

Chapter

**1**

Safety of Drinking Water

*All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.*

# Table of Contents

<b>Main Points</b>	11
<b>Introduction</b>	15
Shared responsibility	15
The federal government's responsibilities	16
What we found in 2005	16
Events since 2005	17
Focus of the audit	18
<b>Observations and Recommendations</b>	19
<b>Guidelines for Canadian Drinking Water Quality</b>	19
Health Canada has improved the process for developing and reviewing guidelines	19
<b>Drinking water at federal facilities and sites</b>	20
Health Canada has promoted its central guidance document for federal water providers	20
Health Canada's central guidance is not always applied	21
Health Canada does not follow up on whether its guidance is used	23
<b>Drinking water on common carriers</b>	24
Health Canada has initiated an inspection program for aircraft	24
Health Canada has not revised the <i>Potable Water Regulations for Common Carriers</i>	25
<b>Bottled water</b>	26
Bottled water regulations do not refer to the Guidelines for Canadian Drinking Water Quality	26
Risks associated with bottled water are assessed and monitored	27
<b>Conclusion</b>	29
<b>About the Audit</b>	31
<b>Appendix</b>	
List of recommendations	35





# Safety of Drinking Water

---

## Main Points

### What we examined

In Canada, ensuring the safety of drinking water is a shared responsibility. The provinces and territories are mainly responsible for regulating the provision of safe drinking water. In collaboration with provincial and territorial governments, the federal government has lead responsibility for developing the science-based Guidelines for Canadian Drinking Water Quality that set important quality criteria.

The federal government has direct responsibility for the safety of drinking water provided in First Nations communities; at military bases, national parks, federal penitentiaries, and other federal facilities; and on public transportation conveyances travelling internationally and between provinces, such as aircraft, trains, and cruise ships. This responsibility represents thousands of federal facilities and sites with a variety of drinking water supply systems, and numerous transportation conveyances.

Our audit examined federal progress toward implementing our recommendations from 2005, when we reported that Health Canada was slow to develop and review the Guidelines for Canadian Drinking Water Quality. At the time, there was a backlog of about 50 guidelines potentially in need of updating to reflect current science. We also reported that procedures to ensure the provision of safe drinking water at selected federal facilities were inconsistent among federal departments—in some cases, exposing federal employees to potential health risks—and that clear central guidance from Health Canada was needed for federal organizations. In addition, we noted gaps in Health Canada’s inspection approach for monitoring the safety of drinking water on aircraft, trains, and cruise ships; in particular, Health Canada was no longer routinely inspecting tap water on passenger aircraft used for drinking, making ice, and preparing food and beverages.

In the current audit, we also looked for the first time at how Health Canada and the Canadian Food Inspection Agency carry out their responsibilities regarding the safety of bottled drinking water.

**Why it's important**

How the federal government carries out its responsibilities for the safety of drinking water has an impact on millions of people, including travellers, national parks visitors, federal penitentiary inmates, bottled water consumers, and federal employees. In most of these cases, provincial and territorial regulations pertaining to safe drinking water do not apply. Given the potentially serious health consequences of contaminated drinking water, it is important for the federal government to know that in all areas under its jurisdiction, drinking water is safe—that is, it meets the Guidelines for Canadian Drinking Water Quality.

**What we found**

- Health Canada has made satisfactory progress in addressing our 2005 recommendations. For example, it now has a process in place to set priorities with plans and timelines for regularly updating the Guidelines for Canadian Drinking Water Quality and to produce new guidelines as appropriate. The process also addresses the backlog of old guidelines in need of review, and the Department has in fact updated a significant number of guidelines since 2005. In addition, Health Canada has promoted, to federal organizations, the guidance it issued in late 2005 on providing safe drinking water at federal facilities. However, it has not followed up to determine whether the guidance is being used. Work remains to be done in some other areas as well.
- Of the two federal organizations we looked at from among those we audited in 2005, one did not follow some of the procedures in Health Canada's guidance on preventing contamination of drinking water at all stages of the supply system. Gaps of this kind could leave drinking water systems on federal premises susceptible to contamination that could be prevented. We noted that Health Canada has not assessed whether its guidance is improving the management of the federal government's drinking water systems and whether some organizations need further help.
- Although Health Canada has resumed routine inspection of drinking water on passenger aircraft belonging to the major Canadian airlines, gaps remain in its inspection coverage of public conveyances and their ancillary services. Those services include facilities that provide the food and beverages served on board common carriers and in airports, railway stations, and seaports. In addition, the existing Health Canada regulations pertaining to public conveyances still do not refer to the Guidelines for Canadian Drinking Water Quality. Therefore, Health Canada cannot yet assure travellers about the safety of drinking water on board public conveyances under federal responsibility.

- Health Canada and the Canadian Food Inspection Agency have determined that risks to human health from bottled water are low and the Agency's inspection and monitoring practices for bottled water are based on this determination. However, while bottled water establishments must comply with the same regulations that govern all foods sold in Canada, the regulations specific to bottled water safety do not yet incorporate the Guidelines for Canadian Drinking Water Quality. Incorporating the Guidelines into the regulations would set a clear standard and therefore make it easier for the government to monitor and verify compliance.

**The organizations have responded.** The organizations to which we address recommendations have indicated their agreement. Their detailed responses follow each recommendation throughout the chapter.



## Introduction

**1.1** This status report follows up and builds on our 2005 Report, Chapter 4, Safety of Drinking Water: Federal Responsibilities. In that chapter, we looked at the federal government’s roles and responsibilities for supplying safe drinking water to its employees and to the public at federal sites, and to travellers on public transportation conveyances.

**1.2** Safe drinking water must be free of microbiological contaminants, and chemical contaminants must be kept at levels that are not harmful to health. To achieve this, the various components of the water supply system must be understood and managed as a whole—a “multi-barrier approach.” This approach builds on the experience of Canadian jurisdictions and is promoted by the World Health Organization. Its main goal is to reduce the risk of contamination by placing protective systems, such as source protection measures and water treatment and monitoring, between the consumer and potential sources of contamination.

### Shared responsibility

**1.3** The federal government is responsible for the safety of drinking water in areas that do not fall under provincial or territorial legislation; examples include

- First Nations communities;
- military bases, national parks and historic sites, federal correctional institutions, ports of entry, Canadian missions abroad, and other federal facilities; and
- aircraft, trains, and cruise ships travelling between provinces and internationally.

The federal government also establishes and enforces policies and standards for the safety of bottled drinking water; thus, it has responsibility for providing safe drinking water to millions of people.

**1.4** In addition, the federal government provides expertise to the Federal-Provincial-Territorial Committee on Drinking Water, which updates the **Guidelines for Canadian Drinking Water Quality** and develops new guidelines identified through risk assessments. Health Canada provides the scientific expertise for the Guidelines and, in its role as the technical secretariat, coordinates the activities of the Committee.

#### Guidelines for Canadian Drinking Water Quality

The Guidelines cover about 120 microbiological, chemical, and radiological contaminants in drinking water that must be eliminated or reduced to acceptable levels to protect human health. Individual guidelines state the maximum acceptable concentration of a contaminant in drinking water. The supporting document for each guideline describes sources of the contaminant in the environment, potential health effects, detection methods, and available treatment technology.

**1.5** Providers of drinking water in Canada use the Guidelines as quality objectives. Therefore, they are an important part of the multi-barrier approach for protecting drinking water.

**1.6** Some provinces and territories use the Guidelines as general guidance in setting their regulations; others use them directly as their legal standards. Some provinces have adopted the Guidelines in full within their legislation, while others have adopted specific guidelines that meet their needs.

**1.7** Outside federal responsibilities, the provinces and territories regulate the supply of safe drinking water to the public, and municipalities normally oversee the day-to-day operation and maintenance of water treatment facilities and distribution infrastructure.

### The federal government's responsibilities

**1.8 Federal facilities and sites.** The federal government is responsible for providing drinking water at thousands of federal facilities and sites across the country, using a variety of distribution systems. This obligation stems from the *Canada Labour Code* and its regulations. Under the Code, drinking water is considered to be water that meets the Guidelines for Canadian Drinking Water Quality. Drinking water systems on federal premises serve thousands of employees and millions of other people. Federal departments and agencies must take all reasonable precautions to ensure that their drinking water is safe.

**1.9 Public conveyances.** Under the *Department of Health Act*, Health Canada is responsible for protecting the health of travellers on aircraft, trains, and cruise ships and at ancillary services (facilities at airports, railway stations, and seaports) that provide their food and beverages. The *Potable Water Regulations for Common Carriers* address the provision and treatment of water for drinking and culinary purposes on **conveyances** operated by **common carriers**. According to the Regulations, Health Canada has the authority to inspect the quality of drinking water provided on conveyances.

**Conveyance**—Any aircraft, train, vessel, motor vehicle, or other mode of transportation used in international traffic, interprovincial traffic, and traffic on Canadian sea coasts, salt water bays, gulfs, and harbours, and on the Great Lakes and inland waters of Canada.

**Common carrier**—An owner of a conveyance, or any employee or agent that operates or manages it.

### What we found in 2005

**1.10** We observed that Health Canada's process for developing guidelines and reviewing contaminants for listing in the Guidelines for Canadian Drinking Water Quality was based on risk, science, consultation, and transparency; however, the process was slow.

At the time, we found a backlog of about 50 guidelines that had not been reviewed or updated for 15 years or more.

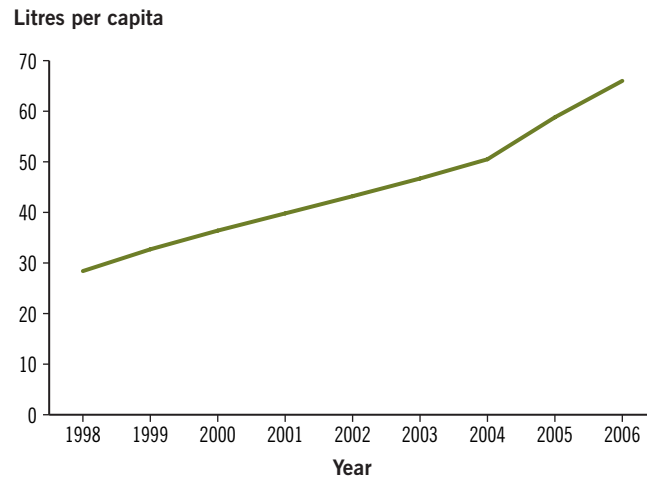
**1.11** We also observed that procedures for managing the safety of drinking water at facilities of six federal organizations varied from comprehensive to incomplete or unclear. The resulting testing regimes to ensure safe drinking water differed considerably across the federal sites we examined. We noted that there was no central guidance document from Health Canada to help departments and agencies meet their obligation to provide safe drinking water at their facilities and sites.

**1.12** In addition, we found that Health Canada was inspecting potable water on cruise ships and some trains but not on aircraft. We noted gaps and inconsistencies in Health Canada's inspection approach—in particular, the *Potable Water Regulations for Common Carriers* lacked water quality criteria, had weak and outdated enforcement criteria (including very low penalties for violations), and did not refer clearly to the government's responsibilities for ancillary services.

### **Events since 2005**

**1.13 Guidance for federal departments and agencies.** Following our recommendation to finalize a central guidance document, in late 2005 Health Canada published the first version of its document titled *Guidance for Providing Safe Drinking Water in Areas of Federal Jurisdiction*. This was part of a project, which also included workshops, training, research, and newsletters, to support and advise federal providers of drinking water.

**1.14 New audit work: bottled drinking water.** Our 2005 audit did not examine federal roles and responsibilities for the safety of bottled water. However, because Canadians are drinking more bottled water, and concerns about its safety have been expressed in reports by interest groups, in specialized books, in a petition to the Office of the Auditor General, and in the media, we included this component in our current audit. The bottled water industry has grown significantly since the early 1980s. From 1998 to 2006, annual consumption per person in Canada increased from 28.4 litres to 66 litres, with a notable increase of 12.2 percent from 2005 to 2006 (Exhibit 1.1). Drinking bottled water is one of the alternatives recommended when the usual water supply is compromised.

**Exhibit 1.1** Canadians drank more than twice the amount of bottled water in 2006 than in 1998

Source: Beverage Marketing Corporation (data) and Agriculture and Agri-Food Canada (graph design)

### Focus of the audit

**1.15** The objectives of our audit were

- to determine whether Health Canada had made satisfactory progress in carrying out the recommendations in the 2005 audit and whether Health Canada's central guidance document, published in 2005, was being used by two federal organizations, Correctional Service Canada and Parks Canada, to better manage their drinking water systems; and
- to determine whether Health Canada and the Canadian Food Inspection Agency carry out their roles and responsibilities for the safety of bottled water, which include establishing policies and standards that focus on health and safety standards, carrying out inspections based on these standards, and enforcing the standards.

**1.16** We reported separately on issues concerning drinking water in First Nations communities in our 2005 Report, Chapter 5, Drinking Water in First Nations Communities. The current audit did not follow up on this chapter.

**1.17** More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

## Observations and Recommendations

### Guidelines for Canadian Drinking Water Quality

#### Health Canada has improved the process for developing and reviewing guidelines

**1.18** In 2005, we reported that Health Canada was slow to develop and review the Guidelines for Canadian Drinking Water Quality and that a backlog of about 50 guidelines might need updating to reflect current science. We recommended that Health Canada address these findings (Exhibit 1.2). Health Canada agreed with this recommendation and committed to producing a multi-year work plan for the Guidelines with clear timelines that included dealing with the backlog.

#### Exhibit 1.2 Progress on addressing our recommendations on setting and updating guidelines

2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4	
Recommendation	Progress
Health Canada should set clear internal timelines for the development and review of drinking water guidelines and should continue to work with the Federal-Provincial-Territorial Committee to develop options to accelerate the process of approval of these guidelines. Factors impeding the approval and publication of guidelines should be made fully transparent to Canadians. (paragraph 4.22)	<b>Satisfactory</b>
Health Canada should produce and implement a work plan to address the backlog of about 50 drinking water guidelines that may need to be updated to reflect current science, clearly indicating which guidelines are to be reviewed, their priority ranking, revision targets, and related timelines. (paragraph 4.31)	<b>Satisfactory</b>

**Satisfactory**—Progress is satisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**Unsatisfactory**—Progress is unsatisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**1.19** Three years later, Health Canada has a clear multi-year plan for adding new guidelines or reassessing existing ones. This plan also addresses the guidelines backlog that we identified in 2005. The Department sets priorities and timelines in collaboration with the Federal-Provincial-Territorial Committee on Drinking Water. Priorities are based on risks to human health, taking into consideration the frequency and concentration of contaminants detected in drinking water—that is, if contaminants are ingested for prolonged periods or are in water in high enough concentrations to be harmful. Health Canada reviews the priorities annually, or more frequently if new

information from organizations such as the United States Environmental Protection Agency and the World Health Organization justifies it. The Department estimates that to revise or add a guideline now takes about two to three-and-a-half years to develop from the start of the assessment process to publication. So far, Health Canada has set priorities for 59 higher-risk microbiological, chemical, and radiological contaminants, 30 of which have been scheduled for assessment by December 2011.

**1.20** Health Canada has also worked with the Federal-Provincial-Territorial Committee to accelerate the process for approval of guidelines through improved administrative procedures and enhanced communication with Committee members. Over the last three years, 11 guidelines have been revised or added and 42 guidelines have been reaffirmed (guidelines are reaffirmed when no new scientific data triggers a detailed review). For the most part, Health Canada is adhering to its timelines and continues to work closely with the Committee. Currently, no significant factors are impeding the approval process. Committee members from outside the federal government stated that even if Health Canada allocated more resources to developing guidelines, the provinces and territories could not handle an increased volume at a faster pace.

### **Drinking water at federal facilities and sites**

#### **Health Canada has promoted its central guidance document for federal water providers**

**1.21** In 2005, we recommended that Health Canada finalize and issue, to all deputy heads, the risk-based central guidance document it was developing on providing safe drinking water in federal jurisdictions—water that would meet the requirements of the Guidelines for Canadian Drinking Water Quality. We also recommended that Health Canada update the document as needed and promote its use to federal organizations. Health Canada agreed with this recommendation and committed to publishing the central guidance document and updating it periodically.

**1.22** Health Canada has published and promoted this central guidance document. In late 2005, the Department issued the first version of the Guidance for Providing Safe Drinking Water in Areas of Federal Jurisdiction to deputy heads of federal departments and agencies (Exhibit 1.3). Promotional activities included interdepartmental workshops and training sessions, and newsletters. The Department expects to publish an updated version of the Guidance by June 2009.

**Exhibit 1.3 Progress on addressing our recommendation on publishing a central guidance document for providing safe drinking water**

2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4	
Recommendation	Progress
Health Canada should finalize and issue to all deputy heads the guidance it has developed for providing safe drinking water in areas of federal jurisdiction. It should also update the guidance as needed and promote its use by federal organizations. (paragraph 4.46)	<b>Satisfactory</b>

**Satisfactory**—Progress is satisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**Unsatisfactory**—Progress is unsatisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**1.23** The central guidance document is based on a multi-barrier, risk-based approach. It states the importance of establishing testing regimes based on assessed risks at each stage of the drinking water supply system and refers explicitly to using the latest Guidelines for Canadian Drinking Water Quality. Regardless of the complexity of the water supply (whether the facility treats its own water from the source or is connected to the municipal system), the central guidance document sets minimum standards that drinking water should meet (organizations may choose to follow provincial or municipal requirements where these are more stringent).

**Health Canada's central guidance is not always applied**

**1.24** A key observation in our 2005 chapter was the inconsistency in the way the six federal organizations we examined managed their drinking water systems. We noted that some of these organizations had not issued internal guidance on how to manage risks posed by their water sources. Of the organizations that provided guidance, the majority had not conducted risk assessments at many of their sites and did not have complete testing procedures in place. Three years after the publication and promotion of Health Canada's central guidance document, we expected to see improvements in how risks to the quality of drinking water were identified and managed. In this audit, we looked at two federal organizations: **Correctional Service Canada** and **Parks Canada**.

**1.25** Parks Canada published its own guidance in December 2006. We found it to be consistent with Health Canada's central guidance document, and it is being applied at the five national parks and

**Correctional Service Canada** is responsible for some 14,500 incarcerated offenders and employs about the same number of staff across the country.

**Parks Canada** employs about 5,400 people. Nearly 22 million people visited national parks and historic sites in the 2006–07 fiscal year.



Open source water supply and well at a Parks Canada site

27 historic sites we examined. Correctional Service Canada's guidance was released in February 2005, predating Health Canada's central guidance document. We noted that both Parks Canada's and Correctional Service Canada's guidance documents conform to Health Canada's central guidance in stating the importance of having appropriate training and certification for operators of water treatment plants and distribution systems, using accredited laboratories, and setting out a process for corrective action should contamination occur. Wherever we observed test results indicating problems with the quality of drinking water, corrective measures were applied immediately.

**1.26** However, we found that Correctional Service Canada's guidance document does not clearly refer to the multi-barrier or risk-based approach that is the main principle of Health Canada's document. In particular, for institutions connected to municipal water supplies, it contains gaps in its testing regimes for important classes of bacteriological, chemical, and physical contaminants (Exhibit 1.4 provides an example of the need for a risk-based approach). Health Canada recommends that, even when a facility is connected to a well-regulated municipal supply, the federal organization needs to check for vulnerabilities within its own plumbing systems, as well as be informed about the municipality's drinking water program.

---

**Exhibit 1.4 Correctional Service Canada might have prevented problems earlier with a risk-based approach**

As a result of a municipal advisory regarding lead in the plumbing of buildings constructed before 1950, a regional manager at Correctional Service Canada was alerted that this might cause problems at some of the Agency's local facilities.

Laboratory analysis of a series of water samples taken between September 2006 and April 2008 confirmed that, at most of the institutions in that region, between one third and one half of the samples contained lead at levels higher than recommended in the Guidelines for Canadian Drinking Water Quality. The cause was lead from the facilities' aging water distribution systems and not the municipal water supply to which they were connected. Correctional Service Canada did not know how long the lead problem had existed. We noted that, contrary to recommendations in Health Canada's central guidance document, Correctional Service Canada's internal guidance does not require testing for lead or other chemical and physical contaminants at sites that are supplied by municipal systems.

At the time of our audit, the Agency was exploring long-term solutions for these facilities. Meanwhile, it had taken interim measures, such as flushing the system regularly and closing down some drinking fountains, to avoid consumption of contaminated water. In July 2008, the Department issued a note to all regions, with information on lead in water distribution systems, sampling protocols, and remedial measures.

---



Protected water facility at a Correctional Service Canada institution

**1.27** Health Canada's central guidance document was developed to help federal departments and agencies meet their obligations to provide safe drinking water at their facilities and sites. Given our findings, Correctional Service Canada could benefit from Health Canada's support and advice—one of its responsibilities—in setting up risk-based management systems for drinking water.

**1.28 Recommendation.** Correctional Service Canada should modify its procedures for managing its drinking water systems to conform to Health Canada's risk-based central guidance document.

**Correctional Service Canada's response.** Correctional Service Canada agrees to review its procedures on managing its drinking water systems and adjust them to reflect Health Canada's latest risk-based guidance expected to be released shortly. The revised procedures should be updated and communicated to staff by 30 September 2009.

#### **Health Canada does not follow up on whether its guidance is used**

**1.29** In 2005, we found that the majority of organizations we looked at had not done risk assessments at their sites. We also found that testing regimes were often incomplete and testing procedures were inconsistent. In the current audit, we found similar gaps in one of the two organizations we examined, despite the publication of Health Canada's central guidance. Thus, the next steps are to assess whether this guidance is improving the management of drinking water systems and to identify where Health Canada's help is still required. Many federal providers of drinking water rely on Health Canada's advice and guidance to help them meet their *Canada Labour Code* requirements.

**1.30 Recommendation.** Health Canada should determine whether federal departments and agencies are using key elements of its risk-based central guidance document on providing safe drinking water and identify areas where Health Canada's help is required.

**Health Canada's response.** Health Canada will work with departments and agencies to determine the extent to which they are applying these key elements of the central guidance document. This consultative approach will be used to determine where gaps exist and to identify areas for improvement. Health Canada will then work with the key relevant federal players to assess and consider appropriate next steps that should be taken. The Department expects to complete these actions by 31 March 2010.

**Drinking water on common carriers**

**Health Canada has initiated an inspection program for aircraft**

**1.31** From the mid-1990s until three years ago, Health Canada no longer conducted its routine inspections of drinking water on aircraft, as direct government funding for its inspection program had been removed. The Department had not reached cost recovery agreements because the airlines were unwilling to pay for inspections by Health Canada. The Department responded to our 2005 recommendation by stating that it would continue negotiating with the airline industry to bring it into its voluntary, cost recovery inspection program.

**1.32** In 2006, Health Canada conducted a baseline sampling survey and began routinely sampling drinking water on aircraft belonging to nine major Canadian airlines at major airports across the country. Health Canada then worked with these airlines to develop voluntary management plans for drinking water that specified sampling locations, frequency, and sanitizing procedures. The plans stated that, should water become contaminated, it would be the responsibility of the airlines to remedy the problem and demonstrate that the water is fit to drink; otherwise, travellers must be given bottled water or another safe alternative. Health Canada has begun auditing the performance of these management plans and has recommended some improvements. In 2008, the Department extended these planning and sampling activities to include four more Canadian airlines. The 13 airlines are the larger Canadian companies that carry the majority of travellers on Canadian airlines. Thus, the Department has made progress toward verifying that drinking water on aircraft is safe (Exhibit 1.5).

**1.33** Despite progress since 2005, further work is needed before Canadians can be sure that the water on board all commercial



Aircraft galley

**Exhibit 1.5 Progress on addressing our recommendation on taking measures to assure Canadians that potable water on aircraft is safe**

2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4	
Recommendation	Progress
Health Canada should take measures to clearly assure Canadians that potable water on aircraft is safe on a continuing basis, including recommencing routine inspections. (paragraph 4.53)	<b>Satisfactory</b>

**Satisfactory**—Progress is satisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**Unsatisfactory**—Progress is unsatisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

passenger aircraft is safe to drink. Health Canada has not made specific plans for inspecting other smaller Canadian companies and foreign airlines departing from Canadian airports; nor does it know exactly how many of these companies and aircraft need monitoring. Since the airlines were unwilling to pay for inspections by Health Canada, we noted that Health Canada reallocated internal resources to pay all the expenses of its inspection and audit activities for airline drinking water. We also noted that inspection coverage for trains and cruise ships is incomplete, as not all companies are part of Health Canada's voluntary compliance program. Also, in contrast to the airlines, Health Canada recovers its inspection costs from the other carriers.

**1.34 Recommendation.** Health Canada should expand its risk-based drinking water monitoring program to include all common carriers for which it is responsible under the *Department of Health Act*.

**Health Canada's response.** During the 2009–10 fiscal year, Health Canada will expand its risk-based drinking water monitoring program that is currently in place with the airline industry to other common carriers for which it is responsible under the *Department of Health Act* (trains, vessels, and buses).

#### **Health Canada has not revised the *Potable Water Regulations for Common Carriers***

**1.35** Our 2005 audit pointed out that the *Potable Water Regulations for Common Carriers*—covering aircraft, trains, and cruise ships—were outdated as they did not refer to the Guidelines for Canadian Drinking Water Quality, and that penalties for non-compliance needed revising. Further, the Regulations were unclear about Health Canada's responsibilities for inspecting ancillary services; these include facilities that provide the food and beverages served on board common carriers and in airports, railway stations, and seaports. Following our 2005 recommendation to address these issues, Health Canada acknowledged the need for updated legislation to address public health risks on common carriers. The Department proposed drawing up comprehensive legislation that would cover food, air quality, general sanitation, and drinking water.

**1.36** The Department's progress has been limited to researching legislative and regulatory options. At the time of our audit, it had not yet committed to further action (Exhibit 1.6). Therefore, we repeat our recommendation of 2005, as the actions it advised have not been carried out.

**Exhibit 1.6 Progress on addressing our recommendation on revising the *Potable Water Regulations for Common Carriers***

2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4	
Recommendation	Progress
Health Canada should revise the <i>Potable Water Regulations for Common Carriers</i> to include reference to the Guidelines for Canadian Drinking Water Quality, a clear definition for ancillary services, and more appropriate penalties for non-compliance. (paragraph 4.55)	<b>Unsatisfactory</b>

**Satisfactory**—Progress is satisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**Unsatisfactory**—Progress is unsatisfactory, given the significance and complexity of the issue, and the time that has elapsed since the recommendation was made.

**1.37 Recommendation.** Health Canada should revise the *Potable Water Regulations for Common Carriers* to include reference to the Guidelines for Canadian Drinking Water Quality, a clear definition of the government’s responsibilities for ancillary services, and more appropriate penalties for non-compliance.

**Health Canada’s response.** Health Canada continues to develop a comprehensive approach to address potential public health risks on conveyances and their ancillary services associated with potable water, food, air quality, and general sanitation. This new approach to replace the *Potable Water Regulations for Common Carriers* is intended to address compliance and enforcement measures, definitions, and referencing of the Guidelines for Canadian Drinking Water Quality. The Department anticipates that this comprehensive approach will be completed between 2010 and 2012.

**Bottled water****Bottled water regulations do not refer to the Guidelines for Canadian Drinking Water Quality**

**1.38** Bottled water is considered to be a food product and is regulated under the *Food and Drugs Act* and the *Food and Drug Regulations*. The *Food and Drugs Act* is the main federal legislation for managing risks to food safety and applies to all food sold in Canada. The Act prohibits the manufacture or sale of food products that are potentially harmful to human health. The *Food and Drug Regulations* set out standards for food safety. For bottled water, the Regulations also state what can be considered mineral or spring water, what may be added to it, and how the container is to be labelled.

**1.39** Under the *Food and Drugs Act*, Health Canada is responsible for establishing policies and standards on the safety of food sold in this country. We expected Health Canada to have up-to-date health and safety standards for bottled water. However, the current *Food and Drug Regulations* specific to bottled water date back to 1973, with the exception of some changes that were made in the 1980s. The Regulations do not mention the Guidelines for Canadian Drinking Water Quality.

**1.40** We found that Health Canada has been working for at least seven years on revisions to sections of the *Food and Drug Regulations* that apply to bottled water to incorporate the Guidelines. This would clarify safety standards and improve efficiency by removing the need to conduct separate health risk assessments using the specific guideline for each contaminant as the case arises. Incorporating the Guidelines into the Regulations would also make it easier for the federal government to monitor and verify compliance. Health Canada expected the revisions to be in place by 2006, but at the time of the current audit, the changes had still not been made.

**1.41 Recommendation.** Health Canada should set clear timelines and revise the *Food and Drug Regulations* that relate to bottled water safety so that they refer to the Guidelines for Canadian Drinking Water Quality.

**Health Canada's response.** Although the health risks associated with bottled water are low, Health Canada acknowledges the need to modernize the health and safety requirements for bottled water under the *Food and Drug Regulations*, based on the Guidelines for Canadian Drinking Water Quality. By 31 March 2009, Health Canada will post a document on its website that summarizes all the consultation activities that have been held on the proposed revisions to the bottled water regulations. The Department will then engage in the regulatory process to make the necessary amendments.

#### **Risks associated with bottled water are assessed and monitored**

**1.42** The Canadian Food Inspection Agency (the Agency) is responsible for delivering inspection programs that enforce Health Canada's food policies and standards. As part of a risk-based approach for verifying the safety of bottled drinking water, we expected Health Canada and the Agency to monitor the bottled water industry, exchange information with the industry, and inform Canadians of any safety issues. We also expected the Agency to enforce the *Food and Drug Regulations* as necessary.

**1.43** Assessing the risks to the safety of food is important for determining the appropriate level of oversight. The Food Safety Science Committee, a joint Health Canada and Agency body, identifies safety risks and provides risk management advice for food products. Health Canada and the Agency also examine new scientific information, findings from other industrialized countries and international bodies such as the World Health Organization, and the Agency's own inspection findings. We found that, based on this information, Health Canada and the Agency have determined that the health risks from drinking bottled water are low. Further, we found that the Agency's inspection and monitoring process is based on this determination.

**1.44** The Agency carries out its enforcement responsibilities through risk-based inspections and sampling procedures at food processing establishments and at the premises of importers and retailers. Inspections verify that food is manufactured, prepared, preserved, packaged, and stored for sale under sanitary conditions in compliance with Canadian requirements. Between April 2007 and August 2008, the Agency conducted about 70 inspections as part of a series of projects to monitor bottled water establishments. Of these 70 inspections, most found no issues or only minor ones. These issues related to record keeping, facilities or equipment requiring repair, and staff training programs and protective clothing. In six instances, inspectors found more significant faults in some of the same areas, as well as insufficient evidence of product monitoring and procedures for handling complaints. There were no instances where inspectors found establishments that lacked critical controls over food safety hazards associated with high health risks.

**1.45** We noted that inspection documentation on bottled water prior to April 2007 is kept at the regional or local level, making it difficult to retrieve. However, the Agency has centralized its tracking system to provide its personnel with easier access to inspection outcomes and is working on further improvements. It is important that the Agency keep up-to-date, readily accessible records as part of the risk assessment process for bottled water.

**1.46** The Agency shares its results with each company it inspects, and both the Agency and Health Canada provide general information about the safety of bottled water to the public. In cases of food advisories and recalls, the Agency would inform the public through media and Internet bulletins.

**1.47** For all foods, the Agency's enforcement actions can include detaining, seizing, or recalling products, depending on how seriously regulations have been contravened, potential health risks, and the

compliance history of the company. For the issues found during the 2007–08 inspections of bottled water establishments, the Agency required corrective action as necessary.

## Conclusion

**1.48** Health Canada has made satisfactory progress in addressing recommendations in our 2005 Report, Chapter 4, *Safety of Drinking Water: Federal Responsibilities*.

**1.49** Health Canada now has a process in place to set priorities with plans and timelines for regularly updating the *Guidelines for Canadian Drinking Water Quality* and to produce new guidelines as appropriate. The process also addresses the backlog of old guidelines in need of review. In addition, Health Canada has promoted, to federal departments, the central guidance it issued in late 2005 on providing safe drinking water at federal facilities.

**1.50** We found that one of the two federal organizations we examined in this audit did not follow some of the procedures in Health Canada's guidance on preventing contamination of drinking water at all stages of the supply system. Gaps of this kind could leave drinking water on federal premises susceptible to contamination that could be prevented. We noted that Health Canada has not assessed whether its guidance is improving the management of the federal government's drinking water systems and whether some organizations need further help.

**1.51** While Health Canada has resumed routine inspection of drinking water on passenger aircraft belonging to the major Canadian airlines, gaps remain in its inspection coverage of public conveyances and their ancillary services. In addition, the existing Health Canada regulations pertaining to public conveyances still do not refer to the *Guidelines for Canadian Drinking Water Quality*. This means that further work is needed before Canadians can be sure that the water on board aircraft and other public conveyances under federal jurisdiction is safe to drink.

**1.52** Health Canada and the Canadian Food Inspection Agency carry out their roles and responsibilities with respect to the safety of bottled water. We found that they have determined that risks to human health from bottled water are low, and that the Agency's inspection and monitoring practices are based on this determination. Bottled water establishments must comply with the same regulations that govern all foods sold in Canada. However, although Health Canada refers to the

Guidelines for Canadian Drinking Water Quality as part of its health risk assessments, the Guidelines have not yet been incorporated into the *Food and Drug Regulations*. Incorporating the Guidelines into the Regulations would set a clear standard and therefore make it easier for the federal government to monitor and verify compliance.

## About the Audit

### Objectives

The first objective of the audit was to determine whether Health Canada can demonstrate that it has made satisfactory progress in carrying out the recommendations made in 2005 regarding its responsibilities for the safety of drinking water. The sub-objectives were to determine whether

- Health Canada can demonstrate that it has made satisfactory progress in improving the process of establishing guidelines and obtaining approval for the Guidelines on Canadian Drinking Water Quality and in addressing the backlog of guidelines that need to be updated;
- Health Canada can demonstrate that it has completed and published a central guidance document for managing drinking water systems at federal facilities;
- Correctional Service Canada and Parks Canada can demonstrate that, based on Health Canada's risk-based central guidance document published in late 2005, they have improved the management systems for drinking water at their facilities and sites; and
- Health Canada can demonstrate that it is taking measures to ensure the safety of drinking water on aircraft and is revising the outdated *Potable Water Regulations for Common Carriers* to address identified gaps.

The second objective of our audit was to determine whether Health Canada and the Canadian Food Inspection Agency carry out their roles and responsibilities for the safety of bottled water, which include establishing policies and standards that focus on health and safety, carrying out inspections based on these standards, and enforcing the standards.

### Scope and approach

We selected two organizations from among the six we looked at as part of the previous audit—Correctional Service Canada and Parks Canada—to determine whether the availability of Health Canada's central guidance document led to improved risk-based management systems for drinking water at their sites. We selected sites based on the following considerations:

- the facilities are used by a large number of federal employees, visitors, and residents;
- the sites are in various regions of Canada, in urban (connected to municipal water systems) and rural areas (having their own water sources, such as rivers or wells); and
- the age of the facilities varies.

We audited the following federal organizations:

- Health Canada,
- the Canadian Food Inspection Agency,
- Correctional Service Canada, and
- Parks Canada.

We reviewed documents and data, conducted interviews, and examined procedures to assess whether the organizations were meeting our audit criteria. We conducted audit work at headquarters and regional offices of the organizations and visited Correctional Service Canada and Parks Canada sites in various parts of Canada. We did not carry out water sampling. Rather, we expected the organizations to demonstrate that a risk-based approach to managing their drinking water systems was in place.

## Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources
We expected Health Canada to have set clear internal timelines for developing and reviewing the Guidelines for Canadian Drinking Water Quality, and to have worked with the Federal-Provincial-Territorial Committee on Drinking Water to develop options to accelerate the process of approval of these guidelines. We also expected factors impeding the approval and publication of guidelines to be made transparent to Canadians.	Departmental response to September 2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4, Safety of Drinking Water: Federal Responsibilities, paragraph 4.22
We expected Health Canada to have produced and implemented a work plan to address the backlog of drinking water guidelines that may need to be updated to reflect current science. We also expected Health Canada to have clearly indicated which guidelines are to be reviewed, their priority ranking, revision targets, and related timelines.	Departmental response to September 2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4, Safety of Drinking Water: Federal Responsibilities, paragraph 4.31
We expected Health Canada to have finalized and issued to all deputy heads a central guidance document on providing safe drinking water in areas of federal jurisdiction, to have promoted its use by federal organizations, and to update it as needed.	Departmental response to September 2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4, Safety of Drinking Water: Federal Responsibilities, paragraph 4.46
We expected Correctional Service Canada and Parks Canada to have adopted a multi-barrier or risk-based approach to managing the safety of drinking water at their facilities and sites, as recommended by Health Canada.	<ul style="list-style-type: none"> <li>• Health Canada, <i>Guidance for Providing Safe Drinking Water in Areas of Federal Jurisdiction</i> (2005)</li> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Canada Labour Code</i> (R.S., 1985, c. L-2.) Part II, para. 125(1)(j)</li> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Canada Occupational Health and Safety Regulations</i>, SOR/86-304, Part IX, s. 9(24)</li> </ul>
We expected Health Canada to have taken measures, including routine inspections, to assure Canadians that the potable water on aircraft is safe and continues to be safe.	Departmental response to September 2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4, Safety of Drinking Water: Federal Responsibilities, paragraph 4.53
We expected Health Canada to have revised the <i>Potable Water Regulations for Common Carriers</i> to include references to the Guidelines for Canadian Drinking Water Quality, a clear definition for ancillary services, and more appropriate penalties for non-compliance.	Departmental response to September 2005 Report of the Commissioner of the Environment and Sustainable Development, Chapter 4, Safety of Drinking Water: Federal Responsibilities, paragraph 4.55

Criteria	Sources
We expected Health Canada to have in place up-to-date health and safety standards for bottled water sold in Canada.	<ul style="list-style-type: none"> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Department of Health Act</i> (1996, c. 8) s. 4(2)(d)</li> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Canadian Food Inspection Agency Act</i> (1997, c. 6) s. 11(4)</li> <li>• Health Canada, Food and Nutrition (2008), page 1, paragraph 3</li> <li>• Health Canada, Towards a Regulatory Modernization Strategy for Food and Nutrition (2007), page 5</li> <li>• Health Canada, Health Products and Food Branch, Business Plan 2007–08, page 4</li> </ul>
We expected the Canadian Food Inspection Agency to undertake inspections as required and to enforce the regulations as necessary.	<ul style="list-style-type: none"> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Canadian Food Inspection Agency Act</i> (1997, c. 6) s. 11(3) (a)</li> <li>• Health Canada, Food and Nutrition (2008), page 1, paragraph 3</li> <li>• Canadian Food Inspection Agency, Fact Sheet (2005), page 3</li> </ul>
We expected Health Canada and the Canadian Food Inspection Agency to monitor the bottled water industry, to exchange information with its members, and to inform Canadians of any safety issues.	<ul style="list-style-type: none"> <li>• Department of Justice Canada, &lt;<a href="http://laws.justice.gc.ca">http://laws.justice.gc.ca</a>&gt;, <i>Department of Health Act</i> (1996, c. 8) s. 4.(2)(c)</li> <li>• Health Canada, Health Products and Food Branch, Strategic Plan 2007–12, pages 4-5</li> <li>• Health Canada, Health Products and Food Branch, Business Plan 2007–08, page 5</li> <li>• Health Canada, Towards a Regulatory Modernization Strategy for Food and Nutrition (2007), page 5</li> <li>• Health Canada, Mission, Values and Activities (2007), page 3</li> <li>• Canadian Food Inspection Agency, Corporate Business Plan 2003–08, page 14</li> </ul>

### Audit work completed

Audit work for this chapter was substantially completed on 12 September 2008.

**Audit team**

Principal: Richard Arseneault

Director: Esther Becker

Marc-Antoine Ladouceur

Vivien Lo

Alison Mudge

David Normand

Jacqueline Ntalikure

Tanya Sheikh

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

## Appendix List of recommendations

The following is a list of recommendations found in Chapter 1. The number in front of the recommendation indicates the paragraph number where it appears in the chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation	Response
<b>Drinking water at federal facilities and sites</b>	
<p><b>1.28</b> Correctional Service Canada should modify its procedures for managing its drinking water systems to conform to Health Canada’s risk-based central guidance document. (1.24–1.27)</p>	<p><b>Correctional Service Canada’s response.</b> Correctional Service Canada agrees to review its procedures on managing its drinking water systems and adjust them to reflect Health Canada’s latest risk-based guidance expected to be released shortly. The revised procedures should be updated and communicated to staff by 30 September 2009.</p>
<p><b>1.30</b> Health Canada should determine whether federal departments and agencies are using key elements of its risk-based central guidance document on providing safe drinking water and identify areas where Health Canada’s help is required. (1.29)</p>	<p><b>Health Canada’s response.</b> Health Canada will work with departments and agencies to determine the extent to which they are applying these key elements of the central guidance document. This consultative approach will be used to determine where gaps exist and to identify areas for improvement. Health Canada will then work with the key relevant federal players to assess and consider appropriate next steps that should be taken. The Department expects to complete these actions by 31 March 2010.</p>
<b>Drinking water on common carriers</b>	
<p><b>1.34</b> Health Canada should expand its risk-based drinking water monitoring program to include all common carriers for which it is responsible under the <i>Department of Health Act</i>. (1.31–1.33)</p>	<p><b>Health Canada’s response.</b> During the 2009–10 fiscal year, Health Canada will expand its risk-based drinking water monitoring program that is currently in place with the airline industry to other common carriers for which it is responsible under the <i>Department of Health Act</i> (trains, vessels, and buses).</p>

Recommendation	Response
<p><b>1.37</b> Health Canada should revise the <i>Potable Water Regulations for Common Carriers</i> to include reference to the Guidelines for Canadian Drinking Water Quality, a clear definition of the government's responsibilities for ancillary services, and more appropriate penalties for non-compliance. (1.35–1.36)</p>	<p><b>Health Canada's response.</b> Health Canada continues to develop a comprehensive approach to address potential public health risks on conveyances and their ancillary services associated with potable water, food, air quality, and general sanitation. This new approach to replace the <i>Potable Water Regulations for Common Carriers</i> is intended to address compliance and enforcement measures, definitions, and referencing of the Guidelines for Canadian Drinking Water Quality. The Department anticipates that this comprehensive approach will be completed between 2010 and 2012.</p>
<p><b>Bottled water</b></p> <p><b>1.41</b> Health Canada should set clear timelines and revise the <i>Food and Drug Regulations</i> that relate to bottled water safety so that they refer to the Guidelines for Canadian Drinking Water Quality. (1.38–1.40)</p>	<p><b>Health Canada's response.</b> Although the health risks associated with bottled water are low, Health Canada acknowledges the need to modernize the health and safety requirements for bottled water under the <i>Food and Drug Regulations</i> based on the Guidelines for Canadian Drinking Water Quality. By 31 March 2009, Health Canada will post a document on its website that summarizes all the consultation activities that have been held on the proposed revisions to the bottled water regulations. The Department will then engage in the regulatory process to make the necessary amendments.</p>