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**EXECUTIVE
SUMMARY**

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EXECUTIVE SUMMARY

Over 90% of Canadians recently surveyed by Health Canada believe that our air, water and land are more contaminated now than ever before. In 1996, almost two out of every three people surveyed said that their health has likely or has definitely been affected by pollution; in 1989, about half of the people surveyed felt this way. Despite enduring years of high unemployment and economic uncertainty, more than three out of every four individuals said that strict environmental regulation must continue. In fact, when compared with citizens of other countries, Canadians rank first in affirming that economic conditions today are less important than the future health of the environment.

These perceptions are a reflection of both historic trends and current realities. For hundreds of years, and particularly over the last 50 years, we have used the environment as a convenient site for the disposal of wastes, including a wide variety of biological, radioactive, physical and chemical contaminants. As a result, parts of Canada display the effects of past abuses, and studies suggest that many of us—including those living in remote regions such as the Arctic—now have detectable levels of dozens of contaminants in our blood, hair and body tissues.

Fortunately, since reaching a peak in the 1970s, environmental levels of many hazardous contaminants have declined dramatically in Canada. For example, concentrations of lead in our air have fallen to trace levels as a result of a ban on leaded gasoline. Also, with the exception of ground-level ozone, levels of other common air pollutants have dropped. Similarly, over the last two decades, concentrations of polychlorinated biphenyls (PCBs), dioxins and organochlorine pesticides found in soil, food, water and animal and human tissues have fallen, as a result of federal regulations and other initiatives.

Today, from a global perspective, the health of the Canadian environment is relatively good. We enjoy one of the safest food supplies in the world, the overall quality of our air and drinking water is very high, and the built (or human-made) environment is generally cleaner and healthier today than it was 100 years ago. Many surveys have shown that when contaminants are detected in foods and in municipal tap water, the levels are generally many times lower than the maximum acceptable levels set by federal–provincial–territorial guidelines.

As a result of these and other factors, the life expectancy of Canadians is

among the highest in the world, and we have one of the lowest rates of infant death. Despite this, we cannot afford to be complacent. Our environment is under constant pressure, not just from our own actions but from those of people all over the world.

The report *Health and Environment, Partners for Life*, focusses on environmental issues that are of particular concern to the health of Canadians. The report begins with a description of a range of factors that can influence health and a general description of the process of health risk assessment and management. Further chapters provide information on key health risks associated with the natural environment (air, water, food, soil) and describe the impact of the human-built environment on our health. The text describes actions that Health Canada and other agencies are taking to protect and promote the health of Canadians and offers practical suggestions for what individuals can do to protect and enhance their own health. The report notes the progress that has been made in reducing levels of environmental contaminants in Canada and also describes some emerging issues and future challenges related to health and the environment. The following sections summarize key points from each chapter.

What Influences Our Health?

For years, it was believed that the availability of conventional health care services, including hospitals and physicians, was the most important factor influencing health. Over the past few decades, however, there has been a growing consensus that our health is also influenced by other factors. The term *determinants of health* is used to refer to the many factors thought to contribute to the health of populations. They include our social and economic environment, our physical environment (which is the focus of the report), our personal health practices, our individual capacity and coping skills, the



availability of health services, and other factors such as our gender and culture. For example:

- Unemployment and under-employment are associated with poorer health. Stress-related work demands, such as the pace of work, freedom to make decisions and frequency of deadlines, can also have an influence. Health status improves with income level, which relates to the ability to pay for basic necessities, such as adequate food and housing. Higher education is also associated with above-average health status, in part because it leads to more satisfying jobs and higher incomes.
- Emotional support from family, friends and communities can help individuals cope with health-related problems or with issues that may result in health-related problems.
- The physical and emotional care that children receive at a young age can influence their health and coping skills for the rest of their lives. A low weight at birth (under 2500 g) is often followed by health problems in childhood and adulthood.
- Contaminants of both natural and human origin are found in our air, water, food and soil and can have many adverse effects on human health, including cancer, birth defects and respiratory and gastrointestinal illness. In the human-built environment, factors related to housing, the design of communities and transportation systems can influence our psychological and physical well-being. The extent to which natural resources such as agricultural soils, forests, fuel and wildlife are being protected for future generations is also important, especially for our emotional health and the health of our economy.
- Certain lifestyles and personal behaviours can damage our health. For example, both smoking and the abuse of alcohol are associated with an increased incidence of cancer. Other lifestyles and behaviours can improve our health, including regular physical activity and eating a balanced diet.
- Our ability to deal with adverse situations, such as a serious disease or job loss, can influence the way in which these situations affect physical and emotional health.
- Genetic make-up can determine whether we develop inherited disorders and can influence resistance to disease and general level of healthiness.
- The quality and availability of health services can also influence our health status—particularly the degree of access to health services that effectively protect health, promote healthy living, prevent disease, relieve pain and suffering,

restore well-being and function and provide compassionate care for the vulnerable.

- Gender and cultural background can affect how we are treated and accepted within society, which can in turn influence our health status.

A *population health* approach to health care addresses all of the factors that contribute to health and their complex interactions, both in the population as a whole and in specific subgroups. Population health addresses not only the physiological, psychological and behavioural components of health, but also the entire range of elements that contribute to our physical, mental and social well-being. To ensure that key issues are addressed from all perspectives, Health Canada's approach to population health stresses partnerships with voluntary, professional, business, consumer and labour organizations, as well as all levels of government.

Assessing and Managing Health Risks

Canadians are among the healthiest people in the world, but constant effort is required to keep ourselves and our environment healthy. The world is full of risks, and no activity, process or product is without risk. Some risks result from personal choice, such as mountain climbing or sky diving. Others result from substances, processes or products in the environment.

In Canada, health protection is a responsibility shared by individuals, communities, commercial enterprises and all levels of government. Agencies that are involved in health protection often use a formalized approach for assessing and managing health risks. This process generally involves identifying specific hazards, estimating the associated level of risk, developing and analysing potential options for managing the risk, selecting and implementing a specific risk management strategy and monitoring and evaluating the impact of this strategy. These steps may be taken formally or informally, and to varying degrees, depending on the situation and participants involved. In recent years, government agencies have recognized the importance of involving those people who are most affected by risk management decisions directly in the decision-making process.

Risk perception refers to the way in which individuals intuitively see and judge risks. Perceptions can affect behaviour and the decisions people make about controlling risks. Risk perception is influenced by many factors, including age, gender, level of education, region, values and previous exposure to information on the hazard through the news media or other sources. Perceptions may change over time as new information becomes available. Risk management decisions should take into account public perception of risk, as the public

may perceive the level of risk associated with a specific health hazard as being different from (often higher than) the level calculated through scientific experiments and statistical analyses.

Risk communication involves the exchange of information about the existence, nature, form, severity or acceptability of health or environmental risks. Regulatory agencies practise many forms of risk communication. For example, they may provide information to the public to assist in decision making, alert the public to a significant risk or calm concerns about a risk that the public perceives as serious but that has been scientifically assessed as small. Risk communication may also involve obtaining information on public perceptions, attitudes, beliefs and experiences with a particular hazard, as well as public opinions on specific risk assessment and management issues. Proper risk communication allows policy decisions and public discussions to be based on the best information available.

Introduction to the Natural Environment

In recent decades, there has been a growing realization that what we release to our environment will eventually be transferred back to us, in some cases with adverse consequences. Air, water, food and soil are the four principal media by which people can be exposed to environmental contaminants. The report explores the relationship between our health and the health of our natural environment by focussing on the quality of the air, water, food and soil in Canada.

- There are three broad categories of environmental contaminants. *Biological agents* include living organisms, such as bacteria, protozoa, viruses, fungi and algae (as well as the by-products that these organisms produce); house dust mites; and seasonal allergens, such as pollen grains. *Chemical*



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contaminants include organic and inorganic compounds of both natural and human origin. Organic compounds contain carbon usually combined with hydrogen and often other elements as well, such as fluorine, chlorine, bromine, iodine, oxygen, nitrogen, sulphur and phosphorus. Inorganic compounds include air pollutants, such as ozone, nitrogen oxides and sulphur dioxide; metals, such as lead, mercury, cadmium, arsenic and uranium; and other compounds, such as nitrates and fluoride. *Radiation* is wave or particle energy. Canadians are exposed to both natural and artificial sources of high-energy *ionizing* radiation—a form that has sufficient energy to remove electrons from atoms—and lower-energy *non-ionizing* radiation, such as microwaves, ultraviolet light, low-frequency electromagnetic fields and sound.

- In nature, contaminants that are released into air, water or soil often migrate throughout the environment. Although exposure to specific contaminants often occurs through more than one medium, the report describes contaminants and their relationship to human health in terms of the most important medium of exposure, unless there is a potential for significant exposure from multiple media.

- Direct physical health effects of environmental contaminants are typically easier to measure than indirect non-physical health effects, such as stress. As a result, there is frequently much more information available on the former. The report focusses on the effects of environmental contaminants on our physical health. More difficult to quantify, but no less important, are the social, cultural and psychological effects observed when environmental pollution disrupts a community's way of life.
- Although the report attempts to provide a comprehensive view of the contaminants that are of greatest concern to the health of Canadians, it is by no means the final word on the subject. Our understanding of the effects of environmental pollution and its

potential impact on human health is continuously growing and evolving. As well, despite the constant vigilance of public health authorities, new threats to our health can and will continue to emerge.

Air

In Canada, the quality of our air is generally good and is improving. Since the 1970s, there have been significant reductions in air pollution levels in some urban areas. Despite this, air pollution has a measurable impact on our health. For example, it is estimated that more stringent fuel and vehicle emission standards would result in health benefits valued at about \$1 billion per year in Canada.

- Asthma is a respiratory disease that affects more than one million Canadians, resulting in more than 60 000 hospital admissions and 250 000 days in hospital annually from 1990 to 1993 and more than 450 deaths annually from 1990 to 1995. In 1990, the total cost of asthma was estimated at over \$500 million. Asthma is a common chronic illness among children and is the leading cause of school absenteeism. The rate of hospitalization for asthma has increased by 27% for boys and by 18% for girls in the last decade. Asthma can be triggered by a variety of airborne contaminants, such as dust mites, insect feces, pet dander, pollen and fungi.



- Since the 1980s, tobacco smoking has been banned from many public places. In 1994, employees reported that about 80% of Canadian workplaces had smoking restrictions. In the past few decades, the proportion of adults who smoke has declined steadily. However, the overall proportion of smokers aged 15 and older has stabilized at about 31% since the mid-1980s. Recent research suggests that each year, an estimated 40 000 Canadians die from smoking and about 300 non-smoking Canadians die of lung cancer caused by prolonged exposure to other people's tobacco smoke.
- Air quality is improving as a result of reductions in levels of most common air pollutants. Between 1979 and 1993, concentrations of several major air pollutants—including particulates, carbon monoxide, nitrogen oxides and sulphur dioxide—declined significantly. Over the same period, however, average ground-level ozone levels in Canadian cities climbed by 29%, although there was a 50% reduction in severe pollution episodes (i.e. where levels exceeded air quality objectives). Recent studies have revealed a strong association between the number of hospital admissions in Canada for respiratory symptoms and air pollutant levels on the previous day.
- Indoor air quality is an increasingly important issue in Canada. Depending on the types of contaminants present, new air quality problems, such as sick building syndrome, can be created. However, when properly designed, constructed and operated, modern homes and office buildings can be energy efficient *and* provide a healthy environment.
- Ultraviolet radiation is one of the main causes of skin cancer in Canada. In 1995, more than 55 000 Canadians developed various forms of skin cancer. Over the last 15 years, the incidence of

malignant melanoma (lethal skin cancer) has doubled. This is likely due to our modern habit of suntanning rather than the recent depletion of the ozone layer, because skin cancers can take years to appear.

- Since 1895, average global temperatures have increased by 0.5°C. Climate models predict that temperatures will further increase by about 0.3°C *per decade* over the next 100 years, as a result of a steady increase in atmospheric levels of “greenhouse gases,” which trap the sun's infrared radiation. If global warming of this magnitude occurs, it could trigger profound environmental and health effects, such as widespread coastal flooding, an increase in severe weather events and the northward migration of tropical diseases.

Key initiatives to maintain and improve the quality of our air include:

- the National Air Pollution Surveillance Network, which monitors and assesses the quality of outdoor air in Canadian towns and cities;
- the National Ambient Air Quality Objectives, which aim to protect our environment and human health from excessive exposure to common air pollutants found in outdoor air; and

- the NO_x/VOCs Management Plan, the Accelerated Reduction and Elimination of Toxics program, the *Canadian Environmental Protection Act* and the Canada–U.S. Air Quality Agreement, which aim to reduce the concentrations of major airborne contaminants.

Water

Canada contains 15% of the Earth's supplies of fresh water. However, 60% of our water exists far from heavily populated areas, where it is needed for human use. The proportion that is accessible, although generally of high quality, often contains small amounts of environmental contaminants.

Compared with other media, such as food and air, drinking water is a minor source of most pollutants—although it is our principal source of exposure to some micro-organisms and to water disinfection by-products, such as trihalomethanes (THMs). The estimated health care costs related to water pollution are \$300 million per year in Canada.

- About 87% of Canadians receive treated municipal tap water. With a few exceptions, the most potentially serious contamination problems involve tap water from untreated sources, such as private wells. A 1993 study by Agriculture Canada and Health Canada found that about 40% of 1300 rural wells in Ontario had unacceptable levels



of at least one of the chemical and microbiological contaminants surveyed.

- In 1993, more than 200 people became ill during an outbreak of cryptosporidiosis in Kitchener-Waterloo, Ontario. Since then, further outbreaks have been reported in Collingwood, Ontario, and Kelowna, British Columbia, affecting an estimated 15 000 people. The disease is caused by the *Cryptosporidium* parasite. Its symptoms appear from 2 to 10 days after drinking contaminated water and may include diarrhea, stomach cramps or a mild fever; the disease can be fatal in people with weakened immune systems.
- Chlorine is a simple, effective, yet relatively inexpensive agent for destroying harmful microorganisms in tap water, although it can generate potentially harmful by-products, such as THMs, which have been linked to certain cancers. A recent Health Canada study found that long-term consumption of chlorinated surface water with elevated levels of THMs is associated with an increased risk of bladder cancer and possibly colon cancer. The health risks associated with drinking unchlorinated water, however, are much higher than the risks posed by chlorination by-products, as is evident in developing countries with inadequate water treatment systems.
- Water fluoridation helps prevent tooth decay in children without endangering their health. However, even at optimal levels, fluoride may cause dental fluorosis in some children, a generally mild condition involving tooth mottling or discoloration. If children are exposed to much higher levels during the period of tooth formation, from birth to about 12 years of age, moderate to severe dental fluorosis can result. Despite claims to the contrary, there is no evidence that fluoridation can cause heart disease,

cancer, thyroid problems, birth defects, miscarriages or hearing or vision problems.

- About 100 000 home water treatment devices are sold annually in Canada. When not used properly, some devices can become health hazards. Studies have shown that levels of bacteria present in water that has passed through an improperly maintained home filtration device may be up to 2000 times higher than levels in unfiltered water.
- Key initiatives to maintain and improve the quality of our water include:
- the *Guidelines for Canadian Drinking Water Quality*, which are designed to help provincial and municipal authorities and home-owners with individual supplies provide drinking water of sufficient purity to protect human health over an entire lifetime of consuming the water;
 - the *Guidelines for Canadian Recreational Water Quality*, which help public health authorities ensure the safety of public beaches and recreational waters;
 - the Drinking Water Safety Program for Native People, which helps First Nations communities identify and remedy potential water quality problems; and
 - the proposed *Drinking Water Materials Safety Act*, which would protect the health of Canadians by

preventing unsafe drinking water materials from being sold in or imported into Canada.

Food

Canadians are exposed to environmental contaminants primarily through food, although the levels of many pollutants found in commercial foods are kept very low by strict control through federal and provincial legislation and by voluntary actions taken by food producers, processors and packagers. Microbial food-borne diseases, which cost, in health care terms, an estimated \$1 billion per year in Canada, appear to pose a significant risk to our health. However, most adverse incidents could probably be prevented by proper food handling and cooking practices.

- Food-borne bacterial contamination results in over 10 000 reported cases of food-related illness in Canada every year, and health authorities estimate that for every reported case there may be many unreported incidents. The leading causes of food-borne illness are *Salmonella*, *Campylobacter* and *Escherichia coli* (*E. coli*) bacteria, which are often present in raw meat products.
- Food accounts for 80–95% of our total daily intake of persistent organic pollutants, such as PCBs, dioxins and furans, polycyclic aromatic hydrocarbons (PAHs) and



organochlorine pesticides. As a result of stringent controls placed on these substances, levels in the environment and in human breast milk have fallen significantly. For example, PCB concentrations in some species of Great Lakes fish are about 10 times lower than they were in the 1960s. Organochlorine pesticides, such as dichlorodiphenyltrichloroethane (DDT) and chlordane, are no longer registered in Canada but may persist in soil or enter our environment through long-range atmospheric transport from countries where they are still in use.

- Fruits and vegetables may contain natural substances that have been shown to cause cancer in laboratory animals. However, some studies have shown that individuals with diets rich in fruits and vegetables have a significantly reduced risk of cancer, possibly because of the presence of “anti-carcinogens”—substances that may reverse or inhibit the development of cancer.
- Since the 1970s, when mercury contamination was first reported in Canada, mercury levels in the blood and hair of First Nations peoples have dropped significantly. Although no severe cases of methyl mercury poisoning have been confirmed in Canada, the mercury threat has caused serious social and cultural disruption in some Native communities.
- Some naturally occurring and synthetic pollutants have been shown to cause adverse effects on wildlife populations by disrupting the endocrine (hormonal) system. Workplace exposure to high levels of some endocrine disruptors is associated with lower sperm counts, decreased fertility and altered development of the reproductive tract. It is not known, however, whether such substances can cause adverse effects at the levels found in our environment.

- Other potential health hazards in our food supply include metals, such as cadmium and lead, and radionuclides.

Key initiatives to protect the quality of our food supply include:

- the *Food and Drugs Act and Regulations*, which govern the permissible levels of both environmental contaminants found in foods and intentionally added substances, such as food additives and pesticides;
- the *Pest Control Products Act and Regulations*, which assess the safety, merit and value of pesticides, including those used to treat agricultural commodities;
- Health Canada’s Market Basket Surveys, which determine the levels of chemicals found in typical Canadian diets; and
- various programs that aim to assess and manage the risks posed by contaminants in different regions of Canada, such as the Effects on Aboriginals from the Great Lakes Environment (EAGLE) Project, a joint initiative of Health Canada, the Assembly of First Nations and First Nations communities in the Great Lakes Basin.

Soil

Soil contaminants may pose a human health risk as a result of the accidental ingestion of soil particles or as a result

of their migration into air, water and food. Few soils exist that have not been contaminated to some degree, however small, although the extent of contamination varies widely from place to place.

- More than 10 000 public waste disposal sites have been identified in Canada, of which 10% are believed to pose a potential risk to human health or the environment. Under the National Contaminated Sites Remediation Program, federal and provincial governments provided funding for the development of new soil remediation technologies and sponsored the clean-up of several high-risk contaminated properties. The Canadian Council of Ministers of the Environment has established soil quality guidelines for many of the most hazardous pollutants found at contaminated sites.
- During the 1970s and 1980s, more than 1500 leaks were reported in Canada from surface and underground motor fuel and oil storage tanks. Up to 20% of an estimated 200 000 storage tanks still in use have the potential to leak their contents. The leakage of a single litre of gasoline can render up to one million litres of water undrinkable.
- Older homes are a potential source of lead-based paint dust and contaminated soil. Young children are at highest risk of exposure



because of their habit of placing objects or dirt into their mouths. Elevated lead levels in blood are associated with behavioural and developmental problems in children and with adverse reproductive effects in adults. Average blood lead levels in Canadian children are significantly lower today than in the 1970s. To estimate the number of children for whom a concern may exist, it is assumed that 5–10% of urban children have more lead in their bloodstream than the lowest level (10 µg/dL) at which adverse effects have been identified.

- Wood preservatives can migrate out of treated wood and waste materials into soil and may contaminate groundwater supplies. Treatments are added to products to prevent decay, rot and insect infestation.

The Built Environment

Most Canadians spend more time indoors than outdoors and live in or near cities. We are as much a part of our fabricated or *built* environment as we are part of our natural environment. The built environment encompasses all of the buildings, spaces and products that are created or significantly modified by humans. It includes our homes, schools, workplaces, parks, business areas and roads. It extends overhead in the form

of electric transmission lines, underground in the form of waste disposal sites and subway trains and across the country in the form of highways. In Canada, the built environment is generally cleaner and healthier today than it was 100 years ago. Although it still has an impact on our health, the magnitude of the effects is minor compared with what it once was.

- In Canada, urban land is generally segregated according to residential, commercial and industrial uses. Canadian cities are spread out over a large area, which discourages walking and cycling, and the construction and maintenance of services, such as public transit, are expensive. Studies have shown that suburban residents drive twice as far, walk and cycle one-third as often, consume twice as much energy and produce twice as much air pollution as their downtown neighbours.
- Noise pollution can come from a number of sources, including road, rail and air traffic, construction and industrial activities, motorboats, snowmobiles and loud music. Environmental noise is stressful, interfering with sleep, communication and relaxation. It is not known whether its effects on our well-being increase the risk of illness.
- Limited access to affordable housing is a common problem in First Nations communities,

especially in northern Canada. Overcrowding as a result of housing shortages can accelerate the spread of communicable diseases.

- Injury, not disease, is the leading cause of death in infants and children under the age of 14. Each year, approximately 1000 children die from causes related to unintentional injuries. Motor vehicle traffic accidents are the leading injury-related cause of death in this age group.
- Insufficient lighting in buildings can cause headaches and eye strain. In the workplace, excessive heat and humidity can make employees feel lethargic, whereas insufficient heat and humidity can make them restless and easily distracted.
- In 1993, there were more than 12 million cars in Canada, almost one for every two Canadians—one of the highest ratios of car ownership in the world. Engine exhaust from motor vehicles is the largest single source of outdoor air pollution. Automobiles alone account for 10% of all carbon dioxide emissions in Canada. However, federal regulations controlling automobile emissions have led to a significant decline in the concentrations of several common air pollutants over the past two decades.
- The health impact of low-level exposure to electromagnetic fields (EMF) is unknown. Most studies have failed to establish a clear association between exposure to EMF and adverse health effects. Scientists at Health Canada are assessing the potential cancer risks associated with extremely low frequency EMF and are preparing safety guidelines for radio-frequency electromagnetic fields and devices.
- More than 32 million tonnes of solid wastes are generated in Canada each year, including residential, commercial, institutional, light industrial and construction wastes. More than 90% of the Canadian population now has



access to recycling programs, either curbside or depot, for one or more household products.

What You Can Do

In Canada, the job of protecting and enhancing the quality of our health and that of our natural and built environments falls on everyone's shoulders, including federal, provincial, territorial and municipal government agencies, industry, non-governmental associations, health, education and environmental groups—and individuals. Here are a few ways in which you can help:

- Adopt a healthy lifestyle. Eat a balanced diet and exercise regularly.
- Educate yourself. Find out how your community tries to address environmental health issues. Make your concerns known to local industry, government and the media.
- Practise the "4 Rs": reduce, reuse, recycle or recover household items, wherever possible.
- Adopt a sustainable lifestyle. Reduce your consumption of water and energy.

Future Challenges: Sustainable Development and Environmental Health

Canadians contribute disproportionately to many global environmental problems. Perhaps the greatest

challenge we face to ensure our long-term health and the health of our environment is to create a more sustainable society—or, in other words, to embrace the concept of *sustainable development*. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development involves the integration of economic, social and environmental goals, taking into account effects on health. It reflects the fact that development is essential to satisfy human needs and to improve the quality of human life, but it must be based on the efficient and environmentally responsible use of all of society's scarce resources: natural, human and economic.

Initiatives to address the specific issues of health protection and promotion within a context of sustainable development and to address the broad concept of sustainable development itself are being undertaken within Health Canada and government-wide. Some are briefly described below.

Health Canada: Protecting and Promoting the Health of Canadians

In December 1990, the federal government announced Canada's Green Plan, which provided a framework to help Canadians move towards sustainable development. The Action Plan on Health and the Environment (APHE)

was Health Canada's contribution to the Green Plan and addressed the critical link between health and the environment. APHE was initiated in April 1992 and lasted for five years.

The APHE strategy consisted of a series of initiatives to identify environmental contaminants, investigate their effects on the health of Canadians and reduce and prevent health risks associated with the contaminants. APHE provided funding to monitor water, air and food; ensure that safety standards were met; enhance existing regulations; and help develop new regulatory measures to prevent or reduce pollution. It also fostered individual, community and international health protection and health promotion initiatives.

Health Canada continues to build upon the work achieved by APHE largely through Health and Environment, a program being undertaken by the Department's Health Protection Branch and Health Promotion and Programs Branch. The Health and Environment program focusses on reducing health impacts of environmental origin and identifying and managing emerging environmental health issues. The program has four priorities:

- control of toxic substances in the environment;
- assessment and management of bioregional health effects;
- environment-related disease surveillance and control; and
- promoting and supporting population health.

The Health and Environment program uses a variety of approaches to fully address risk management objectives, including science, legislation, community action and social marketing, and it involves partnerships with other government departments and agencies as well as international organizations, such as the World Health Organization.



Health Canada is continuing initiatives directed specifically at the health of Aboriginal Peoples through the Drinking Water Safety Program for Native People, the Effects on Aboriginals from the Great Lakes Environment (EAGLE) Project and the Northern and Arctic Pollution Initiative. Although these initiatives are not formally part of the Health and Environment program, they share similar goals.

***Bill C-83:
An Amendment to the
Auditor General Act***

The federal *Auditor General Act* was recently amended in order to promote and support sustainable development within the context of health and environmental issues. The amendment, *Bill C-83*, went into effect in December 1995 and is intended to ensure that environmental concerns are considered in the Auditor General's annual reports to the House of Commons. The Bill requires all federal government departments to prepare, by December 1997, a sustainable development strategy, consisting of action plans that identify goals, objectives and targets for furthering sustainable development activities.

A Guide to Green Government was developed to help departments prepare their strategies and lists a number of key objectives to consider, including sustaining our natural resources through sustainable jobs, communities and industries; protecting the health of Canadians and ecosystems; ensuring equity (between current and future generations and between the poor and more affluent); maintaining our quality of life and well-being; and meeting international obligations with respect to global environmental issues.