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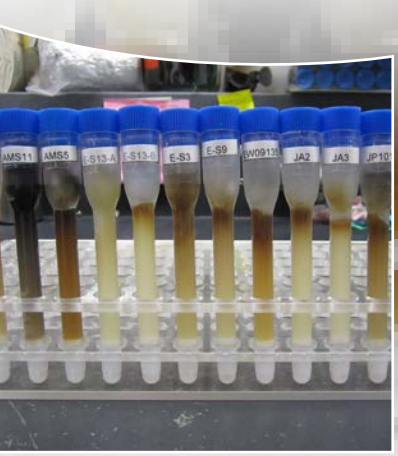
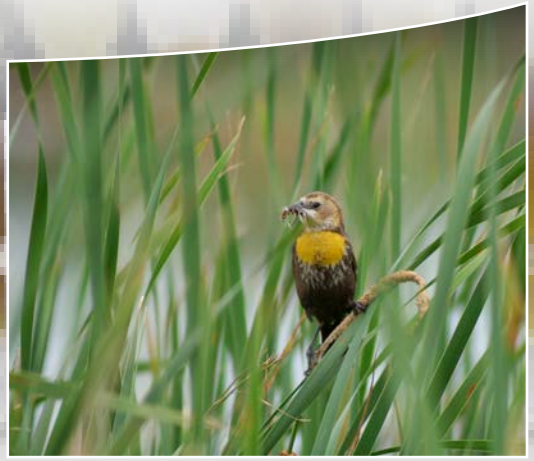
Canadian Environmental Protection Act, 1999

Annual Report

for April 2014 to March 2015





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Front cover photos:
Typical samples of oil sand snow from various sites. Photo: X. Wang © Environment and Climate Change Canada
Yellow-headed blackbird (Xanthocephalus xanthocephalus) at Oak Hammock Marsh, MB © P. Scott
EC inspectors check contents of truck. Photo: Robert Robichaud @ Environment and Climate Change Canada

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1 INTRODUCTION

The names of several Federal Government departments have changed since the October 2015 federal election. However, for this annual report, the names used during the 2014–2015 reporting period have been retained.

This annual report provides an overview of the activities conducted and results achieved under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) from April 1, 2014, to March 31, 2015. This report responds to the statutory requirement in section 342 of the Act to provide annual reports to Parliament on the administration and enforcement of the Act.

CEPA 1999 provides authority for the Government of Canada to take action on a wide range of environmental and health risks—from chemicals to air pollution to wastes. For the most part, it functions as an enabling statute, providing a suite of instruments and measures for identifying, assessing and addressing the risks. The Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with toxic substances.

The general steps followed to address each risk can typically be organized into a cycle: information is collected to understand risks and inform decisions; risks are assessed to determine if action is required; risk management instruments are put in place to reduce or eliminate risks to the environment and/or human health; these instruments may require compliance promotion and enforcement; and information is once again collected to monitor progress and determine if additional action is required. At each stage in the cycle, stakeholders are engaged, the public has the opportunity to be involved, the government works closely with provincial, territorial and Aboriginal counterparts, and information is reported to the public

This report provides information on all stages of the CEPA cycle. Section 2 – Addressing Key Risks covers information gathering, research and monitoring, risk assessment, and risk management for toxics, air pollution, greenhouse gases, water quality and waste. Section 3 – Administration, Public Participation and Reporting covers reporting, stakeholder engagement, public rights and inter-jurisdictional relationships. Section 4 – Compliance Promotion and Enforcement describes compliance promotion and enforcement activities.

2 ADDRESSING KEY RISKS

2.1 Toxic Substances Harmful to Human Health or the Environment

Parts 5 and 6 of CEPA 1999 include specific provisions for data collection, assessment and management for controlling toxic substances. Substances include both chemicals and living organisms (specific information on living organisms begins in section 2.2). For chemicals, the Minister of the Environment and the Minister of Health are required to sort through, or "categorize," the substances on the *Domestic Substances List*, an inventory of approximately

23 000 substances manufactured in, imported into or used in Canada on a commercial scale. The categorization process identified for more detailed assessment approximately 4 300 substances that:

- were suspected to be inherently toxic to humans or to the environment, and are persistent (take a very long time to break down) or bioaccumulative (collect in living organisms and end up in the food chain); or
- present the greatest potential for exposure to Canadians.

The Chemicals Management Plan (CMP) is a program developed to protect Canadians and their environment from exposure to harmful chemicals and living organisms. At the core of the CMP is a commitment to address, by 2020, the 4300 substances of potential concern that were already in commerce in Canada when a pre-market notification requirement was introduced under CEPA. The

CMP includes a number of activities for which the obligations or authorities are spread throughout CEPA 1999. The Chemical Substances website (www.chemicalsubstances.gc.ca) provides more information on activities related to the CMP.

Under the CMP, the government conducts pre-market assessments of health and environmental effects of approximately 500 substances that are new to Canada each year. The CMP also provides one of the world's most comprehensive approaches to assessing risks from the substances that came into use before these new substance requirements were in place.

As of March 31, 2015, drafts of final decisions have been published for 2700 of those 4300 substances and are available online at www.chemicalsubstances.gc.ca.

Monitoring, Research, Information Gathering and Risk Assessment Activities

Monitoring

Monitoring and surveillance activities are essential to identify and track levels and trends related to chemicals in the environment and human exposure to those chemicals.

Aquatic scientist works in Oscar Creek, NWT
Photo: © Environment and Climate Change Canada

In 2014–2015, a broad range of chemical monitoring activities were conducted in support of the CMP, the Northern Contaminants Program, the Freshwater Quality Monitoring Program, the Great Lakes Water Quality Agreement, and the Great Lakes Herring Gull Contaminants Monitoring Program.

These monitoring activities also supported Canada's contribution to multilateral cooperation under the Arctic Council's Arctic Monitoring and Assessment Programme and the United Nations Economic Commission for Europe Convention on Long-range Transboundary Air Pollution, and helped Canada fulfill its obligations under the United Nations Environment Programme Stockholm Convention on Persistent Organic Pollutants.

The CMP Monitoring and Surveillance Program involves the collection of data on the concentration of chemical substances in environmental compartments at locations across Canada. Environmental compartments include surface water, sediment, air, aquatic biota and wildlife. Wastewater system influent, effluent and biosolids are also monitored at select locations representing a range of input and treatment system types.

Through the program many priority substances have been measured to provide environmental data for risk assessment and risk management decision making. Priority substances include polybrominated diphenyl ethers (PBDEs), organophosphate and non-PBDE halogenated flame retardants, phthalates, pesticides, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), substituted diphenyl amines (SDPAs), perfluorinated compounds (including PFOS and PFCAs), siloxanes, triclosan, bisphenol A (BPA), nonylphenol ethoxilates (NP/NPEs), short chain chlorinated paraffins and metals. The collection of data on these substances will establish baseline information and ultimately allow for the analysis of temporal trends—a key element of measuring the performance of risk management activities.

Under the CMP, Environment Canada provided water quality monitoring information to support risk assessments for chemicals used for new flame retardants, and in hair products, cosmetics, deodorants, plasticizers, soap disinfectants and common additives in floor waxes and polishes. In addition, Environment Canada conducted monitoring for in-use pesticides, including neonicotinoids, as well as legacy chemicals that were banned or phased out in selected waters, to inform risk assessment and risk management actions.

Health Canada monitoring activities continued to focus on human exposure to contaminants, including national baseline measurement of organic and inorganic chemicals in household dust under the Canadian House Dust Study; VOCs in drinking water to support

national estimates in Canada; and national estimates of VOCs in indoor air of Canadian residences as part of the National Indoor Air Survey project.

As well, flame retardants in human milk and serum and exposure to several other chemicals, including phthalates and BPA, were measured in mothers and infants (Maternal-Infant Research on Environmental Chemicals; MIREC). In 2014–2015, seven journal articles were published on results of BPA, phthalates, triclosan, perfluorinated chemicals, and phenols under MIREC thus far.

Health Canada launched the fourth cycle (2014–2015) of the Canadian Health Measures Survey in January 2014 and sample collection is ongoing. Its sample size, number of sites and the chemicals measured mirror those of Cycle 3.

Health Canada initiated 13 two-year monitoring and surveillance studies at the start of 2014–2015 under the following broad themes: targeted population studies, biomonitoring supportive research, and targeted environmental monitoring studies.

During 2014–2015, seven human biomonitoring and health projects were completed under the Northern Contaminants Program. Health Canada partners with Aboriginal Affairs and Northern Development Canada on the human health component of the NCP, which addresses concerns about human exposure to elevated levels of contaminants in wildlife species important to the traditional diets of northern Aboriginal peoples.

In addition to data collection and reporting on a range of chemicals, monitoring efforts in 2014–2015 also included upgrades to monitoring technologies and establishing new sampling techniques and methodologies to detect trace contaminants in the environment.

More information about monitoring activities is available online at http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=F79B71E4-1.

Research

Environment Canada and Health Canada conduct a wide range of research under the authority of CEPA 1999. Among other purposes, this research is designed to fill data gaps in risk assessments; evaluate the impact of toxic substances and other substances of concern on the environment and human health; determine the extent of ecological and human health exposure to contaminants; provide specialized sampling and analytical techniques for monitoring and for enforcement; and develop novel methods to investigate toxicity and mechanisms of action of chemicals in order to support the use of new scientific approaches as lines of evidence in risk assessments. In addition, Health Canada undertakes research to support the development of regulations, guidelines and air quality objectives with the goal of reducing population exposures to pollutants and improving human health.

During 2014–2015, research was carried out by both departments under a number of programs, including the CMP, the Northern Contaminants Program, the Strategic Technology Applications of Genomics in the Environment Program and the Great Lakes Action Plan.

During 2014–2015, research projects were initiated on a number of subjects, including exposure and toxicity of CMP priority chemicals, such as flame retardants, benzotriazoles and benzothiazoles, antioxidants, hindered phenols, phthalates, inorganics and nanomaterials.

Research also continued on the atmospheric degradation of priority chemicals (i.e., flame retardants); atmospheric mercury in the Arctic; levels of metals and emerging organic pollutants in polar bears; endocrine-disrupting compounds including hydroxylated polychlorinated biphenyls (PCBs); antimicrobials (triclosan) in biosolids and accumulation in terrestrial biota; BPA and other halogenated phenolic compounds (HPCs), and flame retardants such as organophosphate esters; emerging metabolites of CMP priority pollutants in humans and wildlife; the occurrence, fate and effects of PAHs and polycyclic aromatic compounds in birds, mammals and amphibians; toxicity, uptake and accumulation of metallic substances including rare earth elements and platinum group elements in native plants and invertebrates; toxicity and accumulation of hindered phenols and substituted phenylamines; organophosphate esters and phthalates in house dust; effects and toxicity of chemical mixtures; and effects of chemicals on endocrine systems.

Under the CMP, Environment Canada scientists published 31 research papers and Health Canada scientists published 55 research papers related to these projects in 2014–2015.

In addition, Health Canada has initiated a series of case studies on the application of new integrated testing strategies that are more efficient and less expensive in human health risk assessment in order to evaluate the relevance and reliability of resulting genomics and high-throughput screening data compared with outputs from traditional toxicity testing methods. These new testing strategies are being developed for use in the evaluation of data-poor chemicals.

Information Gathering and Risk Assessment Activities

New Substances Risk Assessment

Substances that are not on the *Domestic Substances List* are considered to be new to Canada. New substances may not be manufactured in or imported into Canada unless the Minister of the Environment has been notified with certain prescribed information and the period for assessing the information has expired. New substances include living organisms, and reporting on living organisms is included in section 2.2 of this report.

In 2014–2015, 542 new substance notifications were received pursuant to sections 81 and 106 of the Act and the *New Substances Notification Regulations (Chemicals and Polymers)* and the *New Substances Notification Regulations (Organisms)*. Some of these are related to nanomaterials and substances that have the potential to be manufactured in the nanoscale.

For new substances in products regulated under the *Food and Drugs Act*, 45 notifications for chemical/polymer substances and 1 notification for living organisms were received and assessed in 2014–2015.

Since September 2001, substances in products regulated under the *Food and Drugs Act* have been subject to the new substances provisions in CEPA 1999. Substances that were in products that were regulated under the *Food and Drugs Act* and that were in Canadian commerce between January 1, 1987, and September 13, 2001, were placed on an administrative list, called the In Commerce List. In 2014–2015, 9 nominations to the Revised "In Commerce List" (R-ICL) were received, and 7 substances were added. The list is available on the Health Canada website. Also in 2014-2015, more than 1000 substances underwent prioritization, thereby identifying which substances require further consideration.

Chemicals Management Plan

Under the CMP, Environment Canada and Health Canada continued to complete the ecological and human health assessments for the remaining high-priority substances of the first phase of the CMP under the Challenge and the Petroleum Sector Stream Approach. They also continued data collection and assessment work as part of the second phase of the CMP under the Substance Groupings Initiative and the Rapid Screening Approach.

The Challenge

Through the Challenge program of the CMP, the Ministers committed to addressing the 200 highest-priority substances. These 200 substances were divided into 12 smaller groups or "batches" that were addressed sequentially. Each batch of substances in the Challenge progressed through various information gathering, screening assessment, risk management, and compliance promotion and enforcement (where appropriate) stages. To date, 190 assessments have been completed, and 43 of these substances have been found to meet one or more of the criteria in section 64[11] of CEPA 1999. During the 2014–2015 period, risk assessment and risk management work was ongoing to complete the last batch for this initiative. The Minister of the Environment and the Minister of Health published final screening assessments for Trisiloxane, octamethyl–CAS Registry Number 107-51-7 (MDM) and for Trisiloxane, 1,1,1,5,5,5-hexamethyl-3,3-bis[(trimethylsilyl) oxy]–CAS Registry Number 3555-47-3 (M4Q), and 2 substances in Batch 12. Details of these assessments are listed in Table 1.

The Petroleum Sector Stream Approach

The Petroleum Sector Stream Approach under the CMP includes approximately 160 substances identified as priorities for action through the categorization process and that were set aside to be addressed in a sectoral approach. A large portion of high-priority petroleum substances are used or

1 Under section 64 of CEPA 1999, "a substance is toxic if it is entering or may enter the environment in a quantity or concentration or under conditions that
(a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity;
(b) constitute or may constitute a danger to the environment on which life depends; or
(c) constitute or may constitute a danger in Canada to human life or health."

manufactured during petroleum refining or bitumen/heavy crude oil upgrading activities. Data collection, risk assessment and, where appropriate, risk management are continuing on the substances that are part of this initiative.

During 2014–2015, the Minister of the Environment and the Minister of Health published the draft screening assessment reports for 15 substances, including natural gas condensates, liquefied petroleum gases, heavy fuel oils and petrolatum and waxes. In addition, the Ministers published the final screening assessment reports for seven substances including Fuel Oil No. 2, Fuel Oil No. 4, Fuel Oil No. 6 and residual fuel oil, as well as aviation fuels. Details of these assessments are listed in Table 1.

The Substance Groupings Initiative

One of the current key initiatives under the CMP is the Substance Groupings Initiative. This was launched on October 8, 2011, and includes 500 substances in the following 9 groups:

- aromatic azo- and benzidine-based substances
- boron-containing substances
- certain internationally classified substances with potential for exposure to individuals in Canada
- certain organic flame retardants
- cobalt-containing substances
- methylenediphenyl diisocyanates and diamines
- phthalates
- selenium-containing substances
- substituted diphenylamines

During 2014–2015, the Minister of Health and the Minister of the Environment published draft Screening Assessment Reports for the remaining 107 aromatic azo- and benzidine-based substances, 50 cobalt, 7 methylenediphenyl diisocyanates and diamine (MDIs/MDAs), and 6 internationally classified substances. Of these 170 assessed substances, 55 are being proposed to meet one of more of the criteria in section 64 of CEPA 1999.

In addition, both Ministers published the final screening assessment reports for 42 benzidine-based dyes and 6 diarylide yellow pigments, none of which have been deemed harmful to human health and the environment. Details of these assessments are listed in Table 1.

The Domestic Substances List Inventory Update

The *Domestic Substances List* (DSL) was first compiled in the early 1990s to identify substances that were in commerce in Canada between 1984 and 1986. At the time of compilation, basic information such as substance quantities, uses and industry sectors involved were collected. The information available for many substances on the DSL may no longer represent current commercial activity in Canada. The Government of Canada recognizes the benefits of maintaining an up-to-date inventory of substances in commerce. Work to update information on substances on the DSL, undertaken under the CMP, is addressed in phases. Each update does not include all substances on the DSL. Instead, subsets of substances were surveyed, in Phase 1 in 2009 and in Phase 2 in 2012, based on priorities identified through the CMP.

Information received during the second phase of the *Domestic Substances List* Inventory Update (DSL IU) has been used to inform priority setting for the next phase of the CMP, help align with international initiatives applicable to the Canadian context, support subsequent risk assessment and risk management activities where appropriate, continue to help improve supply chain awareness, support the development of the next phase of the IU, and inform the Rapid Screening and Polymer Approaches.

In June 2014, the government hosted a multi-stakeholder workshop to discuss early thinking and next steps for the inventory update. The development of the third phase of the inventory update is under way and will be based on lessons learned and successes, as well as stakeholder feedback from the second phase.

In an effort to increase public awareness and to facilitate access to information on manufactured and/or imported substances in Canada, a non-confidential summary of information received from the second phase of the DSL IU was published in December 2014.

The Rapid Screening Approach

The rapid screening approach is utilized for substances of lower concern. This approach uses a series of qualitative and quantitative steps to efficiently evaluate the likelihood that a substance may cause harm, given conservative estimates

of exposure. At each step in the rapid screening process, any substance that appears to present a potential for harm will be identified as requiring further assessment. For those substances that pass through all steps of the rapid screening without being identified as requiring further assessment, the government will conclude that the substances do not require any further action.

In February 2015, the Minister of the Environment and the Minister of Health published the draft screening assessment reports for 612 substances and for 275 polymers of low concern.

Canada–U.S. Regulatory Cooperation Council

In February 2011, President Obama and Prime Minister Harper launched the Canada–United States Regulatory Cooperation Council (RCC) to facilitate collaboration in aligning the two countries' regulatory systems, where appropriate, and enhancing economic competitiveness, while maintaining high levels of protection for health and the environment. The first phase of the RCC launched 29 initiatives across many departments and agencies. One initiative led by Environment Canada, Health Canada and the U.S. Environmental Protection Agency will share information and develop joint approaches on the regulatory aspects of nanomaterials, including terminology and nomenclature, as well as risk assessment and management.

The second phase of work under the Canada–U.S. RCC was launched in August 2014 with the publication of the Joint Forward Plan (http://trade.gov/RCC/documents/RCC_Joint_Forward_Plan.pdf), which outlines new areas of regulatory alignment.

Specific objectives under the Joint Forward Plan include two initiatives related to chemicals. One initiative will pursue common approaches on regulatory reporting requirements for new uses of chemicals (Significant New Activity provisions in Canada and Significant New Use Rules in the United States). The expected outcomes of this work include an increased level of predictability and understanding of the development and design of Significant New Activities and Significant New Use Rules; consistent and effective approaches to compliance promotion; and increased collaboration on the sharing of information throughout the supply chain. A second initiative involves the identification of areas for closer collaboration in assessment. The expected outcomes of this work include the identification and analysis of opportunities and impediments to increase collaboration on risk assessment for joint priorities; an increased level of predictability and understanding of risk assessment approaches across the two jurisdictions; and increased collaboration and longer-term increased alignment on risk assessments.

Nanomaterials on the Domestic Substances List

Nanoscale forms of substances listed on the DSL are considered to be existing nanomaterials and generally have not been considered in risk assessments conducted under CEPA 1999. The Government of Canada wants to ensure that nanomaterials currently in commerce in Canada are addressed, as some may require further action to determine if they pose any potential risks to the environment or to human health. In March 2015, Environment Canada and Health Canada published a proposed approach to address nanoscale substances on the DSL. The proposed approach consists of three phases similar to other activities under the CMP:

- establishment of a list of existing nanomaterials in Canada;
- prioritization of existing nanomaterials for action; and
- action on substances identified for further work.

The proposed approach was open for a 60-day public comment period and comments received from stakeholders will be used to finalize the approach and inform decision making.

Summary of Screening Assessment Progress

Screening assessments are conducted to determine whether substances meet or are capable of meeting any of the criteria set out in section 64 of CEPA 1999. The results of the screening assessments are published in draft form on the Chemical Substances website, and the Ministers of the Environment and of Health publish a notice in the *Canada Gazette*, Part I to indicate that the draft assessments are available for comment. Interested parties can submit written comments during a 60-day public comment period. After taking into consideration comments received, the Ministers publish final assessment reports.

Table 1 lists the 2014–2015 assessment conclusions and proposed measures for 1235 existing substances (note that information on

assessments of living organisms is included in section 2.2 of this report).

Health Canada also continued to accept and review submissions for new substances used in products regulated by the *Food and Drugs Act* in order to determine their potential impacts from release to the environment. Health Canada also continued its *Food and Drugs Act* re-evaluation of food additives and food packaging materials and assessment of food contaminants.

Work also continued on the re-evaluation of previously approved pesticides according to legislated timelines and requirements under the *Pest Control Products Act*, as well as on continuing to monitor health and environmental incidents related to pesticides, analyzing trends and sales data, and taking regulatory action as needed. More information about screening assessments can be found online at www.chemicalsubstanceschimiques.gc.ca/plan/approach-approche/rapid-eng.php.

Risk Management Activities

Along with the results of the screening assessment, the Ministers must publish in the *Canada Gazette* their final recommendation to the Governor in Council by choosing one of the following three "measures": adding the substance to Schedule 1 of CEPA 1999 (the List of Toxic Substances), adding it to the Priority Substances List for further assessment, or proposing no further action in respect of the substance.

Ministers may recommend the addition of a substance to Schedule 1 of CEPA 1999 to the Governor in Council if a screening assessment shows that a substance meets one or more of the criteria set out in section 64 of CEPA 1999. The Governor in Council may then approve an order specifying its addition to Schedule 1. The decision to recommend adding a substance to Schedule 1 obliges the Ministers to develop a "regulation or instrument respecting preventive or control actions" within specific time periods. During 2014–2015, no orders were proposed and no substances were added to Schedule 1.

The CMP uses a wide range of risk management instruments, including regulations, pollution prevention plans, environmental performance agreements, permits, substance lists, guidelines, codes of practice and significant new activity notification provisions. These instruments can address any aspect of the substance's life cycle, from the research and development stage through manufacture, use, storage, transport and ultimate disposal or recycling.

In addition to implementing existing risk management instruments during the reporting period, the CMP published six final risk management instruments to address seven toxic substances or groups of substances.

In general, when a draft risk assessment proposes a conclusion that the substance is "toxic" under CEPA 1999, the CMP develops and publishes a risk management scope at the same time as the draft assessment report. Risk management scopes are used as discussion documents to engage stakeholders on potential risk management actions. A scope briefly describes the health or environmental concern, the activities potentially impacted and the type of risk management actions being considered. In 2014–2015, scopes were published for the following substances:

- methylenediphenyl diisocyanates and diamines (MDI/MDA) (substance grouping)
- ethyl carbamate (internationally classified substance grouping)
- cobalt and cobalt-containing substances (substance grouping)
- liquefied petroleum gases (Stream 4 petroleum and refinery gases) (Petroleum Sector Stream Approach)
- natural gas condensates (Petroleum Sector Stream Approach)

Similar to the risk management scopes, when the final screening assessment report concludes that a substance is "toxic" under CEPA 1999, a risk management approach document is developed and published at the same time as the final risk assessment report. The risk management approach document provides a more detailed description of the risk management being considered. It builds on the risk management considerations outlined in the risk management scope and considers new information received during the above-mentioned 60-day comment period. The release of a risk management approach document is followed by a 60-day public comment period, providing additional opportunity for stakeholders to comment on the proposed risk management actions. In 2014–2015, a risk management approach was published for Fuel Oil No. 2 (petroleum sector stream approach).

Table 1: Summary of existing substance assessment decisions published from April 2014 to March 2015
(NFA = no further action)

Substances (and Number of Substances)	Meet s. 64 Criteria	Proposed Measure	Draft Notice*	Final Notice*
Aviation fuels (3 substances)	No	NFA	Apr. 13, 2013	Apr. 12, 2014
Fuel Oil No. 4, Fuel Oil No. 6 and Residual Fuel Oil (3 substances)	No	NFA	Apr. 13, 2013	Apr. 12, 2014
Azo metal complexes and other substances (6 substances)	No	NFA	May 17, 2014	–
Ethanol, 2-[(2-aminoethyl)amino]- (AEEA) (internationally classified grouping)	No	NFA	Jul. 19, 2014	–
Ethyl carbamate (internationally classified grouping)	Yes	NFA	Jul. 19, 2014	–
Cresols and mixed cresols (internationally classified grouping – 4 substances)	No	NFA	Jul. 19, 2014	–
Aromatic amines (16 substances)	No	NFA	Jul. 26, 2014	–
Azo basic dyes (33 substances)	No	NFA	Jul. 26, 2014	–
Methylenediphenyl diisocyanate and diamine (MDI/MDA) substance grouping (7 substances)	Yes, MDI (5 substances) No, MDA (2 substances)	Add to Schedule 1 NFA	Aug. 16, 2014 Aug. 16, 2014	–
Heavy fuel oils (7 substances)	No	NFA	Sep. 6, 2014	–
Acetone	No	NFA	Jul. 6, 2013	Sep. 13, 2014
Propene	No	NFA	Jul. 6, 2013	Sep. 13, 2014
Biphenyl	No	NFA	Jul. 6, 2013	Sep. 13, 2014
Natural gas condensates (3 substances)	Yes	Add to Schedule 1	Oct. 11, 2014	–
Liquefied petroleum gases (2 substances)	Yes	Add to Schedule 1	Oct. 11, 2014	–
Diarylide yellow pigments (6 substances)	No	NFA	Jun. 15, 2013	Oct. 11, 2014
Azo acid dyes (52 substances)	No	NFA	Oct. 25, 2014	–
Benzidine-based dyes and related substances (42 substances)	No	NFA	Jun. 15, 2013	Nov. 29, 2014
Cobalt and cobalt-containing substances (50 substances)	Yes	Add to Schedule 1	Dec. 6, 2014	–
Certain substances on the Domestic Substances List used primarily as pharmaceuticals (28 substances)	No	NFA	Mar. 22, 2014	Feb. 21, 2015
Fuel Oil No. 2	Yes	Add to Schedule 1	Jun. 1, 2013	Feb. 21, 2015
Rapid screening of polymers from Phase Two of the *Domestic Substances List* Inventory Update (275 substances)	No	NFA	Feb. 28, 2015	–
Rapid screening of substances from Phase Two of the *Domestic Substances List* Inventory Update (612 substances)	No	NFA	Feb. 28, 2015	–
Petrolatum and waxes (3 substances)	No	NFA	Mar. 7, 2015	–
Batch 12 (2 substances reassessed: MDM and M4Q)	No	NFA	Mar. 29, 2014	Mar. 28, 2015

***** The dates are those on which the draft and final notices were published in the *Canada Gazette*, Part I.

Regulations

On April 23, 2014, Environment Canada published the *Regulations Amending the PCB Regulations and Repealing the Federal Mobile PCB Treatment and Destruction Regulations*. The amendments address the practical challenges of identifying and removing from service certain electrical equipment containing PCBs by extending their end-of-use timelines to 2025. They also repeal the *Federal Mobile PCB Treatment and Destruction Regulations*, which are no longer required. The PCB Regulations include limits on how long PCBs can remain in use and in storage, and require their destruction. At the end of 2014, there were 148 tonnes of PCBs still in use and 54 tonnes of PCBs in storage. Since 2008, 3217 tonnes of PCBs have been destroyed.

In 2014–2015, work continued to advance a risk management instrument on 2-(2-methoxyethoxy) ethanol (DEGME).

On April 23, 2014, Environment Canada published the Regulations Amending the 2-Butoxyethanol Regulations in the *Canada Gazette*, Part II. The Amendments addressed the administrative issues raised since the Regulations were initially published.

On November 19, 2014, Environment Canada and Health Canada published the *Products Containing Mercury Regulations* in the *Canada Gazette*, Part II. The Regulations prohibit the manufacture and import of products containing mercury or any of its compounds, with some exemptions for essential products that have no technically or economically viable alternatives (e.g., certain medical and research applications, and dental amalgam). The Regulations will come into force on November 8, 2015.

On April 23, 2014, amendments to Schedule 2 of the *Canada Consumer Product Safety Act* established a new prohibition on products that are made, in whole or in part, of polyurethane foam that contains Tris (2-chloroethyl)phosphate (TCEP) and that are intended for a child under three years of age. TCEP was evaluated in Batch 5 of the Challenge Initiative of the CMP. The final publication concerning TCEP in the *Canada Gazette*, Part II can be viewed online at http://canadagazette.gc.ca/rp-pr/p2/2014/2014-04-23/pdf/g2-14809.pdf.

In 2014–2015, Environment Canada published the Notice of Intent to Regulate HFCs in the *Canada Gazette*, Part I for public comment. The Notice indicated that Environment Canada was proceeding with the development of regulatory measures that would apply to hydrofluorocarbons (HFCs) in bulk and to manufactured products containing HFCs. Stakeholder consultations are on-going.

In 2014-2015, Environment Canada pre-published proposed *Ozone-depleting Substance and Halocarbon Alternatives Regulations* (ODSHAR) in the *Canada Gazette*, Part I for a 75-day public comment period. The new Regulations will repeal and replace the *Ozone-depleting Substances Regulations, 1998* and continue to serve as a means to implementing Canada's obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer. As part of these new proposed Regulations, Environment Canada is proposing to introduce a permitting and reporting system to monitor quantities of HFCs that are imported, manufactured and exported.

Government Operations and Federal and Aboriginal Lands

Part 9 of CEPA 1999 provides the authority to make regulations, objectives, guidelines and codes of practice that apply to departments, boards and agencies of the Government of Canada, federal works and undertakings, federal land, Aboriginal land, persons on that land and other persons insofar as their activities involve that land, and Crown corporations.

The *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* seek to reduce the risk of contaminating soil and groundwater as a result of spills and leaks of petroleum products and allied petroleum products from storage tank systems. The Regulations also establish technical standards for the design and installation of storage tank systems as well as a registry.

In 2014–2015, there were 1 035 new storage tank identifications submitted to Environment Canada through the Federal Identification Registry of Storage Tank Systems (FIRSTS). To date, 1 497 users have identified approximately 18 000 storage tanks to Environment Canada through the FIRSTS database for a total volume capacity of 2.7 billion litres of petroleum and allied petroleum products.

Pollution Prevention Planning Notices

The provisions within Part 4 of CEPA 1999 allow the Minister of the Environment to issue a "notice" to require designated persons to prepare, implement

and report on pollution prevention (P2) plans for toxic substances. P2 Planning Notices provide the flexibility for industry to determine the best methods within their processes and activities to meet the risk management objective within the Notice. Further information on P2 planning is available online at www.ec.gc.ca/planp2-p2plan/.

Active Pollution Prevention Planning Notices

During 2014–2015, there were five active P2 Planning Notices covering inorganic chloramines and chlorinated wastewater effluent; polyurethane and other foam sector (except polystyrene) —toluene diisocyanates; cyclotetrasiloxane, octamethyl (siloxane D4) in industrial effluents; BPA; and synthetic rubber manufacturing—isoprene. More information on these notices is available online at www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=BCAA1E50-1.

Polyurethane and other foam sector (except polystyrene)—toluene diisocyanates

- In September 2014, Environment Canada published a performance report summarizing the information that has been reported by facilities for the second year of the implementation of the P2 notice. More information is available online at www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=B88E6C97-1.

Nonylphenol and its ethoxylates in products

- In December 2014, Environment Canada published a final evaluation report summarizing the results that have been reported by the facilities subject to the P2 notice. More information is available online at www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=54EE64B2.

Environmental Performance Agreements

An Environmental Performance Agreement is negotiated around the key principles and design criteria outlined in Environment Canada's Policy Framework for Environmental Performance Agreements (www.ec.gc.ca/epe-epa/default.asp?lang=En&n=564C0963-1).

Active agreements include the Environmental Performance Agreement on production of hydrochlorofluorocarbons in Canada with E.I. DuPont Canada Company, the Environmental Performance Agreement respecting PFCAs and their precursors in perfluorinated products sold in Canada, the Refractory Ceramic Fibre Environmental Performance Agreement, and the Environmental Performance Agreement Respecting Bisphenol A in Paper Recycling Mill Effluents. Detailed information about these agreements is available online at www.ec.gc.ca/epe-epa/default.asp?lang=En&n=0D8C879E-1.

Environmental Performance Agreement with the Vinyl Council of Canada and Participating Companies (with Vinyl Compounding Facilities)

Environment Canada, the Vinyl Council of Canada (an operating council of the Canadian Plastics Industry Association), and participating companies (with vinyl compounding facilities) entered into a new Environmental Performance Agreement 2015–2020 Respecting the Use of Tin Stabilizers in the Vinyl Industry. This agreement was signed on March 17, 2015, and it is available online at www.ec.gc.ca/epe-epa/default.asp?lang=En&n=2F52E977. The objective of the agreement is to prevent the release of tin stabilizers into the environment through the full implementation of the Guideline for the Environmental Management of Tin Stabilizers in Canada, by all vinyl compounding facilities using tin stabilizers in Canada.

This new agreement replaces a former five-year agreement with the vinyl industry that was in place from 2008 to 2013. A Performance Summary Report, summarizing the results achieved under the former agreement was published in July 2014. During the time the former agreement was in effect, site verifications were conducted at each of the participating 33 facilities, all of which had fully implemented the guideline by the end of the agreement.

Environmental Quality Guidelines

Environmental quality guidelines provide benchmarks for the quality of the ambient environment. They may be developed nationally through the Canadian Council of Ministers of the Environment (CCME) as Canadian Environmental Quality Guidelines (CEQGs) or federally as Federal Environmental Quality Guidelines (FEQGs). Table 2 lists the CEQGs that are being developed nationally through the CCME in 2014–2015. During the same period, Environment Canada developed draft FEQGs for various CMP substances (Table 3).

Table 2: Canadian Environmental Quality Guidelines under development in 2014–2015

Environmental Compartment	Substance
Water	• Manganese • Silver • Zinc • Carbamazepine
Soil	• Glycols • Methanol • Nickel • Zinc • Amines

Table 3: Federal Environmental Quality Guidelines under development in 2014–2015

Environmental Compartment	In Progress
Water	• Bisphenol A • Chlorinated alkanes (chlorinated paraffins) • HBCD • PFOS • TBBPA • Triclosan • Vanadium • Chromium (hexavalent) • Iron • Lead • Copper
Sediment	• Bisphenol A • Chlorinated alkanes • HBCD • TBBPA
Fish Tissue	• Chlorinated alkanes • HBCD • PFOS
Wildlife Diet	• Bisphenol A • Chlorinated alkanes • HBCD • PFOS • TBBPA
Bird Egg	• PFOS
Soil	• HBCD • PFOS • TBBPA
Groundwater	• PFOS

Note: Hexabromocyclododecane (HBCD), perfluorooctane sulphonate (PFOS), tetrabromobisphenol-A (TBBPA).

Codes of Practice

The provisions within Part 3 of CEPA 1999 allow the Minister of the Environment and the Minister of Health to publish codes of practice. Codes of practice are voluntary instruments that identify recommended procedures and practices or environmental controls relating to works, undertakings and activities, including any subsequent monitoring activities with an objective of limiting releases of the substance(s) in question. These set out official national standards that companies and organizations should follow. Further information on codes of practice is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=E034D992-1.

On June 28, 2014, Health Canada published a Code of Practice for 2-Butanone, oxime (Butanone oxime) Associated with the Interior Application of Consumer Alkyd Paint and Coating Products in the *Canada Gazette*, Part I. The objective of the code of practice is to help reduce inhalation exposure to butanone oxime by the general public during and immediately following interior application of consumer alkyd paint and coating products. The Code of Practice is available online at http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/butanone-oxime/index-eng.php.

The *Code of Practice for the Environmental Management of Road Salts*, published in 2004, is designed to help municipalities and other road authorities to better manage their use of road salts in a way that reduces impacts on the environment while maintaining road safety. Environment Canada issued Performance Indicators and National Targets for the Code in December 2014. These indicators will allow better measurement of the implementation of best practices by the road authorities reporting under the Code.

On April 14, 2014, Environment Canada published a discussion document for a 60-day comment period, proposing a Code of Practice for the Reduction of Volatile Organic Compounds Emissions from the Use of Cutback and Emulsified Asphalt. The intent of the Code is to provide guidance to the asphalt sector regarding actions that can contribute to the reduction of VOC emissions in order to reduce health and environmental concerns in Canada while maintaining road safety.

A Code of Practice for the Management of Tetrabutyltin in Canada was published on November 5, 2011, for the purpose of managing potential releases of tetrabutyltin into the environment. The Code of Practice is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=B5292A55-1. During March 2013, for the purpose of confirming that the Code of Practice was being implemented, Environment Canada officials conducted a site visit to the only facility to which the Code of Practice applied. A Progress Report concerning this verification was published in May 2014, and it was concluded that the facility can be considered as having fully implemented all of the procedures and practices in the Code of Practice. This report is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=ABF7270B-1.

Significant New Activity Requirements

A Significant New Activity (SNAc) requirement can be applied to a substance so that any major changes in the way it is used are reported to the government. This ensures that departmental experts can evaluate whether a substance poses a new or increased risk to human health or the environment, and determine if risk management should be considered as a result of the new use.

In 2014–2015, no notices of intent to apply the SNAc provisions of CEPA 1999 or final orders were published.

Of the approximately 500 notifications for new substances that were assessed under CEPA 1999 in 2014–2015, the Minister issued 2 SNAc notices (Table 4) on new chemicals and polymers. Five SNAcs that had previously been in place for existing substances on the DSL were rescinded based on new information received (Table 5).

Table 4: Significant New Activity Notices for new substances from April 2013 to March 2014

Substance	Publication Date*
Poly[oxy(methyl-1,2-ethanediyl)], α, α', α"-1,2,3-propanetriyltris[ω-(oxiranylmethoxy)-, CAS Registry No. 37237-76-	Sep. 24, 2014
9-decenamide, *N*, *N*-dimethyl-, CAS Registry No. 1356964-77-6	Mar. 19, 2015

*The dates are those on which the final notices or orders were published in the *Canada Gazette*, Part I or Part II.

Table 5: Significant New Activity Notices and Orders rescinded between April 2014 and March 2015

Substance	Publication Date*
2-Naphthalenecarboxamide, *N*-(5-chloro-2,4-dimethoxyphenyl)-3-hydroxy- (CAS RN 92-72-8)	Jul. 30, 2014
2-Naphthalenecarboxamide, *N*-(4-chloro-2-methylphenyl)-3-hydroxy- (CAS RN 92-76-2)	Jul. 30, 2014
2-Naphthalenecarboxamide, *N*-(5-chloro-2-methylphenyl)-3-hydroxy- (CAS RN 135-63-7)	Jul. 30, 2014
Butanamide, 2-[[3,3'-dichloro-4'-[[1-[[(2-chlorophenyl)amino]carbonyl]-2-oxopropyl]azo][1,1'-biphenyl]-4-yl]azo]-N-(2,4-dimethylphenyl)-3-oxo- (CAS RN 78952-70-2)	Dec. 17, 2014
2H-Tetrazolium, 3,3'-(3,3'-dimethoxy[1,1' -biphenyl]-4,4'-diyl)bis[2,5-diphenyl-, dichloride (CAS RN 1871-22-3)	Mar. 11, 2014

*The dates are those on which the final notices or orders were published in the *Canada Gazette*, Part I and Part II.

Environment Canada and Health Canada are conducting a review of all SNAc notices and orders in force. Since publication of the first order in 2001, policies and practices have evolved, particularly with respect to the nature and scope of significant new activities, as well as the wording used to identify "significant new activities". The review is being undertaken to ensure that everything is in step with current policies, including the Policy on the Use of Significant New Activity Provisions of CEPA 1999 (published in December 2013). SNAc notices and orders will be reviewed between 2014 and 2017 in groups of similar chemistry (e.g., nanomaterials) or common elements (e.g., notices and orders with consumer product references). SNAc review groups include:

- aromatic azo- and benzidine-based substances;
- nanomaterials;
- new and existing substances with consumer product wording;

- high hazard substances, not in commerce substances; and
- remaining new and existing substances.

As a result of the review, SNAc notices or orders may be rescinded, amended or left unchanged. More information on the SNAc review is available online at http://chemicalsubstanceschimiques.gc.ca/plan/approach-approche/snac-nac/group-eng.php.

Conditions and Prohibitions on New Substances

Following notification, when the assessment of a new substance identifies a risk to human health or the environment, CEPA 1999 empowers the Minister of the Environment to intervene prior to or during the earliest stages of its introduction into Canada. In this case, there are three actions that may be taken. The Minister may:

a) permit the manufacture or import of the substance subject to specified conditions; or

b) prohibit the manufacture or import of the substance; or

c) request additional information considered necessary for the purpose of assessment. The notifier shall not manufacture or import the substance until supplementary information or test results have been submitted and assessed.

If the Minister suspects that a SNAc in relation to the substance may result in the substance's becoming "toxic," a SNAc notice may be published in the *Canada Gazette*, Part I for the substance. Please refer to the previous section for information on SNAc notices issued in 2014–2015.

Of 542 notifications received in 2014–2015, the Minister issued 5 Ministerial Conditions (Table 6), and no prohibitions.

Table 6: Notices of Ministerial Conditions for new substances from April 2013 to March 2014

Substance	Publication Date*
Oxirane, 2-methyl-, polymer with oxirane, mono-C_{11-14}-alkyl ethers, branched, sulfates, sodium salts, CAS Registry No. 78355-51-8 (No. 17754)	Apr. 19, 2014
Androsta-5, 16-dien-3-ol, 17-(3-pyridinyl)-, acetate (ester), (3β)-, CAS Registry No. 154229-18-2 (No. EAU-740)	Jul. 12, 2014
Oxirane, 2-methyl-, polymer with oxirane, mono(hydrogen sulfate), alkyl ethers, sodium salts (No. 17718)	Aug. 30, 2014
Cobalt bromide ($CoBr_2$), CAS Registry No. 7789-43-7 (No. 17736) Amines, *N,N,N'*-trimethyl-*N'*-alkyltrimethylenedi, reaction products with sodium chloroacetate (No. 17160)	Oct. 25, 2014
Poly(oxy-1,2-ethanediyl), α-[2-[tetrahydro-1 (2*H*)-pyrimidinyl) alkyl]-ω-hydroxy-, *N*-tallow alkyl derivs., di-Me sulfate-quaternized (No. 17799)	Nov. 22, 2014

* The dates are those on which the notices were published in the *Canada Gazette*.

Export Control List

Under Schedule 3 of CEPA 1999, the Export Control List (ECL) includes substances whose export from Canada is controlled because their use in Canada is prohibited or restricted, or because Canada has agreed, through an international agreement, such as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention), to control their international trade and requires notification or consent of the country of destination before export. CEPA 1999 requires exporters to submit prior notice of export with respect to substances on the ECL. In 2014–2015, 89 export notices were submitted to the Minister of the Environment. Certain exports of substances on the ECL require an export permit. In 2014–2015, two permits were issued by the Minister of the Environment.

On January 28, 2015, the Ministers of the Environment and of Health published an order amending the ECL to move from one part of the ECL to another, two substances or groups of substances that have been added to the Rotterdam Convention.

Table 7: Substances or groups of substances moved from one part of the ECL to another between April 2014 and March 2015

Substance or Group of Substances	Description
Azinphos-methyl (CAS 86-50-0)	Moved to Part 1 of the Export Control List (from Part 3)
Perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyles, including: • Perfluorooctane sulfonic acid (CAS 1763-23-1) • Potassium perfluorooctane sulfonate (CAS 2795-39-3) • Lithium perfluorooctane sulfonate (CAS 29457-72-5) • Ammonium perfluorooctane sulfonate (CAS 29081-56-9) • Diethanolammonium perfluorooctane sulfonate (CAS 70225-14-8) • Tetraethylammonium perfluorooctane sulfonate (CAS 56773-42-3) • Didecyldimethylammonium perfluorooctane sulfonate (CAS 251099-16-8) • *N*-Ethylperfluorooctane sulfonamide (CAS 4151-50-2) • *N*-Methylperfluorooctane sulfonamide (CAS 31506-32-8) • *N*-Ethyl-*N*-(2-hydroxyethyl) perfluorooctane sulfonamide (CAS 1691-99-2) • *N*-(2-Hydroxyethyl)-N-methylperfluorooctane sulfonamide (CAS 24448-09-7) • Perfluorooctane sulfonyl fluoride (CAS 307-35-7)	Moved to Part 2 of the Export Control List (from Part 3)

2.2 Living Organisms

Products of biotechnology that are living organisms are regulated for health and safety purposes by a variety of federal departments and agencies across the government. For example, the Canadian Food Inspection Agency is an important regulator of crop plants and micro-organisms used in animal feeds, fertilizers and veterinary biologics. CEPA 1999 sets the federal standard for assessment and risk management of new and existing living organisms. Other Canadian legislation meeting this standard is listed in Schedule 4 of CEPA 1999. Living organisms imported or manufactured for a use regulated under one of those acts are exempted from the New Substances provisions in CEPA 1999. Living organisms manufactured or imported for a use not covered by existing federal legislation, are regulated under CEPA 1999. These include naturally occurring and genetically modified organisms (such as bacteria, fungi, viruses and higher organisms) used for various environmental, industrial and commercial purposes.

CEPA 1999 established an assessment process for living organisms that are new animate products of biotechnology, which mirrors provisions in Part 5 of CEPA 1999 respecting new substances that are chemicals or polymers. In addition, paragraph 74(b) of the Act requires that all living organisms on the DSL (about 68 existing micro-organisms) undergo a screening assessment to determine whether the living organism is toxic or capable of becoming toxic.

Monitoring, Research and Risk Assessment Activities

Research

Government research on living organisms focuses on determining hazardous characteristics and the pathogenicity potential of various biotechnology microbes in order to support screening assessments. The research is coordinated jointly with regulators at Health Canada and Environment Canada, and focuses mainly on micro-organisms on the CEPA 1999 DSL.

As the timeline for completing screening assessments of CEPA 1999 DSL micro-organisms was accelerated to March 2016 (originally set for March 2020), 2014–2015 research continued to focus on supporting the efficient screening assessment of these micro-organisms. This was done through application of rapid genomic methods for confirming micro-organism identity; by conducting organism-specific testing for determining potential pathogenicity characteristics; and by conducting exposure assays for toxicity assessment. Data summary reports were completed on several organisms, including fungi/yeast (*Aspergillus, Saccharomyces, Candida*) and bacteria (*Bacillus, Delftia, Pseudomonas, Chaetomium and Sphingobium*). Most of these results have already been incorporated in screening assessment reports as supporting data.

In addition, research continued on a number of subjects, including assessing the exposure effects of a mixture of micro-organisms (consortium) used for bioremediation of oil-contaminated soil and water, and detection of all microbial species within it; characterization of cleaning products that use micro-organisms as their active ingredients; animal models to identify opportunistic pathogens; and cell-based immunology/toxicology methods to reduce animal usage.

Risk Assessment of New Animate Products of Biotechnology

During 2014–2015, approximately 50 notifications were received and of those, 10 were accepted and assessed pursuant to the *New Substances Notification Regulations (Organisms)* for new animate products of biotechnology. The remaining notifications are still within the various stages of the assessment process. Environment Canada supported notifiers by providing advice on completing their notification dossiers.

Risk Assessment of Existing Animate Products of Biotechnology

Environment Canada and Health Canada jointly perform the screening assessment of micro-organisms listed on the DSL. In 2014–2015, draft screening assessments for 19 micro-organisms were published in the *Canada Gazette*, Part I for a 60-day public comment period. The final screening assessment for four micro-organisms was also published in the *Canada Gazette*, Part I (see Table 8). Work continues on the remaining screening assessments for several other DSL micro-organisms of high and medium priority.

The Technical Expert Group, composed of independent scientific experts from academia, industry, public advocacy groups and other federal government departments, continued providing advice on the process and validating the scientific basis of screening assessments and their conclusions.

Table 8: Summary of existing living organisms assessment decisions published from April 2014 to March 2015
(NFA = no further action)

Substances (and Number of Substances)	Meet s. 64 Criteria	Proposed Measure	Draft Notice*	Final Notice*
Aspergillus awamori and *Aspergillus brasiliensis* of Priority A (2 micro-organisms)	No	NFA	Jun. 14, 2014	–
Enterobacter aerogenes of Priority A (1 micro-organism)	No	NFA	Jun. 14, 2014	–
Pseudomonas stutzeri of Priority A (1 micro-organism)	No	NFA	Jul. 19, 2014	Jan. 24, 2015
DSL *Bacillus licheniformis/subtilis* group of Priority A and B (11 micro-organisms)	No	NFA	Jan. 28, 2015	–
Escherichia hermannii of Priority A (1 micro-organism)	No	NFA	Jan. 28, 2015	–
Paenibacillus polymyxa of Priority B (3 micro-organisms)	No	NFA	Jan. 24, 2015	–
Pseudomonas fluorescens	No	NFA**	Dec. 7, 2013	Feb. 14, 2015
Micro-organisms in Lot 2 of Priority C (2 micro-organisms)	No	NFA	Dec. 7, 2013	Feb. 14, 2015

* The dates are those on which the draft and final notices were published in the *Canada Gazette*, Part I.
** Significant New Activity Notice proposed (see Table 9).

Risk Management Activities

Significant New Activity Requirements

In 2014–2015, a notice of intent to apply the SNAc provisions was published for one existing living organism (Table 9).

Table 9: Significant New Activity Notices of Intent and Orders for existing living organisms from April 2014 to March 2015

Assessment	Substances or Number of Substances	Notice of Intent*	Final Order*
Pseudomonas fluorescens	1 substance	Feb. 14, 2015	Pending

* The dates are those on which the notices of intent and final orders were published in the Canada Gazette, Part I and Part II, respectively.

In 2014–2015, no new living organisms were subjected to a SNAc Notice. No new living organisms were subjected to Ministerial Conditions or Ministerial Prohibition.

2.3 Air Pollution and Greenhouse Gases

Air pollution and greenhouse gas (GHG) originate from numerous domestic sources, such as industry and transportation, as well as transboundary transport of air pollution from other countries.

Monitoring, Research and Risk Assessment Activities

Monitoring

Monitoring and reporting activities are important for identifying and tracking levels and trends related to air pollutants that impact both the environment and human health.

In Canada, atmospheric monitoring is carried out through partnerships and/or collaborations between the provincial, territorial and federal governments. Due to the fact that atmospheric issues such as intercontinental transport of air pollution and the depletion of the ozone layer are global concerns and in many instances require global solutions, partnerships and collaboration with international organizations and agencies are essential.

Ambient (outdoor) air quality monitoring provides the foundation for air quality management in Canada, including the evaluation of progress relative to the Canadian Ambient Air Quality Standards (see below), for health research, for validation of numerical air quality prediction models, for evaluating the benefits of control measures and for assessments of the impact of air pollution on Canadians and the environment.

In 2014–2015, ambient air quality monitoring continued under the National Air Pollution Surveillance and the Canadian Air and Precipitation Monitoring networks.

The Canadian Greenhouse Gas Monitoring Program includes observations of carbon dioxide and other GHGs from 15 long-term measurement sites across Canada (see Figure 2).

Environment Canada makes its atmospheric monitoring data available to the public on national (e.g., Government of Canada Open Data Portal) and international (e.g., World Meteorological Organization (WMO) World Data Centre for GHGs) databases.

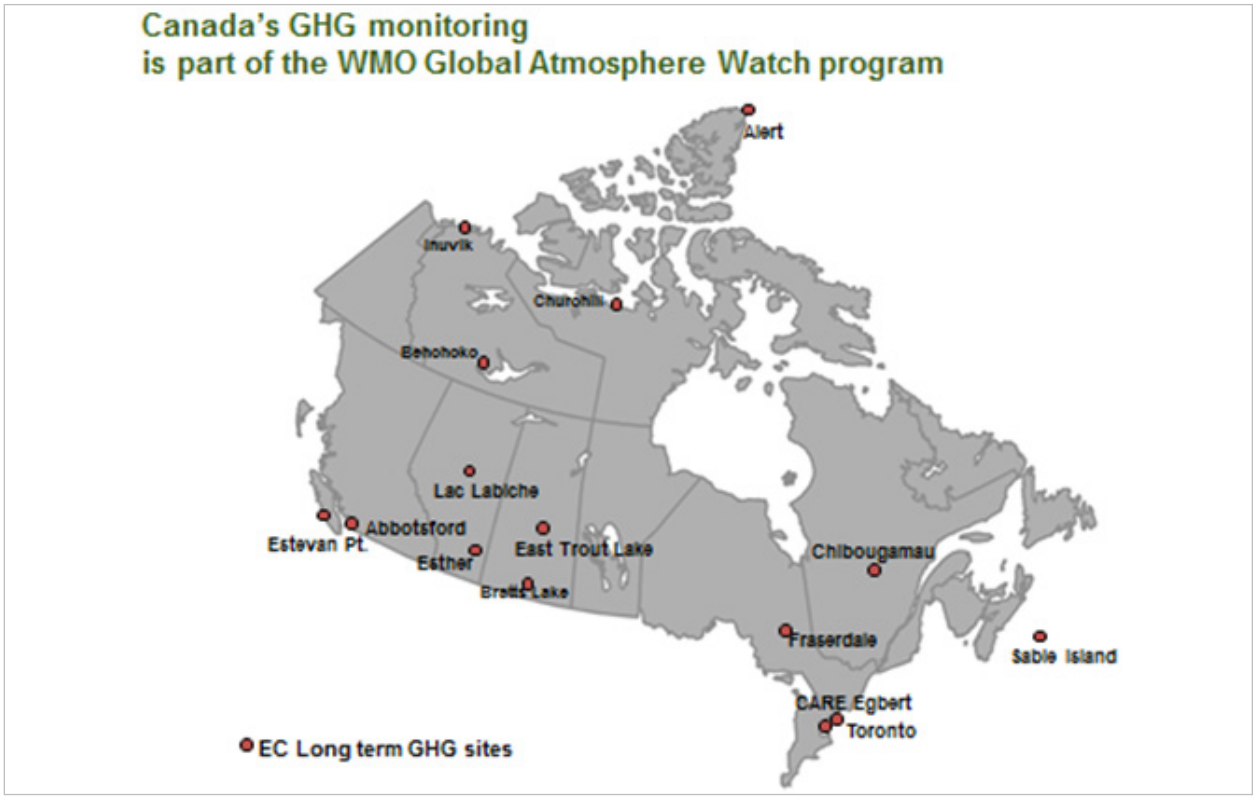
More information about monitoring activities is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=F79B71E4-1.

Research

Air quality research efforts help quantify priority air pollutants and determine trends, improve and validate air quality predictions both in the near term and into the future within the national and global context, as well as enhance understanding of the impacts of air pollutant sources on Canadians and the environment.

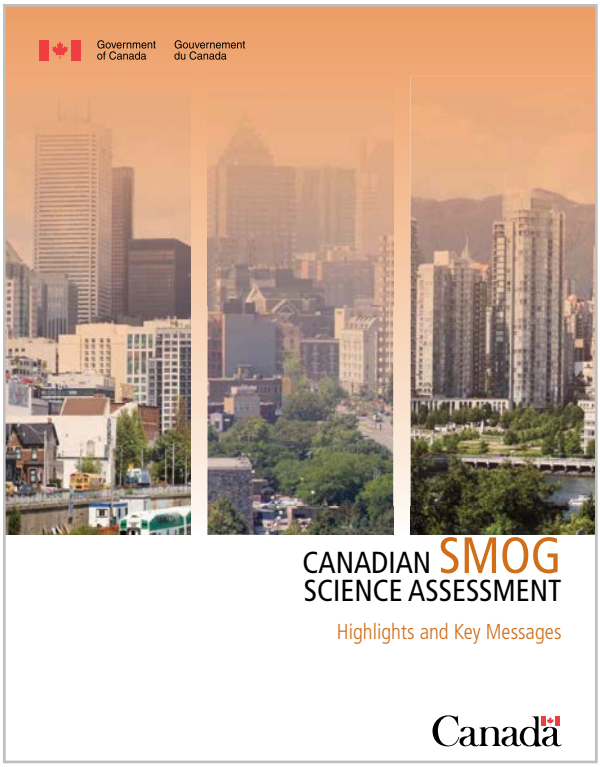
Environment Canada scientists published more than 150 research papers related to air pollutants and GHGs in peer-reviewed scientific journals. Environmental research topics included satellite measurements of emissions; development and validation of high resolution air quality forecasting models; the carbon cycle in the Earth system; and engine or traffic emissions (furthering understanding of sources and impacts).

Figure 2: Canadian Greenhouse Gas Measurement Program monitoring sites



Ongoing research by Environment Canada continued on a wide range of air pollution and GHG topics, including development of a better method to model dry deposition of atmospheric particles; characterization and measurement of atmospheric aerosols; GHG sources and sinks; transport and deposition of ammonia and mercury; understanding and predicting air quality at high resolution in airsheds of particular interest from an environmental perspective (e.g., urban); conducting on-board measurements of exhaust emissions from vessels carrying cargo to northern communities; understanding the impact of specific emissions sources on air quality; renewable fuels operation in cold temperature; and non-criteria exhaust emissions from new engine technologies.

Environment Canada scientists also led or contributed to the development and publication of the Environment Canada and Health Canada Canadian Smog Science Assessment, the World Meteorological Organization global assessment of global precipitation chemistry and deposition, and the World Meteorological Organization/ United Nations Environment Programme Scientific Assessment of Ozone Depletion.



Canadian Smog Science Assessment available at http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=AD024B6B-A18B-408D-ACA2-59B1B4E04863

Health Canada conducts research and assesses the health risks of indoor and outdoor air pollutants. Departmental scientists published more than 40 air pollution research papers in 2014–2015. Several new research projects were initiated by Health Canada in 2014–2015 on topics including susceptibility to air pollution among the elderly; development of allergies in children; the relationship between short-term exposure to air pollutants and hospitalizations/mortalities due to cardiovascular diseases (e.g., stroke); and the effect of air pollution on metabolic functions related to neurological and cardiovascular diseases.

Ongoing research by Health Canada continued on a wide range of air pollution topics, including health impacts of short- and long-term exposure to air pollutants from a variety of sources; the effectiveness of the Air Quality Health Index in small towns and rural areas; levels of semi-volatile organic compounds indoors in residences; and infiltration of air pollutants into residences and schools.

Research studies also supported the development of air pollution information tools; the Air Quality Health Index; Canada's platform for air quality forecasts; the Air Health Indicator, which tracks air quality and health trends over time; and the Air Quality Benefits Assessment Tool, which is used to quantify and monetize air pollution health impacts for standard testing, regulatory impact assessments and other purposes. Research continued in support of Health Canada's program to reduce the exposure of Canadians to radon.

Risk Management Activities

The Air Quality Management System (AQMS), implemented by federal, provincial and territorial environment ministers in 2012, supports a comprehensive approach to reducing air pollution in Canada. Canadian Ambient Air Quality Standards are the driver for air quality management under AQMS. Environment Canada and Health Canada have established standards for fine particulate matter and ground-level ozone, two pollutants of major concern to human health and the major components of smog. Government officials worked on standards for sulphur dioxide and nitrogen dioxide in 2014–2015.

In 2014–2015, Canada continued to take a sector-by-sector regulatory approach to reduce GHG emissions.

Transportation Sector

Environment Canada has implemented six vehicle and engine regulations and nine fuel regulations under CEPA 1999.

Greenhouse Gas Emissions Regulations

In October 2014, Environment Canada published the *Regulations Amending the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations* for model year 2017 and beyond. These regulations build on the previous regulations for 2011–2016 model years and are aligned with U.S. regulations. In addition, the Department published a Notice of Intent to develop more stringent standards to further reduce GHG emissions from post-2018 model year heavy-duty vehicles and engines. These would build on the existing *Heavy-Duty Vehicle and Engine GHG Emission Regulations* for 2014–2018 model years.

Air Pollutant Emissions Regulations

The first air pollutant emission regulations for vehicles and engines were published under CEPA 1999 in 2003. The *On-Road Vehicle and Engine Emission Regulations* were aligned with U.S. standards and applied to a variety of vehicles, including passenger cars, vans, pick-up trucks, buses and motorcycles. Since then, Environment Canada has published regulations covering many classes of vehicles and engines in the off-road sector, such as tractors, small marine engines, recreational vehicles, chainsaws and lawnmowers. These regulations are periodically amended to introduce more stringent standards and to align with the U.S.

Environment Canada has nine fuels-related regulations, containing various standards such as requirements for renewable content of fuels; limits on lead, benzene and sulphur in gasoline and on sulphur in diesel fuel; prohibitions on the import and export of contaminated fuels; and limits on the rate of gasoline dispensed into vehicles to reduce emissions of VOCs during refueling. These regulations are also periodically updated.

More information on Environment Canada's vehicle, engine and fuel regulations is available online at http://www.ec.gc.ca/Air/default.asp?Lang=En&n=DDBB166E-1.

Regulatory Administration of the Transportation Regulations

In 2014–2015, Environment Canada processed almost 650 Canada-unique submissions, over 900 importation declarations, and over 260 annual and end-of-model-year reports. Additionally, the Department received reports of emissions defects covering over 520 000 vehicles and engines.

Additionally, the Department responds to inquiries from regulatees and prospective regulatees. During 2014–2015, Environment Canada responded to over 1400 inquiries regarding these regulations.

Environment Canada also conducts testing on vehicles and engines to verify compliance with the regulations. In 2014–2015, the Department conducted 84 rounds of testing.

Industrial Sectors

In 2014–2015, Environment Canada continued to take a phased-in approach to implement the air pollutant emission requirements for industrial sources. The proposed *Multi-Sector Air Pollutants Regulations* were published in the *Canada Gazette*, Part I on June 7, 2014. They set emissions limits for industrial boilers and heaters, stationary spark-ignition engines, and kilns used in cement manufacturing facilities. In addition, Environment Canada published, on June 14, 2014, the Draft Code of Practice to Reduce Emissions of Fine Particulate Matter (PM2.5) from the Primary Aluminum Sector, and the Draft Code of Practice to Reduce Fugitive Emissions of Total Particulate Matter and Volatile Organic Compounds from the Iron, Steel and Ilmenite Sector.

In 2014–2015, one P2 Planning Notice relating to air pollution continued to be active, covering base metal smelters and refineries, and zinc plants. Information about the notice and performance results is available online at www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=BCAA1E50-1#X-201211061451252.

The Environmental Performance Agreement with Rio Tinto Alcan concerning air emissions of PAHs ended in December 2014. A final public report will be published by Environment Canada by the end of the 2015–2016 fiscal year. Information about the agreement and updates is available online at www.ec.gc.ca/epe-epa/default.asp?lang=En&n=5BE979CD-1#X-201006160806394.

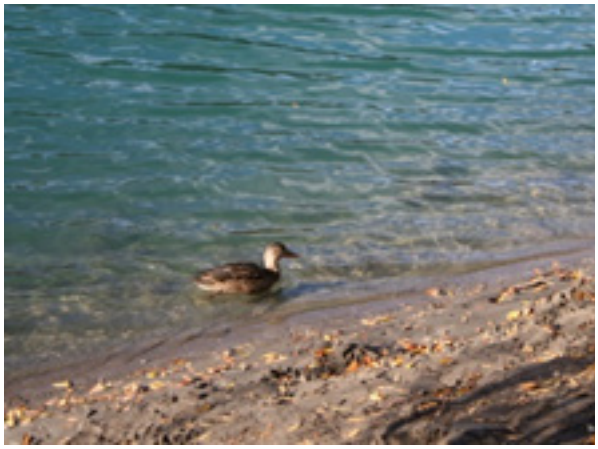
Residential Indoor Air Quality Guidelines

The Residential Indoor Air Quality Guidelines summarize the health risks posed by specific indoor pollutants, based on a review of the best scientific information available at the time of the assessment. They summarize the known health effects, detail the indoor sources and provide a recommended exposure level below which health effects are unlikely to occur. When it is not feasible to establish a numeric guideline, guidance documents are developed. Both guideline and guidance documents provide recommendations on strategies to reduce exposure to pollutants.

In 2014–2015, the Minister of Health published a proposed residential indoor air quality guideline for nitrogen dioxide in the *Canada Gazette*, Part I on January 17, 2015 (www.gazette.gc.ca/rp-pr/p1/2015/2015-01-17/html/notice-avis-eng.php).

2.4 Water Quality

Water quality is affected in many ways, including by nature's own patterns. The water quality of rivers and lakes changes with the seasons and geographic areas, even when there is no pollution present. It is also affected by human development, including disposal of human wastes, animal wastes and chemical substances into the environment.



Duck on Bow River
Photo: © Environment and Climate Change Canada

Water quality is a shared responsibility with provinces and territories. The federal government addresses water quality under various statutes including the *Fisheries Act*. Work on water quality under CEPA 1999 includes scientific research, monitoring and leadership on the development of guidelines for water quality.

The influence and relationship between international legal instruments and Canadian water standards

Since June 2012, Canada has officially recognized the right to access safe drinking water and sanitation as being an implicit human right under the 1966 International Covenant on Economic, Social and Cultural Rights, under the 1948 UN Declaration of Human Rights, the recent UN Resolution on the Law on Transboundary Aquifers, and numerous regional and bilateral agreements on water quality and quantity management. This newly recognized human right is binding on Canada as a member party to that covenant. The international standard established under the World Health Organization (WHO) for minimum quality and access to safe drinking water and sanitation was adopted many years ago by the WHO based on Canadian standards.

Canadian water quality standards and norms are and will be increasingly influenced and driven by international and regional legal instruments.

Monitoring, Research and Risk Assessment Activities

Monitoring

In 2014–2015, Environment Canada's Fresh Water Quality Monitoring program implemented the risk-based approach in conjunction with statistical power analyses to better evaluate the risks of contaminants and human activities in Canadian watersheds. The approach is being used to optimize monitoring locations and adjust monitoring frequencies relative to the environmental risks and to inform on changes in environmental condition. Environment Canada, in collaboration with the Ontario Ministry of the Environment and Climate Change, published monitoring data demonstrating the results of the provincial ban on cosmetic use of pesticides.

In addition to data collection and reporting on a wide range of environmental issues, monitoring efforts in 2014–2015 included continued upgrades to monitoring technologies and improved data reporting and database infrastructure.

In 2014–2015, Health Canada completed research to develop new or improved methods for measuring disinfection by-products of emerging concern in drinking water (cyanogen bromide, haloacetamides, N-nitrosodimethylamine and nitrosamines and cyanogen chloride). This work improves analytical capability and relevance in view of future drinking water disinfection by-products surveys. Work was completed and published on a 2013–2014 analysis of disinfection by-products from source waters containing nano-silver, and results were used to inform the World Health Organization Water Quality and Health Joint Expert Meeting. Participation continues on the VOCs in tap water component to Canada Health Measures Survey Cycle 4, and further method development was initiated for ground water testing of contaminants potentially associated with shale gas production, including VOC and semivolatile (SVOC) aromatic hydrocarbons, PAHs and alkylphenols.

More information about monitoring activities is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=F79B71E4-1.

Research

Both Health Canada and Environment Canada continued their water quality research activities. Health Canada conducts research on drinking water quality in support of the Guidelines for Canadian Drinking Water Quality. Environment Canada's research included method development for analytes in wastewater treatment plant influent and effluent; assessing the environmental fate of azo benzidine compounds and their transformation products; investigating organophosphorus flame retardants in a variety of environmental compartments; biotoxins identification in algal blooms in the St. Lawrence River; analytical methods development for the identification of degradation products from pharmaceuticals in surface waters; multiple biological impacts of municipal effluents on wild fish in the St. Lawrence River; and assessing bioaccumulation and toxicity of dysprosium and palladium under varying water quality parameters.

Two new tools are also being developed to support data accessibility for inorganic compounds identified as priorities for the CMP between 2016 and 2020, including databases and worksheets for risk assessment groups. The first database is in the process of being adapted for use in the appropriate regulatory areas.

Risk Management Activities

In addition to the activities listed below, risk management actions included in section 2.1 on toxic substances also contribute to the overall improvement of water quality.

Drinking Water Quality Guidelines

Health Canada works in collaboration with the provinces and territories to develop the Guidelines for Canadian Drinking Water Quality and their technical documents. Priorities for developing guidelines are also established in consultation with the provinces and territories and are based on a WHO and national perspectives.

Health-based guideline values are developed for drinking water contaminants that are found or expected to be found in drinking water supplies across Canada at levels that could lead to adverse health effects.

Guidance documents are also developed in relation to the Guidelines for Canadian Drinking Water Quality to provide general operational or management guidance related to specific drinking water issues (such as boil-water advisories) or to make risk assessment information available when a guideline is not deemed necessary (such as potassium from water softeners).

The Guidelines for Canadian Drinking Water Quality are used by all provinces and territories as a basis to establish their own regulatory requirements regarding the quality of drinking water in their jurisdictions.

Table 10 lists the guidelines that were completed or in progress in 2014–2015.

Table 10: Guideline documents for Canadian drinking water quality from April 2014 to March 2015

Finalized – Publication Pending	In Progress
• Toluene • Ethylbenzene • Xylenes • Tetrachloroethlyne • Boil Water Advisories	• pH • Chromium • Benzo(a)pyrene • Lead • Bromate • Manganese • Microcystins • Uranium • Copper • PFOS/PFOA • Enteric viruses • Enteric protozoa • Strontium • Chloramines • 1,4-Dioxane

2.5 Waste

Waste generally refers to any material, non-hazardous or hazardous, that has no further use, and which is managed at recycling, processing or disposal sites or facilities.

In Canada, the responsibility for managing and reducing waste is shared among the federal, provincial, territorial and municipal governments. Municipal governments are responsible for collecting and managing waste from homes for recycling, composting and disposal, while provincial and territorial authorities are responsible for the approval, licensing and monitoring of waste management operations.

For its part, Environment Canada exercises responsibilities with respect to international and interprovincial movements of hazardous waste and hazardous recyclable material and disposal at sea.

Monitoring, Research and Risk Assessment Activities

Disposal at Sea Site Monitoring Program

As required by CEPA 1999, representative disposal at sea sites are monitored to verify that permit conditions are met, and that scientific assumptions made during the permit review and site selection process are correct and sufficient to protect the marine environment. By monitoring disposal sites, Environment Canada is able to verify that the permitting of disposal is sustainable and that permit holders can have continued access to suitable sites. Where monitoring indicates a problem or where the site has reached its capacity over time, management action in the form of closing, moving or altering the site use can occur.

Sediment dredging operations in the Maritimes are regulated under Disposal at Sea Regulations
Photo: Allison Grant © Environment and Climate Change Canada

In 2014–2015, monitoring projects were completed at 11 ocean disposal sites nationally (or 13% of actively used sites).

Environment Canada's Pacific and Yukon Region undertook monitoring at the Sand Heads disposal site in British Columbia in June 2014. Sediment sampling and analysis was carried out to look at the physical, chemical and biological conditions at the site. Results are being processed and analyzed. Two disposal at sea sites, Brown Passage and Coast Island, were monitored in October 2014, Brown Passage and Coast Island using sediment profile imaging technology to look at biological activity at the sites. In addition, surficial sediment samples were collected for analysis for trace metals, PAHs, PCBs, particle size, moisture, total organic nutrients and total organic carbon. Analysis of the surficial sediment chemistry is ongoing but the sediment profile image analysis is complete and shows that at the Coast Island site there is evidence of high faunal activity and further data analysis is required. At the Brown Passage site, results indicate the site is successfully recolonized by benthic invertebrates and that benthic community health is similar to ambient stations throughout the survey area.

The final results will support Environment Canada in disposal site management and will contribute to a better understanding of the potential effects related to disposal activities both at the disposal sites and adjacent areas.

Environment Canada's Quebec Region conducted hydro-acoustic surveys at four disposal at sea sites in the Madeleine Islands, Quebec: Depot D and Depot E, which are both situated in the Grande-Entrée sector, and L'Île-d'Entrée and Pointe-Basse, two frequently used sites. The hydro-acoustic survey at Depot D allowed Environment Canada to confirm that the site has remained very stable since its closure in 2002, that erosion of material off the site was relatively slow and that the sediments that had been disposed of at the site remained in place. The survey results from Depot E and at the Pointe-Basse site will be used to determine if the disposal activities were carried out in accordance with the conditions of the disposal at sea permits issued, in particular with respect to the location of disposal and the quantities disposed. Finally, the survey done at L'Île-d'Entrée allowed Environment Canada to determine the capacity of the disposal site and confirmed that this site has capacity to receive additional dredged material for another five years.

In 2014–2015, monitoring in the Quebec Region confirmed that no remedial management actions were needed at any of the sites monitored.

Environment Canada's Atlantic Region conducted monitoring at four disposal sites in 2014–2015. This included a post-disposal bathymetric survey at a dredged material disposal site in Saulnierville, Nova Scotia, a post-disposal multi-beam sonar survey at the Bull Arm fabrication facility dredged material disposal site in Newfoundland and Labrador, a remote sensing survey of the dredged material disposal site and

surrounding area in Tabusintac Bay, New Brunswick, and chemical characterization of surficial sediments at the Black Point dredge material disposal site in Saint John Harbour, New Brunswick.

The post-disposal surveys were conducted primarily for compliance purposes, with results demonstrating consistency with permit requirements. The remote sensing survey was a collaborative effort led by the Department of Fisheries and Oceans to monitor changes in submerged aquatic vegetation in Tabusintac Bay with a focus on the dredge and disposal area. The chemical characterization at Black Point, which included analyses for PCBs, PAHs, metals, particle size and total organic carbon, was conducted to better understand long-term environmental monitoring needs at one of the largest and most frequently used disposal sites in Eastern Canada.

Risk Management Activities

In addition to the activities listed below, risk management actions described in section 2.1 on toxic substances also contribute to the overall improvement of waste management.

Controlling the Movement of Hazardous Waste and Hazardous Recyclable Material

CEPA 1999 provides authority to make regulations governing the export, import and transit of waste (including both hazardous and prescribed non-hazardous waste) and hazardous recyclable materials. It also provides authority to establish criteria for refusing an export, import or transit permit, should the hazardous waste or hazardous recyclable material not be managed in a manner that will protect the environment and human health.

Canada implements its international obligations as a party to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention), the Organisation for Economic Co-operation and Development Decision on the Control of Transboundary Movement of Wastes Destined for Recovery Operations, and the Canada–United States Agreement on the Transboundary Movement of Hazardous Waste through the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHRMR) and the *PCB Waste Export Regulations*, 1996.

In 2014,[2] Export and import quantities set out in this section of the report represent actual movement values that took place during the 2014 calendar year (from January 1, 2014, to December 31, 2014). Environment Canada processed more than 2 300 notices for proposed imports, exports and transits of hazardous wastes and hazardous recyclable materials under the EIHWHRMR. The notices received covered 20 338 waste streams, which exhibited a range of hazardous properties such as being flammable, acutely toxic, oxidizing, corrosive, dangerously reactive and environmentally hazardous. Approximately 39 500 individual transboundary shipments of hazardous waste and hazardous recyclable material were reported in movement documents received by Environment Canada.

Almost all imports (99.8%) and exports (97.5%) of hazardous waste and hazardous recyclable materials occurred between Canada and the United States. The hazardous recyclable materials that were not exported to the United States went to Belgium, Germany, Mexico and Republic of Korea.

The quantity of hazardous waste and hazardous recyclable material imported into Canada was 380 362 tonnes (t) in 2014. This represents a decrease of 57 000 t or 13% less than the total 2013 import quantity. Shipments destined for recycling totalled 221 354 t and represented about 58% of all imports in 2014. Hazardous recyclable material imported into Canada in greater quantities were batteries filled with acid, waste liquors from the pickling of metals, hydraulic fluids that contain metals, and wastes having metals or metal carbonyl as constituents. Hazardous wastes imported in greater quantities included wastes having metals or metal carbonyl as constituents, waste containing halogenated organic solvents, and wastes that contain or are contaminated with cyanides.

The quantity of hazardous waste and hazardous recyclable materials exported was 531 209 t in 2014. This represents an increase of approximately 15 000 t or 3% from the 2013 figure. Shipments exported for recycling totalled 436 608 t and represented about 82% of all exports in 2014. Spent sulphuric acid, by-product from aluminum

2 Export and import quantities set out in this section of the report represent actual movement values that took place during the 2014 calendar year (from January 1, 2014, to December 31, 2014).

smelter, treated cork and wood wastes, wastes from oil/water or hydrocarbon/water mixtures, and lead-acid batteries made up the majority of hazardous recyclable material exported abroad for recycling. Hazardous wastes exported in greater quantities included waste from oil/water or hydrocarbon/water mixtures, waste acidic or basic solutions, spent sulphuric acid and corrosive liquid acid.

Imports of hazardous recyclable materials in 2014 were shipped to five provinces: New Brunswick, Quebec, Ontario, Alberta and British Columbia. Except for New Brunswick, all of these provinces also received waste for final disposal.

Exports of hazardous recyclable materials in 2014 originated from eight provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. Exports of hazardous wastes for final disposal also originated from these same provinces, except for Saskatchewan.

Tables 11 and 12 list the quantities imported and exported from 2005 to 2014.

- a prohibition on the export of a substance for disposal in an area of the sea under the jurisdiction of a foreign state or in its internal waters;
- a list of six substances for which a disposal at sea permit can be obtained (Schedule 5 of CEPA 1999);
- an assessment framework for reviewing permit applications based on the precautionary principle, which must be followed (Schedule 6 of CEPA 1999); and
- a statutory obligation to monitor selected sites.

Further information on disposal at sea is available online at www.ec.gc.ca/iem-das.

Canada and other parties to the London Convention and Protocol have been working to reduce barriers to compliance with the treaty. Workshops, guidance and technical assistance are offered to countries to aid their acceding to the London Protocol or to coming into compliance with it. In 2014, Canada was elected to the Compliance Group, a small sub-group of the London Protocol, which is responsible for encouraging and supporting compliance and ratification of the treaty. A correspondence group led by Canada and Germany is also looking at what is preventing countries from ratifying and what strategies could be used to address those issues.

Canada participates actively in the development of international guidance relevant to disposal at sea. Current projects include developing guidance on action levels for organic waste disposal, a low-tech compliance monitoring document, as well as continuing work on best practices for disposal related to offshore mining wastes. A desktop review of the data supporting the continued ban of the disposal of radioactive waste at sea began in November 2014.

Table 11: Hazardous waste and hazardous recyclable material, imports, 2005–2014 (tonnes)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Recyclables	174 983	164 903	237 141	262 337	221 778	217 663	243 491	243 434	245 110	221 354
Total imports	476 416	408 839	497 890	532 727	490 169	364 162	394 786	345 230	435 951	380 362

Table 12: Hazardous waste and hazardous recyclable material, exports, 2005–2014 (tonnes)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Recyclables	226 380	374 024	358 896	365 468	315 631	357 627	374 207	413 614	422 388	436 608
Total exports	327 746	474 538	460 497	482 680	420 865	428 367	460 707	505 461	516 174	531 209

Please note that data are revised periodically as new information becomes available. Therefore, information presented here may differ from information published in other reports.

Disposal at Sea

Under CEPA 1999, most types of disposal of waste at sea in areas of the sea within Canadian jurisdiction and by Canadian ships in Canadian jurisdiction and in international waters requires a permit issued by Environment Canada.

The CEPA 1999 disposal at sea rules implement the London Convention and the Protocol to the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. A permit for disposal at sea will generally be issued only if it is the environmentally preferable and practical option. CEPA 1999 provides additional controls on disposal at sea, including:

In 2013, an amendment to the London Protocol was adopted to further regulate ocean fertilization and create the ability to address other forms of marine geo-engineering in the future, where there is potential to cause harm to the marine environment. Canada is continuing to look at ratifying the amendment to ensure domestic consistency with the London Protocol within the next few years.

Disposal at Sea Permits

In 2014–2015, 90 permits were issued in Canada for the disposal of 7 million tonnes of waste and other matter (tables 13 and 14), compared with 84 permits for the disposal of 5.8 million tonnes in 2013–2014. Most of the material permitted for disposal was dredged material that was removed from harbours and waterways to keep them safe for navigation. Also permitted was excavated native till (geological matter) that is disposed of at sea in the lower mainland of British Columbia, where on-land disposal options for clean fill are extremely limited. Fish-processing waste is also permitted in remote communities where there is no access to reuse-and-recycling opportunities.

Table 13: Disposal at sea quantities permitted (in tonnes) and permits issued in Canada from April 2014 to March 2015

Material	Quantity Permitted	Permits Issued
Dredged material	5 401 500*	36
Geological matter	1 508 000*	8
Fisheries waste	69 895	45
Vessels	–	1
Organic matter	–	–
Total	**6 979 395**	**90**

* Dredged material and geological matter were converted to tonnes using an assumed density of 1.3 tonnes per cubic metre.

Table 14: Disposal at sea quantities permitted (in tonnes) and permits issued by region from April 2014 to March 2015

Material	Atlantic		Quebec		Prairie and Northern		Pacific and Yukon	
	Quantity Permitted	Permits Issued	Quantity Permitted	Permits Issued	Quantity Permitted	Permits Issued	Quantity Permitted	Permits Issued
*Dredged material**	1 350 700	8	137 800	12	0	0	3 913 000	16
*Geological matter**	325 000	1	0	0	0	0	1 183 000	7
Fish waste	68 745	42	1 150	3	0	0	0	0
Vessels	–	–	–	–	–	–	–	1
Organic matter	–	–	–	–	–	–	–	–
Total	**1 744 445**	**51**	**138 950**	**15**	**0**	**0**	**5 096 000**	**24**

* Dredged material and geological matter were converted to tonnes using an assumed density of 1.3 tonnes per cubic metre.

As demonstrated in figures 3 and 4 below, the number of permits issued has been consistent over the last 10 years, while the quantities permitted have increased, which may be due to infrastructure spending in support of ports and port infrastructure, and new major projects with marine terminal project elements.

Figure 3: Annual disposal at sea quantities permitted (in millions of tonnes)

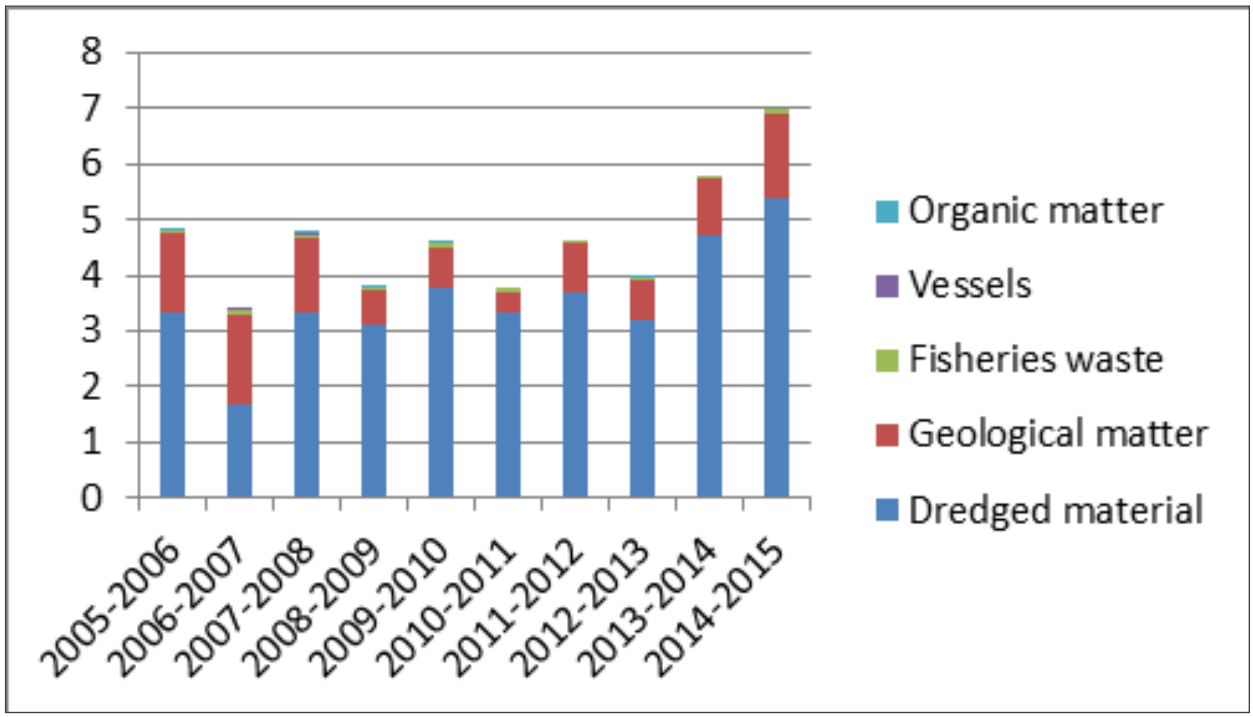
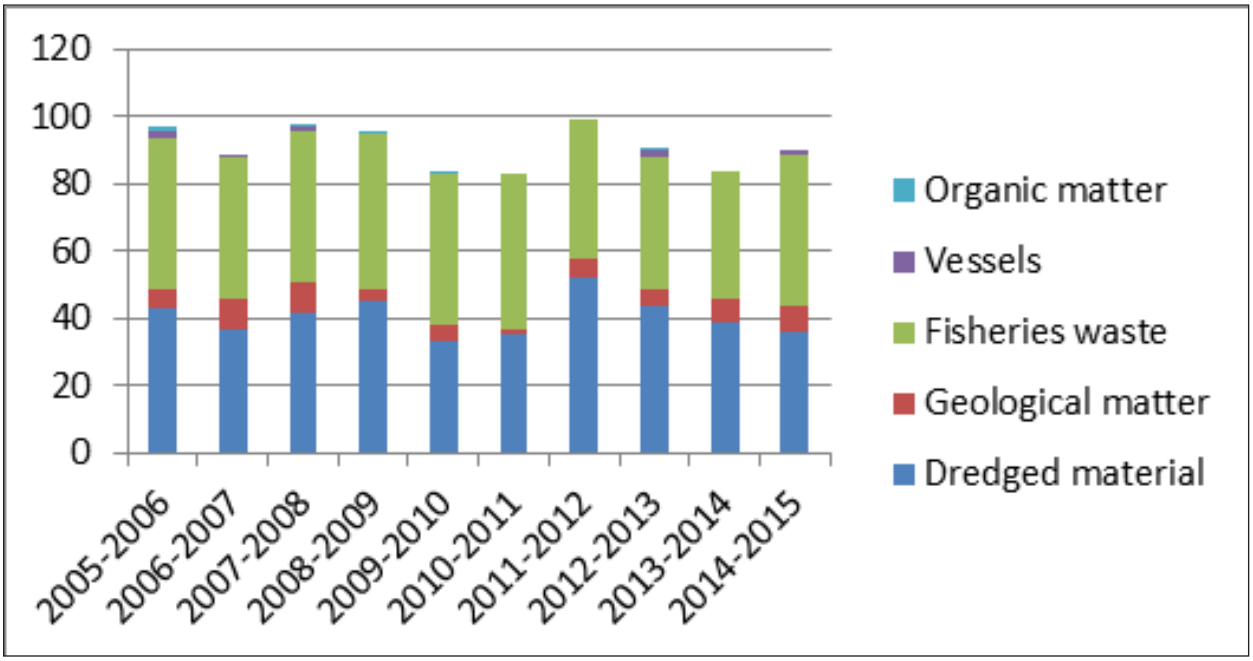


Figure 4: Number of disposal at sea permits issued



2.6 Environmental Emergencies

Part 8 of CEPA 1999 addresses the prevention of, preparedness for, response to and recovery from uncontrolled, unplanned or accidental releases into the environment of substances that pose potential or immediate harm to the environment or danger to human life or health.

EC oil research scientist © Environment and Climate Change Canada
Photo: © Environment and Climate Change Canada

Part 8 provides the authority, among other things, for making regulations, guidelines and codes of practice. Part 8 also establishes a regime that makes the person who owns or has the charge, management or control of such a substance liable for restoring the damaged environment and for the costs and expenses incurred in responding to an environmental emergency.

Diesel fuel tanks on First Nations are regulated under the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.
Photo: Fernand Comeau © Environment and Climate Change Canada

The *Environmental Emergency Regulations* (referred to as the E2 Regulations) are made under Part 8 of CEPA 1999. The Regulations require any person responsible for quantities, as specified in the Regulations, for substances listed in the Regulations, located at a place in Canada, to notify the Minister of the Environment in respect of those quantities and to prepare, document, implement, exercise and update an environmental emergency plan (E2 plan) for the place where the substance is located, if the maximum expected quantity of the substance or the maximum capacity of the largest container for the substance is equal to or greater than the regulated threshold quantity for the substance.

The Environmental Emergencies website (www.ec.gc.ca/ee-ue/default.asp?lang=En&n=8A6C8F31-1) includes implementation guidelines for E2 plans, a common issues section and online notice filing. The website also provides public access to a database containing basic information about persons or places (e.g., company names and addresses) that are subject to the Regulations.

As of March 31, 2015, approximately 4700 regulatees had filed Notices Regarding the Identification of Substance and Place under the E2 Regulations. Of these regulatees, approximately 3000 were required to prepare E2 plans. The 7 most commonly identified substances are propane, anhydrous ammonia, butane, pentane, gasoline, hydrochloric acid and chlorine.

In 2014–2015, Environment Canada regional activities associated with the implementation of the E2 Regulations included hosting workshops, conducting site visits and delivering presentations for the regulated community, covering prevention, preparedness, and response and recovery aspects for propane, tetrachloroethylene and ammonia, among other substances. Joint inspections were conducted in preparation for the Pan American Games that took place in Toronto, Ontario, during the summer of 2015. Other themed workshops addressed E2 Regulations requirements, E2 plan content and exercise design.

Environment Canada conducted public consultations in 2014–2015 in preparation for potential regulatory amendments to the E2 Regulations. At the end of the 30-day consultation period, Environment Canada had received 700 individual comments through the online feedback form as well as 40 written submissions on a number of potential

amendments related to improving the protection of the environment and human health, improving the clarity and effectiveness of the E2 Regulations, and harmonizing the E2 Regulations with existing laws and regulations. Several parties participated in the consultation process, including current regulatees; potential regulatees; representatives from other federal departments; provincial, territorial and municipal governments; industry and their associations; Aboriginal communities; and citizens. The comments received helped to identify areas needing more clarification and areas of concern for interested and affected parties.

3 ADMINISTRATION, PUBLIC PARTICIPATION AND REPORTING

3.1 Federal, Provincial, Territorial Cooperation

Part 1 of CEPA 1999 requires the Ministers to establish the National Advisory Committee, composed of one representative for the federal Minister of the Environment and one for the federal Minister of Health, representatives from each province and territory, and not more than six representatives of Aboriginal governments from across Canada.

Part 1 also allows the Minister of the Environment to negotiate an agreement with a provincial or territorial government, or an Aboriginal people, with respect to the administration of the Act. It also allows for equivalency agreements, which allow the Governor in Council to suspend the application of federal regulations in a province or territory that has equivalent regulatory provisions. The intent of an equivalency agreement is to eliminate the duplication of environmental regulations.

National Advisory Committee

The National Advisory Committee provides a forum for provincial, territorial and Aboriginal governments to advise the Ministers on certain actions being proposed under the Act, enables national cooperative action, and seeks to avoid duplication in regulatory activity among governments. The committee is provided opportunities to advise and comment on initiatives under the Act. More information on the committee is available online at www.ec.gc.ca/ceparegistry/gene_info/nac.cfm.

To carry out its duties in 2014–2015, the CEPA National Advisory Committee (NAC) held two teleconference meetings, and the NAC Secretariat corresponded regularly with committee members regarding various initiatives implemented under CEPA 1999. These initiatives included opportunities to comment on and be informed of:

- various risk assessment activities under the CMP, including:
  - the publication of 21 draft screening assessments which included over 1000 chemical substances and approximately 20 living organisms, and
  - the publication of 14 final screening assessments which included over 160 chemical substances and 4 living organisms.
- notices of intent to apply SNAc provisions to various substances;
- National Pollutant Release Inventory Reporting Requirements;
- proposed regulations dealing with issues such as vehicle and engine emission limits, products containing mercury, air pollutant release limits, PCBs, chromium, fuels and storage tank systems;
- proposed codes of practice for addressing halocarbons, fine particulate matter, and volatile organic compounds; and
- proposed federal environmental quality guidelines.

Federal-Provincial/Territorial Agreements

Canada–Ontario Agreement Respecting the Great Lakes Basin Ecosystem

Since 1971, Canada and Ontario have worked together through the Canada–Ontario Agreement Respecting the Great Lakes Basin Ecosystem (www.ec.gc.ca/grandslacs-greatlakes/default.asp?lang=En&n=B903EE0D-1). This agreement guides the efforts of Canada and Ontario in achieving a healthy, prosperous and sustainable

Great Lakes Basin ecosystem for present and future generations, and is an important mechanism for implementing Canada's obligations under the Great Lakes Water Quality Protocol of 2012, which amended the Canada–United States Great Lakes Water Quality Agreement (www.ec.gc.ca/grandslacs-greatlakes/default.asp?lang=En&n=45B79BF9-1).

In 2014–2015, Canada and Ontario continued to collaborate on work to protect and restore the Great Lakes while finalizing negotiations on a new, expanded agreement. On December 18, 2014, the new Canada–Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA) came into effect. This new COA focuses on a number of priorities that are important to the restoration and protection of Great Lakes water quality, and it is aligned to meet the commitments outlined in the Canada–U.S. Great Lakes Water Quality Protocol of 2012.

In recognition of the commitments related to Harmful Pollutants under the new COA, a draft report was completed summarizing past and current research, monitoring and risk management activities and achievements on chemicals identified as Tier I and Tier II under previous Canada–Ontario agreements. Results of this report may inform future nominations for Chemicals of Concern under the Harmful Pollutants Annex.

In addition, during 2014–2015, a range of chemical risk management initiatives were delivered under the CMP, as described elsewhere in this report, that supported implementation of the draft Harmful Pollutants Annex Goals under the new COA. These included continuing efforts towards the sound management of chemicals in the Great Lakes through the reduction of releases and the enhancement of knowledge to mitigate risk.

Memorandum of Understanding between Canada and Quebec

Memoranda of Understanding and/or Administrative Agreements concerning the pulp and paper sector have been in place between Quebec and the Government of Canada since 1994. The parties currently cooperate through a Memorandum of Understanding for data collection that is in effect until March 2015, whereby Quebec continues to provide a single data-entry portal for regulatees for the following federal regulations:

- *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations* made pursuant to CEPA 1999;
- *Pulp and Paper Mill Defoamer and Wood Chip Regulations* made pursuant to CEPA 1999; and
- *Pulp and Paper Effluent Regulations* made pursuant to the *Fisheries Act*.

During this reporting period, reports produced by 42 pulp and paper facilities in Quebec were examined to verify that the facilities were in compliance with the applicable regulations.

Canada–Nova Scotia Equivalency Agreement

In June 2014, the Minister of the Environment entered into an equivalency agreement with the Province of Nova Scotia with regard to the federal *Reduction of Carbon Dioxide Emissions from Coal-fired Generation Electricity Regulations*. The agreement indicates that the provincial GHG emissions cap on electricity producers would achieve the same or better effects than the federal regulation. In accordance with the five-year term limit in CEPA 1999, the agreement is set to terminate at the end of 2019.

Further to this agreement, the Governor in Council adopted an order suspending the application of the federal regulation in Nova Scotia. The final order was published in December 2014 and took effect in July 2015.

Information reported by the province under the Agreement is expected to be received each year starting in 2016. This information will be used to report on the administration of the agreement in the future.

More information about these agreements is available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=5CB02789-1.

Canada–Alberta Equivalency Agreement

As a result of the 1994 Agreement on the Equivalency of Federal and Alberta Regulations for the Control of Toxic Substances, the following CEPA 1999 regulations, or parts thereof, do not apply in Alberta:

- *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations* (all sections);
- *Pulp and Paper Mill Defoamer and Wood Chip Regulations* [4(1), 6(2), 6(3)(b), 7 and 9];
- *Secondary Lead Smelter Release Regulations* (all sections); and
- *Vinyl Chloride Release Regulations*, 1992 (all sections).

There are no longer any operating vinyl chloride plants or lead smelters in Alberta, and therefore there are no compliance issues to report under the *Vinyl Chloride Release Regulations*, 1992 or the *Secondary Lead Smelter Release Regulations*.

Alberta Environment indicated that, in 2014–2015, there were no reported violations by the four pulp and paper mills regulated under the provincial pulp and paper regulations.

The 1969 Master Agreement on Apportionment

The Master Agreement on Apportionment (MAA), signed in 1969, is an intergovernmental agreement related to water management between Canada and the provinces of Manitoba, Saskatchewan and Alberta. The MAA governs the apportionment and protection of interprovincial waters. The Prairie Provinces Water Board (PPWB) is an interjurisdictional body established under the MAA. The PPWB is accountable to the Parties for administrating the MAA and reporting to the parties on the achievement of objectives established under the MAA.

In 2014–2015, the governments began negotiations to revise the MAA by adding amendments to the Agreement itself, Schedule C and an additional Schedule on Transboundary Aquifers as Schedule F. Schedule F will set out the principles for cooperative management of interprovincial groundwater resources shared by Alberta, Saskatchewan and Manitoba, and it will include consideration of issues related to both groundwater quantity and quality. Schedule F is anticipated to be finalized in 2016.

Environmental Occurrences Notification Agreements

Federal, provincial and territorial laws require, in most cases, notification of the same environmental emergency or environmental occurrence, such as an oil or chemical spill. To reduce duplication of effort, Environment Canada and Fisheries and Oceans Canada entered into environmental occurrences notification agreements with the governments of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, the Northwest Territories and Yukon.

These notification agreements are supported by the *Release and Environmental Emergency Notification Regulations* under CEPA 1999 and the *Deposit out of the Normal Course of Events Notification Regulations* under the *Fisheries Act*.

The purpose of the notification agreements is to establish a streamlined notification system for persons required to notify federal and provincial/territorial governments of an environmental emergency or environmental occurrence. Under these notification agreements, 24-hour authorities operating for the provinces and territories receive notifications of environmental emergencies or environmental occurrences, on behalf of Environment Canada, and transfer this information to the Department.

In 2014–2015, Environment Canada continued to work with provincial and territorial counterparts to implement the notification agreements. This work included the establishment of management committees and the development of standard operating procedures for the collection and processing of notifications of environmental occurrences. Further, Environment Canada initiated discussions with the governments of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, the Northwest Territories and Yukon to review the notification agreements with a view to renewing them for another five years.

The notification agreements are available online at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=5200AB4B-1.

3.2 Public Participation

CEPA Environmental Registry

Part 2 of CEPA 1999 provides for the establishment of an environmental registry, whistleblower protection, and the right of an individual to request an investigation and pursue court action.

The CEPA Environmental Registry was launched on Environment Canada's website when the Act came

into force on March 31, 2000. Since that time, ongoing efforts have been made to increase the Registry's reliability and ease of use. The Registry encompasses thousands of CEPA-related documents and references. It has become a primary source of environmental information for the public and private sectors, both nationally and internationally, and has been used as a source of information in university and college curricula.

From April 2014 to March 2015, the CEPA Registry website had 238 167 visits, making it the third-largest area visited on the Environment Canada website, after Weather and Ice. There were approximately 250 public enquiries made concerning CEPA 1999 in the last fiscal year. These requests were related to information on various substances, regulations, permits and enforcement.

The CEPA Registry is available online at www.ec.gc.ca/lcpe-cepa.

Public Consultations

During 2014–2015, there were 49 opportunities posted on the Environmental Registry for stakeholders and the public to consult.

Please see CEPA Registry public consulations, available online at http://ec.gc.ca/lcpe-cepa/eng/participation/default.cfm?n=FBC634F3-1.

CMP-related Committees

The CMP Stakeholder Advisory Council met twice in 2014–2015. The purpose of the council is to get stakeholder input on the implementation of the CMP, and to foster dialogue on issues pertaining to the CMP between stakeholders and government, and among different stakeholder groups. Issues may include risk assessment, risk management, risk communications, monitoring, research, indicators of success, chemical policy and other cross-cutting integrated activities. Some examples of topics that were discussed in 2014–2015 include alternatives assessment; findings of the DSL IU; update on work carried out under the Regulatory Cooperation Council and under the Strategic Approach to International Chemicals Management; and the CMP Stakeholder Engagement and Public Outreach Framework.

The CMP Science Committee held its second meeting in Ottawa on November 4–5, 2014. The Science Committee ensures a strong science foundation to CMP by providing external, scientific expertise to Health Canada and Environment Canada on scientific issues. The terms of reference for the committee were endorsed at the meeting, and members were asked to provide input on best practices in screening assessment reports under the CMP. Members engaged in constructive discussions as they continued developing the committee's scientific input for the Government of Canada. Next steps were also identified for formulating the committee report.

3.3 Reporting

Canadian Pollution Prevention Information Clearinghouse

Part 4 of CEPA 1999 provides the authority for the establishment of a national pollution prevention information clearinghouse to facilitate the collection, exchange and distribution of information regarding pollution prevention.

The Canadian Pollution Prevention Information Clearinghouse (CPPIC) is a public website that provides Canadians with links to over 1 400 resources containing comprehensive information and tools from Canada and around the world to strengthen their capacity to prevent pollution. In 2014–2015, 105 new records were added to the clearinghouse. Thirty-nine percent (39%) of the new records are Canadian, and 11% are bilingual. Fifty percent (50%) of new records are applicable to manufacturing sectors, while another 23% are applicable to private households. Overall, CPPIC records were viewed just over 54 000 times in 2014–2015, a 23% increase over the previous year's views.

State of the Environment Reporting

The Canadian Environmental Sustainability Indicators (CESI) program provides data and information to track Canada's performance on key environmental sustainability issues including climate changes and air quality, water quality and availability, and protecting nature. It conveys the state of Canada's environment in a straightforward and transparent

manner. CESI is used to inform citizens and Parliamentarians about current environmental status and trends, and provide policy makers and researchers with comprehensive, unbiased and authoritative information about key environmental issues. The indicators are also the prime vehicle used to measure and report on the progress towards the goals and targets of the Federal Sustainable Development Strategy (www.ec.gc.ca/dd-sd/default.asp?lang=En&n=CD30F295-1), which provides a whole-of-government view of environmental priorities at the federal level, with goals, targets, and implementation strategies.

The indicators are designed to be relevant to the government's policy priorities and to the public, useful and easily understood by decision makers and the public, and based on solid methodology that allows for comparison over time. CESI also ensures that the national, regional, local and international trends are readily accessible and presented through the use of graphics, explanatory text and interactive maps through which users can drill down for local data.

The indicators are prepared by Environment Canada with the support of other federal departments, including Health Canada, Statistics Canada, Natural Resources Canada, Agriculture and Agri-Food Canada, and Fisheries and Oceans Canada, as well as relevant provincial and territorial counterparts. The high-quality data used to calculate indicators originate from a variety of sources, including surveys, measurement networks and other research initiatives that are expected to be maintained and updated for the foreseeable future. Through close collaboration with science and data experts across the federal government, CESI provides results and information on key issues including air quality, water quality, toxic substances and exposure to substances of concern.

The indicators are published on the CESI website (www.ec.gc.ca/indicateurs-indicators), showing national and regional results along with the methodology explaining each indicator and links to related socio-economic issues and information.

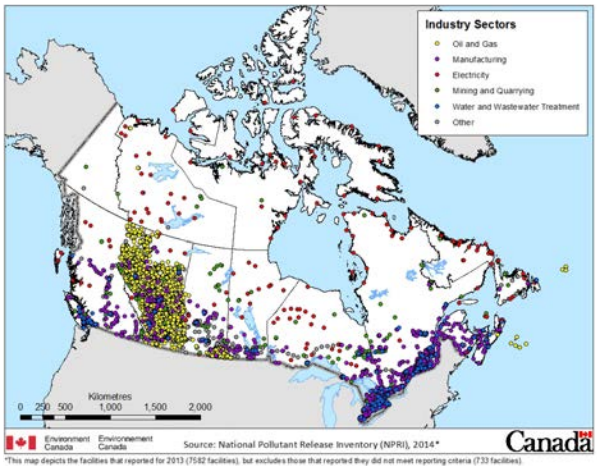
In 2014–2015, the PBDEs in fish and sediments CESI indicators report was updated. Environmental concentrations were compared with Federal Environmental Quality Guidelines for fish and sediments. More information about PBDEs in fish and sediments is available online at www.ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=0970C75C-1.

National Pollutant Release Inventory

The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly accessible national inventory of pollutant releases (to air, water and land), disposals and transfers for recycling. The NPRI includes information reported by industrial and other facilities that meet specified criteria and provides the main input to Canada's comprehensive Air Pollutant Emissions Inventory (APEI). Over 7500 facilities, located in every province and territory, reported to the NPRI for 2013 (see Figure 5).

The NPRI supports the identification and management of risks to the environment and human health, including the development of policies and regulations on toxic substances and air quality. Public access to the NPRI through an online data search tool and downloadable datasets encourages industry to prevent and reduce pollutant releases, and improves public understanding about pollution and environmental performance in Canada.

Figure 5: Location of facilities that reported to the NPRI in 2013



NPRI data for 2013 was published in preliminary form in July 2014 and reviewed form in December 2014.

The NPRI reporting requirements for the 2014 and 2015 reporting years were published in the *Canada Gazette* in July 2014, outlining a number of modifications to NPRI requirements. For example, the substances 2-(2-methoxyethoxy)ethanol (also known as DEGME) and thallium (and its compounds) were added to the list of NPRI substances, and the reporting thresholds were reduced for acrylonitrile, BPA, hydrazine, isoprene, nonylphenol and its ethoxylates, quinolone, and toluene diisocyanates.

Environment Canada undertook a number of initiatives to respond to the needs of NPRI data users during 2014–2015. For example, the Department held consultations on proposed changes to NPRI reporting requirements and increased variety and improved accessibility of datasets to facilitate analysis by data users. Further information on the NPRI is available online at www.ec.gc.ca/inrp-npri.

Air Pollutant Emission Inventory

In February 2014, Environment Canada updated and published the complete time series of emissions of air pollutants in Canada's APEI, beginning with 1990 and including the latest data for 2013. The APEI includes data for 17 air pollutants, notably smog precursors and selected toxics. The APEI was developed using NPRI facility-reported data and emissions estimates from sources that are not reported to the NPRI (e.g., residential fuel combustion, vehicles, agriculture). The APEI is used to support the development of regulatory instruments (e.g., Base Level Industrial Emissions Requirements, vehicles regulations) and Environment Canada's air quality forecasting. It facilitates the evaluation and tracking of policy effectiveness, informs the public, and supports multiple air-quality reporting requirements. A summary of the APEI is provided annually to the United Nations Economic Commission for Europe under the Convention on Long-range Transboundary Air Pollution.

Further information on the APEI is available online at www.ec.gc.ca/pollution/default.asp?lang=En&n=E96450C4-1.

Greenhouse Gas Emissions Reporting Program

Environment Canada requires annual reporting of GHG emissions from facilities (mostly large industrial operations) through its Greenhouse Gas Emissions Reporting Program (GHGRP). The GHGRP is part of Environment Canada's ongoing effort to develop, in collaboration with the provinces and territories, a nationally consistent, mandatory GHG reporting system, in order to meet the GHG reporting needs of all jurisdictions and to minimize the reporting burden for industry and government.

Key objectives of the GHGRP are to provide Canadians with consistent information on facility-level GHG emissions, to support regulatory initiatives, and to validate industrial emission estimates presented in the National GHG Inventory. The data collected are also shared with provinces and territories.

In April 2014, the 2012 facility-reported data and related overview report were made publicly available as part of a broader departmental release of GHG information products, which also included the latest National GHG Inventory and updated CESI GHG indicators. Environment Canada also received 2013 emission information from 565 facilities, which were prepared for public release, set to occur in spring 2015. The facility-reported data is available through data tables, an online query tool and a downloadable file.

Other efforts during 2014–2015 included the publication of 2014 GHG reporting requirements in the *Canada Gazette*, Part I (data to be reported in June 2015) and initiating new data-sharing agreements with the provinces of New Brunswick and Nova Scotia to share facility-level GHG information to support their information needs and policy development.

Further information on the GHGRP is available online at www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=040E378D-1.

Single Window Reporting System

In 2014–2015, Environment Canada, in collaboration with various partners, continued to improve and expand its Single Window Reporting System for regulatory reporting of air emissions and pollutant releases. The system reduces burden on industry and supports the shared interest across jurisdictions of tracking and reporting progress on the reduction of GHG emissions and pollutant releases. Environment Canada's NPRI and GHGRP (explained above), as well as the CMP and other initiatives and regulations related to CEPA 1999 provisions, are using the Single Window Reporting System for their environmental data collection efforts. This initiative will continue to grow as additional partners integrate their GHG and pollutants reporting requirements into the Single Window Reporting System. Further information on the Single Window Reporting System is available online at www.ec.gc.ca/gu-sw.

Environmental Offenders Registry and Enforcement Notifications

The Environmental Offenders Registry contains information on convictions of corporations obtained under certain federal environmental laws including CEPA 1999. The Registry contains convictions obtained for offences committed since June 18, 2009—when the *Environmental Enforcement Act* received Royal Assent. This tool allows the media and the public to search for corporate convictions using the name for the corporation, its home province, the province where the offence occurred, or the legislation under which the conviction was obtained. Keywords can also be used to search the registry.

The Enforcement Notifications contain information about successful prosecutions across Canada under the Acts and Regulations administrated by Environment Canada or involving Environment Canada enforcement officers (including CEPA 1999).

The Environmental Offenders Registry and Enforcement Notifications can be found online at www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=1F014378-1 and www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=8F711F37-1, respectively.

4 COMPLIANCE PROMOTION AND ENFORCEMENT

Compliance promotion relates to the planned activities that are undertaken to increase awareness, understanding and compliance with the law and its regulations. Through these activities, compliance promotion officers provide information to regulated communities on what is required to comply with the law, the benefits of compliance and the consequences of non-compliance.

CEPA 1999 provides enforcement officers with a wide range of powers to enforce the Act, including the powers of a peace officer. Enforcement officers can carry out inspections to verify compliance with the Act; conduct investigations of suspected violations; enter premises, open containers, examine contents and take samples; conduct tests and measurements; obtain access to information (including data stored on computers); stop and detain conveyances; search, seize and detain items related to the enforcement of the Act; secure inspection warrants to enter and inspect premises that are locked and/or abandoned or where entry has been refused; seek search warrants; and arrest offenders. CEPA 1999 analysts can enter premises when accompanied by an enforcement officer and can exercise certain inspection powers.

A wide range of enforcement measures are available to respond to alleged violations. Many are designed to achieve compliance without resorting to a formalized legal process such as prosecutions or seeking an injunction. These measures also include directions, tickets, prohibition orders, recall orders, detention orders for ships, and Environmental Protection Compliance Orders. Measures to compel a return to compliance through court action include injunctions to stop or prevent a violation and prosecutions. In addition, a return to compliance can be achieved through Environmental Protection Alternative Measures, a program for diverting offenders away from the formal court process.

4.1 Compliance Promotion Priorities

In 2014–2015, Environment Canada worked on compliance strategies and compliance promotion plans for 24 risk management instruments going through the *Canada Gazette* Parts I and II, including the federal government's priority sector approach to the proposed Multi-Sector Air Pollutants Regulations. The Department continued to focus compliance promotion efforts on geographically dispersed, hard to reach, small and medium-sized enterprises (less than 500 employees), Aboriginal communities, and federal departments.

The Department added over 16 000 facilities and their contacts to the national compliance promotion database during this fiscal year, improving knowledge of the regulated community. An additional 59 000 facilities and contacts were updated, ensuring high efficiency and accuracy when reaching the regulated community.

Regulatory Interpretation Policy

In October 2014, all Government of Canada departments were required to publish interpretation policies on their websites, intended to help Canadians and businesses understand regulatory requirements as well as when to expect a written response to their enquiries. As part of the endeavour to clarify information for regulatees, Environment Canada is now also publishing Frequently Asked Questions for its 10 most accessed regulations.

4.2 Compliance Promotion Activities

Environment Canada delivered compliance promotion activities for new and existing regulations and codes of practice under CEPA 1999.

Multiple approaches were used to reach the regulated communities, including workshops, information sessions, presentations, information package emails/mail-outs and through technology such as videos, Twitter and Web banner advertising. Many of these activities were carried out in collaboration with provincial and territorial governments as well as non-governmental organizations.

In 2014–2015, Health Canada undertook targeted public outreach and compliance promotion activities under CEPA 1999, particularly in support of information gathering for CMP initiatives, such as polymers, nanomaterials, and remaining petroleum substances. In addition, Health Canada conducted stakeholder outreach and engagement for the third phase of the *Domestic Substances List* Inventory Update (DSL IU3).

Responding to Inquiries

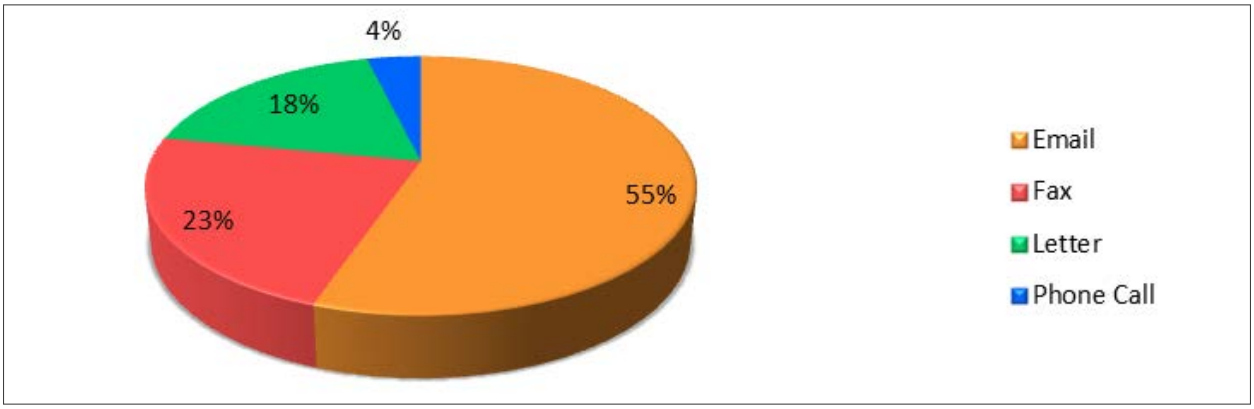
Compliance promotion officers continued to raise awareness and understanding of the Department's regulatees by responding to over 3880 inquiries on 14 regulations. More than half of inquiries came in via email, while the remainder came in via fax, letter and telephone.

Compliance promotion to federal government department and agency regulatees included individual communications, campaigns and multi-instrument activities on the *Federal Halocarbon Regulations*, the *Petroleum and Allied Petroleum Products Storage Tank Regulations*, the *Environmental Emergencies Regulations*, and the PCB Regulations, among others. Feedback from the Department's yearly multi-instrument event in Quebec Region showed that 80% of participants (federal departments, small and medium-sized enterprises, and Aboriginal communities) appreciated the experience, leading Ontario Region to host a similar event.

Table 15: High and medium priority instruments for which compliance promotion was provided

High Priority Instruments	Medium Priority Instruments
PCB Regulations	Code of Practice for the Environmental Management of Road Salts
Products Containing Mercury Regulations	*Phosphorus Concentration Regulations*
Prohibition of Certain Toxic Substances Regulations, 2012	*Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations*
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	*Federal Halocarbon Regulations, 2003*
Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations	*Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations*
Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations	*Solvent Degreasing Regulations*
Renewable Fuels Regulations	*Gasoline and Gasoline Blend Dispensing Flow Rate Regulations*

Figure 6: Inquiries by Method of Receipt

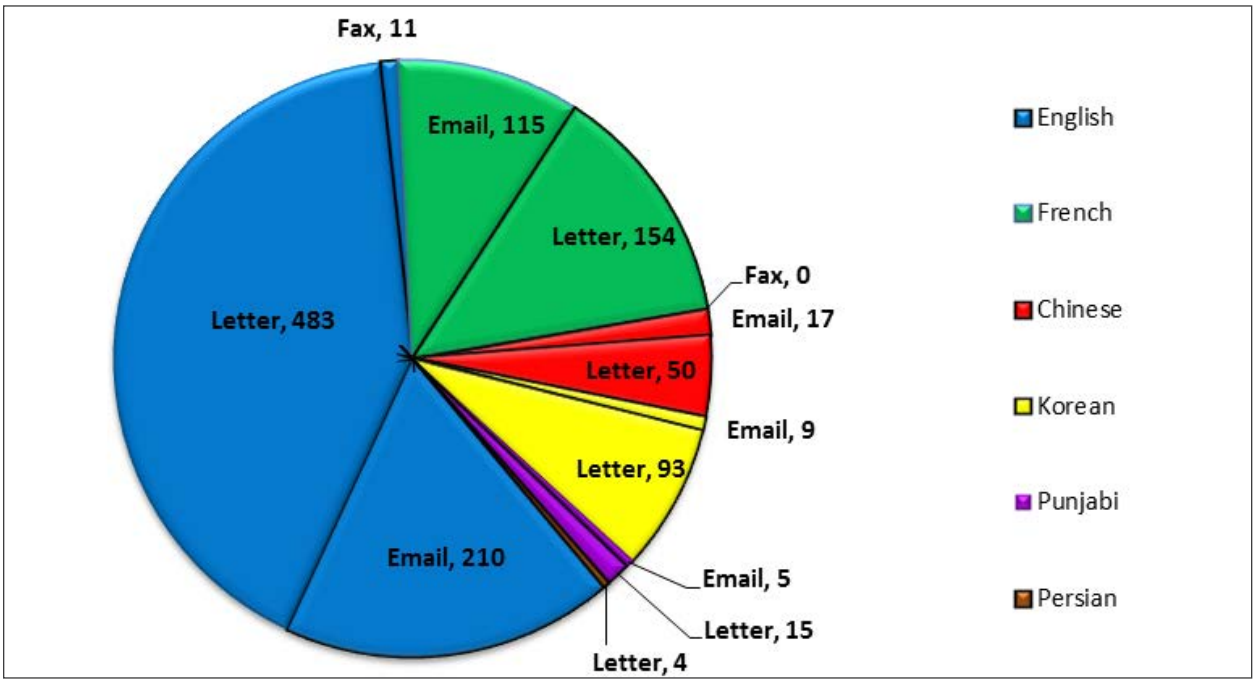


Promoting Compliance to Small and Medium-sized Enterprises

Multi-instrument compliance-promotion activities provide an opportunity for stakeholders to obtain information regarding Acts and risk management instruments affecting their activities, in an efficient and effective way. Regulatees also benefit from the knowledge and experience of the on site compliance promotion officers, the distribution of printed materials on the legislation, and the identification of contacts for further inquiries. In 2014–2015, Environment Canada reached small and medium-sized enterprises through over 90 campaigns on the 14 compliance promotion priority regulations through multi-instrument activities and on a per regulation basis.

In order to increase the compliance rate with the *Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations*, the Department contacted all regulated dry cleaners across the country to provide them with promotional materials (fact sheets and a video), confirm the delivery method each preferred (email, letter or fax), and in what language they preferred the fact sheets (English, French, Chinese, Korean, Punjabi or Persian). The campaign resulted in 90% of the regulated community being successfully contacted and therefore aware of the Regulations. Regulations. Speaking to each regulatee generated additional questions, resulting in a greater understanding of the requirements of the Regulations.

Figure 7: Fact sheet distribution to dry cleaners



4.3 Enforcement Priorities

Each year, Environment Canada develops a National Enforcement Plan (NEP) describing the enforcement activities to be carried out in that fiscal year, including activities addressing non-compliance with CEPA 1999. Factors that influence the identification of the priority regulations include the risk to the environment and human health represented by the regulated substance or activity, compliance issues, new and amended regulations, the nature of regulatory provisions, operational complexity and capacity, and domestic and international commitments and obligations.

Empty Methyl Bromide cylinders found in a warehouse during an ODS inspection. Methyl Bromide is an ozone depleting substance regulated under the Regulations.
Photo: Fernand Comeau © Environment and Climate Change Canada

In 2014–2015, the NEP priorities included the following CEPA 1999 instruments:

- *Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations*;
- *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*;
- *PCB Regulations*;
- *Ozone-depleting Substances Regulations, 1998*; and
- reporting to the NPRI under section 48 of CEPA 1999.

The number of planned inspections carried out under the enforcement plan is supplemented by a large number of unplanned inspections resulting from responses to complaints, intelligence gathering, spills or other information. In addition, a number of regulations are identified for regional enforcement focus. The focus placed on regulations in each region is influenced by a number of factors, including geography, the prevalence of the regulated sectors, and provincial and territorial environmental sensitivities.

4.4 Enforcement Activities

Enforcement activities undertaken during 2014–2015 are summarized in the following four tables.

- Table 16 provides the number of on-site and off-site inspections for each regulation from April 1, 2014, to March 31, 2015.
- Table 17 provides the breakdown of investigations for each regulation in regard to which at least one investigation occurred and/or closed from April 1, 2014, to March 31, 2015.
- Table 18 provides the total number of enforcement measures resulting from inspections and investigations that were imposed between April 1, 2014, and March 31, 2015, for each regulation.
- Table 19 provides the number of prosecutions from April 1, 2014, to March 31, 2015, for each regulation.

EC Inspectors check air conditioning units.
Photo: Robert Robichaud © Environment and Climate Change Canada

The total number of inspections relate to the number of regulatees inspected for compliance under each of the applicable regulations, using the end date of the inspection for the reference period. Inspections are defined as the active process of gathering information by visiting sites, taking samples and analyzing records to verify compliance with legislation when no offence is suspected. An **on-site inspection** involves visiting a site, a border crossing, an airport or a port of entry, to conduct any activity/operation/analysis required to verify the regulatee's compliance with a regulation or permit. An **off-site inspection** is normally undertaken at the officer's place of work or in another location that is not at the regulated site and is usually limited to documentation verification.

Table 16: Number of inspections from April 1, 2014, to March 31, 2015

	Inspections		
National	**Total**	**Off-site**	**On-site**
***Canadian Environmental Protection Act, 1999* – Total**	**4915**	**1336**	**3579**
2-Butoxyethanol Regulations	1	–	1
Benzene in Gasoline Regulations	136	103	33
CEPA 1999 – Section(s)	162	54	108
CEPA Section 56 Notices – P2 Plans	3	–	3
Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations	59	21	38
Concentration of Phosphorus in Certain Cleaning Products Regulations	23	–	23
Disposal at Sea Regulations	117	58	59
Environmental Emergency Regulations	261	53	208
Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations	400	33	367
Export Control List Notification Regulations	2	–	2
Federal Halocarbon Regulations, 2003	470	327	143
Fuels Information Regulations, No. 1	64	59	5
Gasoline and Gasoline Blend Dispensing Flow Rate Regulations	281	–	281
Interprovincial Movement of Hazardous Waste Regulations	31	3	28
Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations	23	1	22
National Pollutant Release Inventory	40	30	10
New Substances Notification Regulations (Chemicals and Polymers)	9	2	7
New Substances Notification Regulations (Organisms)	9	2	7
Off-Road Compression-Ignition Engine Emission Regulations	21	5	16
Off-Road Small Spark-Ignition Engine Emission Regulations	27	4	23
On-Road Vehicle and Engine Emission Regulations	6	1	5
Ozone-depleting Substances Regulations, 1998	119	14	105
PCB Regulations	933	130	803
PCB Waste Export Regulations, 1996	60	27	33
Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations	4	2	2
Prohibition of Certain Toxic Substances Regulations, 2005	1	–	1
Pulp and Paper Mill Defoamer and Wood Chip Regulations	26	24	2
Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations	16	15	1
Release and Environmental Emergency Notification Regulations	6	5	1
Renewable Fuels Regulations	26	13	13
Secondary Lead Smelter Release Regulations	2	1	1
Solvent Degreasing Regulations	19	1	18
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	527	56	471
Sulphur in Diesel Fuel Regulations	116	83	33
Sulphur in Gasoline Regulations	37	5	32
Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations	869	200	669
Vinyl Chloride Release Regulations, 1992	1	1	–
Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations	4	–	4
Volatile Organic Compound (VOC) Concentration Limits for Automotive Refinishing Products Regulations	4	1	3

Note: Only those regulations under which an inspection occurred during the time period are listed in this table.

Table 17: Breakdown of investigations from April 1, 2014, to March 31, 2015

An investigation involves gathering, from a variety of sources, evidence and information relevant to a suspected violation. An enforcement officer will conduct an investigation when he or she has reasonable grounds to believe that an offense has been committed under the Act and it has been determined that prosecution may be the appropriate enforcement action.

This year, column headers have been modified to show a more simple way of tracking investigations. This better reflects the fact that at the beginning of the year there are a number of investigations carried over from previous years, there are a number of new investigations opened, and from all these a certain number are closed and concluded.

	Investigation Breakdown*		
National	**Started before FY 2014–2015 and ongoing at the beginning of the year**	**Started in FY 2014–2015**	**Ended in FY**
***Canadian Environmental Protection Act, 1999* – Total**	**111**	**60**	**51**
CEPA 1999 – Section(s)	36	14	14
Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations	1	1	–
Concentration of Phosphorus in Certain Cleaning Production Regulations	–	1	1
Disposal at Sea Regulations	5	1	2
Environmental Emergency Regulations	1	3	–
Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations	3	1	1
Federal Halocarbon Regulations, 2003	1	–	–
Gasoline and Gasoline Blend Dispensing Flow Rate Regulations	–	1	–
Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations	1	2	–
Off-Road Compression-Ignition Engine Emission Regulations	5	1	3
Off-Road Small Spark-Ignition Engine Emission Regulations	7	1	3
On-Road Vehicle and Engine Emission Regulations	2	–	1
Ozone-depleting Substances Regulations, 1998	6	2	1
PCB Regulations	8	7	3
Renewal Fuels Regulations	–	1	–
Solvent Degreasing Regulations	2	0	1
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	11	4	7
Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations	22	13	14

One investigation may be counted under one or more regulations, therefore the data at the regulation level may not add up to the total.

Table 18: Number of Enforcement Measures from April 1, 2014, to March 31, 2015

National	Enforcement Measures – from Inspections and Investigations*								
	Tickets	Written Directives	Written Warnings	Injunctions	Ministerial Orders	No. of Subjects involved in EPCOs**	EPCOs	No. of Subjects Involved in EPAMs**	EPAMs
CEPA 1999 – Canadian Environment Protection Act, 1999	10	3	2351	-	-	113	686	3	6
CEPA 1999 – Section(s)	1	-	30	-	-	4	7	2	2
CEPA Section 56 Notices – P2 Plans	-	-	1	-	-	-	-	-	-
Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations	3	-	25	-	-	4	13	-	-
Concentration of Phosphorus in Certain Cleaning Products Regulations	-	-	3	-	-	-	-	-	-
Disposal at Sea Regulations	-	-	4	-	-	-	-	-	-
Environmental Emergency Regulations	-	-	286	-	-	4	35	-	-
Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations	-	-	58	-	-	8	13	1	4
Federal Halocarbon Regulations, 2003	-	-	79	-	-	2	8	-	-
Fuels Information Regulations, No. 1	5	-	4	-	-	-	-	-	-
Gasoline and Gasoline Blend Dispensing Flow Rate Regulations	-	-	42	-	-	6	6	-	-
Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations	-	-	20	-	-	-	-	-	-
National Pollutant Release Inventory	-	-	28	-	-	-	-	-	-
New Substances Notification Regulations (Organisms)	-	-	13	-	-	-	-	-	-
Off-Road Compression-Ignition Engine Emission Regulations	-	-	33	-	-	-	-	-	-
Off-Road Small Spark-Ignition Engine Emission Regulations	-	-	23	-	-	-	-	-	-
On-Road Vehicle and Engine Emission Regulations	-	-	9	-	-	-	-	-	-
Ozone-depleting Substances Regulations, 1998	1	-	25	-	-	-	-	-	-
PCB Regulations	-	1	199	-	-	23	89	-	-
Prohibition of Certain Toxic Substances (inactive)	-	-	1	-	-	-	-	-	-
Renewable Fuels Regulations	-	-	36	-	-	-	-	-	-
Solvent Degreasing Regulations	-	-	6	-	-	-	-	-	-
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	-	1	850	-	-	49	446	-	-
Sulphur in Diesel Fuel Regulations	-	-	14	-	-	-	-	-	-
Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations	-	1	562	-	-	19	69	-	-

*Tickets, written directions, written warnings injunctions, ministerial orders and EPCOs and EPAMs are tabulated by infractions, which are found at the section, subsection or paragraph level of a regulation. For example, if the outcome of an inspection is the issuance of a written warning that relates to three sections of a given regulation, the number of written warnings is three, even if a single letter was sent to the regulatee.

**The number of subjects involved in EPCOs and EPAMs is represented by the number of regulatees issued EPCOs and EPAMs, regardless of the number of sections. For example, if one regulatee was issued an EPCO for three sections of the PCB Regulations, the number of subjects involved is one.

Table 19: Number of Prosecutions from April 1, 2014, to March 31, 2015

National	Prosecutions					
	Tickets	Charges laid in 2014–2015		Concluded in FY 2014–2015		
		Prosecuted Subjects*	Counts	Convicted Subjects	Counts	EPAMs
***Canadian Environmental Protection Act, 1999* – Total**	10	37	155	15	42	2
CEPA 1999 – Section(s)	1	14	52	6	9	–
Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations	3	–	–	–	–	–
Concentration of Phosphorus in Certain Cleaning Production Regulations	–	–	–	–	–	–
Disposal at Sea Regulations	–	1	1	1	1	–
Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations	–	1	3	–	–	1
Fuels Information Regulations, No. 1	5	–	–	–	–	–
Marine Spark-Ignition Engine, Vessel and Off-Road Recreational Vehicle Emission Regulations	–	2	6	–	–	–
Off-Road Compression-Ignition Engine Emission Regulations	–	–	–	1	1	–
Off-Road Small Spark-Ignition Engine Emission Regulations	–	1	8	1	1	–
On-Road Vehicle and Engine Emission Regulations	–	–	–	–	–	–
Ozone-depleting Substances Regulations, 1998	1	2	2	–	–	1
PCB Regulations	–	1	2	–	–	–
Solvent Degreasing Regulations	–	2	4	–	–	–
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	–	2	4	1	2	–
Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations	–	11	73	9	28	–

* Prosecuted subjects is the number of subjects prosecuted, where the charge date falls within the reporting period. This means that the number of prosecutions launched is counted, not the number of prosecutions concluded in the reporting year. For example, if a prosecution resulted in a conviction in February 2015 but charges were laid in January 2014, it would not be counted in this annual report. Prosecuted subjects are counted by the number of parties charged. This means that if one case resulted in the prosecution of two different subjects, the number reported would be two. The number of prosecuted subjects does not necessarily correspond to the total at the legislative level, because one prosecution might be related to more than one instrument.

In 2014–2015 there were no injunctions and no ministerial orders; therefore these columns do not appear.

Environmental Protection Alternative Measures (EPAMs) were reported in this section in previous years. However, considering that EPAMs are an alternative measure that can be available when the person charged is eligible, they are now included in Table 19. This reflects the fact that for some of the charges laid, there is no conviction since the person has entered into an EPAM agreement.

Tickets are summary prosecutions and have been moved to Table 19.

4.5 International Enforcement Cooperation

Enforcement-related activities are carried out under various international and domestic agreements and organizations. Under the auspices of the Commission for Environmental Cooperation's Enforcement Working Group (EWG), Environment Canada's Enforcement Branch engages in cooperative activities with its counterparts at the U.S. Environmental Protection Agency and Mexico's PROFEPA (Federal Attorney for Environmental Protection) and SEMARNAT (Secretariat of Environment and Natural Resources). The EWG has finished most of its delivery laid out under its two-year strategic plan. Environment Canada actively participates in INTERPOL's Environmental Compliance and Enforcement Committee, which brings together executive leaders and decision makers from all 190 INTERPOL member countries to provide strategic advice on relevant issues and to harness global support.

APPENDIX A: REPORTING REQUIREMENTS

This report includes the following mandatory information:

- Section 2 (all subsections) provides examples of the types of research initiatives and their key contributions in the reporting period. Environment Canada and Health Canada scientists published numerous reports, papers, book chapters, articles and manuscripts on subjects related to CEPA 1999. This body of work appeared in books and scientific journals that are available in libraries and from the publishers.
- Section 3.1 describes the activities of the National Advisory Committee. There were no other committees established under paragraph 7(1)(a) of CEPA 1999 during the reporting period.
- Section 3.1 also describes the activities under three federal-provincial agreements, including:
    - the Canada–Ontario Agreement Respecting the Great Lakes Basin Ecosystem;
    - the Canada–Alberta Equivalency Agreement; and
    - the Canada–Nova Scotia Equivalency Agreement.
- There were no activities under the international air pollution provisions (Division 6 of Part 7) of CEPA 1999 during the reporting period.
- There were no activities under the international water pollution provisions (Division 7 of Part 7) of CEPA 1999 during the reporting period.

APPENDIX B: CONTACTS

Further information on CEPA 1999 and related activities can be found online at:

CEPA Environmental Registry website (www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D44ED61E-1)

Environment and Climate Change Canada's website (www.ec.gc.ca)

Health Canada's website (www.hc-sc.gc.ca)

Chemical Substances website (http://chemicalsubstanceschimiques.gc.ca/index-eng.php)

Environment and Climate Change Canada publications are available from the departmental library or the nearest regional library. Many departmental publications are also available online at www.ec.gc.ca/publications or through Environment and Climate Change Canada's Inquiry Centre:

Environment and Climate Change Canada

Public Inquiries Centre
7th Floor, Fontaine Building
200 Sacré-Coeur Boulevard
Gatineau QC K1A 0H3
Telephone: 819-997-2800
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

The following media relations contacts are also available to provide information:

Environment and Climate Change Canada
Media Relations
Toll-free within Canada: 1-888-908-8008
Outside Canada: 1-819-934-8008
Email: media@ec.gc.ca

Health Canada
Media Relations
Telephone: 613-957-2983
Fax: 613-952-7747
Email: info@hc-sc.gc.ca
Address Locator 0900C2
Ottawa ON K1A 0K9

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