

Federal Contaminated Sites Action Plan

2021 to 2022
Annual Report



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Executive summary

Thousands of contaminated sites are scattered across Canada. These sites include dumps, mines, abandoned industrial and military operations, stored or spilled fuel or toxic chemicals. Often, the contamination comes from activities that occurred in the past when environmental consequences were not well understood. Some contamination is from accidents.

Federal contaminated sites are located on land or in aquatic areas either:

- owned or leased by the Government of Canada
- where the federal government has accepted responsibility for the contamination

In 2002, the Commissioner for the Environment and Sustainable Development published a report on contaminated sites. It outlined the federal government's obligation to locate, assess and remediate federal contaminated sites. The report also led to the launch of the Federal Contaminated Sites Action Plan (FCSAP).

The Government of Canada created FCSAP in 2005. It is a federal program that provides funding to "custodians." Custodians are:

- government departments
- agencies
- consolidated Crown corporations

FCSAP does not fund all federal contaminated sites. Only sites that meet FCSAP eligibility criteria can receive FCSAP funding. Where a site is not eligible for FCSAP funding, custodians must use other sources of funds. Other sources can include a dedicated project fund or internal budget sources.

Through FCSAP, the government is addressing sites affecting Indigenous Peoples. These include sites on reserve lands and in the North (i.e., the territories). FCSAP originally had funding until 2020. In 2019, the government renewed FCSAP for another 15 years, until 2035. This renewal included expanded funding for sites on reserve and in the North. This allows the program to clean up more federal contaminated sites located on reserve and in the North.

FCSAP supports reconciliation with Indigenous Peoples in Canada by:

- continuing to support site cleanup on reserves and in the North, which results in reduced financial liabilities
- increasing engagement and participation of Indigenous Peoples regionally and locally in prioritizing and planning remediation projects
- providing better opportunities for Indigenous workers and businesses in service-delivery contracts with the federal government

FCSAP is divided into phases. This report describes the progress made in 2021 to 2022, the second year of Phase IV of FCSAP.

Why have an action plan to address federal contaminated sites?

The program helps Canadians, communities, and businesses, as FCSAP funds projects that:

- clean up contaminated lands, making them fit for housing, business, or conservation
- provide industry a chance to develop new and sustainable remediation technologies
- provide jobs and training opportunities in remediation, including for Indigenous Peoples and people living in rural areas

Key results of FCSAP in 2021 to 2022

In 2021 to 2022, FCSAP custodians spent \$213.3 million.

Assessment activities took place at 121 sites at a cost of \$7.2 million (3% of total spending). While 68 sites require further assessment, custodians completed assessment at 53 sites:

- 36 sites require risk-reduction activities (remediation and/or risk management)
- 17 sites require no further action

Risk-reduction activities took place at 678 sites and cost \$190.1 million (89% of total spending). Custodians finalized risk-reduction activities at 58 of these sites. Program management costs were \$16 million (8% of total spending). Custodians closed 90 sites in 2021 to 2022 and 12 sites moved into long-term monitoring.

See [Appendix A](#) for examples of case studies where custodians conducted remediation/risk-management activities in 2021 to 2022.

COVID-19 and external factors

COVID-19 restrictions continued to affect progress of site work in 2021 to 2022. Custodians continued with best efforts to mitigate impacts on field work as they did the previous year. However, other external factors contributed to delays:

- a lack of staff for custodians and for the private sector
- natural disasters
- supply chain issues
- inflation

Despite these challenges, the program was able to spend 72% of available FCSAP funding during 2021 to 2022.

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Table of contents

Executive summary	3
Table of contents	6
Abbreviations and acronyms	7
Glossary	9
1 Introduction	13
2 FCSAP essential overview	16
3 Program results (2021 to 2022)	21
3.1 Assessment.....	22
3.2 Reduction of risks to human health and the environment.....	24
3.3 Program management	26
3.4 Environmental liability reduction.....	28
3.5 Socio-economic benefits	30
3.6 Site closure and long-term monitoring	32
4 FCSAP funding, expenditures and variances	33
5 Conclusion	36
Appendix A – Case studies	37
Seacow Head Minor Shore Light	37
Former Sambault Landfill	39
Appendix B – Program administration	43
Appendix C – Environmental liability for federal contaminated sites	51
Appendix D – Federal Contaminated Sites Inventory	56
Appendix E – Data tables	58

Abbreviations and acronyms

AAFC	Agriculture and Agri-Food Canada
ASCS	Aquatic Sites Classification System
CBSA	Canada Border Services Agency
CCG	Canadian Coast Guard
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CSC	Correctional Service of Canada
CSMWG	Contaminated Sites Management Working Group
DFO	Fisheries and Oceans Canada
DND	Department of National Defence
ECCC	Environment and Climate Change Canada
ESD	Expert Support Department
FAA	<i>Financial Administration Act</i>
FCSAP	Federal Contaminated Sites Action Plan
FCSI	Federal Contaminated Sites Inventory
GHG	Greenhouse gases
HC	Health Canada
ISC	Indigenous Services Canada
ISED	Innovation, Science and Economic Development Canada
JCCBI	Jacques Cartier and Champlain Bridges Incorporated
NCC	National Capital Commission
NCSCS	National Classification System for Contaminated Sites

NPTWG	National Planning and Tracking Working Group
NRC	National Research Council of Canada
NRCan	Natural Resources Canada
PCA	Parks Canada Agency
PFAS	Perfluoroalkyl and polyfluoroalkyl substances
PSPC	Public Services and Procurement Canada
RIPB	Regional Integrated Planning Boards
TBS	Treasury Board of Canada Secretariat
TC	Transport Canada
VIA	VIA Rail Canada

Glossary

Agencies: A government agency is a permanent or semi-permanent organization. They are responsible for the oversight and administration of specific functions. Parks Canada is one example of an agency. A government agency usually serves an executive function. The independence and accountability of government agencies varies widely. For a listing of separate agencies refer to [Schedule V of the Financial Administration Act](#).

Consolidated Crown corporations - Corporations that:

- rely on government funding as their principal source of revenue
- are under government control

Each consolidated Crown corporation is accountable to Parliament through a responsible minister. A list of current corporations is available in the *Public Accounts of Canada*. For example, refer to [Volume 1, Section 4 – Consolidated Accounts of the 2021-2022 Public Accounts of Canada](#).

Contaminated site: According to the Treasury Board [Policy on the Planning and Management of Investments](#):

A site at which substances occur in the environment at concentrations that:

1. are above background levels
2. pose, or are likely to pose, an immediate or long-term hazard to human health or the environment
3. exceed the levels specified in policies and regulations

A real property may have more than one contaminated site.

Cost-share: The portion of funding for FCSAP-eligible site activities that custodians are responsible for. This amounts to 20% of assessment costs and 15% of remediation costs. If the project's value is greater than \$90 million, custodians may request the waiver of cost-share for remediation. FCSAP governing bodies must approve the request.

Custodians: Federal departments, agencies, and consolidated Crown corporations responsible for assessment and risk-reduction activities at federal contaminated sites.

Department: Under the [Financial Administration Act](#) (FAA), "department" includes:

- departments named in Schedule I and I.1 of the *FAA*
- departmental corporations named in Schedule II of the *FAA*

Enterprise Crown corporation: A corporation that is not dependent on funding through Parliament. Rather, its main activity and source of revenue are the sale of goods and/or services to outside parties. Each enterprise Crown corporation is accountable to Parliament through the responsible minister.

Environmental liability: Environmental liabilities are the government's best estimate of the costs to remediate contaminated sites to minimum standards.

Federal approach to contaminated sites: A risk-based approach to managing contaminated sites that includes several steps:

1. site identification and characterization
2. detailed site investigations and risk assessment
3. evaluation of different risk management strategies
4. implementation of a selected management strategy
5. assessment and monitoring

These components reflect a 10-step process identified in the *Federal Approach to Contaminated Sites*. To request a copy of this Framework, email the FCSAP Secretariat at pascf-fcsap@ec.gc.ca. These steps identify scientific tools and documents that are available for use in the management of federal contaminated sites.

Federal contaminated sites: Contaminated sites that are located:

- on land or in aquatic areas owned or leased by the federal government
- where the federal government has accepted responsibility for the contamination

Federal Contaminated Sites Action Plan (FCSAP): A federal program that provides funding to:

- departments
- agencies
- consolidated Crown corporations

to manage the contaminated sites they are responsible for.

The main objectives are:

1. to reduce environmental and human-health risks from known federal contaminated sites
2. to reduce their related financial liabilities

Federal Contaminated Sites Inventory (FCSI): A database of all known contaminated sites under federal custodianship. This includes sites that custodians have examined or are investigating. The FCSI also includes non-federal contaminated sites. These are sites where the Government of Canada has accepted some or all financial responsibility.

Long-term monitoring: Inspections of sites where custodians review risk-reduction activities (remediation and/or risk-management) to ensure ongoing compliance. These inspections may include sampling and analyses to ensure custodians maintain the site-specific risk-management goals.

“Polluter pays” principle: The “polluter pays” principle is a guiding principle of the [Canadian Environmental Protection Act](#). The party responsible for producing pollution should be responsible for paying for the resulting damage to the natural environment:

- private companies are usually responsible for the costs to clean up (or remediate) the land they contaminate
- governments (provincial, territorial and federal) are generally responsible for the costs associated with contamination at their sites (owned or leased)

Remediation: The improvement of a contaminated site to prevent, minimize or mitigate damage to human health or the environment. Remediation involves a planned approach that reduces the exposure of receptors to contaminants of concern. Remediation typically involves removing, destroying, or containing contaminants from a site through on-site treatment or off-site disposal. Remediation is one of the main strategies for reducing risk.

Risk management: A two-step process that includes:

- the selection and use of a risk-control strategy
- monitoring and evaluating the success of that strategy

Risk management includes strategies that reduce the probability, intensity, frequency, or duration of the exposure to contamination. It typically involves managing contaminants in place. This can include using covers or administrative controls to block the exposure pathways identified as posing risks.

Site assessment: Detailed scientific or engineering analysis to:

- identify the nature and extent of contamination at a given site
- help determine the risks to human health and the environment

A full-scale assessment of the severity of contamination for a specific site is a long and complex process. For an example see “Federal Approach to Contaminated Sites” above. By assessing contaminated sites, the federal government can develop a more accurate estimate of the environmental liability it faces.

Variance: In FCSAP, the difference between the funding available in a given year and the funding spent. Table B.1 in [Appendix B](#) and Table E.4 in [Appendix E](#) detail the variance in 2021 to 2022.

1 Introduction

The Government of Canada established the Federal Contaminated Sites Action Plan (FCSAP) in 2005. It provides funding to:

- federal departments
- agencies
- consolidated Crown corporations

Custodians manage the contaminated sites that they are responsible for. The first three phases of FCSAP ran for 15 years from 2005 to 2020, with total federal funding of \$4.54 billion. In 2019, the Government of Canada renewed FCSAP for another 15 years (2020 to 2035). Budget 2019 provided \$1.16 billion for Phase IV (2020 to 2025). This report describes the progress made in 2021 to 2022, the second year of FCSAP Phase IV.

FCSAP helps custodians address most federal contaminated sites. There are also some large contaminated sites that custodians manage separately. These include:

- large mines under the Northern Abandoned Mine Reclamation Program
- sites under the responsibility of Atomic Energy of Canada Limited

Program objectives

FCSAP has two objectives:

- to reduce environmental and human-health risks from known federal contaminated sites
- to reduce their related financial liabilities

The program also provides socio-economic benefits by providing jobs and training opportunities in the Canadian environmental remediation industry. These benefits support Indigenous Peoples and those living in rural areas.

What is a contaminated site?

According to the Treasury Board [Policy on the Planning and Management of Investments](#):

A site at which substances occur in the environment at concentrations that:

1. are above background levels
2. pose, or are likely to pose, an immediate or long-term hazard to human health or the environment
3. exceed the levels specified in policies and regulations

A real property may have more than one contaminated site.

Federal contaminated sites are located:

- on land or in aquatic areas owned or leased by the federal government
- where the federal government has accepted responsibility for the contamination

The size and scope of federal contaminated sites vary greatly and include, for example:

- abandoned mines on Crown land in the North
- airports
- lighthouse stations
- military bases

Contamination is most often a result of past activities. At the time, custodians may not have understood the environmental consequences.

Cleaning up – for now and the future

The government has taken action through FCSAP to properly manage the contaminated sites for which it is responsible. Canada now has policies and legislation to help prevent future contamination of sites. There is also:

- a much better understanding of the effects of government, commercial, and industrial operations on the environment
- better understanding of how to prevent and remediate contamination
- better public appreciation of the need to respect the environment

Today, custodians must make their operations environmentally sustainable, to safeguard the health of future generations and the environment.

FCSAP also contributes to a global effort to better respect the environment:

- Environment and Climate Change Canada's [Departmental Sustainable Development Strategy](#) includes the cleanup of federal contaminated sites
- This supports Goal 12 of the government's [Federal Sustainable Development Strategy](#). This goal focuses on waste reduction and the transition to zero-emission vehicles.
- Globally, Goal 12 supports the United Nations [Sustainable Development Goal 3](#) (Good Health and Well-Being). It also supports [Sustainable Development Goal 12](#) (Responsible Consumption and Production).

FCSAP also supports [Canada's Arctic and Northern Policy Framework](#). Specifically, it supports:

- Goal 5: Canadian Arctic and northern ecosystems are healthy and resilient
 - Objective 10: Decommission or remediate all contaminated sites

In Canada, the federal government promotes the “polluter pays” principle. The party responsible for producing pollution should be responsible for paying for the resulting damage to the natural environment:

- private companies are usually responsible for the costs to clean up (or remediate) the land they contaminate
- governments (provincial, territorial and federal) are generally responsible for the costs of dealing with contamination at their sites

2 FCSAP essential overview

To date, the Government of Canada has approved six phases of the Federal Contaminated Sites Action Plan (FCSAP). Each phase builds on the progress achieved in previous phases.

- In **Phase I (2005 to 2011)**, custodians made significant progress in addressing contamination.
- The focus of **Phase II (2011 to 2016)** was to:
 - determine what federal sites were contaminated
 - prioritize federal contaminated sites
 - advance remediation of the highest-priority sites
- **Phase III (2016 to 2020)** increased the focus on:
 - remediation
 - reducing the environmental and human-health risks
 - reducing the related environmental liabilities
- **Phase IV (2020 to 2025)**, announced in 2019, continues the work of Phase III, with expanded eligibility criteria. This helped FCSAP address a wider variety of sites affecting Indigenous Peoples.
- **Phase V (2025 to 2030)**, eligibility and funding parameters are under development. Phase V is expected to build on successes and continue progress toward FCSAP objectives.
- **Phase VI (2030 to 2035)**, eligibility and funding parameters will build on successes and continue progress toward FCSAP objectives.

Who pays for the program?

FCSAP supports the “polluter pays” principle. It follows a cost-shared approach. FCSAP provides a portion of the funding, and custodians provide the remainder (known as cost-share).

FCSAP funds three types of activities:

- **Assessment:** FCSAP funds 80% of total assessment costs and custodians pay the remaining 20%.
- **Risk reduction:** FCSAP funds 85% of remediation costs for projects of less than \$90 million. Custodians pay the remaining 15%. FCSAP funds 100% of remediation costs for projects of more than \$90 million.
- **Program management:** FCSAP provides funding for program management activities.

Eligibility

FCSAP provides funding for assessment and risk-reduction activities at contaminated sites for which federal custodians are responsible. In previous phases, the program covered only Class 1 and ongoing Class 2 sites with historic contamination. That means the contamination had to have occurred before April 1, 1998. However, the program introduced expanded eligibility

criteria in Phase IV. Sites in the North or on First Nations reserves, and some lower priority sites, became eligible under these new criteria. Class 1, 2 and 3 sites that were contaminated pre- or post-1998 are now eligible if they are:

- on reserve lands
- federal additions to reserve lands
- in the North (specifically the three territories)

Elsewhere, FCSAP continues to focus on high-priority, legacy sites that were contaminated before 1998. Custodians use the [CCME National Classification System for Contaminated Sites](#) (NCSCS) to classify and prioritize their sites on land. They use the *Aquatic Sites Classification System* (ASCS), developed by FCSAP, to classify and prioritize their aquatic contaminated sites. To request a copy of the ASCS, email the FCSAP Secretariat at pascf-fcsap@ec.gc.ca.

In Phase IV, FCSAP funds the remediation or risk-management of four categories of sites:

- **Class 1 sites**, where there is a high priority for action
- **ongoing Class 2 sites**, where there is a medium priority for action. Remediation or risk-management must be underway before April 1, 2020
- **new Class 2 or Class 3 sites** (low priority for action) that custodians bundle with a Class 1 or ongoing Class 2 site. This is limited to 15% of total FCSAP remediation funding in Phase IV
- **any Class 1, 2 or 3 site located on First Nations reserves or affecting Indigenous communities in the North**. The restriction for contamination having to occur before April 1, 1998, does not apply to these sites

Federal custodians' planned assessment and risk-reduction activities determine how the program allocates funding at the start of each phase.

Federal custodians are accountable for the FCSAP funding they receive. They must ensure that:

- their sites meet funding-eligibility requirements
- they manage their sites in accordance with the Treasury Board [Policy on the Planning and Management of Investments](#)

Custodians must have grounds to suspect that their site is contaminated before FCSAP will fund an environmental site assessment. Custodians must prioritize which sites they will work on each year because funding is limited. The FCSAP Secretariat has developed guidance to ensure that custodians spend their funding on eligible assessment and risk-reduction activities.

Key roles

Program partners include custodians, the FCSAP Secretariat, the Treasury Board of Canada Secretariat, and Expert Support Departments:

- **Custodians:** federal departments, agencies, and consolidated Crown corporations responsible for the assessment and remediation of federal contaminated sites
- **FCSAP Secretariat and Treasury Board of Canada Secretariat:** provide program-wide administration and oversight, and related guidance and support to custodians
- **Expert Support Departments:** provide expert advice and technical assistance to custodians, develop guidance documents, deliver training, and promote innovative and sustainable remediation technologies

Several governance committees and working groups have unique roles in the program:

- The **Federal Contaminated Sites Assistant Deputy Ministers Oversight Board (ADM Board):**
 - provides strategic oversight and direction on program planning and priorities
 - helps to ensure horizontal engagement and coordination across government on the management of federal contaminated sites

Participants can raise challenges and risks affecting program objectives for mitigation recommendations by the Board.

- **Federal Contaminated Sites Director General Advisory Committee (DG Committee)** – Provides oversight and direction on the overall operations of FCSAP. The Committee does this on the advice of the FCSAP Secretariat and the Treasury Board of Canada Secretariat. The Committee offers strategic advice to ensure efficient and effective program-wide planning and results delivery. The Committee reports directly to the ADM Board.
- **National Planning and Tracking Working Group (NPTWG)** – a new governance body created by the FCSAP program partners during fiscal year 2021 to 2022. Its objectives are:
 - to improve program-wide work planning, tracking and contaminated-site inventory management to maximize in-year spending
 - increase the number of closed sites
 - improve the overall performance of the program

Custodian program leads are the main members of the working group. Expert support departments (ESDs) are also members. This ensures that ESD national leads engage with custodians and discuss program policies. Custodians also engage ESDs during Regional Integrated Planning Board Meetings.

- The **Contaminated Sites Management Working Group (CSMWG)** is a group of:
 - representatives from custodians and other federal departments, agencies, and consolidated Crown corporations

- Expert Support Departments

that meet to discuss and share guidance on the management of federal contaminated sites.

Given the evolution of FCSAP governance, the FCSAP Secretariat paused regular meetings of the CSMWG as of March 2022. Program partners will determine whether it continues after one year has passed. Program partners will assess the need for CSMWG, given the creation of the National Planning and Tracking Working Group.

Although the CSMWG is on hold as a formal working group, it remains a consultative body for developing various guidance documents.

- **Regional Integrated Planning Boards (RIPBs)** provide forums for:
 - regional networking
 - collaboration
 - information-sharing

among expert support departments and regional custodians.

In 2021 to 2022, to support custodians in managing their contaminated sites, RIPBs:

- facilitated discussions
- delivered training
- shared information
- developed guidance documents
- reviewed and supported project readiness for high-risk sites
- reviewed and updated their Terms of Reference to better align with custodian and program needs
- liaised with the DG Committee and the newly created National Planning and Tracking Working Group

A standard approach

FCSAP has embraced the 10-step process identified in the *Federal Approach to Contaminated Sites*. It ensures that custodians take a standard approach to managing federal contaminated sites. That process is laid out in the Federal Contaminated Sites Decision-Making Framework. To request a copy of this Framework, email the FCSAP Secretariat at pascf-fcsap@ec.gc.ca.



3 Program results (2021 to 2022)

Fifteen custodians¹ conducted assessment and risk-reduction activities in 2021 to 2022. This report presents how the Federal Contaminated Sites Action Plan (FCSAP) performed during the year.

Key results

In 2021 to 2022, FCSAP showed results in six program areas:

- **Assessment** – FCSAP funded assessment activities at 121 sites at a cost of \$7.2 million. Custodians completed assessment at 53 sites: 36 require remediation or risk management and 17 require no further action. The remaining 68 sites require further assessment.
- **Reduction of risks to human health and the environment** – FCSAP funded risk-reduction activities at 678 sites. The cost for this was \$190.1 million. Custodians finalized risk-reduction activities at 58 of these sites.
- **Program management** – Custodians, the FCSAP Secretariat, TBS and ESDs spent \$16 million on program management activities. Refer to [Appendix B](#) for activities relating to program management.
- **Environmental liability reduction** – At the start of 2021 to 2022, FCSAP-eligible sites accounted for \$2.453 billion of the total environmental liability of the Government of Canada for contaminated sites. The government reports this amount in the *Public Accounts of Canada*. At the end of 2021 to 2022, these sites accounted for \$2.480 billion of the government's total liability for contaminated sites. This amount includes:
 - sites with FCSAP remediation expenditures in 2021 to 2022
 - sites that may have had assessment activities
 - sites that may have conducted activities using non-FCSAP funding

When considering only those sites where FCSAP-funded remediation occurred in 2021 to 2022, custodians reduced liability by \$169 million. Financial and project-cost adjustments offset this reduction by \$99 million. The net result is that the liability associated with FCSAP-funded sites in 2021 to 2022 decreased by \$70 million. Financial and project-cost adjustments can lead to increases or decreases to liability. Financial adjustments can include, for example, adjustments due to inflation. Project-cost adjustments can be due to:

- previously undiscovered contamination
- new or updated federal guidelines
- supply chain issues
- changes to the scope of work for the site

¹ These custodians were AAFC, CBSA, CIRNAC, CSC, DFO, DND, ECCC, ISC, ISED, JCCBI, NCC, NRC, PCA, PSPC and TC.

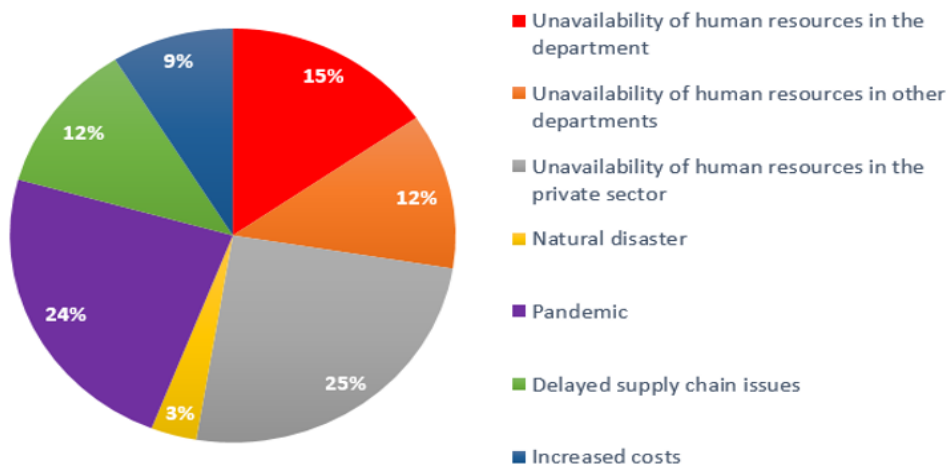
- **Socio-economic benefits** – In 2021 to 2022, FCSAP activities led to the creation or maintenance of about 1,030 jobs
- **Site closure and long-term monitoring** – Custodians closed 90 sites in 2021 to 2022 and 12 sites moved into long-term monitoring

Effects of COVID-19 on FCSAP activities

The second year of Phase IV continued to see challenges due to the ongoing COVID-19 pandemic. Intermittent lockdowns continued, as did travel restrictions, mandatory quarantines, and the closure of some Indigenous communities to non-essential non-residents. All these restrictions continued to impact the progress of site work.

Other factors, also external to FCSAP, impacted site work throughout the year (see Figure 1). According to a 2022 survey, lack of personnel, within the Government of Canada and the private sector, contributed to delays. These factors, combined with the ongoing effects of the pandemic, were the largest contributors to project delays in 2021 to 2022. Natural disasters, supply chain issues and the onset of higher-than-usual inflation also contributed to project delays. Inflation started to impact custodians near the end of the fiscal year adding another challenge to meeting program objectives. Despite these challenges, the program was able to spend 72% of available FCSAP funding during 2021 to 2022.

Figure 1: Relative importance of certain delay factors on contaminated site projects



3.1 Assessment

Custodians may suspect a site of being contaminated as a result of past activities, for example, in places where fuel-storage tanks may have leaked. In such cases, custodians would conduct an environmental site assessment to determine the nature and extent of contamination. Such an assessment also determines whether remediation or risk-management activities are needed.

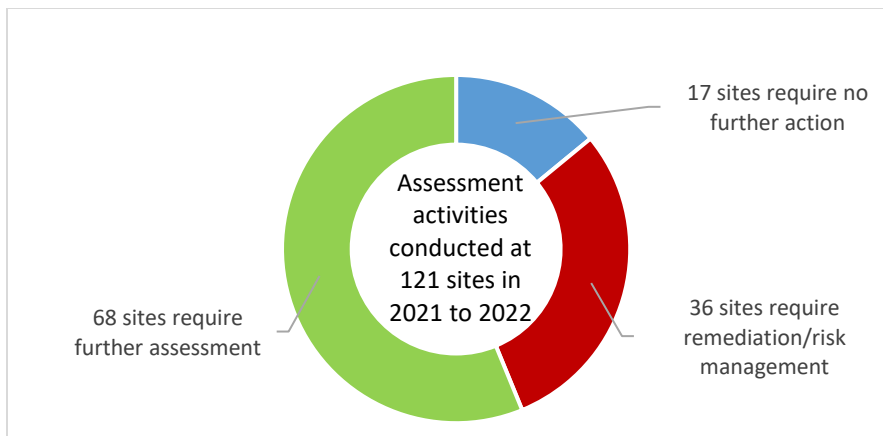
An environmental site assessment may involve the collection and analysis of samples to determine levels of contamination. These levels are compared with environmental quality guidelines on the management of contaminants in soils, sediments, freshwater and marine water, as published by the Canadian Council of Ministers of the Environment (CCME). Federal contaminated sites are classified and prioritized in accordance with the [CCME National Classification System for Contaminated Sites](#) (PDF) (NCSCS) and the *Aquatic Sites Classification System* (ASCS) developed by FCSAP, depending on whether they are on land or water. To request a copy of the ASCS, email the FCSAP Secretariat at pascf-fcsap@ec.gc.ca.

In 2021 to 2022, FCSAP funded assessment activities at 121 sites, at a program cost of \$5.6 million. Custodians also spent \$1.6 million as part of the cost-share requirement.

Figure 2 shows the assessment results for 2021 to 2022. Assessing a site can take a few months or multiple years. This can depend on several factors:

- the type and extent of the contamination
- scientific knowledge of the contaminants
- location of the site
- weather conditions

Figure 2: Assessment results, 2021 to 2022



Assessment results by custodian

Three custodians conducted 63% of all FCSAP-funded site assessments in 2021 to 2022.

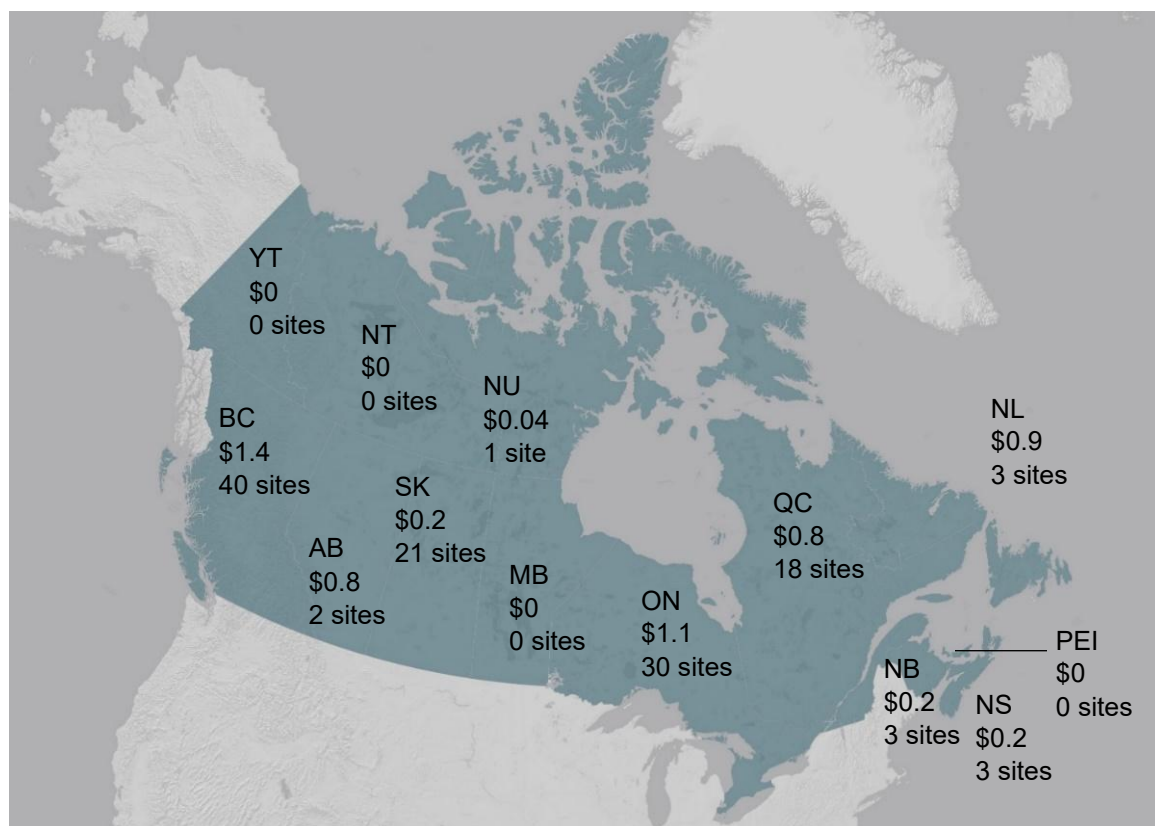
- Indigenous Services Canada
- Department of National Defence
- National Capital Commission

This accounted for 61% of the FCSAP assessment expenditures. Table E.1 in [Appendix E](#) provides a detailed breakdown of the number of sites with assessment activity. It also shows the available assessment funding and assessment expenditures for each custodian.

Regional breakdown

The largest FCSAP assessment expenditures were in British Columbia, Ontario and Newfoundland and Labrador. This accounted for 60% of the total. The provinces with the largest numbers of sites with assessment activity were British Columbia, Ontario and Saskatchewan. This accounted for 75% of the total. (Figure 3).

Figure 3: FCSAP assessment expenditures and sites, by province and territory, 2021 to 2022 (expenditures in \$ millions)



3.2 Reduction of risks to human health and the environment

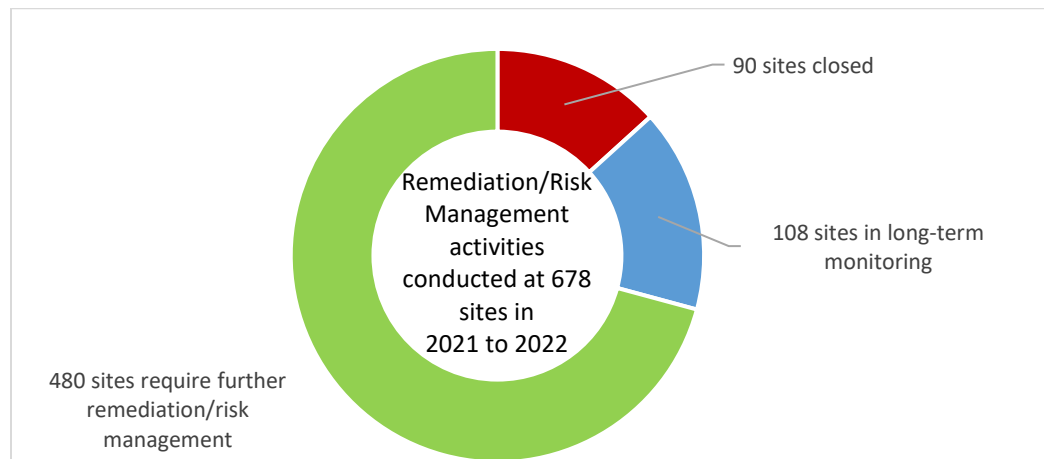
Site-assessment activities determine whether the risks to human health and the environment are within established limits for contaminants. If contaminants exceed these limits, custodians may then conduct risk-reduction activities (remediation and/or risk management) at these sites.

The methods used to address the contamination at each site depend on:

- their efficacy
- their cost
- the unique circumstances of the site

In 2021 to 2022, FCSAP funded risk-reduction activities at 678 sites, at a program cost of \$164.7 million. Custodians spent \$25.4 million as part of the cost-share requirement. Custodians completed risk-reduction activities at 58 sites. Figure 4 presents the remediation/risk-management results for 2021 to 2022.

Figure 4: Remediation/risk-management results, 2021 to 2022



Risk-reduction results by custodian

Three custodians conducted risk-reduction activities at 69% of the sites in 2021 to 2022.

- Fisheries and Oceans Canada
- Department of National Defence
- Indigenous Services Canada

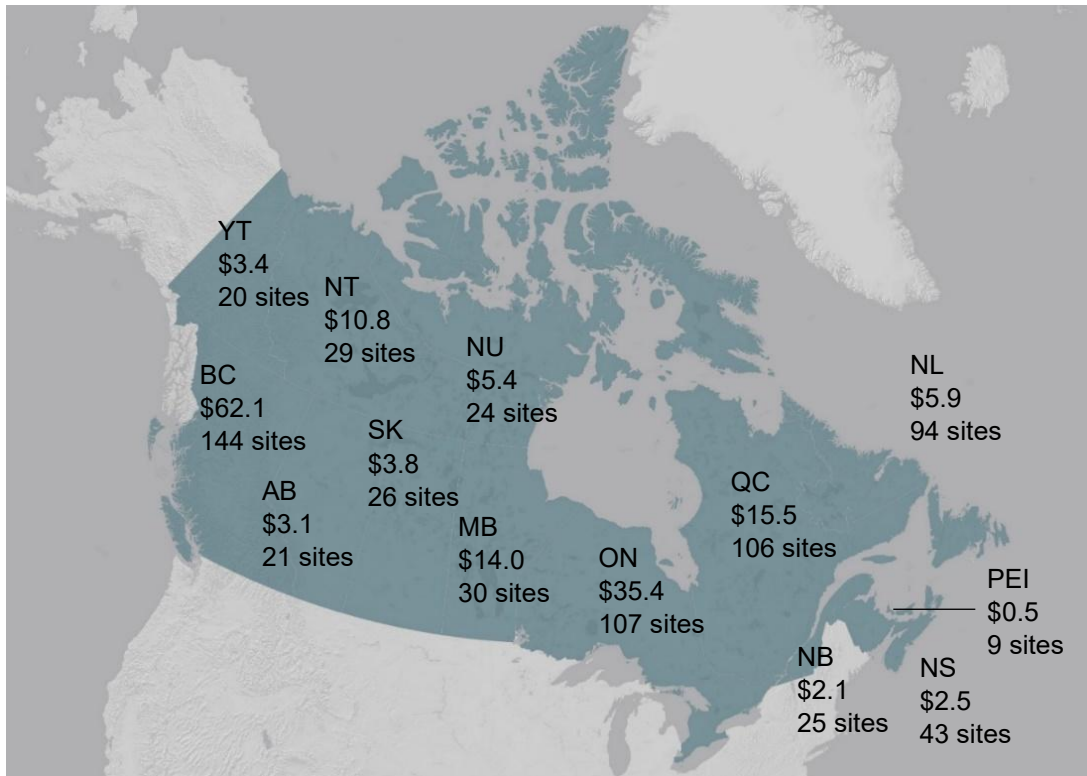
This accounted for 67% of the FCSAP remediation expenditures. Table E.2 in [Appendix E](#) provides a detailed breakdown of the number of sites with remediation activity. It also shows the remediation funding available and remediation expenditures for each custodian.

A list of sites with FCSAP remediation expenditures in 2021 to 2022 is available upon request. Please contact the FCSAP Secretariat at pascf-fcsap@ec.gc.ca.

Regional breakdown

The provinces with the largest FCSAP remediation expenditures were British Columbia, Ontario and Quebec. This accounted for 69% of the total. These three provinces also had the largest numbers of sites with risk-reduction activity. This accounted for 53% of the total (Figure 5).

Figure 5: FCSAP remediation expenditures and sites, by province and territory, 2021 to 2022 (expenditures in \$ millions)



Amounts in the figure have been rounded to \$ millions; numbers may not add due to rounding.

3.3 Program management

Program management funding pays for employee salaries. It also pays for activities such as:

- program administration
- elements of procurement and contract management
- program planning and reporting

It also supports four expert support departments:

- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Public Services and Procurement Canada

These departments provide expert advice and technical assistance to custodians in support of the program. Contaminated sites are complex and information on contaminants and their

environmental effects is always evolving. The ESDs are essential for federal understanding and management of risks to human health and the environment.

The FCSAP Secretariat's work in 2021 to 2022, supported by the Treasury Board of Canada Secretariat, included:

- Published FCSAP Site Closure Report and Guidance Version 2.0. It also delivered five training sessions to inform custodians on best practices for site closure
- Continued modernization of new Phase IV governance and reporting structure (i.e., adjustments to timelines and roles/responsibilities)
- Led DG Committee, ADM Board, and National Planning and Tracking Working Group (NPTWG) meetings
- Developed guidance and delivered training sessions on the integration of climate change considerations for contaminated sites
- Conducted an information session in February 2022 with the Kativik Regional Government on contaminated sites in Nunavik

FCSAP Expert Support Departments' work in 2021 to 2022 included these highlights:

- Supported custodians to:
 - understand contamination at sites
 - understand risks
 - develop remediation and risk-management strategies
 - discuss sites with external parties including Indigenous communities
- Environment and Climate Change Canada published:
 - the *Guidance Document on Monitored Natural Attenuation for Soil and Groundwater Remediation, version 1.0*
 - the *Supplemental Guidance on Implementation of Canada-Wide Standard for Petroleum Hydrocarbons in Soil on Federal Contaminated Sites*
- Fisheries and Oceans Canada published *FCSAP Guidance for Assessing and Managing Aquatic Contaminated Sites in Working Harbours, version 1.1*
- Health Canada developed the human health component of the [CCME Scientific Criteria Document for the Development of the Canadian Soil and Groundwater Quality Guidelines for the Protection of Environmental and Human Health: Perfluorooctane Sulfonate \(PFOS\)](#) (PDF); and
- Public Services and Procurement Canada published the [Federal Contaminated Sites Demand Forecast Analysis Report for 2022 to 2027](#)

[Appendix B](#) further details program management activities conducted in 2021 to 2022.

3.4 Environmental liability reduction

Environmental liabilities are the estimated future costs associated with cleaning up federal contaminated sites. The Government of Canada reports environmental liabilities annually in the *Public Accounts of Canada*.

Liabilities for a given site are usually first reported once an assessment determines that risk-reduction work is required. As custodians remediate contaminated sites, the liabilities generally decrease. Remediation results in the reduction or elimination of risks to people and the environment. However, other factors can change the liability amounts. It is common for liability to fluctuate year over year until the custodian closes the site.

See [Appendix C](#) for more information on the environmental liability of federal contaminated sites.

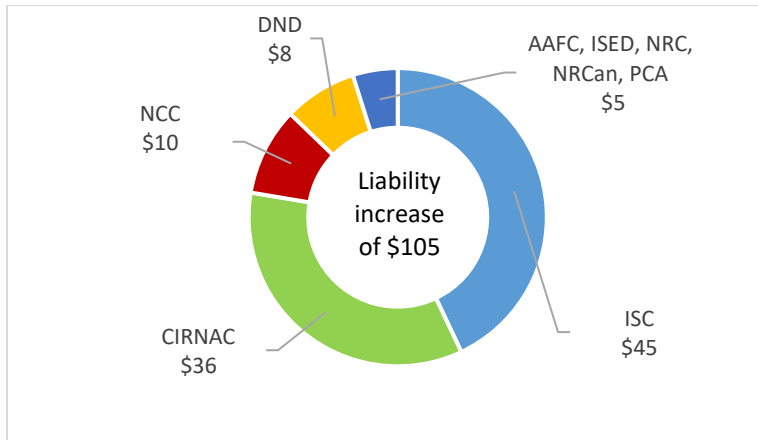
Liability for FCSAP custodians

There were 17 custodians responsible for the portion of environmental liability associated with FCSAP eligible federal contaminated sites. The government estimated this liability to be \$2.480 billion at the end of 2021 to 2022. Tables C.2 and C.3 in [Appendix C](#) show a more detailed estimate of the impact of FCSAP on liability.

Of the 17 custodians, nine custodians reported increases in liability in 2021 to 2022, totalling \$105 million:

- Two custodians, CIRNAC and ISC, accounted for 78% of the total \$105 million increase in liability
- ISC's increase in liability of \$45 million was mainly due to:
 - revised cost estimates
 - adjustments for inflation
 - calculations of net present value
- CIRNAC's increase in liability of \$36 million was due to:
 - increased liability from the addition of a newly identified site
 - revised cost estimates and adjustments to project schedules resulting in additional carrying costs
 - decreases in liability from expenditures reducing liability and adjustments from inflation and net present value calculations
- Two other custodians (DND and NCC) reported increases in liability of more than \$5 million. This accounted for 17% of the overall increase
- The remaining five custodians reported increases of less than \$5 million each. This accounted for 5% of the overall increase (Figure 6)

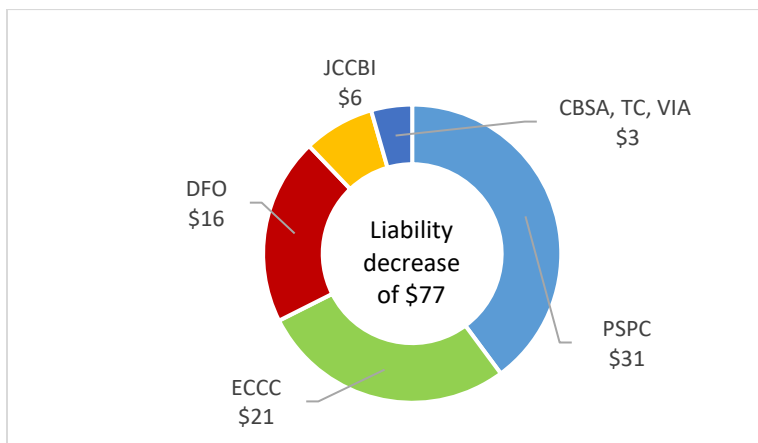
Figure 6: FCSAP custodians with liability increases, 2021 to 2022 (\$ millions)



Amounts in the figure have been rounded to \$ millions; numbers may not add due to rounding.

In 2021 to 2022, eight custodians reported decreases in their overall liabilities, totalling \$77 million. The custodians with the largest decreases in liability were PSPC at \$31 million, and ECCC at \$21 million. Together they represented 68% of the total decrease in liability (Figure 7).

Figure 7: FCSAP custodians with liability decreases, 2021 to 2022 (\$ millions)



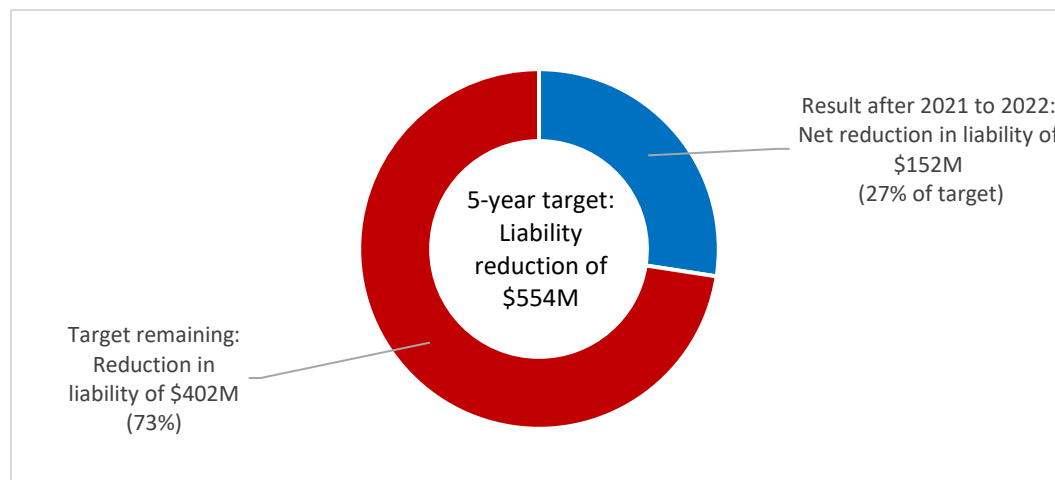
Indicators of liability reduction

For Phase IV, the FCSAP Secretariat tracks one program indicator and one program commitment related to liability reduction:

- Program Indicator - reduction in liability at FCSAP-funded sites
- Program Commitment - the percentage of remediation expenditures that reduce liability over the five years of Phase IV

For the program indicator, custodians estimated that remediation activities would reduce liability by \$554 million by the end of Phase IV. After the second year of Phase IV, custodians had achieved 27% of the 5-year target for liability reduction. Remediation and risk-management activities at these sites decreased the liability by \$148 million. However, other factors affected the liability for these projects. Changes in project and financial costs resulted in a further decrease in liability of \$4 million. This resulted in a net reduction in liability of \$152 million (Figure 8).

Figure 8: Phase IV reduction in liability at FCSAP-funded sites



For the program commitment, 88% of remediation expenditures at FCSAP-funded sites led to reductions in liability. This is the result after the second year of Phase IV. This represents \$325 of \$372 million of remediation expenditures spent by custodians. This is below the target of 95% established for Phase IV. Eighty-four sites representing \$16 million of remediation expenditures did not report these expenditures as liability-reducing expenditures. One reason was that there was no liability recorded at the start of the fiscal year. Another \$30 million of remediation expenditures was for activities that did not reduce liability.

3.5 Socio-economic benefits

FCSAP projects have socio-economic benefits including in Indigenous communities and in northern or rural areas. Work on contaminated sites offered opportunities for residents and contractors to learn and develop skills. It can also help to build careers and businesses. The partnerships forged among workers and businesses helped foster a sense of ownership of project results.

Through FCSAP, the government is addressing federal contaminated sites affecting Indigenous Peoples. This includes sites on reserve lands and in the North (i.e., the territories). In 2018 engagement with Indigenous representatives across the country was carried out. This engagement resulted in expanded program eligibility parameters at the time of program

renewal. This expanded eligibility will accelerate the cleanup of federal sites located on Indigenous reserves and in the North.

The renewed program supports reconciliation with Indigenous Peoples in Canada by:

- continuing to support risk reduction activities on reserves and in the North and reducing their associated liabilities
- increasing engagement and participation of Indigenous Peoples regionally and locally in prioritizing and planning remediation projects
- providing greater opportunities for Indigenous workers and businesses in service-delivery contracts with the federal government

In 2020 to 2021, the North had some of the strictest pandemic related travel requirements. Despite this, progress at contaminated sites was made due to the pre-pandemic relationships and capacity-sharing between CIRNAC and Indigenous partners. Many projects were able to engage communities and Indigenous governments virtually and still make progress on remediation planning. Projects continued to depend on contractors with more local staff and community members/services. Departmental staff located in regional offices in the North were also able to continue to travel to remote sites.

First Nations reserves experienced similar challenges where COVID-related protocols required similar flexibilities. With many projects on reserve being First Nation-led, First Nations were able to manage contract work by:

- using local businesses
- limiting the number of outside contractors in the communities

Good working relationships between First Nations and ISC regional staff enabled many contaminated sites to advance despite these challenges in 2021 to 2022.

During the 2021 to 2022 fiscal year, FCSAP activities led to the creation or maintenance of approximately 1,030 jobs. These jobs provided income and fuelled economic activity. FCSAP activities helped workers develop skills. Workers can apply these skills at other contaminated sites. Workers can also apply these skills to other types of construction and engineering projects. Examples of regularly employed jobs could include heavy machine operators and jobs that require project or financial management skills.

Through FCSAP, the Canadian remediation industry gains opportunities to advance new solutions when cleaning up federal contaminated sites. The program promotes innovative and sustainable technologies by sharing success stories within the federal community and the private sector. The FCSAP Secretariat profiles case studies on the [federal contaminated sites web portal](#) and in annual reports. Custodians also present case studies at workshops for federal contaminated site managers and industry representatives.

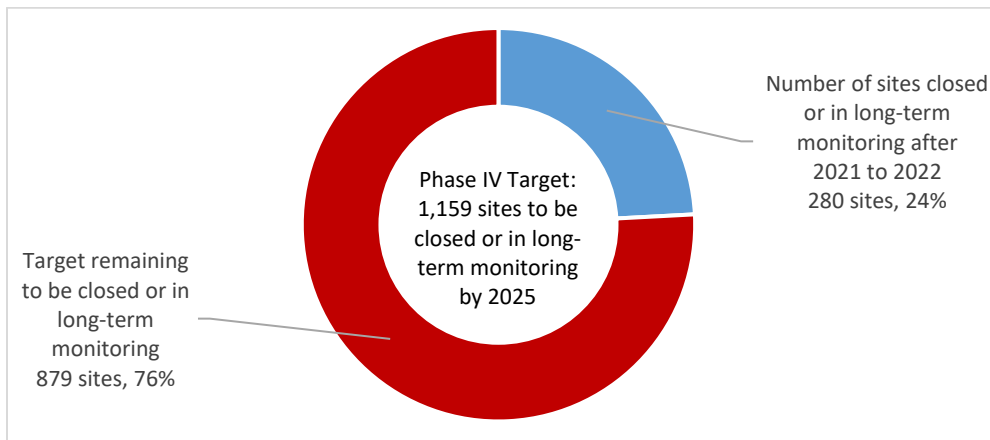
3.6 Site closure and long-term monitoring

Confirmatory sampling and long-term monitoring (if required) are the final steps of closing a site. These final steps come after remediation and/or risk management. Closing a site shows that no further action is required by the custodian. It also shows that the custodian has reduced the federal environmental liability to zero. For some sites the most appropriate course of action is to risk-manage contamination. This can involve containing it on the site and reducing potential for exposure to people, plants, and animals. Long-term monitoring may be necessary to ensure that risks remain at acceptable levels.

Increases in the numbers of sites closed or undergoing long-term monitoring demonstrate progress toward the two key FCSAP objectives. These key objectives are reducing risk and reducing liability.

The Phase IV target for number of sites to close or be in long-term monitoring is 1,159. After the second year of Phase IV, custodians closed 142 sites. 138 sites were in long-term monitoring (16 sites progressed into long-term monitoring in 2021 to 2022). (Figure 9).

Figure 9: Progress towards Phase IV site closure and long-term monitoring target, result after 2021 to 2022



4 FCSAP funding, expenditures and variances

Key results

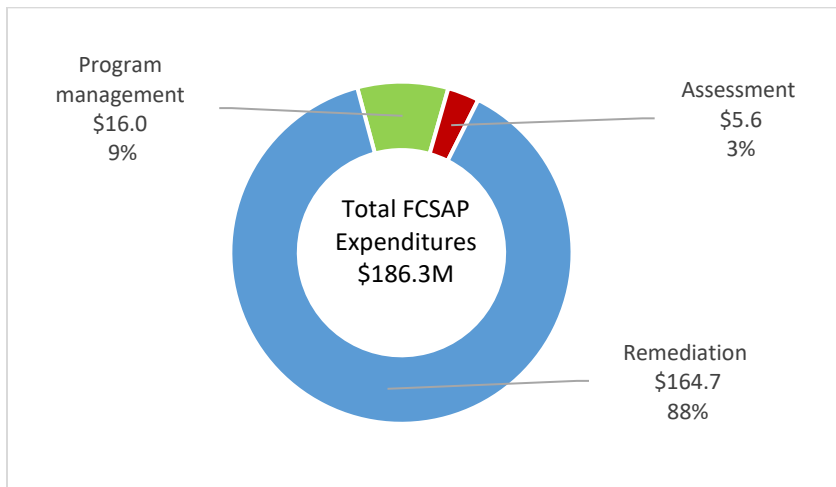
Federal Contaminated Sites Action Plan (FCSAP) expenditures in the 2021 to 2022 fiscal year totalled \$186.3 million. This represents 72% of the FCSAP funding available for the year for assessment, remediation and program management. Custodians also spent \$27 million from other sources of departmental funding to meet cost-share requirements.

In the 2021 to 2022 fiscal year:

- 88% of total FCSAP expenditures were for risk-reduction activities (remediation and/or risk-management)
- 3% was for assessment
- 9% was for program management (Figure 10)

Table E.1 in [Appendix E](#) details the allocations for the three types of FCSAP funding.

Figure 10: Distribution of FCSAP expenditures (excluding cost-share), 2021 to 2022 (\$ millions)



What happens to unspent funds?

Custodians did not spend all the FCSAP funding available to them in 2021 to 2022. As in previous years, this was mostly because of contracting and project delays. For example, weather conditions might have prevented access to sites. It could also have limited the types of work that custodians could carry out. In 2021 to 2022, the ongoing effects of the pandemic continued to delay field work. As discussed in Section 3, some factors that contributed to project delays included:

- lack of personnel in the public and private sectors
- natural disasters
- supply chain issues
- inflation

In some cases, rescheduling of planned work into the next fiscal year can lower current-year project costs.

Custodians may bring forward unspent funds for FCSAP activities in future years through three methods:

- **Government re-profiling:** changing the funding profile of a multi-year project by moving funds to later years within the project. The Department of Finance must approve reprofile requests.
- **Carry-forward processes:** moving funds planned for one year into the next. These require internal approval from the custodian's Chief Financial Officer.
- **Cash-management processes** involve the custodian lending the unspent funds to another part of the organization. There is a commitment that the funds be returned in the next fiscal year.

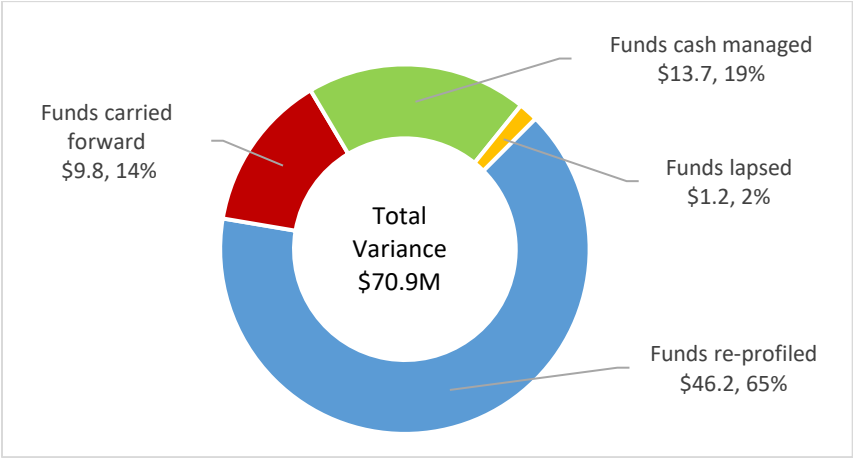
These processes allow custodians flexibility in their response to unpredictable situations, such as weather. The FCSAP Secretariat also promotes and facilitates the transfer of funds among custodians. In 2021 to 2022, custodians transferred \$0.4 million of FCSAP assessment funding through interdepartmental transfers. The custodians also transferred \$1.2 million of FCSAP remediation funding through interdepartmental transfers. Custodians will lapse any unspent funding that is not brought forward. This means that the funds will not be available for FCSAP activities in the future.

In 2021 to 2022, custodians:

- re-profiled 65% of the FCSAP funding variance
- carried forward 14%
- internally cash managed 19%
- lapsed 2% (Figure 11)

Of the \$70.9 million of unspent funding in 2021 to 2022, \$69.7 million (98%) will be available to custodians in future years. Table E.2 in [Appendix E](#) provides a breakdown by funding type of the unspent funding.

Figure 11: Distribution of FCSAP variance, 2021 to 2022 (\$ millions)



Amounts in the figure have been rounded to \$ millions; numbers may not add due to rounding.

5 Conclusion

Fiscal year 2021 to 2022 presented ongoing and unique challenges to the Federal Contaminated Sites Action Plan (FCSAP). Project delays were the result of:

- the ongoing uncertainty due to the pandemic
- labour shortages in the public and private sectors
- natural disasters
- supply chain issues
- inflation

FCSAP program partners worked to adapt the FCSAP workplan. They also worked to optimize the allocation of resources to align with ongoing efforts to achieve Phase IV objectives.

Appendix A – Case studies

Seacow Head Minor Shore Light

Location: Seacow Head, Prince County, Prince Edward Island

Custodian: Fisheries and Oceans Canada

Background

Seacow Head Minor Shore Light (MSL) is located in Seacow Head, Prince County, Prince Edward Island (PEI). The site consists of an 18.3 meter (m) high wooden lighthouse with wood siding. The MSL began operating at this location in 1863 and the lighthouse was automated in 1959. Seacow Head MSL appeared in the opening scenes of many of the episodes of *Road to Avonlea*. This television series was based on books by Canadian author Lucy Maude Montgomery. The province recognized Seacow Head MSL as a heritage place under the *Prince Edward Island Heritage Places Protection Act* in 2012. In 2013, the province officially designated Seacow Head MSL as a Provincial Heritage Place.

Remediation

There were two major sources of contamination at this site. These included the historical use of lead-based paint and the historical use of a mercury bath. The lead-based paint was used on the tower's exterior, and the mercury bath was for the rotating lamp. The Canadian Coast Guard (CCG) repainted the wooden shingles on the exterior of the MSL between 2005 to 2008. The Maritimes & Gulf Regional Office of Environmental Coordination (M&G ROEC) completed the onsite and offsite remediation of lead-impacted soil in 2010 to 2011.

The remediation team completed confirmatory soil sampling at the site in the summer of 2020. The results indicated that toxic lead-based paint was still present and the soil surrounding the MSL had been re-contaminated. The lead-impacted soil was only on the MSL property. The remediation team also collected mercury vapour readings on all levels inside Seacow Head MSL. The results measured above the applicable human health guidelines.

In the winter of 2020 to 2021, the remediation team completed activities at the site. This included:

- removal of wooden shingles from the exterior of the MSL and replacement with shaker-style vinyl siding
- removal of paint from the trim
- placement of new metal capping and flashing around the windows
- removal of paint from the cupola, which was repainted
- excavation of impacted soil to a depth of 0.3 meters below grade (mbg)
- disposal of 24 tonnes of contaminated soil at an appropriate facility
- filling the remediated area with clean top soil

- vacuuming the interior surfaces (including walls, windowsills, stairs, floors, ceilings) using a mercury recovery vacuum system
- application of an absorbent (Mercon X)
- application of a lacquer to the interior surfaces
- collection of mercury vapour readings after the lacquer dried, which showed zero mercury vapours remaining

In 2021 to 2022, the remediation team sodded the remedial area which brought the land back to its original state. The team posted a sign in the MSL noting the mercury abatement. DFO closed the site in the Federal Contaminated Sites Inventory in 2021 to 2022.

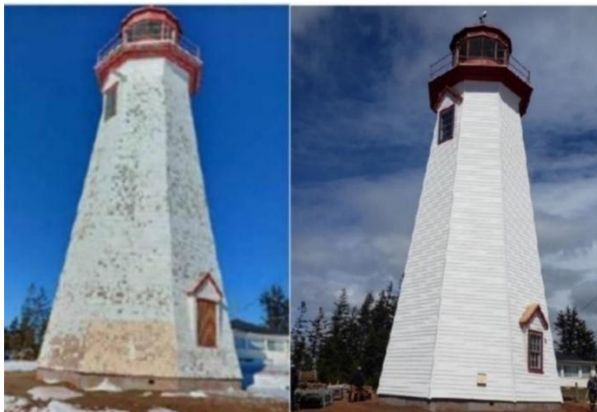
Collaboration toward common goals

The Canadian Coast Guard reviewed all options and specifications proposed by M&G ROEC. It determined that the best aesthetic approach would be to remove the wood shingles and apply vinyl siding. This was a low-maintenance option that looked like authentic painted wood shingles. A local community group, *Friends of Seacow Head Lighthouse*, was also involved in the aesthetic planning. The group ensured the lighthouse would continue to have its unique historic look.

In 2012, the *Friends of Seacow Head Lighthouse* contacted DFO. The group expressed its interest in acquiring the lighthouse. It proposed to create a tourist-friendly and safe environment to promote both the site and PEI's deep nautical history. This would protect and preserve the lighthouse's rich history and heritage. In September 2022, *Friends of Seacow Head Lighthouse* officially became lighthouse's new owners. The CCG continues to have active navigational equipment in the lighthouse. The non-profit community group gives CCG access to the lighthouse to make operational repairs/maintenance to its equipment. This arrangement will continue until the CCG decides that this work is no longer required.

Canada's Federal Contaminated Sites Action Plan (FCSAP) funded the Seacow Head MSL project. FCSAP provides funding to assess and remediate federal contaminated sites and to reduce environmental and human-health risks.

Before and after photos



Former Sambault Landfill

Location: Saint-Isidore-de-Laprairie, Quebec

Custodian: Public Services and Procurement Canada

Since 2010, Public Services and Procurement Canada (PSPC) has been managing the former Sambault landfill in Saint-Isidore-de-Laprairie, Quebec.

Background

This site, containing 350,000 m³ of materials (including hazardous materials), was used as an illegal landfill between 1965 and 1986. This resulted in soil, groundwater, and surface water contamination at the site. Contaminants included metals, petroleum hydrocarbons, and chlorinated solvents. These contaminants threatened the underlying groundwater.



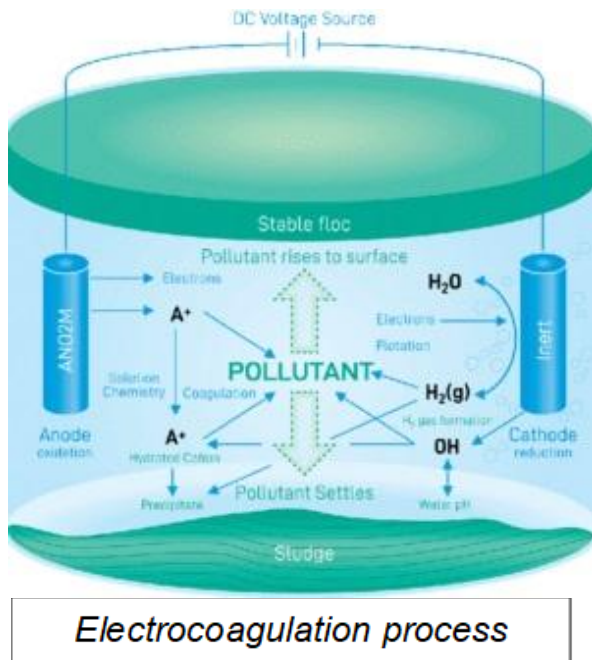
The groundwater is the source of drinking water for the municipality of Saint-Isidore-de-Laprairie. It is also the source of irrigation water for the vegetable producers living near the site.

Technorem prepared plans and specifications to guide the implementation of the remediation approach chosen by PSPC. PSPC selected Golder to carry out the project. The goal was to reduce environmental and human health and safety risks. The work carried out as part of this project, under the supervision of Technorem included:

- shaping and sealing the waste cells over approximately 100,000 m² to reduce water infiltration
- detailed design and installation of 47 pumping wells. The wells prevented the contaminated water from moving outside the site boundary and into groundwater
- design and construction of a water treatment plant to meet environmental discharge criteria
- operation and maintenance

Sustainable and innovative management

This sustainable management program is innovative in several ways:



- It demonstrates the effectiveness of the innovative electrocoagulation technology used in the water treatment plant. Golder proposed this technology and E2Metrix developed the technology. It uses electricity and electrodes to remove contaminants by coagulation, adsorption, co-precipitation, reduction, and oxidation. This is the first time that industry has used this technology at this scale.
- The development and installation of a wireless transmission system optimized the installation costs and system operation. The system measured real-time data at the pumping and observation wells.
- The use of 3D visualization techniques for the treatment system and building facilitated stakeholder engagement. It was also helpful during the project procurement phase.

Complexity

The main challenge of the project was the schedule. The project team had to manage an overlap between the design phase and the construction phase. The design of the containment system was another challenge. Due to the complex geology at the site, the design required expertise in hydrogeological interpretation and modelling. The water treatment system had to meet strict discharge criteria for 93 different compounds.



The scope of the project was very large. It included:

- shaping of more than 100,000 m² of waste
- drilling 64 monitoring wells
- installation of more than 4 km of pipelines
- construction of a 336 m² building

This resulted in multidisciplinary teams needing to continuously work side-by-side. Careful management ensured that these teams carried out the project with an outstanding health and safety record.

This complex project required the interaction of several stakeholders, including:

- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Ministère de l'Environnement et de la Lutte contre les changements climatiques
- Municipality of Saint-Isidore
- PSPC
- Commission de protection du territoire agricole du Québec
- neighbouring landowners

Environmental benefits

PSPC and Technorem developed and put measures into place to reduce the environmental impact. PSPC and Technorem based the measures on environmental studies, toxicological and eco-toxicological risk analysis, and the assessment of numerous remediation scenarios. This facilitated the development of sustainable and innovative solutions.

The solution chosen by PSPC favoured containing and treating the contaminated material on site instead of relocating it off-site. This solution avoided the emission of greenhouse gases (GHG) associated with transporting thousands of truckloads. The mass of GHG that avoided emission was estimated to be approximately 4,000 tonnes of CO₂ equivalent. Compared to other water treatment processes, the electrocoagulation component of the treatment system minimizes the use of chemicals. It also minimizes health and safety risks. Depending on the conditions, it may even convert some pollutants into struvite, a potentially valuable fertilizer. Only hydroelectricity was used as the power source for the treatment process. As a result, the operation of the system will have almost zero GHG emissions for the next 25 years. The sealing of the waste cells will eventually eliminate the return of leachate in the surface water. This will contribute to the restoration of the Saint-Simon Stream.

The chosen remediation scenario made it possible to maintain certain wooded areas. This was despite the presence of contaminated soil and waste. This preserved some of the site's ecological value and eliminated some of the visual nuisance. The revegetation of the site also contributes to establishing a new ecosystem.

In 2021, this project won the [Grand Prix du génie-conseil québécois](#) (available in French only) in the Environment category. Canada's Federal Contaminated Sites Action Plan (FCSAP) funded this project.

Appendix B – Program administration

In the 2021 to 2022 fiscal year, custodians, the Federal Contaminated Sites Action Plan (FCSAP) Secretariat, the Treasury Board of Canada Secretariat (TBS), and expert support departments (ESDs) spent \$16 million on program management activities. Table B.1 shows the breakdown of expenditures.

Table B.1: Summary of FCSAP program management expenditures, 2021 to 2022 (\$ millions)

Department	Available FCSAP funding (\$) ²	FCSAP expenditures (\$) ³	Variance (\$) ⁴
Agriculture and Agri-Food Canada	0.07	0.07	0
Canada Border Services Agency	0	0	0
Correctional Service of Canada	0.1	0.1	0
Crown-Indigenous Relations and Northern Affairs Canada	0	0	0
Environment and Climate Change Canada (Custodian)	0.4	0.4	0
Environment and Climate Change Canada (Expert Support)	3.0	2.8	0.2
Environment and Climate Change Canada (Secretariat)	2.3	2.3	0
Fisheries and Oceans Canada (Custodian)	0.9	0.9	0
Fisheries and Oceans Canada (Expert Support)	2.0	1.7	0.3
Health Canada (Expert Support)	2.5	2.4	0.1
Indigenous Services Canada	2.0	2.0	0
Innovation, Science and Economic Development Canada	0.06	0.06	0
Jacques Cartier and Champlain Bridges Incorporated	0	0	0
National Capital Commission	0.1	0.1	0
National Defence	1.0	1.0	0
National Research Council of Canada	0	0	0
Natural Resources Canada	0	0	0
Parks Canada Agency	0.4	0.3	0.1
Public Services and Procurement Canada (Custodian)	0.2	0.2	0
Public Services and Procurement Canada (Expert Support)	0.5	0.5	0
Transport Canada	0.6	0.6	0
Treasury Board of Canada Secretariat	0.6	0.6	0
VIA Rail Canada	0	0	0

² Amounts only include FCSAP funding and do not include any other funding source over and above that amount.

³ Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

⁴ Variance = available FCSAP funding - FCSAP expenditures

Total expenditures	16.7	16.0	0.7
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Key activities

Custodians

Custodians devote nearly all their efforts to managing the federal contaminated sites that are their responsibility. However, they also conduct program-management activities. In 2021 to 2022, these activities included program planning, reporting, and responding to information requests from the FCSAP Secretariat. Custodians also developed annual and long-term workplans in preparation for the third year of Phase IV.

FCSAP Secretariat

Environment and Climate Change Canada (ECCC) with support from TBS serve as the Secretariat of the FCSAP program. In 2021 to 2022 they continued to provide overall program oversight, support, and administration:

- Program governance and oversight** – The Secretariat continued to provide advice on site eligibility, manage program performance and reporting requirements. It also led the resolution of operational and technical issues. It co-chaired and organized meetings for the Director Generals Advisory Committee (DG Committee) and Assistant Deputy Ministers Oversight Board (ADM Board). It provided governance updates on finances, high-risk sites, program performance, and analyzed impacts of the pandemic and other factors. The Secretariat continued modernization of the Phase IV governance and reporting structure (e.g., adjustments to roles/responsibilities). It updated the focus of the Regional Integrated Planning Boards to better serve custodian needs. The Secretariat created the National Planning and Tracking Working Group (NPTWG). The NPTWG’s purpose is to improve program-wide work planning, tracking and portfolio-wide contaminated site inventory management. This helped to maximize in-year spending.
- Engagement and outreach** – The Secretariat led regular meetings of the national leads of expert support departments. The meetings were held to ensure a consistent approach to the provision of technical advice. This also harmonized messaging on program and policy issues. The Secretariat organized and delivered five training sessions to 98 program partners. The training sessions increased awareness and understanding of best practices for Indigenous engagement. The Secretariat delivered five training sessions about the integration of climate change considerations. These sessions also covered the use of Canadian Centre for Climate Services (CCCS) data portals and the concept of risk. It delivered four training sessions on advanced climate change risk assessment and the Public Infrastructure Engineering Vulnerability Committee (PIEVC).

- **Performance monitoring and reporting** – The Secretariat published the 2019 to 2020 annual and summary reports, as well as a summary of Phase III ([Federal contaminated sites: publications - Canada.ca](https://www24.international.gc.ca/fcsap/fcsap-eng.aspx?lang=eng)). The improved format of the annual reports more effectively conveyed key achievements to the public. It also included a high-level summary. The Secretariat finalized the FCSAP Performance Measurement Strategy with the introduction of program commitments reporting templates.
- **Strategic planning** – The Secretariat led a work plan and Federal Contaminated Sites Inventory (FCSI) optimization exercise with custodians. The goal of the exercise was to improve the management of sites. The exercise focused on active sites in the FCSI despite no recent activity. Custodians are encouraged to close sites when no further action is required. The Secretariat also developed a methodology to rank submissions from custodians looking to take on surplus funding. The ranking system enables recommendations to flow from the DG Committee to the ADM Board. The ADM board must endorse all interdepartmental transfers. In concert with program partners, the Secretariat helped develop the 5-year work plan (2022 to 2027). The Secretariat presented the workplan to FCSAP governing bodies for endorsement. Finally, it began developing options related to the December 2021 ECCC Minister’s mandate letter commitment. The mandate is to “Identify and prioritize the cleanup of contaminated sites in areas where Indigenous, racialized, and low-income Canadians live.”

Treasury Board of Canada Secretariat (TBS)

In 2021 to 2022, TBS supported ECCC in the management of the FCSAP program. This was achieved through the provision of strategic advice and guidance. In this role, TBS:

- Supported the FCSAP Secretariat in its activities listed above, including co-chairing DG and ADM-level governance committees
- Supported ECCC in monitoring government-wide progress on federal contaminated sites by participating in key program activities. These activities include co-chairing governance meetings, preparing agendas, and participating in annual reporting
- Maintained and enhanced the FCSI
- Supported custodians in meeting their FCSI reporting requirements
- Supported ECCC in responding to public enquiries about FCSAP, contaminated site policy requirements, and the FCSI
- Was involved in the planning committee and technical review committee for the 2020 Real Property Institute of Canada’s Federal Contaminated Sites National Workshop. The pandemic forced the workshop to be postponed to November 2021 and then held as a virtual event.

Expert support departments

In 2021 to 2022, Expert Support Departments (ESDs) continued to develop guidance documents. They also delivered training on the management of federal contaminated sites.

They provided advice, reviewed contaminated-site management documents, and promoted innovative and sustainable remediation technologies. Below are highlights on each of the departments' activities.

Fisheries and Oceans Canada (DFO) provided scientific and technical advice to custodians. They advised on the management of contaminated sites in relation to risks and impacts to fish and fish habitat. DFO conducted 91 site-classification reviews to confirm eligibility for FCSAP funding. It also conducted reviews of 37 technical documents in support of site assessment and remediation and risk management. These reviews ensured that custodian of the contaminated site appropriately considered the potential impacts to fish and fish habitat. They also promoted compliance with relevant legislation and regulations. DFO met the service standard for site classification reviews 90% of the time. For technical document reviews, DFO met the service standard 92% of the time.

To develop guidance material and provide expert advice and training on the management of FCSAP sites to custodians, DFO:

- Published *FCSAP Guidance for Assessing and Managing Aquatic Contaminated Sites in Working Harbours, version 1.1*
- Published the *Framework for Addressing and Managing Aquatic Contaminated Sites under the Federal Contaminated Sites Action Plan (FCSAP), version 2.1*
- Completed review and edits to the *Monitored Natural Recovery (MNR) Guidance document*
- Delivered *Ecological Risk Assessment (ERA) Module 8: Fish Toxicity Reference Values (TRV)* presentation at RPIC FCS Workshop in November 2021
- Completed edits to the *FCSAP Aquatic Sites Classification System, version 3.4* worksheet and detailed user guidance manual
- Provided an information session, *Overview of the Fish and Fish Habitat Protection Program (FFHPP) and Modernization of the Fisheries Act* (English session) to FCSAP program partners in March 2022

DFO also participated in FCSAP national and regional working groups and site-specific technical committees.

Environment and Climate Change Canada (ECCC) continued its role as a central point of contact for regional custodians seeking the services of ESDs. Activities included coordinating and co-chairing the meetings of the RIPBs and leading project support meetings. ECCC also supported review and work planning at high-risk and major sites. ECCC proposed improvements to RIPBs activities to better meet custodian needs. This was done in collaboration with the FCSAP Secretariat and following consultation with members of the RIPBs. As a result, the ADM Oversight Board subsequently approved the amendment of the terms of reference of the RIPB. ECCC reviewed site-classification scores and site-specific technical reports submitted by custodians. ECCC then provided custodians with technical advice on assessing and managing the environmental risks of their contaminated sites. ECCC provided

information on program tools and guidance, training, shared lessons learned, and addressed other custodian needs for expert support.

Some specific achievements include the following:

- ECCC worked with the FCSAP Secretariat and other ESDs to inform and advise custodians on changes for FCSAP Phase IV. This included the new program indicators for climate change.
- In collaboration with the other ESDs, ECCC reviewed 90 site classifications submitted by custodians to confirm eligibility for funding. The department also reviewed 47 technical documents. These reviews assisted custodians with their assessment and remediation/risk-management projects and to promote regulatory compliance. For site classification reviews, ECCC met the service standard 94% of the time. For technical document reviews, ECCC met the service standard 94% of the time.
- The department published:
 - *Guidance Document on Monitored Natural Attenuation for Soil and Groundwater Remediation*
 - *Supplemental Guidance on Implementation of Canada-Wide Standard for Petroleum Hydrocarbons in Soil on Federal Contaminated Sites*
- ECCC finalized and submitted to management for publication approval the following documents:
 - *FCSAP Advisory Bulletin: How, When and Why Do I Decommission a Groundwater Monitoring Well Version 2.0?*
 - *Guidance Document on the Management of Light Non-Aqueous Phase Liquids (LNAPL) at Federal Contaminated Sites*
- ECCC continued to develop or update guidance documents and bulletins related to site management in the following areas:
 - Guidelines to apply to a federal site with multiple land uses
 - Applicability of provincial/territorial guidelines in lieu of existing federal guidelines
 - Guidelines to use if a CCME soil quality guideline is based only on human health or environmental protection
 - Applying the CCME (2016) statistical approach to identify contaminants of concern at federal contaminated sites
 - Ecological risk assessment and management for contaminated sites
 - Management and treatment of values less than the detection or quantification limit
 - Use of expedited site-characterization (real time) technologies at federal contaminated sites
 - Assessing field duplicates
 - Radionuclides in groundwater

- The Department provided training sessions and a presentation on the following topics:
 - Canada-Wide Standard for Petroleum Hydrocarbons in Soil (3 English and 1 French session)
 - Wildlife Risk Assessment at Federal Contaminated Sites (1 presentation)

Health Canada continued to provide scientific and technical advice to federal custodians for federal contaminated sites funded under FCSAP. This involved close collaboration with the other ESDs on addressing current and emerging chemical issues, such as perfluorooctane sulfonate.

More specifically, Health Canada provided:

Advice

- Responded to 138 requests for technical advice from custodians for expert review of NCSCS scores and technical reviews. Health Canada delivered 100% of the requests on time.
- Provided technical advice on 17 environmental assessments, with 100% of advice delivered on time.
- Participated in a Panel hearing for the Meliadine Mine Effluent Discharge to the Marine Environment Project under the *Canadian Environmental Assessment Act, 2012*
- Participated in national and regional working-group meetings, as well as in regularly scheduled and as-needed interdepartmental and project-specific meetings.

Guidance and guidelines

- Continued work on several guidance documents, including:
 - *Federal Contaminated Site Risk Assessment in Canada: Supplemental Guidance on Soil Vapour Intrusion Assessment at Federal Contaminated Sites, Version 2.0*
 - *Federal Contaminated Site Risk Assessment in Canada: Supplemental Guidance on Human Health Risk Assessment of Non-Cancer Effects Resulting from Less-Than-Chronic and Intermittent Exposures to Chemicals at Federal Contaminated Sites*
 - *Federal Contaminated Site Risk Assessment in Canada: Guidance on Human Health Risk Assessment Framework for the Seafood Consumption Pathway at Contaminated Aquatic Sites*
 - *Update of Federal Contaminated Site Risk Assessment in Canada: Part V: Guidance on Detailed Quantitative Risk Assessment for Chemicals*
- Advanced work on several guidelines:
 - Development of a new soil-screening value for 1,3,5-Trinitrobenzene and Nitrobenzene
 - The CCME human-health component of the lead soil-quality guideline
 - Review of human toxicology for arsenic

- Contributed to FCSAP Publication “*Management and Treatment of Values Less Than the Detection or Quantification Limit*” led by ECCC. Document to other ESD and custodians for comment in September 2021
- Developed the human health component of the [CCME Scientific Criteria Document for the Development of the Canadian Soil and Groundwater Quality Guidelines for the Protection of Environmental and Human Health: Perfluorooctane Sulfonate \(PFOS\)](#) (PDF)
- Continued collaboration with ECCC on per- and poly-fluoroalkyl substance (PFAS) fate and transport modelling. This work was in support of the development of a PFAS soil-quality guideline
- Continued development of HC remediation checklist tool. The development work was done to include human health considerations for all remediation technologies included in PSPC’s [GOST](#) tool
- Continued internal collaboration regarding use of gene expression profiles to facilitate read-across for 23 priority PFAS and environmentally relevant PFAS mixtures. This internal collaboration work was performed to support soil and drinking water screening value/guideline development
- Collaborated with BC Ministry of the Environment and Climate Change Strategy and BC Environmental Laboratories Technical Advisory Committee on bio-accessibility testing of contaminated soils at environmentally relevant concentrations in Canada. This work was done to assess intra- and inter-laboratory variability, repeatability, accuracy, and precision of the bio-accessibility test method by Canadian-based analytical laboratories
- Published a journal article co-authored by Health Canada: “High-Throughput Transcriptomic Analysis of Human Primary Hepatocyte Spheroids Exposed to Per- and Polyfluoroalkyl Substances as a Platform for Relative Potency Characterization. Published in *Toxicological Sciences*

Presentations

- Presented “*Introduction to Canadian Soil Quality Guidelines for the Protection of Ecological and Human Health*” training session to the Canadian Nuclear Safety Commission, in conjunction with ECCC (March 2022)
- Presented a poster on “*Health Canada’s Updated Supplemental Guidance for Soil Vapour Intrusion Assessment at Federal Contaminated Sites*” at Real Property Institute of Canada Federal Contaminated Sites Workshop (November 2021)
- Presented a poster on “*Updates to Health Canada’s Human Health Risk Assessment Framework for Federal Sites Impacted by Per- and Polyfluoroalkylated Substances from Aqueous Film-Forming Foams and Practical Considerations for its Use*” at RPIC FCS Workshop (November 2021)
- Provided training to BC Ministry of Environment and Climate Change Strategy on Health Canada Supplemental Guidance on Human Health Risk Assessment for Oral Bioavailability of Substances in Soil and Soil-Like Media (November 2021)
- Provided training to custodians on Human Health Risk Assessment for Contaminated Sites: Vapour Intrusion Guidance Update 2022 - An Overview
- Provided training to custodians on Overview of Health Canada Guidance Documents for Human Health Risk Assessment for Federal Contaminated Sites

- Participated on the Board of Directors for the Science Advisory Board for Contaminated Sites in British Columbia

Public Services and Procurement Canada (PSPC) continued to provide project management and procurement advice to federal custodians. It also collected and shared innovative and sustainable approaches with industry.

More specifically, PSPC's activities included:

- Maintaining contaminated-site management tools, such as the [Guidance and Orientation for the Selection of Technologies](#) tool and [Sustainable development analysis tool](#)
- Informing the private sector about the federal demand for services. PSPC does this through delivery of regional Demand Forecast presentations. PSPC also updates the [FCSAP Interactive Map Tool](#), which complements the updated [FCSAP Phase IV Contaminated Sites Demand Forecast Analysis Report 2022 to 2027](#). PSPC presented both on eight occasions to approximately 650 industry participants across the country
- Supporting the integrated planning of FCSAP Phase IV by co-chairing the RIPBs and the NPTWG
- Organizing the Real Property Institute of Canada Federal Contaminated Sites National Workshop. This workshop was held virtually in November 2021 due to the COVID-19 pandemic
- Developing, in collaboration with Defence Construction Canada, the FCSAP Phase IV Integrated Service Delivery Strategy for Procurement, published in 2022 to 2023.
- Developing a new Greenhouse Gas (GHG) reporting tool. The tool collects information on secondary sources of GHG associated with assessment and remediation activities on federal contaminated sites

Appendix C – Environmental liability for federal contaminated sites

What are environmental liabilities?

Environmental liabilities are the estimated costs related to the risk reduction of contaminated sites. Risk reduction is achieved through remediation and/or risk management. To be considered a liability, the Government of Canada is obligated, or likely will be obligated, to incur costs related to risk reduction. The Federal Contaminated Sites Action Plan (FCSAP) specifically aims to address environmental liability. Recording liability is a requirement of the Treasury Board Directive on Accounting Standards. Custodians report environmental liabilities annually in the *Public Accounts of Canada*.

According to TBS guidance, the Government of Canada recognizes a liability when a contaminated site satisfies the following criteria:

- an environmental standard exists for the site
- contamination exceeds the environmental standard
- the government is directly responsible or accepts responsibility
- it is expected that future economic benefits will be given up
- site managers can make a reasonable estimate of the liability

Environmental liability increases and decreases

Liabilities for a given site are usually first reported once an assessment determines the need for risk-reduction work. As custodians remediate contaminated sites, the liabilities usually decrease. Remediation work reduces or eliminates the remaining risks to people and the environment. However, it is common for liability to fluctuate year over year until custodians close a site, because of:

- previously undetected contamination unearthed by risk-reduction work
- factors outside the control of the custodian, such as weather, transportation difficulties, or unexpected costs of equipment and services
- variability in the Consumer Price Index (through inflation) and in the discount rate (through calculation of net present value). This especially affects large projects

Liability reduction is not linear. A decrease in liability in one year may be followed by an increase the next year.

Total liability for federal contaminated sites versus FCSAP-funded sites

Custodians and other federal organizations also conduct work at contaminated sites that are not eligible for FCSAP funding. Regardless of the funding source, organizations are required to report all liabilities and remediation expenditures to the *Public Accounts of Canada*. Sites that are not eligible for FCSAP funding in Phase IV include:

- lower-risk sites and sites where the contamination occurred after April 1, 1998 (except for those located in the North or on First Nations reserves)
- sites that have their own funding sources, such as the low-level radioactive waste sites of the Port Hope Area Initiative
- 16 sites that FCSAP previously funded but now the Northern Abandoned Mine Reclamation Program funds, starting in 2020 to 2021

Estimating liability for all federal contaminated sites (includes non-FCSAP sites)

As of March 31, 2022, the government has identified 6,462 sites where contamination may exist. These sites may require assessment, remediation or risk management and monitoring. This is down from 6,857 sites identified in 2021. Of these 6,462 sites, the government has identified 2,524 sites that require action. This is down from 2,555 sites in 2021. The gross liability recorded for these sites is \$9,768 million (up from \$6,806 million in 2021). This liability estimate is based on site assessments performed by environmental experts.

To estimate the liability for unassessed sites, the government uses a statistical model. The model projects the number of sites that will proceed to remediation and uses current and historical costs to estimate liability. This includes 3,079 unassessed sites (down from 3,438 sites in 2021). Of these sites the model projects that 1,330 sites (down from 1,412 sites in 2021) will proceed to remediation. The estimated liability recorded for these sites is \$256 million (up from \$245 million in 2021).

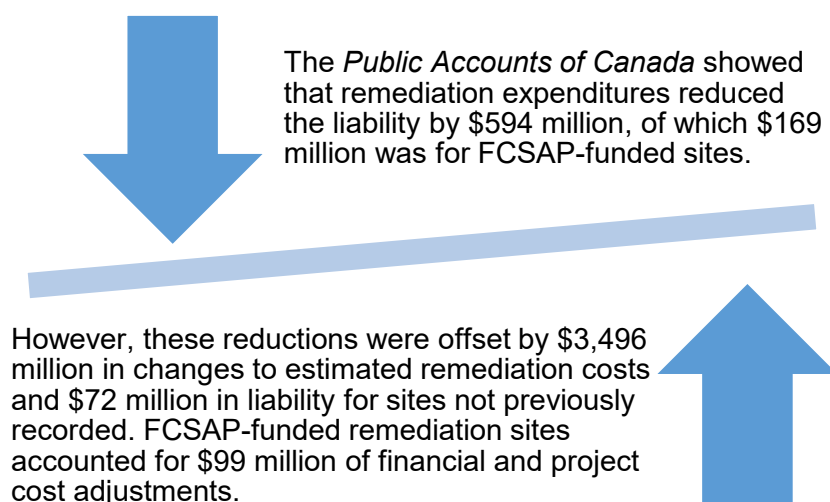
These two estimates total \$10,024 million (up from \$7,051 million in 2021). This represents management's best estimate of the costs required to remediate sites.

There is no liability for remediation recognized for the remaining 859 sites (down from 864 sites in 2021). Some of these sites are at various stages of testing and evaluation. If these sites require remediation, site custodians will report liabilities as soon as they can determine a reasonable estimate. For other sites any significant environmental impact or human-health threats are unlikely so the sites will not report liability. If circumstances change, site custodians will re-examine the sites and report on the estimated liability for remediation.

Results for 2021 to 2022

For fiscal year 2021 to 2022, the total environmental liability for federal contaminated sites increased by \$2,973 million to \$10,024 million. Twenty-two federal organizations, including FCSAP custodians reported this in the *Public Accounts of Canada*. Most of this increase is attributed to sites in other programs. Sites in the Northern Abandoned Mine Reclamation Program increased their liability by \$2,201 million. Sites under the care of Atomic Energy of Canada Limited reported an increase in liability of \$741 million. Sites that may be eligible for FCSAP funding accounted for \$2,480 million of the total 2021 to 2022 liability reported.

Figure C.1: Change in total environmental liability, 2021 to 2022



A \$0.6 million adjustment in expected recoveries also occurred in 2021 to 2022. Site custodians report an expected recovery when two conditions are met. The first condition is that it is likely that the Crown will receive a recovery. The second condition is that the custodian can make a reasonable estimate of the amount of the recovery. As detailed in Table C.1, these were factors in the \$2,972 million net increase in liability.

Table C.1: Changes in liability for remediation at contaminated sites, 2021 to 2022 (\$ millions)

Change in liability	March 31, 2021 (\$)	March 31, 2022 (\$)	Difference (\$)
Opening balance	7,375	7,051	-324
Less: expenditures reducing opening liabilities	502	594	92
Add: changes in estimated remediation costs	138	3,496	3,358
Add: new liability for sites not previously recorded	40	72	32
Closing balance (gross)	7,051	10,024	2,973
Less: expected recoveries	25.2	25.8	0.6
Closing balance (net)	7,026	9,998	2,972

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

As shown in Tables C.2 and C.3, the total environmental liability for FCSAP-eligible sites increased in 2021 to 2022. The value of the increase was \$27 million, from \$2,453 million to \$2,480 million.

Table C.2: Environmental liability for federal contaminated sites that may have been eligible for FCSAP, 2021 to 2022 (\$ millions)

Environmental liability	March 31, 2021 (\$)	March 31, 2022 (\$)	Difference (\$)
Total liability for remediation at contaminated sites ⁵	7,051	10,024	2,973
Less: ⁶	-	-	-
Atomic Energy of Canada Limited	790	1,531	741
Canadian Broadcasting Corporation	0.1	0.1	0
Global Affairs Canada	0.02	0.02	0
Royal Canadian Mounted Police	10.8	9.5	-1.3
Windsor-Detroit Bridge Authority	4.5	8.9	4.4
Liability for sites in the Northern Abandoned Mine Reclamation Program	3,767	5,968	2,201
Expected recoveries	25.2	25.8	0.6
Liability for federal contaminated sites that may have been eligible for FCSAP	2,453	2,480	27

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

Table C.3: Environmental liability for federal contaminated sites that may have been eligible for FCSAP, by participating custodian (\$ millions)

Custodian	March 31, 2021 (\$)	March 31, 2022 (\$)	Difference (\$)
Agriculture and Agri-Food Canada	9.3	9.4	0.1
Canada Border Services Agency	1.4	0.4	-1.0
Correctional Service of Canada	2.7	2.4	0.3
Crown-Indigenous Relations and Northern Affairs Canada (excluding liability for sites in the Northern Abandoned Mine Reclamation Program)	328.7	365.0	36.3
Environment and Climate Change Canada	199.6	178.4	-21.2
Fisheries and Oceans Canada	281.0	265.5	-15.5
Indigenous Services Canada	402.7	447.7	45.0
Innovation, Science and Economic Development Canada	0	1.7	1.7

⁵ Total liability for remediation of contaminated sites, as reported in the *Public Accounts of Canada 2022*.

⁶ Some organizations are not part of FCSAP, as they have their own funding sources, or their sites do not meet the eligibility requirements of FCSAP.

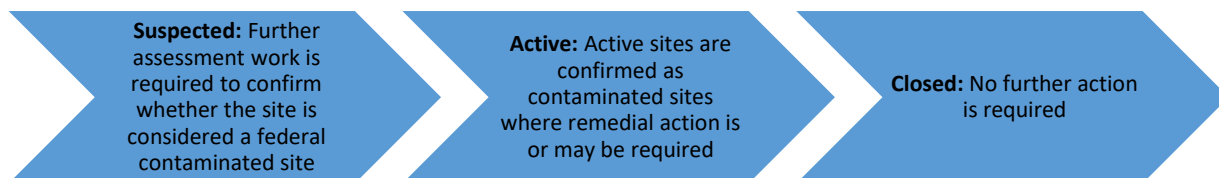
Custodian	March 31, 2021 (\$)	March 31, 2022 (\$)	Difference (\$)
Jacques Cartier and Champlain Bridges Incorporated	31.2	25.2	-6.0
National Capital Commission	64.0	74.0	10.0
National Defence	581.3	589.6	8.3
National Research Council of Canada	2.2	4.0	1.8
Natural Resources Canada	2.0	3.4	1.4
Parks Canada Agency	98.4	98.4	0
Public Services and Procurement Canada	234.2	203.7	-30.5
Transport Canada	233.5	231.9	-1.6
VIA Rail Canada Inc.	6.1	5.4	-0.7
Less: expected recoveries	25.2	25.8	0.6
Liability for federal contaminated sites that may have been eligible for FCSAP	2,453	2,480	27

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

Appendix D – Federal Contaminated Sites Inventory

The Treasury Board of Canada Secretariat manages the [Federal Contaminated Sites Inventory](#) (FCSI). It includes information on federal contaminated sites under the custodianship of departments, agencies, and consolidated Crown corporations. It also includes information on non-federal contaminated sites for which the federal government has accepted some or all financial responsibility.

Sites registered in the FCSI move from “suspected” to “active” status once investigations confirm the presence of contamination. Custodians may close suspected sites if historical activities are not likely to have caused contamination. Contaminated sites practitioners can determine this by completing a desktop review or a Phase I environmental site assessment. If a site assessment determines that contaminants are not present on a site, the custodian will typically close the site. Custodians can also close sites during assessment if no contaminants pose an unacceptable risk to human health or the environment. Another scenario when custodians can close sites is when site management measures reduce risks to acceptable levels. These site management measures can include remediation, risk management and or the completion of long-term monitoring.



As of March 31, 2022, the FCSI listed 23,965 sites, of which custodians have closed 17,651 sites (74%). There are 4,762 active sites (20%), where custodians have confirmed contamination, and they may need to take remedial actions. A total of 1,552 sites (6%) may be contaminated but custodians have not yet assessed them.

Progress of sites through the FCSI

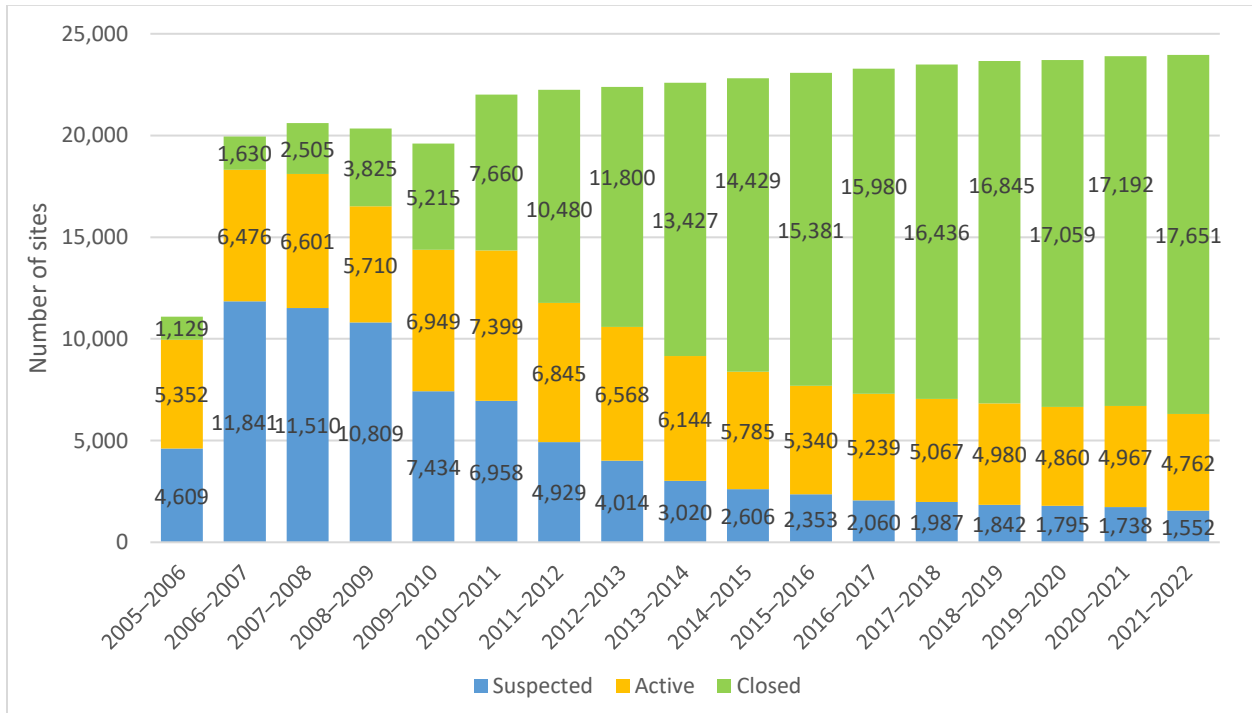
Before FCSAP was established in 2005, the FCSI contained approximately 2,000 suspected and 4,200 active federal contaminated sites. Since then, custodians have added sites to the FCSI. Custodians add sites to the FCSI when contamination is suspected. If funding is available, sites get assessed and custodians undertake risk-reduction activities if the site conditions require them.

In 2021 to 2022, about 31% of expenditures reported to the FCSI were attributable to FCSAP sites. This included both FCSAP funding and the custodian cost-share. The remaining 69% were expenditures on non-FCSAP sites and by federal organizations that are not part of FCSAP. This includes 16 sites that FCSAP previously funded, but that the [Northern Abandoned Mine Reclamation Program](#) now funds. Over the 2021 to 2022 fiscal year, these combined expenditures resulted in the following changes:

- the number of suspected sites decreased by 11% (from 1,738 to 1,552)
- the number of active sites decreased by 4% (from 4,967 to 4,762)
- the number of closed sites increased by 3% (from 17,192 to 17,651)

This is shown in Figure D.1.

Figure D.1: Status of sites in the FCSI from 2005 to 2022



Appendix E – Data tables

Table E.1: Available assessment funding and expenditures, by custodian, 2021 to 2022 (\$ millions)

Custodian	Number of sites with activity	Available FCSAP funding (\$)	FCSAP assessment expenditure (\$)	Custodian expenditures (cost-share) (\$)	Total expenditures (\$)
AAFC	5	0.04	0.04	0.02	0.06
CBSA	0	0	0	0	0
CIRNAC	0	0	0	0	0
CSC	3	0.2	0.07	0.02	0.09
DFO	16	0.4	0.3	0.08	0.4
DND	26	2.2	2.2	0.5	2.7
ECCC	4	1.5	0.5	0.1	0.6
ISC	28	0.6	0.6	0.4	0.9
ISED	2	0.1	0.1	0.04	0.2
JCCBI	3	0.9	0.6	0.1	0.7
NCC	22	0.7	0.3	0.07	0.4
NRC	0	0	0	0	0
NRCan	0	0	0	0	0
PCA	4	0.2	0.1	0.03	0.1
PSPC	6	0.8	0.7	0.2	0.8
TC	2	0.2	0.2	0.04	0.2
VIA Rail	0	0.1	0	0	0
Total	121	7.9	5.6	1.6	7.2

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

Table E.2: Available remediation funding and expenditures, by custodian, 2021 to 2022 (\$ millions)

Custodian	Number of sites with activity	Available FCSAP funding (\$)	FCSAP remediation expenditures (\$)	Custodian expenditures (cost-share) (\$)	Total expenditures (\$)
AAFC	7	3.5	0.6	0.1	0.8
CBSA	2	0.4	0.4	0.06	0.4
CIRNAC	36	30.1	13.6	2.3	16.0
CSC	6	0.3	0.3	0.05	0.3
DFO	188	10.1	8.7	1.5	10.3
DND	172	67.4	61.0	8.5	69.6
ECCC	22	29.4	16.6	0.4	17.0
ISC	108	33.0	33.0	7.3	40.2
ISED	0	0	0	0	0
JCCBI	3	1.8	1.7	0.4	2.1
NCC	19	6.8	2.8	0.5	3.3
NRC	3	0.6	0.6	0.1	0.7
NRCan	0	0	0	0	0
PCA	31	7.0	3.2	0.5	3.7

Custodian	Number of sites with activity	Available FCSAP funding (\$)	FCSAP remediation expenditures (\$)	Custodian expenditures (cost-share) (\$)	Total expenditures (\$)
PSPC	18	25.5	9.5	1.7	11.2
TC	63	12.8	12.7	1.9	14.7
VIA Rail	0	4.0	0	0	0
Total	678	232.6	164.7	25.4	190.1

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

Table E.3: Program-level summary of available FCSAP funding, 2021 to 2022 (\$ millions)

FCSAP funds	Program management (\$)	Assessment (\$)	Remediation (\$)	Total (\$)
FCSAP funding approved for 2021 to 2022	16.7	7.0	203.2	226.9
FCSAP funding brought forward from previous fiscal years	0.1	1.0	29.2	30.3
FCSAP funding received from another custodian (+)	0.01	0.4	1.2	1.6
FCSAP funding given to another custodian (-)	-0.01	-0.4	-1.2	-1.6
FCSAP funding internally transferred to another stream (assessment, remediation, program management) (±)	-0.12	-0.04	0.16	0
Total available FCSAP funding	16.7	7.9	232.6	257.2

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.

Table E.4: Program-level summary of FCSAP expenditures and variance, 2021 to 2022 (\$ millions)

FCSAP funds	Program management (\$)	Assessment (\$)	Remediation (\$)	Total (\$)
Total available FCSAP funding	16.7	7.9	232.6	257.2
FCSAP expenditures	16.0	5.6	164.7	186.3
Total variance	0.7	2.3	67.9	70.9
Explanation of variance:				
FCSAP funding reprofiled to a future year	0	1.2	45.0	46.2
FCSAP funding carried forward to a future year	0.09	0.7	9.0	9.8
Internal cash-management of FCSAP funding to a future year	0	0.4	13.3	13.7
Lapsed FCSAP funding	0.6	0.03	0.6	1.2

Amounts in the table have been rounded to \$ millions; numbers may not add due to rounding.