment Canada's Atlantic Region coordinated a three-year study that determined the endocrine-disrupting potential of agricultural pesticides. This study, funded under the Toxic Substances Research Initiative, found no effects that could positively identify endocrine disruption. Although fish populations in intensive agricultural areas were similar to those in reference areas, physiological and developmental effects were detected that could be related to agricultural activities.

3.2.2 Toxic Substances Research Initiative

Launched in 1998, the Toxic Substances Research Initiative is managed by Health Canada and Environment Canada. The key objective is to enhance the knowledge base needed to define and reduce the risk of adverse effects of toxic substances on Canadians and their environment. The initiative enhances existing research partnerships and fosters new alliances between government and non-government researchers across Canada. Priority research areas are cumulative effects, persistent organic pollutants (POPs), metals, endocrine-disrupting substances, and air quality.

In 2000–01, 97 research projects were funded: 77 were renewed from previous years, and 20 are new one-year projects. Most (72%) are to be completed by March 31, 2002, while the rest were completed by March 31, 2001. Examples of current projects include the following:

- Assessment of neurotoxic effects in a First Nations community exposed to PCBs (project #299);
- Field study of physical and chemical evolution of emissions from a smelter and power plant (project #153);
- Respiratory inflammatory response to ozone exposures in asthmatic children and adolescents (project #275);
- Impact of wood combustion on human exposure to pollutant emissions (particulate matter, polycyclic aromatic hydrocarbons [PAHs], volatile organic chemicals, and carbon monoxide) (project #213);
- Chemical and ecotoxicological assessment of the impact of marine tailings disposal (project #130); and
- Endocrine-disrupting effects of persistent organochlorine pollutants in free-ranging Pacific killer whales (project #327).

www.hc-sc.gc.ca/ehp/ehd/tsri/

3.2.3 Other Research Programs

Environment Canada and Health Canada manage and participate in numerous research projects every year throughout Canada. Although it is not possible to describe all of them, the following provides examples of the types of research under way throughout Canada in 2000–01:

- ***Wildlife Contaminants Exposure Model*** — The National Wildlife Research Centre delivered the final version of the Wildlife Contaminants Exposure Model to the Centre for Environmental Assessment of the U.S. Environmental Protection Agency. The model is a user-friendly program and database for computing exposure (as daily intake rates of contaminants per unit body weight) in selected wildlife species. The Environmental Protection Agency will manage the beta-testing and the future, free distribution of the final product.

- ***Metal Releases to the Environment*** — Scientists at the National Water Research Institute are using a combination of laboratory and field studies to evaluate the mechanisms controlling the attenuation of metals and arsenic at four mine sites in Ontario and Manitoba. Active and abandoned mines are the largest point source of metal releases to the environment. Chemical and mineralogical analyses of tailings and aquifer material have been completed to evaluate the mass and form of metals and arsenic accumulated along the groundwater flow path.

- ***Distribution of Persistent Organic Pollutants in the Great Lakes*** — The National Water Research Institute carries out annual surveys to measure the occurrence and spatial distribution of POPs in the Great Lakes, including Lake Erie and the western corridor extending from the Detroit River through Lake St. Clair and the St. Clair River. Samples are analyzed for a suite of toxic substances, including heavy metals, PAHs, organochlorine pesticides, PCBs, and contaminants of emerging interest, including brominated flame retardants and chlorinated paraffins.

- ***Innovative Cleanup Technologies*** — Innovative technologies for contaminated site remediation were researched by the Environmental Technology Centre, including the Organics Destruction Process with co-funding from the National Research Council, a chelant/solvent extraction process, and a form of Microwave-assisted Process™. Another process first developed at Queen's University — the Two-Phase Partitioning Bioreactor — was also further developed with specific application towards removal of certain organic compounds, including PAHs, from contaminated soils. Other research includes working with lignins to reduce hexavalent chromium and developing a new technology for arsenic removal.

- ***Off-road Vehicle Emissions*** — Scientists at the Environmental Technology Centre provided exhaust emissions field-testing expertise and unique prototype instruments in a collaborative project with the City of Houston and the U.S. Environmental Protection Agency to develop a test methodology for conducting emissions testing of off-road vehicles. A general test procedure was developed to measure the exhaust emissions from off-road vehicles while the vehicles were operated under normal in-service conditions. Using this procedure, many different vehicle types were tested, including fire trucks, construction equipment, industrial lawnmowers, street sweepers, and vacuum trucks.

- ***Stationary Source Emissions Sampling*** — The Environmental Technology Centre conducted stack sampling, in support of inventory development and strategic

options planning, to evaluate toxic and greenhouse gas emissions from a variety of sources. This work involved measuring emissions from three active landfills in Calgary, waste incineration at conical burners in Newfoundland, mercury from landfills, volatile organic compounds from stationary and area sources, and fine particulate matter and priority pollutants from federal heating plants in the National Capital Region.

- ***Studies of Polar Chemistry in the High Arctic*** — When the sun rises over the Arctic in March after nearly six months of darkness, unexpected chemical reactions are triggered in the atmospheric boundary layer and at the snow's surface. These reactions can have wide-ranging implications for the global atmosphere and climate and include release of compounds such as nitrogen oxides from the snow surface, the scavenging of ozone by bromine compounds, and conversion of gaseous mercury to more readily deposited particulate forms. In an effort to better understand these reactions, Environment Canada organized the Alert 2000 Study at Alert, Nunavut, from February to May 2000. More than 30 scientists from government agencies and universities in Canada, the United States, France, Italy, Germany, and Japan monitored changes in air and snow chemistry before, during, and after the polar sunrise event, using sophisticated methods such as mass spectrometry and laser-induced fluorescence. Snow physics measurements were also made. The results of this study were presented at the December 2000 meeting of the American Geophysical Union in San Francisco.

3.3 State of the Environment Reporting

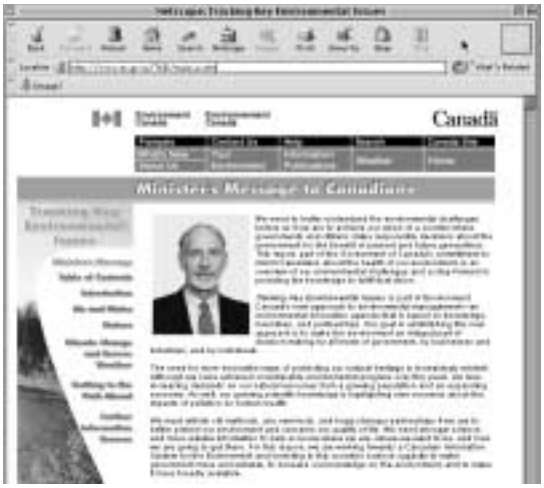
Periodic state of the environment reporting is done as part of the 'Vision for Federal State of Environment (SOE) Reporting in Canada' under the five natural resource departments. Environment Canada contributes reports as well as coordination and support for this work. Indicators, reports, data, and tools are housed or referenced through the State of Canada's Environment Infobase.

www.ec.gc.ca/soer-ree/English/default.cfm

The latest bulletin in Canada's National Environmental Indicator Series, *The Environmental Sustainability of Canada's Agricultural Soils*, was published in spring 2000. It presents indicators of human activity, environmental condition, and societal response related to agricultural soil sustainability. The report indicates that agriculture will be more sustainable if the application of nutrients is in balance with crop requirements and when the risks of soil erosion are reduced through improved agricultural practices. In addition, the energy consumption indicators were updated.

www.ec.gc.ca/soer-ree/English/National/IndWelc.cfm

Work was completed on the report *Tracking Key Environmental Issues* in March 2001. The report covers trends related to Environment Canada's priority issues and explains where further research and data are needed. Intended for a broad public audience, the report highlights the latest changes in air quality, acid rain, freshwater quality and use, toxic contaminants in wildlife, species at risk, and natural areas, as well as climate change and severe weather. (The report was released in May 2001.)

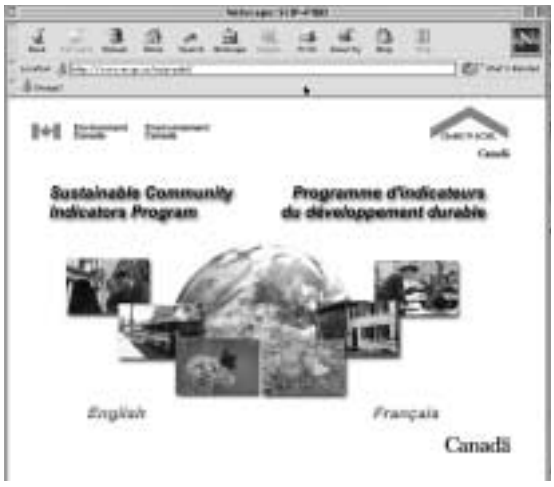


www.ec.gc.ca/TKEI/main_e.cfm

Two State of the Environment Reports were completed: *The State of Municipal Wastewater Effluents in Canada* and *Nutrients in the Canadian Environment*. Each report, developed under the federal government's Vision for State of the Environment Reporting, is based on a science assessment led by Environment Canada. *The State of Municipal Wastewater Effluents in Canada* highlights the status and trends of the release of municipal wastewater effluents in Canada. These releases, which include both sanitary sewage and stormwater discharges, are the largest sources of human-related pollution, by volume, to Canadian waters. The report shows that municipal wastewater effluents contribute to a number of ecological, economic, and human health impacts in Canada. Refer to Section 7.1 of this report for more details on nutrients.

www.ec.gc.ca/soer-ree/English/National/soeass.cfm

The Sustainability Community Indicators interactive software package was released in June 2000. It is designed to help communities develop indicators, monitor their progress towards sustainable development, and facilitate the exchange of indicator-related information. Currently, the Quality of Life Reporting System of the Federation of Canadian Municipalities, housing indicators from Canada Mortgage and Housing Corporation, and the National Environmental Indicators Series are available through the software package. An Internet version is under development.



www.ec.gc.ca/scip-pidd

3.4 Information-gathering Guidelines

As required by CEPA 1999 section 47, the Minister published the *Guidelines for the Use of Information Gathering Authorities under Section 46 of the Canadian Environmental Protection Act, 1999* in April 2001. These Guidelines are intended to improve the consistency and effectiveness of the information-gathering process for the purposes of conducting research, creating an inventory of data, formulating objectives and codes of practice, issuing guidelines, or assessing or reporting on the state of the environment. They outline the factors and options that will be considered by the Minister before issuing notices requiring information.

www.ec.gc.ca/CEPARegistry/guidelines/

Highlights of the 1999 NPRI Report

- *The NPRI was expanded to include an additional 73 substances — 424 facilities submitted 621 reports on these substances.*
- *A total of 2190 facilities reported on the 245 listed substances.*
- *More NPRI substances are being recycled and used for energy recovery (1 080 951 tonnes total) than are being released to air, land, and water (327 695 tonnes total).*

3.5 National Pollutant Release Inventory (NPRI)

The NPRI is the only legislated, nationwide, publicly accessible inventory of its type in Canada. It provides Canadians with information on pollutants being released to the environment from facilities located in their communities. It tracks on-site releases of pollutants to air, water, and land; off-site transfers in waste; and off-site transfers for recovery, reuse, recycling, and energy recovery. The data collected are used in conducting research, formulating environmental objectives and codes of practice, issuing guidelines, or reporting on the state of the environment. The NPRI is published annually and available online. Canadians can search for pollutants in their community by typing in the first three digits of their postal code.

The 1999 NPRI Report was published in December 2000. In February 2001, the government announced $22.9 million in funding to expand the NPRI to help meet commitments made in the Canada–U.S. Air Quality Agreement and the federal government's Clean Air Agenda. The NPRI will expand in 2002 to include precursors of ground-level ozone and components of smog such as nitrogen oxides, volatile organic compounds, sulphur dioxide, particulate matter, fine particulate matter, and carbon monoxide. The number of industrial facilities reporting pollutant emissions is expected to rise from 2190 in 1999 to more than 7000 by 2005. The government is continuing to improve the user-friendliness of the NPRI.

www.ec.gc.ca/pdb/npri/npri_home_e.cfm

Guideline	Published	Work in progress
Water quality	*ammonia*	*inorganic fluorides, aluminum, mercury, nonylphenol and its ethoxylates, nitrates/nitrites, phosphorus*
Sediment quality	*dioxins and furans*	*nonylphenols and its ethoxylates*
Soil quality	*n/a*	*nonylphenols and its ethoxylates, dioxins and furans, selenium, uranium*
Tissue quality	*methylmercury, dioxins and furans*	*n/a*

3.6 Environmental Quality Guidelines

Environment Canada participates in the development of Canadian environmental quality guidelines in cooperation with the CCME. These guidelines are widely used across federal, provincial, and territorial governments and in over 45 countries to assess the status and trends of environmental contamination in water bodies and for managing toxic substance risks in the environment. Guidelines are developed for all media (water, sediment, soil, and tissue) and resource uses, including drinking water quality, recreational water quality, protection of aquatic life, agricultural uses (irrigation and livestock watering), and land uses (agricultural, residential, commercial, and industrial). A compendium of all Canadian Environmental Quality Guidelines, containing over 1000 pages of guidelines, is available in hard copy and CD-ROM formats.

In 2000–01, four new guidelines for water, sediment, and tissue were finalized. In the same period, 11 other guidelines were under development.

www.ec.gc.ca/ceqg-rcqe

4. Pollution Prevention (Part 4)

Part 4 provides new provisions, notably the new authorities to require any person to prepare and implement a pollution prevention plan to avoid or minimize pollution and to reduce the overall risk to the environment or overall health. The Minister may also require pollution prevention plans from Canadian sources of international air and water pollution for substances not on the List of Toxic Substances, with the approval of the Governor in Council and if the government responsible for the area in which the pollution source is located cannot or will not take action. Section 62 requires the Minister to develop guidelines setting out the conditions under which these pollution prevention plans are appropriate.

Part 4 also provides new authorities to:

- develop and publish model pollution prevention plans;
- establish a national pollution prevention information clearinghouse to facilitate the collection, exchange, and distribution of information about pollution prevention; and
- create an awards program to recognize significant achievements in the area of pollution prevention.

4.1 Model Plans and Guidelines

In order to begin using CEPA's pollution prevention tools, Environment Canada undertook a number of necessary, preparatory steps in 2000–01. As required by CEPA 1999, the Minister published the *Guidelines for the Implementation of the Pollution Prevention Planning Provisions of Part 4 of the Canadian Environmental Protection Act, 1999* on February 17, 2001. The Guidelines explain how Environment Canada will use the pollution prevention planning provisions of CEPA 1999 and include templates for both the notices and sample forms.

www.ec.gc.ca/CEPARegistry/plans/P2

The department also published companion documents to assist industry and organizations in understanding pollution prevention planning:

- ***Pollution Prevention Planning Handbook*** — provides detailed direction for facilities, both small and large, on how to develop and implement pollution prevention plans, and includes a model plan.
- ***Frequently Asked Questions*** — helps organizations understand their planning obligations under CEPA 1999, describing in a question and answer format how pollution prevention planning will be administered and what affected parties must do.

www.ec.gc.ca/nopp/cepa-lcpe/index.cfm?l=e

4.2 Pollution Prevention Information Clearinghouse

The Canadian Pollution Prevention Information Clearinghouse, authorized under CEPA 1999 section 63, is a comprehensive Internet tool that links Canadians with the information they need to practise or support pollution prevention. The clearinghouse provides access to a variety of pollution prevention documents, such as technical reports, guides, regulations, training materials, and success stories. The website has been enhanced to reflect the growing interest in pollution prevention, with new sections on CEPA 1999, funding, and planning. It now includes over 1200 pollution prevention references classified under 40 different industrial sectors.

www.ec.gc.ca/cppic

4.3 Pollution Prevention Awards

The Pollution Prevention Awards, presented by the CCME, recognize organizations that have shown leadership and innovation in pollution prevention — the use of processes, practices, materials, products, or energy that avoid or minimize the creation of pollutants and waste at the source. Seven awards were presented in 2000, and a new award category (Pollution Prevention — Greenhouse Gases) was developed this year.

www.ccme.ca/5e_othertopics/5ed_pollution/5ed1.html

2000 Pollution Prevention Awards under the CCME

Hydro One Remote Communities Inc. — Overall Efforts for a Small Business (less than 50 employees)

Working with remote communities that rely on diesel power generation, the company explores and implements renewable energy technologies. Four wind turbines and two run-of-the-river hydroelectric facilities have been installed in four communities to help offset the use of diesel fuel.

Irving Pulp & Paper Ltd. — Co-winner of Overall Efforts for a Medium-sized Business (51 to 500 employees)

Over a four-year period (1994–1997), the company installed five innovative technical changes to improve the quality of its wastewater to achieve 100% non-toxic effluent and reduce biochemical oxygen demand by 75% in October 2000.

Dow Chemical – Western Canada Operations — Overall Efforts for a Large Business (more than 500 employees)

From 1995 to 1999, the company phased out the use of liquid chlorine and eliminated the chlorofluorocarbon refrigeration systems. Dow has also developed a Pollution Prevention Policy that will reduce air and water emissions of priority chemicals by 75% by 2005.

Canadian Vehicle Manufacturers' Association — Overall Efforts for an Institution, Organization, or Group

The Association was an integral force in bringing government and industry partners together and initiating and maintaining the Canadian Automotive Manufacturing Pollution Prevention Project. Overall, reductions and/or elimination of pollutants amount to more than 350 000 tonnes of pollutants and waste. Member companies have saved approximately $11 million using the pollution prevention approach.

Irving Oil, Refining Division — Pollution Prevention Innovations

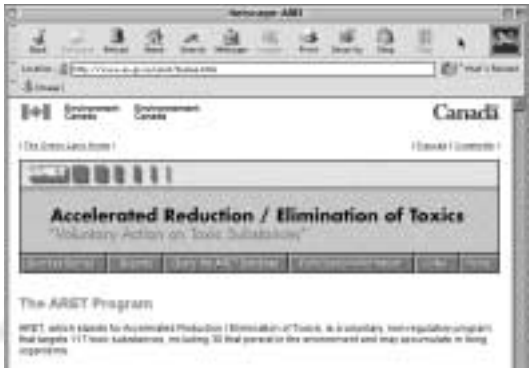
As the first oil refinery in Atlantic Canada to produce low-sulphur gasoline for use by consumers, Irving Oil leads its industry by providing this product two years ahead of legislative requirements.

Conoco Canada Ltd. — Greenhouse Gases and Co-winner of Overall Efforts for a Medium-sized Business

Conoco implemented an air emission reduction program at its Peco Plant, near Edson, Alberta, resulting in a 95% reduction in greenhouse gases (carbon dioxide and methane). The payback period for the project was less than two months, and over $1 million in natural gas is recovered annually.

4.4 Accelerated Reduction/ Elimination of Toxics (ARET)

Complementary to CEPA 1999 pollution prevention tools is the ARET program. It is a voluntary, non-regulatory program that targets 117 toxic substances, including the virtual elimination of 30 that persist in the environment and may accumulate in living organisms. Industry action plans, which outline how they will achieve their commitments, are publicly available. Each year, participants monitor their emissions and report their results. Results in 1999 show that 300 facilities from industry and government reduced total toxic substance emissions to the environment by 27 130 tonnes — 70% lower than base year levels. The report will be published shortly.



www.ec.gc.ca/aret/homee.html

Environment Canada, working in partnership with industry, non-governmental organizations, and other government departments, began developing a new voluntary program to succeed ARET. It will build on ARET by maintaining the pollution prevention challenge to industry and adding the enhanced rigor and accountability required by the department's *Policy Framework on Environmental Performance Agreements*.

4.5 Promoting Pollution Prevention

There are numerous programs across the country that are designed to promote pollution prevention, educate and enable citizens, and provide tools to industry to voluntarily reduce their impacts on the environment. Examples of projects undertaken by Environment Canada's Regional Offices in 2000–01 include the following:

- ***Printing and Graphics Industry*** — CleanPrint Canada helps printing and graphics firms, associations, and governments to reduce or eliminate the use, generation, or release of toxic substances and other substances of concern. Environment Canada is a leader and funding participant in various regional organizations within CleanPrint Canada. In Ontario, over 1249 tonnes of toxic substances and other environmental contaminants have been reduced or eliminated from the waste stream over the past five years. In 2000–01, 400 tonnes of volatile organic compound emissions were eliminated, and 65 300 kilograms of waste ink and 13 600 kilograms of developer and fixer were recycled and reused (**www.cleanprint.org**).
- ***Health Care Facilities*** — A new website shows health care staff how to reduce the environmental impact of their facilities. Healthcare EnviroNet was launched at a series of training workshops in Ontario in the winter of 2000. Healthcare EnviroNet was established with support from the Ontario Region and is developed and maintained by the Canadian Centre for Pollution Prevention in consultation and partnership with health care and non-government organizations **(www.c2p2online.com)**.

- ***Construction Industry*** — The Prairie and Northern Region is working with the road-building and heavy construction industry in Alberta to help reduce the use of toxic substances and encourage pollution prevention practices in their normal business operations. This will be accomplished through the development of comprehensive pollution prevention materials, as well as a series of sector training courses offered through the Alberta Roadbuilders and Heavy Construction Association (**www.arhca.ab.ca**).

- ***Enviroclub*** — Twenty small and medium-sized manufacturing companies from the Quebec Region participated in Enviroclub, a program aimed at promoting leadership in pollution prevention and eco-efficiency. Participants were offered four workshops on topics related to pollution prevention and environmental management as a means of increasing productivity and profitability. At the core of the program is the support of a consultant on the company's premises to implement a pollution prevention or eco-efficiency in-plant project or to help implement initial key elements of an environmental management system. Technical projects target the reduction of toxic chemicals, greenhouse gases, and other priority substances.

5. Controlling Toxic Substances (Part 5)

CEPA 1999 is an 'Act respecting pollution prevention and the protection of the environment and human health in order to contribute to sustainable development.' It provides the federal government with new tools to protect the environment and human health, and it establishes strict deadlines for controlling substances declared toxic under the Act.

CEPA 1999 now explicitly requires implementation of the precautionary principle. This principle states that 'where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.' As a result, the weight of scientific evidence informs decisions under CEPA 1999 about when and how toxic substances should be controlled. This ensures that the protection of the environment and health and safety of Canadians are always first priorities.

Assessing Existing Substances

CEPA 1999 provides more efficient processes for identifying, screening, and assessing toxic substances. Two new measures are included in the Act — the categorization and screening of the DSL, and the review of decisions of other jurisdictions.

The DSL is an inventory of approximately 23 000 substances manufactured in, imported into, or used in Canada on a commercial scale. Part 5 requires the Ministers to categorize and then, if required, to conduct a screening-level risk assessment on all substances listed on the DSL to determine whether they are toxic or capable of becoming toxic. CEPA 1999 also imposes tough deadlines — all DSL substances must be categorized within seven years of Royal Assent, which occurred on September 14, 1999. Canada is the only country in the world taking such a comprehensive approach to examining all substances in commerce.

The PSL was initiated under CEPA 1988. In CEPA 1999, the Ministers must establish and amend the PSL from time to time to allow for additions to the list as a result of nominations from the public, screening-level risk assessments of substances on the DSL, reviews of decisions by other jurisdictions, consultations with other governments in Canada, or any other circumstance that calls for priority assessments.

Managing Toxic Substances

Part 5 imposes strict new deadlines for taking preventive or control action in relation to toxic substances. For substances that have been determined to be toxic under section 77 (i.e., assessed as a result of the PSL, screening of the DSL, or review of another jurisdiction's decision), two years are allowed to develop a proposed preventive or control instrument, such as pollution prevention plans, regulations, or certain guidelines.

Once the proposed instrument is published, interested parties have 60 days to comment on the proposal or file a notice of objection and request the establishment of a board of review. The final instrument must be chosen and published within 18 months after the publication of the proposed instrument.

CEPA 1999 also imposes new requirements for the virtual elimination of releases to the environment of substances that are persistent, bioaccumulative and inherently toxic and that result primarily from human activity. Section 65 further requires the Ministers of the Environment and Health to specify the level of quantification (LOQ) for each substance whose discharges to the environment are targeted for virtual elimination on a Virtual Elimination List. The LOQ is the lowest concentration of a substance that can be accurately measured using sensitive but routine sampling and analytical methods.

Assessing New Substances

Substances that are not on the DSL are considered to be new to Canada. These cannot be manufactured or imported until:

- the Minister has been notified prior to manufacturing or importation of the substance;
- relevant information needed for an assessment of its toxicity has been provided by the notifier; and
- the period for assessing the information (as set out in regulations) has expired.

CEPA 1999 requirements will apply to all new substances unless other applicable Acts contain the same requirements for notice and assessment and are specifically identified on Schedule 2 of the Act. These new provisions mean that CEPA 1999 sets the standard and acts as a safety net for new substances that are not covered under other Acts of Parliament.

Export of Substances

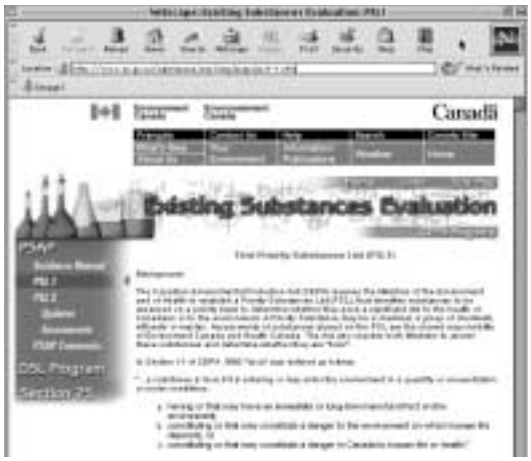
Part 5 allows the Minister to establish an Export Control List containing substances whose export is controlled because their manufacture, import, and/or use in Canada are prohibited or severely restricted or because Canada has accepted, through an international agreement, to control their export.

5.1 Assessments

5.1.1 The First Priority Substances List

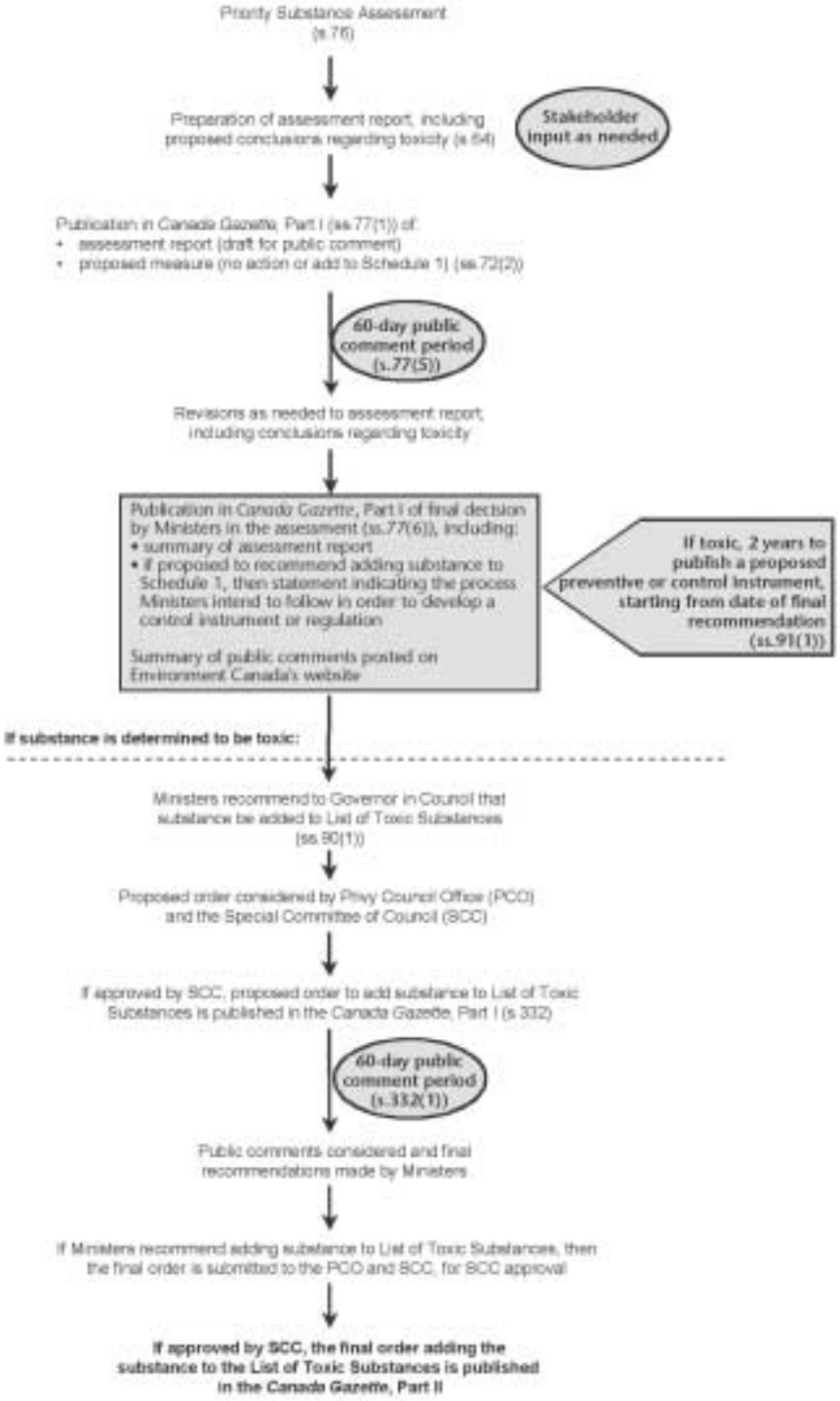
Under CEPA 1988, 44 substances were assessed under the first Priority Substances List (PSL1), which was published in 1989. Twenty-five substances were assessed as toxic under CEPA 1999 and added to the List of Toxic Substances. Five were assessed as not toxic.

There were 14 PSL1 substances for which there was insufficient information to conclude on 'toxicity' to the environment or human health. Environment Canada and Health Canada conducted updates for all of these assessments in 2000–01. In addition, short-chain chlorinated paraffins are being updated. They were concluded to be toxic under PSL1 because they constitute a danger in Canada to human health; however, there was insufficient information to determine whether they are toxic to the environment. In conjunction with this evaluation, medium- and long-chain chlorinated paraffins are also being reevaluated. The updates will be released for public comment in 2001–02.



www.ec.gc.ca/substances/ese/eng/psap/ps/1-1.cfm

Priority Substances List Assessment Process for a Substance Added to the List of Toxic Substance



Results of PSL1		
Toxic	• *Benzene* • *Benzidine* • *Bis(2-ethylhexyl) phthalate* • *Bis(chloromethyl) ether* • *Chlorinated wastewater effluents* • *Chloromethyl methyl ether* • *Creosote-contaminated sites* • *3,3'-Dichlorobenzidine* • *1,2-Dichloroethane* • *Dichloromethane* • *Effluents from pulp mills using bleaching* • *Hexachlorobenzene* • *Hexavalent chromium compounds*	• *Inorganic arsenic compounds* • *Inorganic cadmium compounds* • *Inorganic fluorides* • *Oxidic, sulphidic, and soluble inorganic nickel compounds* • *Polychlorinated dibenzodioxins* • *Polychlorinated dibenzofurans* • *Polycyclic aromatic hydrocarbons* • *Refractory ceramic fibre* • *Short-chain chlorinated paraffins* • *Tetrachloroethylene* • *1,1,1-Trichloroethane* • *Trichloroethylene*
Not toxic	• *Dibutyl phthalate* • *Methyl tertiary-butyl ether* • *Methyl methacrylate*	• *Toluene* • *Xylenes*
Insufficient information to conclude (assessments updated)	• *Aniline* • *Bis(2-chloroethyl) ether* • *1,2-Dichlorobenzene* • *1,4-Dichlorobenzene* • *Chlorinated paraffins** • *3,5-Dimethylaniline* • *Di-n-octyl phthalate*	• *Organotin compounds (non-pesticidal)* • *Pentachlorobenzene* • *Styrene* • *1,1,2,2-Tetrachloroethane* • *Trichlorobenzenes* • *Tetrachlorobenzenes* • *Waste crankcase oils*

* *Short-chain chlorinated paraffins were concluded to be toxic under PSL1 because they constitute a danger in Canada to human health; however, there was insufficient information to determine whether they are toxic to the environment.*

5.1.2 The Second Priority Substances List

Of the 25 substances on the second Priority Substances List (PSL2), published in 1995, risk assessments on 23 were completed by December 2000 within the five-year time frame prescribed under CEPA 1999. As of March 31, 2001, final conclusions have been reached for nine of the 23 substances, and proposed conclusions have been reached for the remaining 14 substances. Executive summaries, the full reports, and brief summaries of public comments are available online.

Draft reports have been completed for two other substances on PSL2 (aluminum salts and ethylene glycol) and are available online. Because of the considerable limitations of the available data on effects of these substances, a definitive conclusion of toxic or not toxic with respect to human health could not be reached. Therefore, assessments of these substances have been suspended in order for Health Canada to collect data on toxicity to human health. State of the Science Reports for these substances have been completed and are available online.

www.ec.gc.ca/substances/ese/eng/psap/public/main.cfm

PSL2 Substance	Draft Report for Public Comment Period	Final Assessment Report (Expected date)	Conclusion (Proposed Conclusion)	Proposed Order Adding to Schedule 1	Final Order Adding to Schedule 1
1,3-Butadiene	*October 2, 1999*	*May 27, 2000*	*Toxic*	*June 10, 2000*	*May 9, 2001*
2-Methoxy ethanol, 2-ethoxy ethanol, 2-butoxy ethanol	*August 19, 2000*	*(Spring 2002)*	*(Toxic)*		
Acetaldehyde	*August 14, 1999*	*May 27, 2000*	*Toxic*	*June 10, 2000*	*May 9, 2001*
Acrolein	*May 1, 1999*	*May 27, 2000*	*Toxic*	*June 10, 2000*	*May 9, 2001*
Acrylonitrile	*June 26, 1999*	*May 27, 2000*	*Toxic*	*June 10, 2000*	*May 9, 2001*
Aluminum chloride, aluminum nitrate, aluminum sulphate	*Assessment suspended for 6 years to collect necessary data to conclude on danger to human life or health. Draft report published in December 2000.*				
Ammonia	*May 13, 2000*	*June 23, 2001*	*Toxic*	*June 23, 2001*	
Butylbenzylphthalate	*May 1, 1999*	*February 5, 2000*	*Not toxic*	*n/a*	*n/a*
Carbon disulfide	*October 23, 1999*	*May 27, 2000*	*Not toxic*	*n/a*	*n/a*
Chloroform	*June 3, 2000*	*March 24, 2001*	*Not toxic*	*n/a*	*n/a*
Ethylene glycol	*Assessment suspended for 5 years to collect necessary data to conclude on danger to human life or health. Draft report published in December 2000.*				
Ethylene oxide	*January 22, 2000*	*(Winter 2002)*	*(Toxic)*		
Formaldehyde	*July 22, 2000*	*(Winter 2002)*	*(Toxic)*		
Hexachlorobutadiene	*July 1, 2000*	*(Spring 2002)*	*(Toxic)*		
Inorganic chloramines	*July 8, 2000*	*June 23, 2001*	*Toxic*	*June 23, 2001*	
N,N-Dimethylformamide	*June 3, 2000*	*March 24, 2001*	*Not toxic*	*n/a*	*n/a*
N-Nitrosodimethylamine	*February 19, 2000*	*(Winter 2002)*	*(Toxic)*		
Nonylphenol and its ethoxylates	*April 1, 2000*	*June 23, 2001*	*Toxic*	*June 23, 2001*	
Phenol	*May 1, 1999*	*February 5, 2000*	*Not toxic*	*n/a*	*n/a*
Releases from primary and secondary copper smelters and copper refineries and Releases from primary and secondary zinc smelters and zinc refineries (one report)	*July 1, 2000*	*(Spring 2002)*	*(Toxic)*		
Releases of radionuclides from nuclear facilities (impacts on non-human species)	*July 29, 2000*	*Dec. 1, 2001*	*(Toxic)*		
PM_{10}	*May 15, 1999*	*May 27, 2000*	*Toxic*	*June 10, 2000*	*May 9, 2001*
Road salts that contain inorganic chloride salts with or without ferrocyanide salts	*August 12, 2000*	*Dec. 1, 2001*	*(Toxic)*	*Dec. 1, 2001*	
Textile mill effluents	*July 1, 2000*	*June 23, 2001*	*Toxic*	*June 23, 2001*	

5.1.3 Categorizing the Domestic Substances List

The DSL is a comprehensive compilation of approximately 23 000 substances that have been or continue to be in Canadian commerce. In 2000–01, there were 224 additions to the DSL and one deletion.

www.ec.gc.ca/CEPARegistry/subs_list/Domestic.cfm

In 1999–2000, Environment Canada initiated a pilot project for 123 organic substances that met the categorization criteria. Of the 123 substances, 93 were identified as persistent and/or bioaccumulative and inherently toxic to non-human organisms, while the other 30 were identified as having a high potential for exposure of Canadians. The list includes a range of organic chemical classes and uses of substances on the DSL and therefore represents a sampling of the types of substances the departments will encounter in the coming years. The pilot project will help to assess the performance and robustness of the categorization methodology and will help in developing the methodology for screening-level risk assessments.

Environment Canada and Health Canada will be carrying out screening-level risk assessments on these 123 substances using a risk-based approach. A consultation process involving interested parties is also being organized by Environment Canada to establish a process to collect current entry and exposure data on these substances to support the assessments.

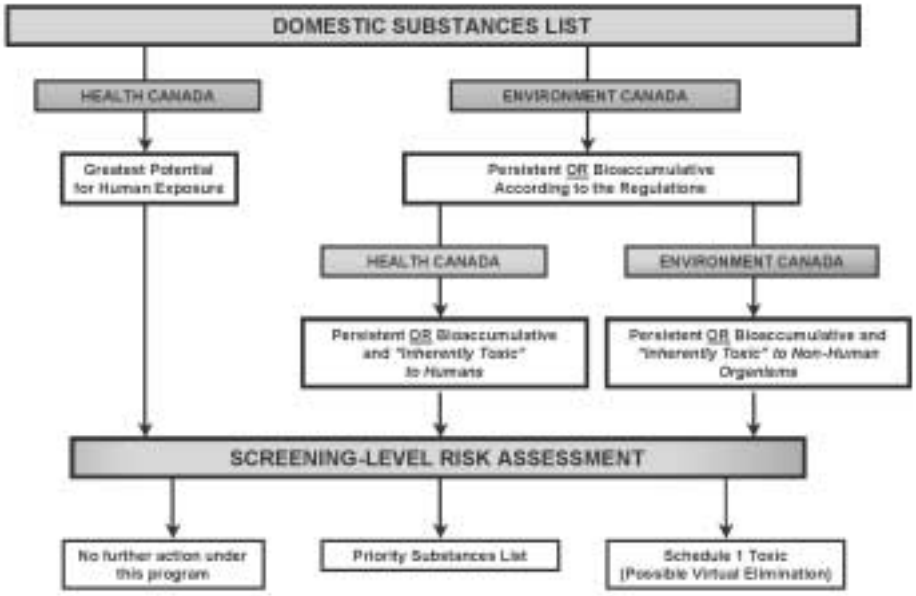
For the environmental categorization, Environment Canada established a multistakeholder Technical Advisory Group to provide expert advice on identifying and resolving issues of a scientific, technical, and process nature that emerge from the pilot project. The advisory group includes representation from government, provinces, industry, environmental groups, and academia. Environment Canada's criteria for inherently toxic to non-human organisms have been drafted and discussed with the Advisory Group. The results of the pilot project will be used to finalize these criteria.

www.ec.gc.ca/substances/ese/eng/dsl/dslprog.cfm

5.1.4 Other Assessments

Key activities in 2000–01 on other substances not on PSL1 or PSL2 are addressed in the following sections.

Categorization and Screening of Substances of the DSL



Perfluoroalkyl Substances

Canadian and international attention has focused on perfluoroalkyl substances since a major manufacturer announced in May 2000 that it was voluntarily phasing out perfluorooctanyl sulphonate compounds. Since many of these substances are persistent, bioaccumulative, and inherently toxic, and as such satisfy criteria for categorization set out under CEPA 1999, reviews and screening-level risk assessments are being carried out by Environment Canada and Health Canada under the provisions relating to categorizing and screening of substances on the DSL. An information-gathering notice under section 71 was published on June 10, 2000, requiring any persons engaged in an activity involving the substances to notify the Minister.

www.ec.gc.ca/CEPARegistry/notices/

Sodium Ferrocyanide

As a result of a public nomination to the PSL in May 2000, Environment Canada is performing a screening-level risk assessment of sodium ferrocyanide, a substance used as an anti-corrosive additive in certain forest fire-fighting chemicals that are dropped from aircraft. These fire retardants are widely used in Canada at very high volumes (millions of litres per year). Several reports of fish kills following the application of

sodium ferrocyanide-containing chemicals were documented. Despite great care taken in battling fires, it is very difficult to avoid fish habitat (lakes and streams) when these substances are dropped from aircraft.

Precursors to Particulate Matter

A Notice of Intent to recommend that Precursors to PM_{10} (sulphur dioxide, nitrogen oxides, ammonia, and volatile organic compounds) be added to the List of Toxic Substances in Schedule 1 was published on July 15, 2000, for a 60-day comment period. This action is a key component of the federal government's Clean Air Agenda. The Ministers based their intent on the PSL Assessment Report for PM_{10}, which identifies the four principal precursors to fine particulate matter. While the precursors were not assessed for their direct effects on human health and the environment, they can transform in the environment into PM_{10}, which is toxic. One-half to two-thirds of fine particulate matter, a major component of smog, can be attributed to contributions from precursor gases in Canada.

www.ec.gc.ca/CEPARegistry/notices/

What Is Smog?

Smog consists primarily of ozone and particulate matter in ambient air. Ozone is a gas formed in sunlight and warm, stagnant air from the precursor gases of nitrogen oxides and volatile organic compounds.

Particulate matter is tiny solids or liquid droplets either released directly into the air from a variety of sources, such as cars, trucks, factories, construction sites, agriculture, unpaved roads, stone crushing, and burning of wood, or formed in the air from the chemical change of gases. Particulate matter is indirectly formed when gases from burning fuels react with sunlight and water vapour. These gases can result from fuel combustion in motor vehicles, at power plants, and in other industrial processes.

Ground-level Ozone

The *Science Assessment Document for Ground-Level Ozone* was published on October 14, 2000. The report concludes that there is a significant association between ambient ozone and adverse health effects and that significant adverse effects on human health and vegetation are occurring at ozone levels currently experienced across Canada. It further specifies that ground-level ozone is formed in the atmosphere from precursors, namely nitrogen oxides and volatile organic compounds. (The Ministers subsequently issued a Notice of Intent to declare ozone and its precursors toxic on June 9, 2001.)

www.ec.gc.ca/CEPARegistry/notices/default.cfm

5.2 Managing Toxic Substances

5.2.1 Toxics Management Process

In 2000–01, a review of Environment Canada's existing risk management processes was undertaken because of the strict new deadlines imposed by CEPA 1999. Building on the lessons learned from the Strategic Option Process, Environment Canada developed a process for the management of toxic substances that will fulfil the new requirements of CEPA 1999. This new process is initially being used to manage PSL2 toxic substances and is being further refined for other toxic substances.

Under this process, risk management strategies that identify a range of risk management tools, including preventive and control instruments, will be developed and will serve as the basis for consultations. Consultations will also be held during the development of specific risk management tools.

5.2.2 Actions on PSL1 Toxics

A report entitled *Benzene in Canadian Gasoline* was released in September 2000. Based on information provided under the *Benzene in Gasoline Regulations*, adopted in 1997, the report highlights the fact that levels of benzene in gasoline have been reduced significantly since the regulations came into effect.

www.ec.gc.ca/oged-dpge/level2e/publicationse.htm

Examples of Risk Management Tools

The following illustrates the suite of risk management tools that are considered when identifying options for managing a substance:

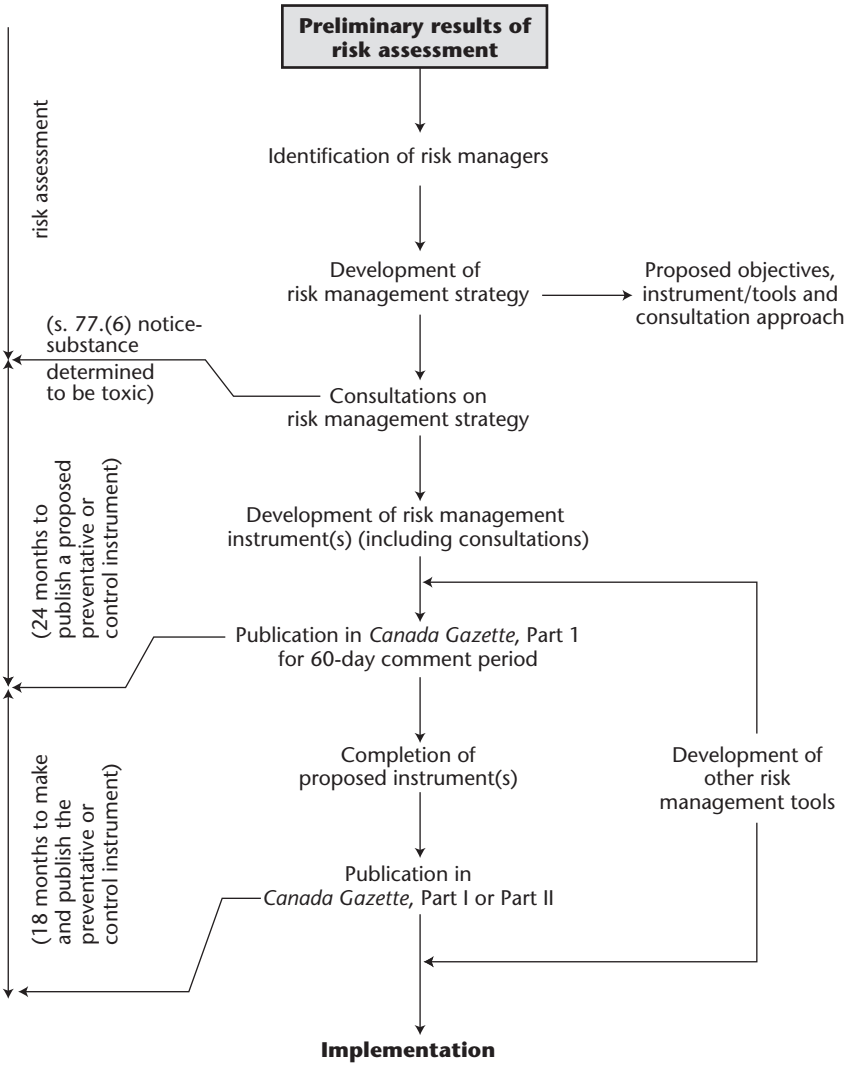
- ***Instruments under CEPA 1999*** *— regulations, pollution prevention plans, environmental emergency plans, administrative agreements, codes of practice, environmental quality objectives or guidelines, release guidelines*
- ***Voluntary approaches*** *— Environmental Performance Agreements, Memoranda of Understanding*
- ***Economic instruments*** *— deposit-refund systems, financial incentives and subsidies, trading systems, environmental charges and taxes*
- ***Joint federal/provincial/territorial initiatives*** *— Canada-wide Standards, guidelines, codes of practice*
- ***Provincial/territorial acts*** *— regulations, permits, or other processes*
- ***Other federal acts*** *— Fisheries Act, Pest Control Products Act, Hazardous Products Act*

Recommendations for the Design and Operation of Wood Preservation Facilities, published in summer 2000, are being voluntarily implemented by industry. Steering committees and working groups, composed of government and industry representatives, are assessing the degree of its implementation by industry.

For the purpose of assessing whether to control or the manner in which to control the substance, a section 71 notice was issued for dichloromethane to identify persons engaged in an activity involving the substance.

www.ec.gc.ca/CEPARegistry/notices/

Toxics Management Process



During 2000–01, consultations were held on the development of:

- proposed regulations for tetrachloroethylene from the dry cleaning sector (proposed regulations were published on August 18, 2001);
- proposed regulations for benzidine and hexachlorobenzene;
- proposed codes of practice for integrated steel mills and for non-integrated steel mills;
- an Environmental Performance Agreement for 1,2-Dichloromethane; and
- an Environmental Performance Agreement for Refractory Ceramic Fibres.

www.ec.gc.ca/CEPARegistry/participation/

5.2.3 Actions on PSL2 Toxics

During 2000–01, the departments have been gathering information related to the PSL2 toxic substances and initiating the development of risk management strategies. Actions on PSL2 substances will be addressed in a multipollutant approach where possible, targeting groups of substances or taking a sector-specific approach. The specific risk management strategies that will be released for consultation will present the approach undertaken, the proposed objectives, and the proposed risk management tools.

5.2.4 Ozone-depleting Substances

To meet international commitments under amendments to the 1987 Montreal Protocol for the Protection of the Ozone Layer, Environment Canada published final revisions to the *Ozone-depleting Substances Regulations* on January 1, 2001. Canada was one of the first countries to implement the amendments to the Protocol, agreed to by all parties in December 1999. Internationally known as the Beijing Amendment, it contains the following commitments:

- freeze production of hydrochlorofluorocarbons used in refrigeration and cooling equipment;
- report data on the use of methyl bromide, used mainly as a pesticide; and
- ban the production, consumption, and international trade of bromochloromethane, used mainly as a fire-extinguishing agent.

www.ec.gc.ca/CEPARegistry/regulations/

The Parties to the Montreal Protocol, including Canada, decided to ban the production of bromochloromethane beginning on January 1, 2002. The Parties also decided to continue research to determine if *n*-propyl bromide is hazardous to the ozone layer. To support these commitments, Environment Canada issued a section 71 notice on August 12, 2000, requiring any persons engaged in an activity involving the substances to notify the Minister. This information will be used for the purpose of assessing whether these substances are toxic or are capable of becoming toxic or for the purpose of assessing whether to control these substances.

www.ec.gc.ca/CEPARegistry/notices/

Possible Preventive or Control Instruments under CEPA 1999

The following are instruments provided for by CEPA 1999 that, **if they contain preventive or control actions to reduce or eliminate the risk posed to the environment or human health**, *will satisfy the requirements of sections 91 and 92 of CEPA 1999:*

- ***Regulations*** *— A regulation imposes restrictions on an activity related to a substance or sets limits on the concentrations of a substance that can be used, released to the environment, or present in a product. Regulations that could meet s.91 and s.92 requirements include:*
  - *respecting substances on the List of Toxic Substances (s.93)*
  - *prescribing limits to achieve virtual elimination of releases (s.92.1)*
  - *prescribing requirements for fuels (s.140)*
  - *respecting vehicle, engine, and fuel emissions (s.160)*
  - *respecting international air pollution (s.167)*
  - *respecting international water pollution (s.177)*
  - *prescribing a minimum quantity for substances that are currently on the List of Toxic Substances or substances that have been assessed as toxic and will be added to the list (s.200)*
  - *respecting substances that are imported, manufactured, used, processed, released, disposed of, or recycled in relation to government operations or federal and aboriginal lands (s.209(2))*
  - *respecting the protection of the environment in relation to government operations or federal and aboriginal lands, including regulations respecting the establishment of environmental management systems, pollution prevention and pollution prevention plans, and environmental emergencies (s.209)*
  - *respecting systems related to deposits and refunds (s.325) if combined with a regulation under s.93 (toxic substances), s.118 (nutrients), or s.209 (regulations respecting federal entities or federal and aboriginal land)*
  - *respecting systems related to tradable units (s.326) if combined with a regulation under s.93 (toxic substances), s.118 (nutrients), s.140 (fuels), s.167 (Canadian sources of international air pollution), s.177 (Canadian sources of international water pollution), or s.209 (regulations respecting federal entities or federal and aboriginal land).*
- ***Environmental objectives (s.54 and s.208)*** *— Environmental objectives recommend qualitative or quantitative goals or purposes for pollution prevention or environmental control. They often recommend ambient environmental quality targets or maximum acceptable limits.*
- ***Environmental guidelines (s.54, s. 196, and s.208)*** *— Environmental guidelines include qualitative or quantitative recommendations to support or maintain particular uses of the environment. They can be developed to recommend a numerical concentration for toxic substances in water, agricultural water, soil, sediment, and human and animal tissue. Guidelines may also be developed to prevent, prepare for, or respond to an environmental emergency or restore environmental damage.*
- ***Environmental release guidelines (s.54 and s.208)*** *— Environmental release guidelines include recommended limits expressed as concentrations or quantities for the release of substances into the environment from works, undertakings, or activities.*
- ***Codes of practice (s.54, s. 196, and s.208)*** *— Codes of practice recommend procedures, practices, or release limits for environmental control relating to works, undertakings, and activities during any phase of their development and operation, and any subsequent monitoring activities. Codes of practice may also be developed to give industries and regulators clear recommendations on how to reduce emissions, effluents, and wastes and to prevent, prepare for, or respond to an environmental emergency or restore environmental damage.*
- ***Pollution prevention plans (s.56)*** *— The Minister can require any person to prepare and implement a pollution prevention plan outlining actions to prevent or minimize the creation or release of pollutants and waste.*
- ***Environmental emergency plans (s.199)*** *— The Minister can require any person to prepare and implement an environmental emergency plan outlining measures for the prevention of, preparedness for, response to, or recovery from an environmental emergency involving a toxic substance.*
- ***Agreements respecting environmental data and research (s.44)*** *— These agreements are usually cooperative arrangements with other governments or any person respecting the creation, operation, and maintenance of a system for monitoring environmental quality.*
- ***Administrative agreements (s.9)*** *— Administrative agreements are usually work-sharing arrangements between the federal government and provincial, territorial, or aboriginal governments and peoples respecting the administration of CEPA 1999. Canada-wide Standards agreements with the CCME are also signed under this authority.*

5.2.5 Greenhouse Gases

Hydrofluorocarbons are a class of compounds that have intrinsic global warming potential and are included as one of the six key greenhouse gases listed in the Kyoto Protocol. They are also on the List of Toxic Substances under CEPA 1999. A section 71 notice was published on March 17, 2001, requiring information on certain hydrofluorocarbons. This information will assist Environment Canada to understand the use of these substances and assess the need for control strategies.

www.ec.gc.ca/CEPARegistry/notices/

5.2.6 Canada-wide Standards

Developed under the CCME Harmonization Accord, Canada-wide Standards represent political and accountable commitments by Ministers to address environmental protection and health risk issues. The Minister's authority to sign these agreements is found under section 9 of CEPA 1999; however, the agreements represent cooperation towards a common goal, rather than a delegation of authority under CEPA 1999. Many federal actions to achieve these commitments will be taken under CEPA 1999.

In June 2000, the CCME, with the exception of Quebec, agreed to the first-ever Canada-wide Standards on benzene (phase I), mercury emissions, fine particulate matter, and ground-level ozone. These standards, developed in consultation with stakeholders over a three-year period, set the stage for implementing concerted actions to ensure cleaner air for Canadians. Ministers also approved, in principle, new standards for dioxins and furans from waste incineration and the pulp and paper sector, mercury-containing lamps, mercury in dental amalgams, and petroleum hydrocarbons in soil. (All were signed in April 2001 except for mercury in dental amalgams, which was signed in September 2001.)

Additional standards are under development for dioxins and furans from other sectors, mercury emissions from electric power generation, and benzene (phase II). (Benzene, Phase II was approved-in-principle by Ministers in April 2001 and signed in September 2001.)

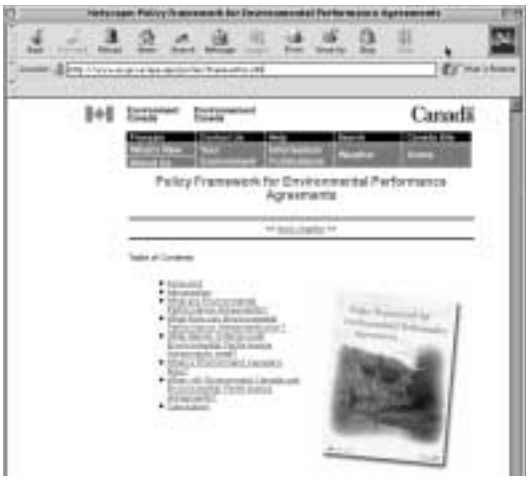
The next challenge is demonstrating results to Canadians. Ministers have committed to be accountable to the public and each other by agreeing to develop implementation plans that will outline the key actions they will take to achieve the standards. Environment Canada has developed and implemented its implementation plan for Benzene, Phase I, and continues its work on the others. (The federal government's Interim Plan 2001 on Particulate Matter and Ozone was released in April 2001.)

Under the Canada-wide Standards for particulate matter and ozone, the department is working with the provinces, territories, and stakeholders to develop multipollutant emissions reduction strategies for the following industrial sectors: electric power, iron and steel, base metals smelting, pulp and paper, concrete and asphalt, and lumber and allied wood products. These strategies will complement and support the development of emissions reduction programs and enable a national roll-up of contributions from all sectors towards achieving the emissions reductions required under the Canada-wide Standards for particulate matter and ozone.

www.ccme.ca

5.2.7 Environmental Performance Agreements

In response to the recommendations in the 1999 audit of federal toxics management programs, Environment Canada developed a draft Policy Framework for Environmental Performance Agreements for public consultations in 2000–01. The policy framework requires that non-regulatory initiatives respect four essential principles: credibility, accountability, results, and cost-effectiveness. It calls for eight required elements: clear objectives and measurable results; clearly defined roles and responsibilities; public participation; verification of results; incentives and consequences; continuous improvement; regulatory backstop; and public reporting. The policy, which provides clarity and predictability to industry, the environmental community, and the public, is being used throughout the department to guide negotiation of voluntary initiatives. (The final Policy was announced in June 2001.)



www.ec.gc.ca/epa-epe/pol/en/framewktoc.cfm

5.2.8 Virtual Elimination

Since CEPA 1999 came into force, there have been no final assessments of substances that would trigger its virtual elimination provisions; however, the department is preparing for this eventuality:

- Regulations under section 67, which set out the criteria for persistence and bioaccumulation, were published in March 2000 **www.ec.gc.ca/CEPARegistry/regulations/**
- A draft report on the LOQs for hexachlorobenzene and dioxins and furans in soil was published in February 2000 **www.ec.gc.ca/dioxin/english/loq.cfm**
- The LOQs for PCBs in stack emissions and ash samples were published in January 2001 **www.ec.gc.ca/pcb/eng/pub_e1.htm#current**
- A study on the LOQs for chlorobenzenes is ongoing.

5.2.9 Toxic Substances Management Policy

Canada continues to promote actions both domestically and internationally on the virtual elimination of substances under the federal Toxic Substances Management Policy, a leading-edge policy among industrialized countries. The Policy calls for the virtual elimination of toxic substances that are persistent and bioaccumulative and that are present in the environment primarily due to human activity (Track 1 substances) and life cycle management of other toxic substances and substances of concern (Track 2 substances).

Nine of the 12 Track 1 substances were active ingredients in pesticides that are now prohibited in Canada. Environment Canada continues to take action to severely limit the others under CEPA 1999 and other fora. For example, in cooperation with the CCME, Canada-wide Standards for dioxin and furan releases from boilers burning salt-laden wood and from waste incineration, which together account for 25% of national releases, will lead to a combined emissions reduction of at least 80% by 2006. Work is continuing on standards for other sectors that emit dioxins and furans, including conical waste combustors, iron and steel, and residential wood stoves.

Internationally, Canada has long been a key player in developing the science and demonstrating the need for international action on POPs. Canada was the first country to ratify a regional POPs Protocol in 1998 under the United Nations Economic Commission for Europe and a global Convention on Persistent Organic Pollutants under the United Nations Environment Programme, adopted in Stockholm in May 2001 (see Section 7.6 for more details).

www.ec.gc.ca/CEPARegistry/policies/

www.ec.gc.ca/CEPARegistry/regulations/

5.2.10 Prohibition of Certain Toxic Substances

Amendments to the *Prohibition of Certain Toxic Substances Regulations* were under development in 2000–01. The regulations feature a schedule listing toxic substances subjected to prohibition for manufacture, use, process, sale, offer for sale, or import. The proposed regulations will add two substances (benzidine and its salt) to the current schedule and set specific conditions on one substance (hexachlorobenzene). (The proposed *Prohibition of Certain Toxic Substances Regulations* were published for consultations on September 29, 2001.)

5.3 Substances and Activities New to Canada

5.3.1 Assessments

During 2000–01, Environment Canada and Health Canada jointly assessed 852 new substance notifications and 154 notifications for transitional substances. Transitional substances were manufactured in or imported into Canada between January 1987 and July 1994 (when the *New Substances Notification Regulations* came into effect). These reviews resulted in the imposition of various kinds of controls on 11 new substances.

www.ec.gc.ca/substances

Track 1 Substances

Twelve substances met the criteria for management under Track 1 of the Toxic Substances Management Policy *when it was first published in Part I of the* Canada Gazette *on July 4, 1998. These substances are:*

aldrin	*chlordane*
DDT	*dieldrin*
endrin	*HCB*
mirex	*heptachlor*
PCBs	*PCDDs*
PCDFs	*toxaphene*

5.3.2 Regulations

Environment Canada and Health Canada made a commitment, at the time of the promulgation of the *New Substances Notification Regulations*, to review the regulations three years after their implementation. In response, the departments initiated consultations involving government, industry, public advocacy groups, and labour representatives, to identify possible amendments to the *New Substances Notification Regulations* and the related programs. Five meetings were held in 2000–01. A report is expected in early 2002.

Proposed amendments to two schedules of the regulations were published on August 5, 2000. Amendments to Schedule IX (type of polymers) enhanced its content readability and understanding. Amendments to Schedule X (list of reactants and their Chemical Abstracts Service registry numbers) updated the list of reactants. (Final amendments were published on June 30, 2001.)

www.ec.gc.ca/substances/nsb/eng/reg_e.htm

5.3.3 Good Laboratory Practice

The CEPA 1999 Good Laboratory Practice (GLP) Compliance Monitoring Unit is responsible for advising scientific evaluators of New Substances Notifications on the quality of submitted test data and for performing inspections and audits in Canadian testing facilities. Highlights of the current year include the following:

- served on the Organisation for Economic Co-operation and Development (OECD) Working Group on GLP and the Steering Group for the GLP Mutual Joint Visit project; chaired a Steering Group on automated information exchange on GLP inspection activities;
- developed a computerized system that identifies any laboratory that has produced data employed in new substances evaluations and assists in identifying false or unverified claims of compliance with GLP requirements; the existing database of all OECD GLP inspections was updated to include about 450 inspections carried out in 1999 and was distributed to member countries for their use;
- participated with inspectors from Switzerland and South Korea in week-long visits to Australia and New Zealand in November 2000 to review programs, observe inspections, and report on findings; and
- inspected two Canadian laboratories (one inspection was conducted together with experts from Australia, Finland, and the United Kingdom to build confidence among GLP programs; conducted a pre-inspection of a third Canadian laboratory to determine its readiness for entry into the monitoring program).

www.etcentre.org/divisions/spd/English/spd.html

www.ec.gc.ca/CEPARegistry/orders

5.3.4 Scheduling of Other Acts

CEPA 1999 allows for the waiving of its notification and assessment requirements for new substances if they are met by another federal Act. This means that CEPA 1999 acts as a safety net — unless new substances fall under other Acts that are specifically listed in Schedule 2 (chemicals or polymers) or Schedule 4 (products of biotechnology), CEPA 1999 requirements will apply to all new substances.

Proposed Orders proposing to add other applicable Acts and Regulations to Schedules 2 and 4 of CEPA 1999 were published on February 10, 2001. The listing of these Acts and Regulations in the CEPA Schedules makes it clear that they meet the exemption criteria laid out in sections 81(6) and 106(6) of CEPA 1999. These criteria require that, prior to their manufacture, import, or sale, new substances are notified and assessed to determine whether they are or may be toxic as set out in section 64 of the Act. Consequently, assessments conducted for uses covered under the listed Acts and Regulations will not be duplicated under CEPA 1999. (The final Orders were published on August 29, 2001. The legal provisions that authorize the Schedules came into force on September 13, 2001.)

CEPA 1999 requirements will apply to new substances subject to the *Food and Drugs Act* and *Fisheries Act* and in certain products under the *Health of Animals Act*, including genetically modified foods, drugs and vaccines, cosmetics, medical devices, and genetically modified (transgenic) fish and animals. Interdepartmental action plans have been initiated to develop regulations under these Acts that meet CEPA 1999 requirements.

5.3.5 International Actions

In an effort to streamline the new substances notification and assessment schemes in Canada and the United States, Environment Canada has partnered with the U.S. Environmental Protection Agency and industry in both countries in the 'Four Corners' pilot project. The pilot project, involving the exchange of technical data and assessment information, ran from July 1996 to July 1998 and was renewed for two more years. During 2000–01, 17 substances were submitted and reviewed under this program. Seven of these substances were added to the Non-Domestic Substances List, and waivers from specific data requirements were recommended for the remaining substances.

Schedule 2 (Chemicals and Polymers)	Schedule 4 (Animate Products of Biotechnology)
Pest Control Products Act and *Pest Control Products Regulations*	*Pest Control Products Act* and *Pest Control Products Regulations*
Feeds Act and *Feeds Regulations*	*Feeds Act* and *Feeds Regulations*
Fertilizers Act and *Fertilizers Regulations*	*Fertilizers Act* and *Fertilizers Regulations* *Seeds Act* and *Seeds Regulations* *Health of Animals Act* and *Health of Animals Regulations* (veterinary biologics)

www.ec.gc.ca/substances

Canada chairs the OECD Task Force of New Industrial Chemicals established in 1999–2000. Environment Canada and Health Canada, in association with the Australian National Industrial Chemicals Notification and Assessment Scheme, is part of a wider OECD effort aimed at learning from each other, enhancing information and work sharing, and harmonizing new chemical schemes. During 2000–01, Canada and Australia began developing an agreement between the two countries.

Environment Canada actively contributes as a member of the OECD Task Force on Environmental Exposure Assessment. In August 2000, the OECD published the Guidance Document on Emission Scenario Documents, which will help to improve the understanding of environmental exposure assessment methods on industrial chemicals and enhance international harmonization.

www.oecd.org

5.4 Export of Substances

The Export Control List (Schedule 3), mandated under section 100 of CEPA 1999, contains substances whose export is controlled because their manufacture, import, and/or use in Canada are prohibited or severely restricted or because Canada has accepted, through an international agreement, to control their export.

The list identifies substances that are:

- prohibited from being exported;
- subject to notification or consent; or
- subject to certain restrictions.

The final *Export Control List Notification Regulations* were published on March 29, 2000. They require exporters to provide notice of the proposed exports of substances on the Export Control List and to submit annual reports. The Regulations are instrumental in the implementation of subsection 101(1) and section 103 of the Act. In 2000, there were 10 notifications of exports received and published on the CEPA Environmental Registry.

www.ec.gc.ca/CEPARegistry/subs_list/

6. Animate Products of Biotechnology (Part 6)

Part 6 establishes an assessment process for new animate products of biotechnology (such as living organisms) that mirrors provisions in Part 5 respecting new substances that are chemicals. Inanimate products of biotechnology will continue to be dealt with as 'substances' under Part 5.

Living organisms that are not on the DSL are considered to be new. These cannot be used, manufactured, or imported until:

- the Minister has been notified;
- relevant information needed for an assessment has been provided by the applicant;
- the prescribed fee has been paid; and
- the period for assessing the information has expired.

6.1 Assessments

Since the start of the program in 1997, 88 notifications have been received, and 34 have already been taken through the full assessment procedure. During 2000–01, three additional assessments were completed, with no control actions necessary. A significant new activity notice was issued for one of these substances. For the other 51 notifications, information submitted by companies was incomplete and could not be processed.

6.2 International Actions

The Cartagena Protocol on Biosafety under the Convention on Biological Diversity was negotiated in January 2000. It aims to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. It establishes an advance informed agreement procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory. (Canada signed the Protocol in April 2001.)

www.biodiv.org/biosafety

7. Controlling Pollution and Managing Wastes (Part 7)

7.1 Nutrients

Nutrients are defined as substances that promote the growth of aquatic vegetation. CEPA 1999 provides authority to regulate nutrients in cleaning products and water conditioners that degrade or have a negative impact on an aquatic ecosystem.

In its response to the Parliamentary Standing Committee's review of CEPA 1988, the Government of Canada's five natural resource departments committed to undertake a comprehensive study on nutrients in Canada's environment. The resulting science assessment, *Nutrients and Their Impacts on the Canadian Environment*, together with its companion report, *Nutrients in the Canadian Environment — Reporting on the State of Canada's Environment*, and the associated proceedings of the national nutrient workshop, were completed in 2000–01. The report indicates that environmental problems caused by excessive nutrients are less severe in Canada than in many countries. This is in part due to protective measures implemented by governments in the last 30 years. Nonetheless, while successes have been realized, environmental and human health problems related to nutrients are evident across Canada. (The reports were published in July 2001.)

www.ec.gc.ca/soer-ree/English/National/soeass.cfm

The department also continued research on nutrients in 2000–01:

- Studies by the National Wildlife Research Centre have demonstrated that measuring stable nitrogen isotopes in mallard and other waterfowl feathers has the potential to be used to identify sources of excess nitrogen fertilizers and nitrogenous wastes (e.g., intensive livestock operations). This study is part of a longer-term research project to investigate use of stable isotopes as tools to identify natal origins of migratory birds and sources of environmental contamination.

- A comprehensive assessment of the effects of nutrients from human activities on the Canadian environment conducted by an interdepartmental working group under the leadership of the National Water Research Institute has been completed and is now available to the public. The review paints a clear picture of the extent of the damage to the Canadian environment from nutrients derived from human activities. It shows that there is accelerated eutrophication (excessive algal growth as a result of the abundance of nutrients, resulting in reduction in available oxygen for animal life) of certain rivers, lakes, and wetlands in Canada, resulting in loss of habitat, changes in biodiversity, and loss of recreational potential. In addition, exceedances of drinking water guidelines for nitrate in groundwater are more frequent across Canada.
- The National Water Research Institute is working with water quality managers and researchers in provincial departments, conservation authorities, and universities to gather data on nutrient concentrations, aquatic plant biomass, and related parameters such as water clarity for Ontario streams and rivers. These data will be analyzed and manipulated to propose nutrient guidelines to protect water quality. A similar project is in progress for rivers in western and northern Canada.

7.2 Protection of the Marine Environment from Land-based Sources of Pollution

This Division provides new authorities to issue non-regulatory objectives, guidelines, and codes of practice to help implement the National Programme of Action for the Protection of the Marine Environment from Land-based Activities. These provisions are intended to supplement authority that exists in other federal, provincial, territorial, and aboriginal government laws.

7.2.1 Canada's National Programme of Action

The major threats to the health, productivity, and biodiversity of the marine environment result from human activities on land in coastal areas and further inland. It is widely accepted that some 80% of the pollution in the oceans originates from land-based activities. As part of an international initiative to address major land-based threats in an integrated approach, Canada and 108 other nations adopted the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities in November 1995. It requires participating countries to develop national programs of action.

Canada was the first country to respond to this call for action. In June 2000, Canada released its National Programme of Action for the Protection of the Marine Environment from Land-based Activities. Developed by a federal/provincial/territorial committee over the course of four years, Canada's National Programme of Action reflects shared responsibilities and input from two extensive rounds of public consultations.

www.ec.gc.ca/marine/npa-pan/index_e.htm

7.2.2 Information Clearinghouse

To help build the capacity of Canadians and to promote Canada's National Programme of Action (it is better known internationally than it is in Canada), an Information Clearinghouse was launched in March 2001. This online tool provides comprehensive resources on marine and coastal activities, expertise relevant to the Programme, and links to community groups, scientists, and government. The clearinghouse also serves as a focal point for the Secretariat, providing news and distributing documents to the public.

7.2.3 Intergovernmental Review Meeting

In October 2000, Canada agreed to host the first Intergovernmental Review Meeting for the Global Programme of Action, to be held in Montreal in November 2001. This meeting will be a major international event to assess worldwide progress since 1995 on implementing the Programme and will report to the World Summit on Sustainable Development to be held in Johannesburg, South Africa, in September 2002. More than 100 countries are expected to attend, along with numerous intergovernmental and non-governmental organizations. Canada is preparing a Country Report on progress under the National Programme of Action for presentation at the meeting. The Intergovernmental Review Meeting was held November 26-30, 2001.

7.3 Disposal at Sea

These provisions prohibit the disposal (and incineration) of wastes in oceans within Canadian jurisdiction, and by Canadian ships in international waters, unless the disposal is done under a permit issued by the Minister. A permit for ocean disposal will be approved only if it is the environmentally preferable and practical option.

CEPA 1999 introduces changes that reflect new international approaches to controlling disposal at sea:

- a minimum waiting period of 30 days from a permit's publication or amendment in the *Canada Gazette* before disposal operations may begin, to allow anyone with a concern to file a notice of objection unless the permit is necessary to avert an emergency;
- a set of substances (only those listed in Schedule 5 of the Act) that may be considered for disposal at sea;

Disposal at Sea

Disposal at sea may be considered only for the following substances:

1. *Dredged material.*
2. *Fish waste and other organic matter resulting from industrial fish processing operations.*
3. *Ships, aircraft, platforms, or other structures from which all material that can create floating debris or other marine pollution has been removed to the maximum extent possible.*
4. *Inert, inorganic geological matter.*
5. *Uncontaminated organic matter of natural origin.*
6. *Bulky substances that are primarily composed of iron, steel, concrete, or other similar matter that does not have a significant adverse effect, other than a physical effect, on the sea or the seabed.*

- a formal assessment framework (Schedule 6), which is based on the precautionary principle, for permit applications;
- a prohibition on exporting any substance for disposal at sea; and
- a legal obligation for Environment Canada to monitor disposal sites.

7.3.1 Regulations

To ensure consistencies with CEPA 1999, Environment Canada published two proposed regulations on February 17, 2001, to replace the *Ocean Dumping Regulations, 1988*. The *Disposal at Sea Regulations* comply with the new provisions in CEPA 1999 by codifying existing national policy. The *Regulations Respecting Applications for Permits for Disposal at Sea* set out the permit application form. The new regulations include the requirements from the previous regulations and now formally include existing policies, which have been in place since 1994. (Both regulations came into force on August 15, 2001.)

www.ec.gc.ca/CEPARegistry/regulations/

7.3.2 Disposal at Sea Permits

CEPA 1999 prohibits the disposal and incineration of wastes in oceans within Canadian jurisdiction, and by Canadian ships in international waters, unless the disposal is done under a permit issued by the Minister. CEPA 1999 takes a precautionary approach by listing, in Schedule 5, the non-hazardous wastes (e.g., dredged material, fish waste) for which a permit can be issued. Everything else is prohibited. A permit for ocean disposal will be approved only if it is the environmentally preferable and practical option, which is assessed according to an environmental assessment framework set out in Section 6 of the Act.

In 2000–01, 113 permits were issued in Canada for the disposal of 2.46 million tonnes of wastes and other matter. Most of this was dredged material that was removed from harbours and waterways to keep them safe for navigation. Overall, the quantities permitted in 2000–01 are lower than last year and almost two-thirds lower than the previous 10 years. The number of permits issued has remained relatively stable since 1995. Historically, the quantity permitted has been greater than the actual quantity disposed of at sea (often by 30–50%); however, with the monitoring fee for

Summary of Permits Issued and Quantity Permitted in 2000–01				
Type of Material	Permits Issued	% of Total Permits	Quantity Permitted (tonnes)	% of Total Quantity
Dredged material	*58*	*51*	*2 064 800*	*84*
Geological matter	*2*	*2*	*325 000*	*13*
Fisheries waste	*52*	*46*	*72 500*	*3*
Vessels	*1*	*1*	*192*	*<1*
TOTAL	***113***	***100***	***2 462 492***	***100***

Summary of Permits Issued and Quantity Permitted by Region in 2000–01								
	Atlantic		Quebec		Pacific and Yukon		Prairie and Northern	
Type of Material	Permits Issued (tonnes)	Quantity Permitted	Permits Issued (tonnes)	Quantity Permitted	Permits Issued	Quantity Permitted (tonnes)	Permits Issued	Quantity Permitted (tonnes)
Dredged material	*18*	*607 900*	*16*	*117 000*	*23*	*1 112 400*	*1*	*227 500*
Geological matter	*0*	*0*	*0*	*0*	*2*	*325 000*	*0*	*0*
Fisheries waste	*49*	*70 100*	*3*	*2 400*	*0*	*0*	*0*	*0*
Vessels	*1*	*192*	*0*	*0*	*0*	*0*	*0*	*0*
TOTAL	***68***	***678 192***	***19***	***119 400***	***25***	***1 437 400***	***1***	***227 500***

dredged material and geological matter in place since 1999, the quantities permitted now more closely reflect the actual quantities disposed of.

CEPA 1999 provisions for a 30-day waiting period caught some permit applicants unprepared, and some acceptable wastes needed to be disposed of before the 30 days had passed to avert an unacceptable risk to the environment or human health. While no formal waiting period was specified under CEPA 1988, in practice, 10 days were usually allowed after a permit's publication before it came into effect. Of the 113 total permits issued, seven were emergency permits issued for dredged material, fisheries wastes, and a vessel. Each emergency permit required consultation with the International Maritime Organization.

www.ec.gc.ca/CEPARegistry/permits/DisposalAtSea.cfm

7.3.3 Monitoring Program

Under CEPA 1988, routine inspections and investigations were normally carried out to ensure compliance with permits. Monitoring guidelines for dredged material, developed in 1998, are now used in routine disposal site monitoring. With the strengthened requirements in CEPA 1999, the Minister is also mandated to monitor sites that are

used for disposal. Disposal site monitoring is used to verify that permit conditions are met and that assumptions made during the permit review and site selection process were correct and sufficient to protect the environment. The new cost recovery approach to monitoring activities (fees of $470 per 1000 cubic metres for dredged material and inert geological matter) enables regional staff to consult with the regulated community.

Each year, monitoring is conducted at representative sites throughout Canada. Monitoring guidelines for dredged material, developed in 1998, are now used in routine disposal site monitoring. With the introduction of the user fee, regional staff are able to consult with the regulated community on monitoring activities. In 2000, field monitoring was conducted at three sites:

- An examination of the seafloor by sonar was carried out at the Black Point disposal site in the Bay of Fundy, which receives dredged material from the Port of Saint John.
- Sediment sampling and chemical analysis were carried out at a disposal site that receives material from a small fishing harbour in Sainte-Thérèse-de-Gaspé.
- A video study of the seafloor and sediment sampling for chemical analysis were carried out at the Point Grey disposal site in the Strait of Georgia, which receives dredged material from the Port of Vancouver.

Further details can be found in the *Compendium of Monitoring Activities at Ocean Disposal Sites*, which is sent to permittees and submitted to the International Maritime Organization annually.

www.ec.gc.ca/seadisposal

7.3.4 International Actions

With CEPA's stronger controls on disposal at sea, Canada was able to sign on to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter, also known as the London Dumping Convention. In May 2000, Canada became the 10th country consenting to be bound by the Protocol, which is expected to come into force in 2002 once 26 countries have consented to it. The Protocol contains stronger international commitments, such as an assessment framework for wastes and other matter (now found in Schedule 6 of CEPA 1999), a ban on incineration at sea, and a ban on the export of waste for disposal at sea.

www.ec.gc.ca/CEPARegistry/agreements/Intr_Agree.cfm

7.4 Fuels

CEPA 1999 provides the government more flexibility to control fuel qualities. It provides for a performance-based approach to fuel standards and allows for a range of fuel characteristics to be set to address emissions.

Other provisions in CEPA 1999 provide the authority to make regulations distinguishing between different sources of fuels, regarding the place or time of use of the fuel, or where a fuel might affect the operation of emissions control equipment. There are also provisions for a 'national fuels mark' that may be used, after authorization by the Minister, to demonstrate that a fuel conforms to specific requirements provided for by regulations.

7.4.1 Clean Fuels Initiatives

On February 17, 2001, following broad consultations, the Minister of the Environment published the *Federal Agenda on Cleaner Vehicles, Engines and Fuels*. It contains several measures aimed at protecting the environment and health of Canadians by improving the quality of diesel fuel. Actions include:

- reducing the level of sulphur by 2006 in all on-road diesel fuel;
- establishing a new limit for sulphur in off-road diesel fuel; and
- establishing a comprehensive database on diesel fuel quality in order to monitor fuel quality.

The plan also details two measures regarding gasoline:

- a study of the effects of gasoline composition on emissions of toxic substances from vehicles; and
- using CEPA 1999 information-gathering authorities to collect information on the use and release into the environment of the gasoline additive methyl tertiary-butyl ether (MTBE).

The plan also proposes to develop measures to reduce the level of sulphur in light fuel oils used for heating homes and for heavy fuel oils used by industrial facilities.

www.ec.gc.ca/air/new_e.shtml

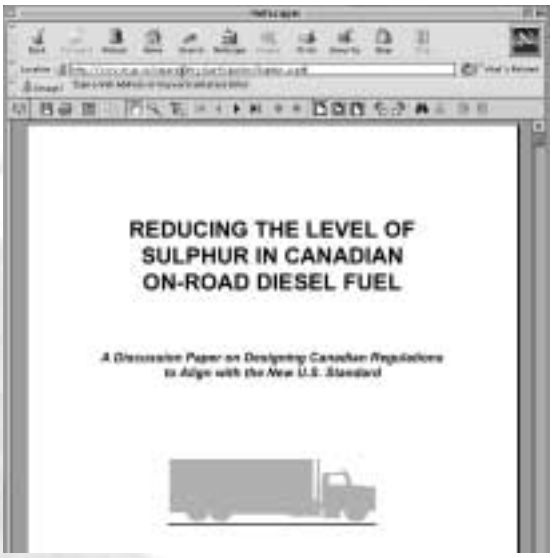
7.4.2 Regulations

High sulphur levels in fuels increase emissions of a number of pollutants from vehicles and contribute significantly to air pollution. Sulphur occurs naturally in crude oil. Its level in fuel products depends on the source of the crude oil and on the extent to which it is removed during the refining process.

The 1999 *Sulphur in Liquid Fuels* report, based on information provided under the *Fuels Information Regulations, No. 1*, was released in April 2000. These reports are updated annually. The regulations, adopted in 1977, require reporting of information on additives and sulphur levels of liquid fuels. The report highlights the fact that heavy fuel oil, even though it constitutes only 8.7% by volume of liquid fuels, contains 73.3% of the total sulphur mass. The Atlantic provinces, Quebec, and Ontario account for 89.9% of the total mass of sulphur present in fuel in Canada.

www.ec.gc.ca/oged-dpge/level2e/publicationse.htm

As part of the fuels agenda, Environment Canada is developing new regulations to reduce sulphur in on-road diesel fuel to 15 parts per million in 2006 from today's limit of 500 parts per million, in alignment with fuel requirements recently passed by the United States. During 2000, Environment Canada initiated consultations on the details of draft regulations that are expected to be proposed in winter 2002.



www.ec.gc.ca/ceparegistry/participation/Sulphur_e.pdf

7.5 Vehicle, Engine, and Equipment Emissions

Vehicle emissions are the largest contributor to Canada's air pollution problem. The strengthened provisions in CEPA 1999 include the authority, formerly in the *Motor Vehicle Safety Act*, to set emission standards for engines in new on-road vehicles. It also includes new authorities to set emission standards for new off-road vehicles and other engines such as those found in lawnmowers, construction equipment, and hand-held equipment. These sections establish a 'national emissions mark' that could be used to require adherence to prescribed standards. Companies would not be permitted to transport within Canada any prescribed vehicles, engines, or equipment that do not have a national emissions mark.

7.5.1 Federal Agenda on Cleaner Vehicles, Engines and Fuels

On February 17, 2001, following broad consultations, the Minister of the Environment published the Federal Agenda on Cleaner Vehicles, Engines and Fuels. This 10-year action plan, which will be supported by regulations, guidelines, and studies over the coming years, includes measures for on-road vehicles and engines, in-use vehicles, and off-road vehicles and engines.

The agenda sets out a plan to develop new Canadian emission standards for vehicles and engines, aligned with those of the United States. Regulations under CEPA 1999 and emissions control programs will be developed to reduce emissions from:

- cars, vans, pick-up trucks, and sports utility vehicles, to be phased in beginning with the 2004 model year;
- large trucks and buses, to be phased in beginning with the 2004 model year;

- off-road diesel vehicles and engines, such as those used in the agricultural sector and by the construction industry;
- gasoline utility engines, such as those used in snowblowers, lawnmowers, and chain saws; and
- outboard marine engines and personal watercraft.

www.ec.gc.ca/air/new_e.shtml

7.5.2 Voluntary Commitments

Four Memoranda of Understanding were signed in 1999 and 2000 with engine manufacturers and associations. These agreements, which address handhelds engines, construction and agricultural equipment, spark-ignition outboard engines, and personal watercraft, represent voluntary commitments by manufacturers to introduce cleaner off-road engines into the Canadian marketplace starting in 2000–01, in advance of future regulatory requirements.

www.ec.gc.ca/air/engines_e.htm

7.5.3 Testing and Research

Testing and research continued in 2000–01 to support action on vehicles and fuels:

- To have the capability and capacity to conduct enhanced compliance/confirmatory exhaust emissions testing, the Environmental Technology Centre initiated an extensive four-year upgrade program involving new test equipment and improved test cell environmental condition controls to measure emissions more accurately from ultra-low-emission vehicles, utility engines, medium- and heavy-duty vehicles, and large outboard marine engines.
- The Environmental Technology Centre conducted an emissions verification test program under the CEPA 1999 *Mobile Source Emissions Regulations* for 1999 and 2000 model year light-duty vehicles and for latest-model utility engines and outboard marine engines. The program included work on 10 vehicles, 30 utility engines, and seven outboard marine engines. Fuel consumption was also measured and provided to Transport Canada for the National Fuel Consumption Program.

www.etcentre.org/divisions/ermd/English/ermd.html

7.6 International Air Pollution

These sections contain authority to address Canadian sources of pollution that contribute to air pollution in another country or violate an international agreement binding on Canada. These sections apply to the release of substances that may not have been determined to be toxic under Part 5, but nevertheless contribute to international air pollution. Before using the powers in this Division, the Minister must first consult with the provincial, territorial, or aboriginal government responsible for the area in which the pollution source is located to determine if that government is willing or able to address the problem.

7.6.1 Global Convention on Persistent Organic Pollutants (POPs)

The negotiations were finalized on the Global Convention on POPs under the United Nations Environment Programme in December 2000. The Convention was signed and ratified by over 90 countries, including Canada, on May 23, 2001, at the United Nations meeting in Stockholm, Sweden. Canada was the first country to ratify the agreement. The convention sets out control measures covering the production, import, export, disposal, and use of 12 POPs. It calls on the 122 countries involved in the final negotiations to promote the best available technologies and practices for replacing existing uses of POPs while preventing the development of new POPs. Countries are to draw up national implementation strategies and develop action plans for carrying out their commitments. While most POPs have been banned or restricted in Canada for years, they are transported from foreign sources through the atmosphere into Canada. All of these POPs are targeted for virtual elimination in Canada.

www.ec.gc.ca/press/2001/010523_n_e.htm

7.6.2 Canada–U.S. Air Quality Agreement

On December 7, 2000, Canada signed an agreement to reduce transboundary smog with the United States through an Ozone Annex under the 1991 Canada–U.S. Air Quality Agreement. Actions under the Annex will reduce air pollution flows from the United States to improve air quality and the health of Canadians living in downwind areas in eastern Canada. The Annex also commits to reducing flows of pollution from areas in Ontario and Quebec into the United States. The Annex commits to actions in these major areas: transportation (new standards for emissions from vehicles and engines and the fuels that power them), industrial sectors (reductions in nitrogen oxide emissions from the electricity

The 'Dirty Dozen'

The Stockholm Convention targets an initial list of 12 POPs, known as the 'dirty dozen,' in three broad categories:

***Pesticides** — DDT, chlordane, toxaphene, mirex, aldrin, dieldrin, endrin, heptachlor*

***Industrial chemicals** — PCBs, hexachlorobenzene*

***By-products and contaminants** — dioxins and furans*

sector and volatile organic compounds from industrial sources and products, including paint coatings, degreasing agents, and solvents), monitoring (track progress on commitments made by both countries), and reporting (expand the NPRI).

www.ec.gc.ca/air/ozone-annex_e.shtml

To meet its commitments under the Agreement, the federal government announced new funding of $120.2 million on February 19, 2001. This plan for action focuses on a 10-year regulatory agenda for cleaner vehicles and fuels, initial measures to reduce smog-causing emissions from industrial sectors, improvements to the cross-country network of pollutant monitoring stations, and expansion of the public reporting by industry on pollutant releases.

www.ec.gc.ca/air/new_e.shtml

International Airshed Planning for the Georgia Basin area was initiated in anticipation of a revised Ozone Annex in 2004 and a Particulate Annex in 2005. A meeting of senior officials of Canadian and U.S. federal, provincial, state, regional, and local authorities and First Nations and Tribes took place in Bellingham, Washington, in February 2001. Participants agreed to initiate the process with a common Statement of Intent to protect air quality in the Puget Sound and Georgia Basin Region and to explore a list of early action items, including characterizing the common airshed, identifying issues and solutions, establishing a clearinghouse of best practices, and creating a clean vehicles and fuels corridor.

Reducing Smog

Canadian actions under the Ozone Annex are estimated to reduce annual nitrogen oxide emissions in the Canadian transboundary region by 44% in 2010, and annual volatile organic compounds emissions by 36% in 2010. The U.S. commitments will reduce annual nitrogen oxide emissions in the transboundary region by 36% in 2010, and annual volatile organic compounds emissions by 38% in 2010.

www.pyr.ec.gc.ca/GeorgiaBasin/gbi_eIndex.htm

www.ec.gc.ca/air/acid-rain_e.shtml

7.6.3 Acid Rain

Canada has made commitments under the 1991 Canada–U.S. Air Quality Agreement to address transboundary air pollution, including sulphur dioxide emissions. Canada's sulphur emissions are all below the applicable caps of the Air Quality Agreement: an annual cap of 2.3 million tonnes for eastern Canada through December 2000, and a permanent cap of 3.2 million tonnes by 2000. In the *Air Quality Agreement 2000 Progress Report*, Canada reported that the total Canadian sulphur dioxide emissions were less than 2.7 tonnes. Forecasts from the 1999 *Annual Progress Report on the Canada-wide Acid Rain Strategy for Post-2000* indicate that emissions will remain below all applicable caps well into the future. Furthermore, through the Canada-wide Acid Rain Strategy for Post-2000, Environment Canada, in partnership with the provinces and territories, continues to address the remaining acid rain problem in eastern Canada to ensure that new acid rain problems do not occur elsewhere in Canada and to ensure that Canada meets its international commitments on acid rain.

7.7 Hazardous Waste, Hazardous Recyclable Material, and Non-hazardous Waste

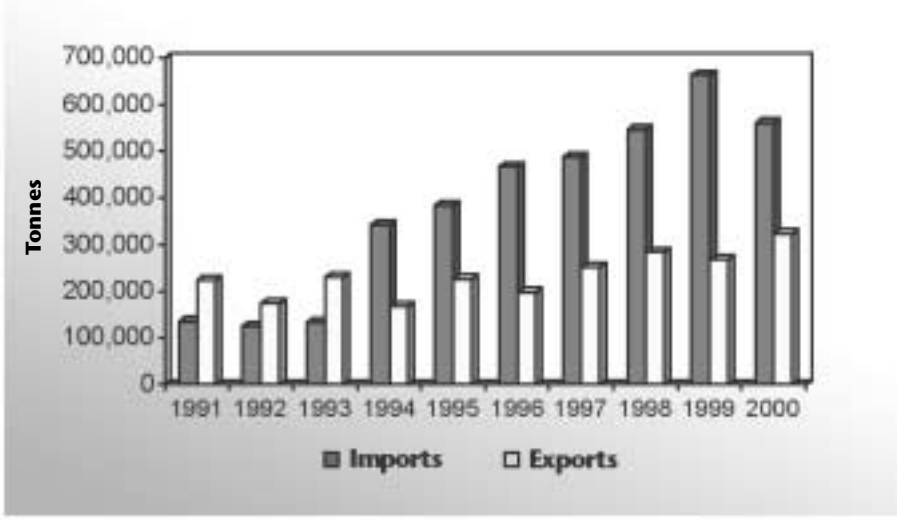
CEPA 1999 builds on the federal government's authority to enact regulations governing the export and import of hazardous waste (including hazardous recyclable materials) and includes new authorities to:

- introduce regulations on the import and export of prescribed non-hazardous waste;
- require exporters of hazardous wastes destined for final disposal to submit reduction plans; and
- develop and implement more stringent criteria to assess the environmentally sound management of transboundary wastes and to refuse permits for import or export if criteria are not met.

It also transfers the authority to control the interprovincial/territorial movements of hazardous waste and hazardous recyclable materials from the *Transportation of Dangerous Goods Act* to CEPA 1999.

CEPA 1999 contains provisions that require the Minister to publish notification information (type of waste, company name, and country of origin or destination) for exports, imports, and transits of hazardous waste and hazardous recyclable material.

Export and Import Statistics 1991–2000



7.7.1 Imports and Exports of Hazardous Wastes

The *Export and Import of Hazardous Wastes Regulations*, which have been in place since 1992, provide a way of tracking the movement of hazardous wastes and hazardous recyclable material into and out of Canada, including transit shipments passing through Canadian territory. These regulations allow Canada to implement its obligations under the Basel Convention on the Control of the Transboundary Movement of Hazardous Wastes and their Disposal, the OECD Council Decision on Recycling, and the Canada–U.S. Agreement on the Transboundary Movement of Hazardous Waste.

During the 2000 calendar year, 8000 notices were processed for proposed imports, exports, and transits of hazardous wastes and hazardous recyclable materials. During the same period, 47 000 manifests were processed for tracking shipments approved under these notices.

The 2000 Canadian statistics on transboundary movement of hazardous waste show an overall decrease from previous years. In 2000, total imports of hazardous wastes were 560 000 tonnes, down 15% from 663 000 tonnes in 1999. There was a 29% reduction in overall imports for disposal and a 32% reduction in imports destined for landfilling from the 1999 calendar year. Information on imports and exports of hazardous waste is published twice a year in the RESILOG newsletter.

www.ec.gc.ca/resilog/resinews.htm

7.7.2 Regulations

In response to the strengthened authorities under CEPA 1999 to control hazardous wastes, Environment Canada is drafting major amendments to two current regulations:

- Amendments to the *Export and Import of Hazardous Wastes Regulations* will

harmonize definitions and controls with recent domestic and international changes as well as improve regulatory efficiency. Preliminary consultations were held in February and March 2001, with another round planned for early 2002. Proposed regulations are expected in 2002.

- Amendments to the *PCB Waste Export Regulations* will include parallel controls for the import of PCB wastes and some requirements for low-level PCB wastes. Stakeholder consultations were held in January and February 2001, with proposed regulations expected in 2002.

The enhanced provisions of CEPA 1999 are also being used to develop new regulations concerning the import and export of wastes and recyclable materials:

- Preliminary consultations were held across Canada in September and October 2000 on new regulations governing the interprovincial/territorial movement of hazardous wastes and hazardous recyclable materials. These regulations will ensure that wastes are transported to and received only at authorized facilities for final disposal and recycling operations. Draft regulations are expected in 2002.
- The department consulted with stakeholders in the winter of 2000 and March 2001 on options for regulating the export and import of non-hazardous wastes destined for disposal. These regulations will permit Canada to meet its international commitments under the Basel Convention and implement CEPA 1999 authorities for reduction plans and criteria for environmentally sound management. Draft regulations are expected in 2002.

7.7.3 Reduction/Phase-out Plans

The mechanism for implementing this new authority was discussed as part of the stakeholder consultations in February and March 2001 on amendments to the *Export and Import of Hazardous Wastes Regulations* and for regulations on the import and export of the prescribed non-hazardous wastes. The requirements for reduction phase-out plans will be implemented in the 2003 amendment to the *Export and Import of Hazardous Wastes Regulations*.

7.7.4 Environmentally Sound Management

In July 2000, the Minister of the Environment called on provinces and territories to help strengthen the standards for all facilities that accept hazardous waste. In the fall of 2000, an action plan to establish a national regime for environmentally sound management was developed in cooperation with the provinces and territories under the CCME. A priority goal is to establish new landfill guidelines. An accelerated program was also initiated with Ontario and Quebec, since most major hazardous waste landfills are located in these provinces.

7.7.5 International Actions

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is a global convention under the United Nations Environment Programme. Canada ratified the Convention in 1992. The primary goals of the Basel Convention are to control the transboundary movement of hazardous and other wastes and hazardous recyclable materials and to ensure that they are managed in an environmentally sound manner.

In 2000–01, Canada participated on the Basel Bureau, which oversees the direction of the Convention and addresses financial issues between the parties of the Convention. Canada also continued its tradition of active participation in the Technical and Legal Working Groups. Current issues within the Convention include furthering the work on environmentally sound management, developing a mechanism for monitoring parties' compliance with the Convention, and establishing criteria for the reduction and elimination procedures under the related POPs Convention.

www.basel.int

8. Environmental Emergencies (Part 8)

Part 8 provides a 'safety net' to fill the gap where no similar federal legislation exists. It provides new authorities to require emergency plans for substances once they have been declared toxic by the Ministers of Environment and Health. Environmental emergency plans for a toxic substance must cover prevention, preparedness, response, and recovery. Authority is also provided to issue guidelines and codes of practice and make regulations. Part 8 also establishes a regime that makes the person who owns or controls the substance liable for restoring the damaged environment and for the costs and expenses incurred in responding to an environmental emergency.

8.1 Guidelines for Environmental Emergency Plans

As authorized by CEPA 1999 section 196, the final *Implementation Guidelines for Canadian Environmental Protection Act, 1999, Section 199, Authorities for Requiring Environmental Emergency Plans* were published on February 17, 2001. Developed in consultation with stakeholders, they describe how Environment Canada will use the environmental emergency planning provisions and include model notices and sample forms.

www.ec.gc.ca/CEPARegistry/plans/E2.cfm

8.2 Risk Evaluation Framework

Not all toxic substances will need environmental emergency plans. Rather, the process to determine which substances require an environmental emergency plan involves the review of substance-specific data (e.g., the quantity in commerce or storage, toxicity and other hazardous properties of the substance, spill frequency, and severity) and whether the risks posed by an uncontrolled, unplanned, or

accidental release of the substance are being adequately managed through other existing federal or provincial requirements. Alternative risk management techniques such as voluntary Environmental Performance Agreements will also be considered if appropriate.

Environment Canada is developing a Risk Evaluation Framework that identifies criteria to apply when evaluating toxic substances to determine whether or not an environmental emergency plan is required. Public consultations will take place in early 2002.

Work in 2000–01 continued on gathering data on the substances on the List of Toxic Substances, with a focus on the 28 substances that are reported to be most frequently spilled or released in emergency situations. Environment Canada has committed to gather data on 45 substances and conduct risk evaluations on 20 of them by 2001–02. Work on the remaining substances will be completed in 2002–03.

www.ec.gc.ca/ee-ue/main/main_e.cfm

9. Government Operations, Federal and Aboriginal Land (Part 9)

Part 9 of CEPA 1999 provides the authority to regulate the federal Crown and all lands, entities, or persons falling within the federal constitutional heads of powers. This Part also requires the Minister to establish objectives, guidelines, and codes of practice for the 'federal house.'

9.1 Regulations

The department has held preliminary consultations on federal hazardous waste regulations that would apply to federal departments, agencies, Crown corporations, and aboriginal land. These regulations will address releases to the environment from the processing, handling, storing, recycling, or disposing of hazardous waste by federal institutions. It is expected that draft regulations will be published in 2002. The department is also developing software designed to enable Internet-based reporting.

9.2 Federal Committee on Environmental Management Systems

The Federal Committee on Environmental Management Systems is an inter-departmental committee co-chaired by Environment Canada and Natural Resources Canada. Its mandate is to demonstrate leadership in the development and implementation of environmental management systems that further sustainable development and to provide ongoing advice as it relates to setting priorities and strategic directions for greening government. In recent years, the Committee has also been used as a forum to discuss compliance and regulatory matters. Topics discussed in 2000–01 include guidelines for boiler emissions, green power guidelines, and storage tank guidelines and regulations.

www.ec.gc.ca/emsinfo/

In 2000–01, the Wastewater Working Group, created under the Committee, presented its final report entitled *An Approach for Assessing and Managing Wastewater Effluent Quality for Federal Facilities*. This report is intended to propose new standards, reflecting today's modern environmental management system setting,

that could be used to assist Environment Canada in updating the Guidelines for Effluent Quality and Waste Water Treatment at Federal Establishments made in 1976.

www.ec.gc.ca/emsinfo/wastew_e.htm

10. Enforcement (Part 10)

CEPA 1999 provides enforcement officers with a wide range of powers to enforce the Act. They can:

- enter premises, open containers and examine contents, and take samples;
- conduct tests and measurements and obtain access to information (including data stored on computers);
- stop and detain conveyances; and
- secure inspection warrants for entry to and inspection of premises that are locked and/or abandoned or where entry has been refused.

Part 10 also provides new authorities for enforcement officers to issue Environmental Protection Compliance Orders to prevent or stop illegal activity or to require action to correct a violation.

In addition, alternative measures such as those found in the Criminal Code for adult offenders and in the *Young Offenders Act* for youth are available under CEPA 1999 for individuals, corporations, and government entities that contravene the Act. These measures are called Environmental Protection Alternative Measures and, after the laying of charges, allow for negotiated settlements that avoid the time and expense of lengthy court cases.

10.1 Compliance and Enforcement Policy

Following a public consultation period, the Compliance and Enforcement Policy for CEPA 1999 was released in March 2001. The new policy incorporates the same guiding principles as in the previous policy. It also contains a description of the new enforcement powers under CEPA 1999 and how enforcement officers would use them. In addition, the chapter on 'Measures to Promote Compliance' clarifies the compliance promotion role of Environment Canada engineers and environmental scientists and stipulates the limitations for enforcement officers in this area. The policy is available in hard copy and on the CEPA Environmental Registry.

www.ec.gc.ca/CEPARegistry/policies/

10.2 Enforcement Officers

10.2.1 Designations

The number of enforcement officers has tripled in the past three years. In the fall of 2000, 24 enforcement officers were designated, with another 5–7 expected to be designated during 2001–02, which will bring the total number of enforcement officers to 95. Regions have hired or are in the process of hiring intelligence officers.

10.2.2 Training

Enforcement training needs have grown exponentially over the past decade. A further challenge for enforcement is that the number of CEPA 1999 regulations has more than tripled since 1991, and many new regulations are being drafted. Most regulations require some level of specialized training to ensure proper enforcement.

This precipitated the need for a detailed review of objectives and methods of training, and, consequently, a national training strategy was established for CEPA 1999. In addition, the department is adding learning and informatics specialists to the current training team to enable new training alternatives and deliver a more effective training program based on adult education principles. An Intranet learning site is in the process of being created.

To prepare analysts for their new responsibilities under CEPA 1999, an Analysts Training Course was developed in 2000–01. A six-week General Enforcement Training Course was given to 24 new officers and six managers responsible for the enforcement of CEPA 1999 and the *Fisheries Act*. Other courses given in 2000–01 included a Basic Marine Operators Course and a Health and Safety Training Course.

Regions are also responsible for ensuring that their enforcement staff are recertified in the use of force and up to date on current techniques. The Prairie and Northern Region developed a National Enforcement Officer Training Course for the *Federal Halocarbons Regulations* and delivered training on sampling of hazardous materials.

10.3 Compliance Promotion

Environment Canada believes that promotion of compliance through information, education, and other means are effective tools in securing conformity with the law. Examples of compliance promotion activities conducted in 2000–01 by Environment Canada's regional offices include the following:

- The Pacific and Yukon Region held three workshops in Vancouver on the *Federal Halocarbon Regulations*. Over 50 regulatees attended these workshops, which included a two-day technical workshop for federal departments, works, and undertakings, a half-day information workshop for managers, and a three-day training workshop for enforcement officers.
- The Pacific and Yukon Region distributed information packages to companies that were identified as possible manufacturers, importers, or blenders of fuels in British Columbia and Yukon to make them aware of the CEPA 1999 fuel regulations.
- The Prairie and Northern Region sent information on the *Ozone-depleting Substances Regulations* to approximately 5000 retailers. Information sessions were held in Edmonton, Calgary, and Winnipeg for customs brokers.
- The Prairie and Northern Region assisted in the development of the National Compliance and Enforcement Strategy on the *Export and Import of Hazardous Wastes Regulations*, which is scheduled for completion in 2001–02.
- The Prairie and Northern Region sent information on the *New Substances*

Notification Regulations to approximately 300 janitorial supply companies and 4500 retailers of biotechnology products in the region. Information sessions were held in Edmonton, Calgary, and Winnipeg for customs brokers.

- Information sessions on pollution prevention, the new provisions under CEPA 1999, as well as a series of presentations on the *New Substances Notification Regulations* were provided on request to several companies and non-governmental organizations in the Ontario Region.
- The Quebec Region produced a fact sheet on the *New Substances Notification Regulations*, which was sent to over 1400 potentially regulated companies in the province.
- The Quebec Region held two one-day workshops in Montreal for over 50 exporters and importers of hazardous waste. Posters and fact sheets were distributed to several customs offices and used for promotional purposes at conferences, workshops, and courses.
- The Quebec Region, together with the Canada Customs and Revenue Agency, conducted four special operations at the United States–Quebec border and the Port of Montreal to improve enforcement of the *Export and Import of Hazardous Wastes Regulations* and the *Ozone-depleting Substances Regulations*.

10.4 Inspections and Enforcement

Every fiscal year, Environment Canada develops a national inspection and compliance promotion plan for the regulations that it administers under CEPA 1999 and the *Fisheries Act*. The plan sets out the national and regional priorities and activities for the coming year. The plan also represents strategic and tactical approaches taken at both the national and regional levels.

www.ec.gc.ca/CEPARegistry/enforcement/

The process for setting plans and priorities continues to evolve and improve. Some of the specific considerations in setting priorities and in developing planned inspection activities include, but are not limited to, environmental significance, geographic scale, compliance history and profile, nature of the regulatory provisions, operational complexity, and the capacity, number, and type of targeted populations or activities.

For 2000–01, the CEPA National Inspection Plan priorities were set in order to measure compliance with the following regulations:

- *Export and Import of Hazardous Wastes Regulations*;
- *Ozone-depleting Substances Regulations*; and
- *New Substances Notification Regulations*.

These regulations were considered significant from an international and environmental standpoint, the first two having been the subject of a follow-up to the 1997 audit by the Office of the Auditor General.

These tables summarize the enforcement activities under CEPA 1988 during the transition period and completed during 2000–01 and the enforcement activities and actions taken in 2000–01 under CEPA 1999.

Enforcement Activities and Actions in 2000–01 under CEPA 1988

Regulations	ENFORCEMENT ACTIVITIES			ENFORCEMENT ACTIONS			
	Field/Site Inspections	Off-site Inspections	Investi-gations	Written Warnings	Directions	Referral to Others	Prosecutions
Asbestos Mines and Mills Release	6	19	0	0	0	0	0
Benzene in Gasoline	0	10	0	4	0	0	0
Chlor-Alkali Mercury Release	0	3	0	0	0	0	0
Chlorobiphenyls	0	1	0	0	0	0	1
Contaminated Fuels	0	1	0	0	0	0	0
Diesel Fuel	0	5	0	0	0	0	0
Export & Import of Hazardous Wastes	10	34	1	5	0	0	0
Federal Halocarbons	0	7	0	0	0	0	0
Fuels Information, No. 1	0	2	0	0	0	0	0
Gasoline	0	20	0	1	0	0	0
*Glycol Guidelines**	1	0	0	0	0	0	0
*National Pollutant Release Inventory***	13	60	0	61	0	0	0
New Substances Notification	3	23	0	1	0	0	0
New Substances Notification – Biotechnology	8	22	1	0	0	0	0
Ocean Dumping, 1988	25	1	1	0	0	0	0
Ozone-depleting Substances, 1998	5	5	1	0	0	0	2
Ozone-depleting Substances	2	22	0	0	0	0	0
Ozone-depleting Substances Products	2	0	0	0	0	0	0
PCB Waste Export	0	21	0	0	0	0	0
Pulp & Paper Mill Defoamer & Wood Chips	2	47	0	0	0	0	0
Pulp & Paper Mill Effluent Chlorinated Dioxins & Furans	2	107	0	0	0	0	0
Secondary Lead Smelter Release	8	0	0	0	0	0	0
Storage of PCB Material	15	23	1	47	0	0	5
Sulphur in Gasoline	24	0	0	0	0	0	0
Toxic Substances Export Notification	2	21	0	0	0	0	0
Vinyl Chloride Release, 1992	1	10	0	2	0	0	0
CEPA Sections	4	8	1	2	0	0	0
CEPA 1988 TOTALS	***133***	***472***	***6***	***123***	***0***	***0***	***8***

* *Inspections were carried out to determine the degree to which the Glycol Guidelines are being implemented on a voluntary basis. These guidelines apply to federal airports that carry out aircraft de-icing and anti-icing.*

** *Although the National Pollutant Release Inventory is not a regulation, inspections are necessary to ensure that data are correct and to follow up with those companies and government institutions that fail to report as required.*

Enforcement Activities and Actions in 2000–01 under CEPA 1999

Regulations	ENFORCEMENT ACTIVITIES			ENFORCEMENT ACTIONS			
	Field/Site Inspections	Off-site Inspections	Investi-gations	Written Warnings	Directions	Referral to Others	Prosecutions
Asbestos Mines and Mills Release	11	10	0	0	0	0	0
Benzene in Gasoline	52	92	0	5	0	0	0
Chlor-Alkali Mercury Release	1	3	0	0	0	0	0
Chlorobiphenyls	72	12	1	0	0	1	0
Contaminated Fuels	24	4	0	0	0	0	0
Diesel Fuel	75	51	0	2	0	0	0
Export & Import of Hazardous Wastes	259	403	4	25	3	6	0
Federal Halocarbons	13	36	0	4	3	0	0
Fuels Information, No. 1	1	63	0	0	0	0	0
Gasoline	40	2	0	0	0	0	0
*Glycol Guidelines**	7	0	0	0	0	0	0
*National Pollutant Release Inventory***	16	22	1	21	0	0	0
New Substances Notification	44	37	0	1	0	0	2
New Substances Notification - Biotechnology	105	24	1	1	0	0	0
Ocean Dumping, 1988	28	5	1	1	0	0	0
Ozone-depleting Substances, 1998	222	143	3	4	0	3	1
PCB Waste Export	0	19	0	0	0	0	0
Prohibition of Certain Toxic Substances	1	1	0	0	0	1	0
Pulp & Paper Mill Defoamer & Wood Chips	19	38	0	0	0	0	0
Pulp & Paper Mill Effluent Chlorinated Dioxins & Furans	19	48	0	0	1	1	0
Registration of Storage Tank Systems…	8	2	0	1	0	0	0
Secondary Lead Smelter Release	10	0	0	0	0	0	0
Storage of PCB Material	211	221	0	238	15	1	0
Vinyl Chloride Release, 1992	1	0	0	0	0	0	0
CEPA Sections	60	73	3	24	0	6	0
CEPA 1999 TOTALS	***1299***	***1309***	***14***	***327***	***22***	***19***	***3***

* *Inspections were carried out to determine the degree to which the Glycol Guidelines are being implemented on a voluntary basis. These guidelines apply to federal airports that carry out aircraft de-icing and anti-icing.*

** *Although the National Pollutant Release Inventory is not a regulation, inspections are necessary to ensure that data are correct and to follow up with those companies and government institutions that fail to report as required.*

10.5 Prosecutions and Key Court Cases

Key prosecutions and court cases in 2000–01 included the following:

- A facility in British Columbia was charged with improperly storing PCB wastes and sending them to a landfill for disposal. The facility pleaded guilty and was fined $30,000. A portion of the fine is to go towards the development of a course for the community on the proper handling and disposal of hazardous wastes.
- A company in British Columbia was charged with importing cylinders of refrigerants without the required entry notice under the *New Substances Notification Regulations*. The products were seized. Of the $20,000 fine levied, $16,000 is to go to a court-ordered environmental project.
- A municipality in Alberta pleaded guilty to improperly storing PCB wastes and releasing PCB-containing oil onto a road. Sentencing is before the courts.
- An Alberta company was charged with violations of the *Chlorobiphenyl Regulations and the Storage of PCB Material Regulations* after ballasts containing PCBs were allegedly disposed of in a landfill. The matter is still before the courts.
- A company in Calgary was charged with violations of the *Ozone-depleting Substances Regulations, 1998* after allegedly exporting chlorofluorocarbons to Cuba. The matter is still before the courts.
- Two companies in Saskatchewan were charged with violations of the *Export and Import of Hazardous Wastes Regulations* for allegedly exporting waste to the United States without authorization. One company pleaded guilty and was fined $4,000. The other company pleaded not guilty, and the matter is still before the courts.
- A company in the Northwest Territories was charged with violations of the *Chlorobiphenyl Regulations and the Storage of PCB Material Regulations* for allegedly improperly storing electrical equipment containing PCBs. The company pleaded guilty and was fined $4,000.
- An Ontario company was convicted of importing canisters containing freon contrary to the *Ozone-depleting Substances Regulations, 1998* and of failing to have proper safety marks contrary to the *Transportation of Dangerous Goods Regulations*. A sentencing hearing has commenced and is scheduled to continue in April 2002.
- A resident of Ontario pleaded guilty of one count each for violating the *Ozone-depleting Substances Regulations, 1998*, the *Transportation of Dangerous Goods Regulations,* and the *Customs Act* in relation to the smuggling of a cylinder containing CFC-12 aboard an Air Canada passenger jet inbound to Toronto. The defendant was fined $2,000, $2,000, and $1,000, respectively, and ordered to do 30 hours of community service.
- An Ontario company has been charged with exceeding its consumption allowance contrary to the *Ozone-depleting Substances Regulations, 1998*. The next appearance is scheduled for June 2002.
- A national company with headquarters in Ontario has been charged with eight counts of importing a product containing trichloroethane, contrary to the *Ozone-depleting Substances Regulations, 1998*. A first appearance is scheduled for March 2002.
- A company in Quebec was charged with violations of the *Storage of PCB Material Regulations* for allegedly improperly storing electrical equipment containing PCBs. The company pleaded guilty and was fined $6,000.
- The operations manager of a company in Quebec was charged with violations of CEPA 1999 for allegedly ocean dumping without a permit. Sentencing is before the courts.

- Two electronics companies, one in Nova Scotia and one in New Brunswick, pled guilty to separate violations of the *Ozone-depleting Substances Regulations, 1998* (offering for sale and selling illegal products). Each company was fined $1,000 and agreed to make donations of $4,000 to the Environmental Damages Fund.
- A New Brunswick company and two of its employees have been charged with exporting hazardous waste in excess of the quantities allowed by their permit under the *Export and Import of Hazardous Wastes Regulations*. The matter is still before the courts.
- A Newfoundland company was charged under CEPA 1999 and the *Fisheries Act* for dumping fish offal outside the designated dumping area and without the necessary permits. The company pled guilty and was fined $10,000, of which $9,500 went to the Environmental Damages Fund.

11. Miscellaneous Matters (Part 11)

Part 11 sets out general authorities or conditions for:

- disclosure of information;
- general regulation-making provisions;
- regulations regarding cost recovery;
- use of economic instruments, including deposit/refund systems and tradeable unit systems;
- prepublication requirements;
- boards of review; and
- review of the Act.

11.1 Economic Instruments

A central element of Environment Canada's new environmental innovation agenda is the use of economic instruments to substitute for or complement regulatory and voluntary approaches. Over the past year, Environment Canada has worked, in some cases in collaboration with other federal departments, to explore complementary measures to regulation (e.g., fiscal instruments) in areas such as nature conservation, reducing sulphur dioxide emissions, and curbing releases of substances of concern.

The department also sponsored an international conference in Vancouver in December 2000, to help build momentum for more substantial use of economic incentives and to share information and experiences on their use. More than 180 people from eight countries attended the conference. Entitled 'Supporting a Sustainable Future: Making Dollars and Sense,' the conference was organized in collaboration with the OECD, the CD Howe Institute, and the National Round Table on the Environment and the Economy.

Environment Canada has also been an active participant in the work of the National Round Table on the Environment and the Economy, which has launched an Ecological Fiscal Reform project. The project has two main objectives: to conduct an in-depth exploration of the concept of ecological fiscal reform, and to focus on a few specific environmental issues with a view to developing a suite of concrete measures. Working groups under this project have been examining possible economic incentives in the areas of conservation of agricultural landscapes, smog, and chemical substances of concern.

Acronyms

ARET	Accelerated Reduction/Elimination of Toxics
CCME	Canadian Council of Ministers of the Environment
CEPA 1999	*Canadian Environmental Protection Act, 1999*
CEPA 1988	*Canadian Environmental Protection Act, 1988* (repealed)
DSL	Domestic Substances List
GLP	Good Laboratory Practice
LOQ	Level of quantification
MTBE	Methyl tertiary-butyl ether
NAC	National Advisory Committee
NPRI	National Pollutant Release Inventory
OECD	Organisation for Economic Co-operation and Development
PAHs	Polycylic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PM_{10}	Particulate matter with aerodynamic diameter less than 10 µm
POPs	Persistent organic pollutants
PSL	Priority Substances List
PSL1	First Priority Substances List
PSL2	Second Priority Substances List

Contacts

Further information on specific CEPA-related programs can be found at the website addresses listed throughout this Annual Report. Further information on CEPA 1999 and related activities can be found online at:

- CEPA Environmental Registry (**www.ec.gc.ca/CEPARegistry**)
- Environment Canada's Green Lane (**www.ec.gc.ca**); and
- Health Canada's website (**www.hc-sc.gc.ca**).

Departmental publications are available from the departmental library or the nearest regional library. Many current departmental publications are also available through Environment Canada's Inquiry Centre, located on the Main Floor of Place Vincent Massey, 351 St. Joseph Boulevard, Hull, Quebec K1A 0H3.

The following communications contacts are also available to provide additional information:

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Research Facilities

Further information on specific CEPA-related research and monitoring programs can be found on the CEPA Environmental Registry **(www.ec.gc.ca/CEPARegistry/SandT/default.cfm).**

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