





# Federal Contaminated Sites Action Plan

Annual Report 2020-2021

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## **Executive Summary**

Scattered across Canada are thousands of contaminated sites: dumps, mines, abandoned industrial and military operations, stored or spilled fuel or toxic chemicals, among others. Many of these occurred because individuals, businesses, and governments did not understand the long-term effects of their presence on the environment or on the health of future generations. Some are the legacy of accidents.

Federal contaminated sites are located on land or in aquatic areas owned or leased by the Government of Canada, or where the federal government has accepted responsibility for the contamination. The 2002 Commissioner for the Environment and Sustainable Development Report, outlining the federal government's obligation to locate, assess and remediate these federal sites, led to the establishment of the Federal Contaminated Sites Action Plan (FCSAP).

Established in 2005, FCSAP provides funding to federal departments, agencies and consolidated Crown corporations (referred to as custodians) to manage the contaminated sites for which they are responsible. While FCSAP funds assessment and risk-reduction activities at many federal contaminated sites, it does not fund the cleanup of all federal contaminated sites. Only sites that meet FCSAP eligibility criteria can receive FCSAP funding (as outlined in <u>Appendix C</u>). Ineligible sites must find other sources of funds, whether through a dedicated project fund or through internal budget allocations.

Through FCSAP, the government is addressing federal contaminated sites affecting Indigenous Peoples, including sites on reserve lands and in the North. When the Government renewed the FCSAP in 2019, it expanded program parameters to accelerate the clean-up of federal contaminated sites located on Indigenous reserves and in the North.

The renewed program supports reconciliation by:

- reducing contamination on reserves and in the North and associated liability;
- increasing engagement and participation of Indigenous peoples regionally and locally in prioritizing and planning remediation projects; and
- providing greater opportunities for Indigenous workers and businesses in service-delivery contracts with the federal government.

This report describes the progress made in 2020–2021, the first year of Phase IV of FCSAP.

#### Why have an action plan to address federal contaminated sites?

The main objectives of FCSAP are to reduce environmental and human-health risks from known federal contaminated sites, along with their related financial liabilities. The program also helps Canadians, communities and businesses, as FCSAP funds projects that:

• remediate contaminated lands, making them once again fit for inhabitation or business;

- provide industry a chance to develop innovative and sustainable remediation technologies; and
- create jobs and training opportunities in the remediation industry, particularly for Indigenous and rural Canadians.

### Key results of FCSAP in 2020–2021

- Nationally in 2020–2021, FCSAP custodians reported total expenditures of \$209.2 million.
- Assessment activities took place at 128 sites at a cost of \$10.8 million (5% of total expenditures). Custodians finalized assessment activities at 37 of these sites: 33 sites will require risk-reduction activities (remediation and/or risk management), while four sites will require no further action. The remaining 91 sites require further assessment.
- Risk-reduction activities took place at 607 sites and cost \$182.0 million (87% of total expenditures). Custodians finalized risk-reduction activities at 33 of these sites.
- Program management costs amounted to \$16.3 million (8% of total expenditures).
- Custodians closed 32 sites in 2020–2021 and 18 sites progressed into long-term monitoring.

See <u>Appendix A</u> for examples of case studies where assessment and remediation/riskmanagement activities were conducted in 2020–2021.

#### **FCSAP and COVID-19**

The emergence of the COVID-19 pandemic in 2020–2021 also had wide-ranging effects on FCSAP activities. In particular, lockdowns and restrictions on travel and gathering sizes postponed or hampered field activities. In response, whenever possible, field teams took flexible approaches to completing their work, while respecting the restrictions and the safety of all involved – including the communities where work was to take place. Workplans were adjusted and custodians were able to work on other sites to compensate partially for the sites where work could not be undertaken due to pandemic restrictions. Despite the many challenges, custodians spent 86% of FCSAP assessment funds and 83% of FCSAP remediation funds available to them in 2020–2021.

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## Abbreviations and Acronyms

AAFC	Agriculture and Agri-Food Canada
ASCS	Aquatic Sites Classification System
CBSA	Canada Border Services Agency
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CSC	Correctional Service of Canada
DFO	Fisheries and Oceans Canada
DND	Department of National Defence
ECCC	Environment and Climate Change Canada
FCSAP	Federal Contaminated Sites Action Plan
FCSI	Federal Contaminated Sites Inventory
НС	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
NRC	National Research Council of Canada
NRCan	Natural Resources Canada
PCA	Parks Canada Agency
PSPC	Public Services and Procurement Canada
TBS	Treasury Board of Canada Secretariat
тс	Transport Canada
VIA	VIA Rail Canada

## Glossary

**Agencies** - A government agency is a permanent or semi-permanent organization in the machinery of government that is responsible for the oversight and administration of specific functions, such as Parks Canada. There are a notable variety of types of agencies. Although usage differs, a government agency is normally distinct both from a Department or Ministry, and other types of public body established by government. The functions of an agency are normally executive in character, since different types of organizations (such as commissions) are normally used for advisory functions. The autonomy, independence and accountability of government agencies also vary widely. For a listing of Separate Agencies refer to Schedule V of the Financial Administration Act: <a href="https://laws-lois.justice.gc.ca/eng/acts/F-11/page-24.html#h-230641">https://laws-lois.justice.gc.ca/eng/acts/F-11/page-24.html#h-230641</a>.

**Consolidated Crown Corporations** - Corporations that rely on Government funding as their principal source of revenue and are controlled by the Government. Each consolidated Crown corporation is accountable to Parliament through a responsible minister. The number of consolidated Crown corporations can vary from year to year, however a listing can be found in the *Public Accounts of Canada*. For example refer to Volume 1, Section 4 – Consolidated Accounts of the 2020-2021 Public Accounts of Canada: <a href="https://www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/2021/vol1/s4/seaec-cccoe-eng.html">https://www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/2021/vol1/s4/seaec-cccoe-eng.html</a>.

**Contaminated site:** According to the Treasury Board Policy on Management of Real Property<sup>1</sup>, "a site at which substances occur at concentrations that: (1) are above background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment, or (2) exceed the levels specified in policies and regulations."

**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, unless the project's value is \$90 million or higher, in which case cost-share requirement for remediation is waived.

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

**Department:** The legal definition of a department can be found in the Financial Administration Act (FAA), and includes departments named in Schedule I and I.1 of the FAA, and departmental corporations named in Schedule II of the FAA. Refer to link <u>https://laws-lois.justice.gc.ca/eng/acts/F-11/page-19.html#h-230472</u>.

**Enterprise Crown Corporation** - A corporation that is not dependent on parliamentary appropriations and whose principal activity and source of revenues are the sale of goods and/or services to outside parties. Each enterprise Crown corporation is accountable to Parliament through the responsible minister.

<sup>&</sup>lt;sup>1</sup> The Policy on Management of Real Property was rescinded on May 13, 2022. It has been replaced by the real property requirements in the <u>Policy on the Planning and Management of Investments</u> and the <u>Directive on the Management of Real Property</u>.

**Environmental Liability**: As per the Public Accounts of Canada 2021<sup>2</sup>, environmental liabilities represent the government's best estimate of the amount required to remediate contaminated sites to current minimum environmental standards.

**Federal Approach to Contaminated Sites:** A risk-based approach to contaminated sites management that incorporates several components including site identification and characterization, detailed site investigations and risk assessment, evaluation of different risk management strategies, implementation of a selected management strategy, assessment and monitoring. These components are realized through a 10-step process identified in the *Federal Approach to Contaminated Sites*, fully detailed in the <u>Federal Contaminated Sites Decision-making Framework</u>. 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, or where the federal government has accepted responsibility for the contamination.

**Federal Contaminated Sites Action Plan (FCSAP):** a program established by the Government of Canada that provides funding to federal departments, agencies and consolidated Crown corporations to manage the contaminated sites they are responsible for. The main objectives are to reduce environmental and human-health risks from known federal contaminated sites, along with their related financial liabilities.

**Federal Contaminated Sites Inventory (FCSI):** a database of all known contaminated sites under federal custodianship, as well as those that are being or have been investigated. The FCSI also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility.

**Long-term monitoring:** periodic inspections of sites where risk-reduction activities (remediation and/or risk-management) have been completed. These inspections may include sampling and analyses, undertaken as part of a comprehensive site-specific strategy to ensure that its risk-management objectives are maintained.

**"Polluter pays" principle:** the principle that 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. The provinces, territories and federal government are generally responsible for the costs of dealing with contamination at the sites they own or lease.

**Remediation:** the improvement of a contaminated site to prevent, minimize or mitigate damage to human health or the environment. Remediation involves the development and application of a planned approach that reduces the exposure of receptors to contaminants of concern. Remediation typically involves removing, destroying or containing contaminants from a site

<sup>&</sup>lt;sup>2</sup> <u>Public Accounts of Canada 2021, Volume 1, Summary Report and Consolidated Financial Statements</u>, Public Services and Procurement Canada, 2021, page 161.

through on-site treatment or off-site disposal. Remediation is one of the main strategies for reducing risk.

**Risk management:** the selection and implementation of a risk-control strategy, followed by monitoring and evaluating the effectiveness 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, or 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, to 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 lengthy and complex process (see "Federal Approach to Contaminated Sites" above). By assessing contaminated sites, the federal government is able to 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 <u>Appendix B</u> and Table E.4 in <u>Appendix E</u> detail the variance in 2020–2021.

## **1** Introduction

Established by the Government of Canada in 2005, the Federal Contaminated Sites Action Plan (FCSAP) provides funding to federal departments, agencies and consolidated Crown corporations (referred to as custodians) to manage the contaminated sites for which they are responsible. The first three phases of FCSAP ran for 15 years, from 2005–2006 to 2019–2020, with total federal funding of \$4.54 billion. In 2019, FCSAP was renewed for another 15 years (2020–2021 to 2034–2035), with \$1.16 billion announced in Budget 2019 for Phase IV (2020–2021 to 2024–2025). This report describes the progress made in 2020–2021, the first year of FCSAP Phase IV.

## **Program objectives**

The main objectives of FCSAP are to reduce environmental and human-health risks from known federal contaminated sites and their related financial liabilities. The program also provides socio-economic benefits by creating or maintaining jobs and training opportunities in the Canadian environmental remediation industry. These jobs and training opportunities often extend to Indigenous people and those living in rural areas.

## What is a contaminated site?

According to the Treasury Board Policy on Management of Real Property, a contaminated site is "a site at which substances occur at concentrations that: (1) are above background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment, or (2) exceed the levels specified in policies and regulations."

Federal contaminated sites are located on land or in aquatic areas owned or leased by the federal government, or 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, and military bases. Contamination is most often a result of past activities with environmental consequences that were not well understood at the time.

## Cleaning up - for now and the future

The Government of Canada has taken action through FCSAP and remains committed to properly managing 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, and of the means to prevent and remediate contamination – as well as a better public appreciation of the need to respect the environment. Today, federal custodians are responsible for making 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. At the federal departmental level, Environment and Climate Change Canada's <u>Departmental Sustainable</u>

<u>Development Strategy</u> includes the cleanup of federal contaminated sites. This, in turn, supports Goal 3 of the Government of Canada's <u>Federal Sustainable Development Strategy</u> focusing on good health and well-being. From a federal, whole-of-government perspective, Goal 3 is intended to allow all Canadians to live in clean, sustainable communities that contribute to their health and well-being. Expanding to the global stage, Goal 3 supports the United Nations <u>Sustainable Development Goal 3</u> (Good Health and Well-Being) and <u>Sustainable Development</u> <u>Goal 12</u> (Responsible Consumption and Production).

FCSAP also supports <u>Canada's Arctic and Northern Policy Framework</u>, specifically Goal 5: Canadian Arctic and northern ecosystems are healthy and resilient, and 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. The provinces, territories and federal government are generally responsible for the costs of dealing with contamination at the sites they own or lease.

## 2 FCSAP Essential Overview

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

- In **Phase I (2005–2006 to 2010–2011)**, federal departments, agencies and consolidated Crown corporations (also called custodians) made significant progress in addressing contamination.
- The focus of **Phase II (2011–2012 to 2015–2016)** was to determine what federal sites were contaminated, prioritize them, and advance remediation on the highest-priority sites.
- **Phase III (2016–2017 to 2019–2020)** increased the focus on remediation, as well as on reducing the environmental and human-health risks and the related environmental liabilities.
- Phase IV (2020–2021 to 2024–2025), announced in 2019, continues the work of Phase III, with expanded eligibility criteria.
- In Phase V (2025–2026 to 2029–2030), eligibility and funding parameters are under development to build upon success to date and continue progress toward FCSAP objectives.
- In Phase VI (2030–2031 to 2034–2035), eligibility and funding parameters are under development to build upon success to date and continue progress toward FCSAP objectives.

## Who pays for the program?

The program is based on the "polluter pays" principle and follows a cost-shared approach where FCSAP provides a portion of the funding and custodians provide the remainder of the funding (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 and 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 that federal custodians are responsible for. In previous phases, the program covered only Class 1 and ongoing Class 2 sites that were contaminated by historical activities: the contamination had

to occur before April 1, 1998. However, Phase IV expanded its eligibility criteria for sites in the North or on First Nations reserves, as well as some lower priority sites. In particular, 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, or in the North (specifically the three territories). Elsewhere, FCSAP continues to focus on high-priority, legacy sites that were contaminated prior to 1998.

Custodians use the <u>CCME National Classification System for Contaminated Sites</u> (NCSCS) and the <u>Aquatic Sites Classification System</u> (ASCS) developed by FCSAP, depending on whether the sites are on land or water, to classify and prioritize their contaminated sites.

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, and remediation or riskmanagement was underway before April 1, 2020;
- new Class 2 sites and Class 3 sites (where there is a low priority for action) that are bundled with a Class 1 or ongoing Class 2 site (limited to 15% of total FCSAP remediation funding in Phase IV); and
- 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.

FCSAP funding is allocated based on federal custodians' planned assessment and risk-reduction activities.

Federal custodians are accountable for the FCSAP funding they receive. They must ensure that their sites meet funding-eligibility requirements and are managed in accordance with the Treasury Board Policy on Management of Real Property<sup>3</sup>. Custodians must have grounds to suspect that a site is contaminated (normally because of past activities at the site) before an environmental site assessment can be funded. Custodians must prioritize which sites they will work on each year, as funds and resources might not be available to assess or remediate all of their known sites in that year. 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:

<sup>&</sup>lt;sup>3</sup> The Policy on Management of Real Property was rescinded on May 13, 2022. It has been replaced by the real property requirements in the <u>Policy on the Planning and Management of Investments</u> and the <u>Directive on the Management of Real Property</u>.

#### FEDERAL CONTAMINATED SITES ACTION PLAN 2020–2021 ANNUAL REPORT

Custodians	<ul> <li>Federal departments, agencies and consolidated Crown corporations responsible for the assessment and remediation of federal contaminated sites</li> </ul>
ECSAP Secretariat and	• Provide program-wide administration and
Treasury Board of Canada Secretariat	oversight, and related guidance and support to custodians
Expert support departments	<ul> <li>Provide expert advice and technical assistance to custodians, develop guidance documents, deliver training, and promote innovative and sustainable remediation technologies</li> </ul>

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. The ADM Board also facilitates horizontal engagement and coordination across government on the management of federal contaminated sites. The Board also identifies risk-mitigation measures in support of FCSAP program objectives, collectively evaluates progress, and supports custodians in their reporting of FCSAP results. Custodian representatives also raise challenges and risks affecting program objectives for mitigation recommendations by the Board.
- The Federal Contaminated Sites Director General Advisory Committee (DG Committee), on the advice of the FCSAP Secretariat and the Treasury Board of Canada Secretariat, provides oversight and direction on the overall operations of FCSAP. It also offers strategic decisions to ensure efficient and effective program-wide planning and results delivery. The DG Committee reports directly to the ADM Board.
- The **Contaminated Sites Management Working Group** is a group of representatives from custodians and other federal departments, agencies and consolidated Crown corporations and expert support departments that meet to discuss and share guidance on the management of federal contaminated sites.
- Regional Integrated Planning Boards (RIPBs) provide forums for regional networking, collaboration and information-sharing among expert support departments and regional custodians. In the first year of Phase IV, RIPBs also developed and maintained long-term regional integrated workplans, supported efficient spending through bundling of sites where possible, discussed possible contingency projects, and brought expert support departments and custodians together to offer training sessions and opportunities to share information about relevant guidance and tools.

## A standard approach

To ensure that custodians take a standard approach to managing federal contaminated sites, FCSAP has embraced the 10-step process identified in the *Federal Approach to Contaminated Sites*, fully detailed in the <u>Federal Contaminated Sites Decision-Making Framework</u>:



## 3 Program Results (2020–2021)

Fifteen custodians<sup>4</sup> conducted assessment and risk-reduction activities in 2020–2021 and reported on the progress made at their contaminated sites throughout the year. Their individual and combined results are brought together in this report to present how the Federal Contaminated Sites Action Plan (FCSAP) as a whole performed during the year. Results from these activities are then compared against performance measurement targets established for FCSAP Phase IV.

## **Key results**

In 2020–2021, FCSAP showed results in six program areas, which are further detailed in this section:

- Assessment FCSAP funded assessment activities at 128 sites at a cost of \$10.8 million. Of the 37 sites where assessment was completed, 33 require remediation or risk management and four require no further action. The remaining 91 sites require further assessment.
- Reduction of risks to human health and the environment FCSAP funded risk-reduction activities at 607 sites, at a cost of \$182.0 million. Custodians finalized risk-reduction activities at 33 of these sites.
- Program management Custodians, the FCSAP Secretariat, the Treasury Board of Canada Secretariat and expert support departments spent \$16.3 million on program management activities. (Refer to <u>Appendix B</u> for activities relating to program administration.)
- Environmental liability reduction At the beginning of 2020–2021, sites that may have been eligible for FCSAP funding accounted for \$2.409 billion of the total environmental liability of the Government of Canada for all of its contaminated sites, as reported in the Public Accounts of Canada. At the end of 2020–2021, contaminated sites that may have been eligible for FCSAP funding accounted for \$2.453 billion of the Government of Canada's total liability for contaminated sites. This amount includes sites with FCSAP remediation expenditures in 2020–2021, as well as sites that may have had assessment activities and sites that may have conducted activities using non-FCSAP funding.

Remediation expenditures in 2020–2021 at FCSAP-funded sites reduced federal liability by \$156 million, but this was offset by \$170 million in financial and project-cost adjustments. The net result is that the liability associated with FCSAP-funded sites in 2020–2021 increased by \$14 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, or supply chain issues. If there is a reduction in the scope of work for the site, this can lead to a decreased cost estimate.

<sup>&</sup>lt;sup>4</sup> These custodians were AAFC, CBSA, CIRNAC, CSC, DFO, DND, ECCC, ISC, ISED, JCCBI, NCC, NRC, PCA, PSPC and TC.

- Socio-economic benefits In 2020–2021, FCSAP activities led to the creation or maintenance of about 1,000 jobs.
- Site closure and long-term monitoring Custodians closed 32 sites in 2020–2021 and 18 sites progressed into long-term monitoring.

### Effects of COVID-19 on FCSAP activities

The first year of FCSAP Phase IV began on April 1, 2020, only weeks after the first COVID-19 lockdowns were enacted throughout the country. The field season also began in the spring. At the time, it was unclear how long the lockdowns would last, what restrictions or rules individual provinces and territories would put in place, or whether subsequent lockdowns would be necessary. Custodians were nevertheless able to adapt.

Several projects in the North were postponed due to travel restrictions. Once these restrictions eased, custodians still experienced additional costs associated with mandatory quarantine periods for out-of-province workers. In response, the scope of work for some sites was adjusted to focus more on desktop reviews, closure reporting and activities that did not require fieldwork.

Some Indigenous communities limited access to outsiders during the pandemic, which required custodians to review their investment plans. Where possible, custodians changed the timing of work in affected communities or redirected work to other communities.

Some sampling programs that required consultants to enter residents' homes were affected, due to safety concerns to both consultants and residents. In these instances, work was shifted to contingency sites where health and safety concerns were less prevalent – that is, where fewer people were involved, COVID screening could be performed, social distancing could be maintained or face masks could be provided. Custodians and project teams continued to adapt as COVID-19 variants emerged, presenting quickly changing challenges and opportunities.

Owing to their flexibility and adaptability, 86% of available FCSAP assessment funding was spent during 2020–2021, along with 83% of available FCSAP remediation funding.

For an example of the ingenuity and flexibility of custodians in undertaking or completing work during the pandemic, see the first case study in <u>Appendix A</u> (BAF-5 Resolution Island).

## 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 <u>CCME National</u>

<u>Classification System for Contaminated Sites</u> (NCSCS) and the <u>Aquatic Sites Classification</u> <u>System</u> (ASCS) developed by FCSAP, depending on whether they are on land or water.

In 2020–2021, FCSAP funded assessment activities at 128 sites, at a program cost of \$8.1 million. An additional \$2.7 million was spent as part of the custodian cost-share requirement.

The assessment results for 2020–2021 are shown in Figure 1. Assessing a site can take a few months or even a few years, depending on the type and extent of the contamination, scientific knowledge of the contaminants, the location of the site, and weather conditions.





## Assessment results by custodian

The Department of National Defence (DND), Indigenous Services Canada (ISC) and the National Capital Commission conducted 63% (81 of 128) of all FCSAP-funded site assessments in 2020–2021. Three custodians accounted for 75% of the FCSAP assessment expenditures (\$6.1 million of \$8.1 million) reported in 2020–2021: DND spent \$3.0 million, Public Services and Procurement Canada (PSPC) spent \$2.0 million and Jacques-Cartier and Champlain Bridges Incorporated spent \$1.1 million. Table E.1 in <u>Appendix E</u> provides a detailed breakdown of the number of sites with assessment activity, available assessment funding and assessment expenditures for each custodian.

## **Regional breakdown**

Regionally, the largest FCSAP assessment expenditures were in British Columbia, Quebec and Alberta, together accounting for 71% of the total. The provinces with the largest numbers of sites with assessment activity were British Columbia, Ontario and Quebec, with 77% of the total. (Figure 2).





## 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 and the unique circumstances of the site.

In 2020–2021, FCSAP funded risk-reduction activities at 607 sites, at a program cost of \$160.9 million. An additional \$21.1 million was spent as part of the custodian cost-share requirement. The remediation/risk-management results for 2020–2021 are presented in Figure 3.



#### Figure 3: Remediation/risk-management results, 2020–2021

### **Risk-reduction results by custodian**

DND, Fisheries and Oceans Canada (DFO) and ISC conducted risk-reduction activities at 63% of the sites (383 of 607) in 2020–2021. Three custodians accounted for 64% of the FCSAP remediation expenditures (\$103.2 million of \$160.9 million) reported in 2020–2021: DND spent \$44.4 million, ISC spent \$37.6 million and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) spent \$21.2 million. Table E.2 in <u>Appendix E</u> provides a detailed breakdown of the number of sites with remediation activity, remediation funding available and remediation expenditures for each custodian.

A list of sites with FCSAP remediation expenditures in 2020–2021 is available upon request. Please contact the FCSAP Secretariat at <u>FCSAP.PASCF@ec.gc.ca</u>.

#### **Regional breakdown**

The provinces with the largest FCSAP remediation expenditures were British Columbia, Ontario and Quebec, accounting for 66% of the total. These three provinces also had the largest numbers of sites with risk-reduction activity, accounting for 56% of the total (Figure 4).

Figure 4: FCSAP remediation expenditures and sites, by province and territory, 2020–2021 (expenditures in \$ millions)



## 3.3 Program Management

Program management funding pays for employee salaries and for activities such as program administration, procurement and contract management, and program planning and reporting. It also allows four expert support departments (Environment and Climate Change Canada, DFO, Health Canada, and PSPC) to provide expert advice and technical assistance to custodians in support of the program.

The FCSAP Secretariat's work, supported by the Treasury Board of Canada Secretariat, in 2020–2021 included:

- Assisting in the coordination of an approved five-year workplan for 2021–2022 to 2025– 2026, consolidating information from all custodians and moving the workplan through recommendation by the DG Advisory Committee and endorsement by the ADM Oversight Board.
- Published the 2017–2018 and 2018–2019 FCSAP annual reports in March 2021. The format of these annual reports were improved to convey key achievements to the public more effectively, and now include a high-level annual report summary.
- Updated the FCSAP Site Closure Report and associated guidance to improve clarity and align with Phase IV policies and procedures;

- Developed the FCSAP Phase IV Performance Measurement Strategy (which outlines the program's key objectives, governance structure, and information on the enhanced performance measurement tools developed for FCSAP Phase IV, including program commitments);
- Supported three regular and two as-needed meetings of the DG Committee, and two
  meetings of the Federal Contaminated Sites Assistant Deputy Ministers Oversight
  Board, for early consideration of the potential effects of COVID-19 and possible
  economic stimulus measures; and
- Organized and delivered four training sessions to increase custodians' understanding of best practices for engaging Indigenous Peoples in contaminated-site management.

FCSAP expert support departments' work in 2020–2021 included these highlights:

- ECCC published the Ecological Risk Assessment Guidance Module 7: Default Wildlife Toxicity Reference Values Recommended for Federal Contaminated Sites – Version 1.0;
- DFO updated a number of FCSAP guidance documents (e.g. Aquatic Sites Classification System (ASCS) spreadsheet and user manual, Framework for Addressing and Managing Aquatic Contaminated Sites under FCSAP) to ensure alignment with recent legislative changes (e.g. *Fisheries Act*) and FCSAP Phase IV modifications;
- HC published the Federal Contaminated Site Risk Assessment in Canada: Toxicological Reference Values, version 3.0 and
- PSPC published the Federal Contaminated Sites Demand Forecast Analysis Report for 2021–2026.

Appendix B further details program management activities conducted in 2020–2021.

## 3.4 Environmental Liability Reduction

Environmental liabilities are the estimated future costs associated with cleaning up (remediating and/or risk managing) federal contaminated sites to ensure that the environment and human health are protected. Environmental liabilities are recorded annually in the Public Accounts of Canada.

Liabilities for a given site are usually first reported once an assessment determines that riskreduction work will be needed. As custodians remediate contaminated sites, the liabilities generally decrease, as the remaining risks to people and the environment are reduced or eliminated. However, other factors can change the liability amounts; so, it is common for liability to fluctuate year over year until a site is closed.

See <u>Appendix C</u> for more information on the environmental liability of federal contaminated sites.

### Liability for FCSAP custodians

There were 16 custodians responsible for the portion of environmental liability associated with federal contaminated sites that may have been eligible for FCSAP funding. A more accurate estimate of the impact of FCSAP on the Government of Canada's total liability can be found in Tables C.2 and C.3 in <u>Appendix C</u>, which indicate that the liability associated with federal contaminated sites that may have been eligible for FCSAP funding, is estimated to be \$2.453 billion at the end 2020-2021.

Of the 16 custodians responsible for the portion of liability associated with federal contaminated sites that may have been eligible for FCSAP, nine custodians reported increases in liability in 2020–2021, totalling \$90 million:

- Together, DND and ISC accounted for 70% of the total \$90 million increase in liability.
- The custodian with the largest increase in liability was DND, which reported an increase in liability of \$40 million. This increase was mainly due to revised cost estimates, adjustments for inflation and calculations of net present value. The ESQ-1 Esquimalt Harbour site in British Columbia was the biggest single driver behind the increase, due to increases in the anticipated costs of remediation and/or risk management.
- ISC also reported an increase in liability of \$23 million. This increase was mainly due to new sites, revised cost estimates, adjustments for inflation and net present value calculations
- Two other custodians, (DFO and CIRNAC) reported increases in liability greater than \$10 million, accounting for 26% of the overall increase.
- The remaining five custodians reported increases of less than \$10 million each and accounted for 4% of the overall increase (Figure 5).

#### Figure 5: FCSAP custodians with liability increases, 2020–2021 (\$ millions)



In 2020–2021, seven custodians reported decreases in their overall liabilities, totalling \$46 million. The custodians with the largest decreases in liability were PSPC at \$19 million, and Transport Canada at \$17 million. These two custodians represent 78% of the total decrease in liability (Figure 6).





## Indicators of liability reduction

For Phase IV, the FCSAP Secretariat tracks two indicators related to the reduction of liability:

- reduction in liability at FCSAP-funded sites where the remedial action plan was developed and risk-reduction activities were planned for Phase IV, and
- the percentage of remediation expenditures that reduce liability over the five years of Phase IV.

For the first indicator, custodians estimated that liability would be reduced at these sites by \$554 million by the end of Phase IV. After the first year of Phase IV, custodians had achieved 9% of the 5-year target for liability reduction. Remediation and risk-management activities at these sites decreased the liability by \$76 million. However, this reduction was offset by an increase in liability of \$24 million, due to, for example, changes in project costs. This resulted in a net reduction in liability of \$52 million (Figure 7).



#### Figure 7: Phase IV reduction in liability at FCSAP-funded sites

The second indicator relates to the percentage of remediation expenditures at FCSAP-funded sites that reduce liability over the five years of Phase IV. After the first year of Phase IV, 86% of remediation expenditures at FCSAP-funded sites (\$156 million of \$182 million) had led to reductions in liability. This is below the target of 95%, established for Phase IV. Fifty-two sites, representing \$12 million of remediation expenditures, did not report these expenditures as liability reducing expenditures since there was no liability recorded at the beginning of the fiscal year. Another \$15 million of remediation expenditures was for activities that did not reduce liability.

## 3.5 Socio-Economic Benefits

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

Through FCSAP, the government is addressing federal contaminated sites affecting Indigenous Peoples, including sites on reserve lands and in the North. When the Government renewed the FCSAP in 2019, it expanded program parameters to accelerate the clean-up of federal sites located on Indigenous reserves and in the North.

The renewed program supports reconciliation by:

- reducing contamination on reserves and in the North and associated liability;
- 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; and
- making more sites on reserve and in the North eligible for FCSAP funding.

As an example, the second case study in <u>Appendix A</u> describes collaboration between Environment and Climate Change Canada and the Dehcho First Nations.

In addition, as the North had some of the strictest travel requirements during the pandemic, the relationships and capacity-sharing with Indigenous partners pre-pandemic helped ensure there was some progress at contaminated sites in those regions in 2020–2021. Creative solutions were found to complete training initiatives and capacity-building, or sub-contracting local companies to do more of the on-site work, such as the BAF-5 Resolution Island case study included in <u>Appendix A</u>. Other projects were able to engage communities and Indigenous governments virtually and still make progress on remediation planning, while still respecting the limited capacity and community priorities in responding to the pandemic.

During the 2020–2021 fiscal year, FCSAP activities led to the creation or maintenance of approximately 1,000 jobs. These jobs provided income and fuelled economic activity. FCSAP activities helped workers develop skills, which could then be applied at other contaminated sites or in 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 builds awareness of innovative and sustainable technologies by sharing success stories within the federal community and with the private sector. Case studies are profiled on the <u>federal contaminated</u> <u>sites web portal</u>, as well as in reports and at workshops for federal contaminated-site managers and industry representatives.

## 3.6 Site Closure and Long-Term Monitoring

After remediation and/or risk management, confirmatory sampling and long-term monitoring, if required, are the final steps of closing a site. The closure of a site indicates that no further action is required and that the federal environmental liability has been reduced to zero. For some sites, though, the most appropriate course of action is to risk-manage contamination. This is done by containing it on the site and reducing 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 of risk and liability reduction.

The target number of sites to be closed or in long-term monitoring by the end of Phase IV is 1,159. After the first year of Phase IV, custodians closed 32 sites and 102 sites were in long-term monitoring (18 sites progressed into long-term monitoring in 2020–2021). (Figure 8).

## Figure 8: Progress towards Phase IV site closure and long-term monitoring target, result after 2020–2021



## 4 FCSAP Funding, Expenditures and Variances

## **Key results**

Federal Contaminated Sites Action Plan (FCSAP) expenditures in the 2020–2021 fiscal year totalled \$185.4 million. This represents 85% of the FCSAP funding available for the year. Custodians also spent \$23.8 million from other sources of departmental funding to meet cost-share requirements.

In the 2020–2021 fiscal year, 87% of total FCSAP expenditures were for risk-reduction activities (remediation and/or risk-management), 4% was for assessment, and 9% was for program management (Figure 9). Table E.1 in <u>Appendix E</u> details the allocations for the three types of FCSAP funding.





## What happens to unspent funds?

Custodians did not spend all of the FCSAP funding available to them in 2020–2021. This is mostly because of contracting and project delays. For example, weather conditions might either have prevented access to sites or limited the types of work that could be carried out. In 2020–2021, lockdowns and travel restrictions related to the COVID-19 pandemic also delayed field work, as discussed in Section 3. The tendering of some projects was also delayed, which led to postponement of the remediation and risk-management work to the next fiscal year. In some cases, rescheduling of planned work into the next fiscal year can lower current-year project costs.

Unspent funds may be brought forward for FCSAP activities in future years through three methods:

- **Government re-profiling** means changing the funding profile of a multi-year project by moving funds to later years within the project. This must be approved by the Department of Finance.
- **Carry-forward processes** involve moving funds planned for one year into the next. These require internal approval from the custodian's Chief Finance Officer.
- **Cash-management processes** involve the custodian lending the unspent funds to another part of the organization, with the 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, though no such transfers occurred in 2020–2021. Funding that is not brought forward or transferred among custodians is lapsed. This means that the funds will not be available for FCSAP activities in the future.

In 2020–2021, 66% of the FCSAP funding variance was re-profiled, 28% was carried forward, 2% was internally cash managed and 4% was lapsed (Figure 10). This means that \$32.3 million (96%) of the \$33.5 million of unspent funding in 2020–2021 will be available to custodians in future years. Table E.2 in <u>Appendix E</u> provides a breakdown by funding type of the unspent funding.



## Figure 10: Distribution of FCSAP variance, 2020–2021 (\$ millions)

## **5** Conclusion

The first year of FCSAP Phase IV has been a challenging one. During this period of uncertainty due to the pandemic, FCSAP program partners worked diligently to adapt the FCSAP workplan, optimize the allocation of resources to achieve Phase IV objectives and meet the long-term goal of the program to have all FCSAP-eligible sites closed or in long-term monitoring by March 2035. Custodians adjusted their priorities as they navigated the uncertainty and challenges associated with the pandemic; this included contracting delays, limited access to communities, and adaptations to ensure that provincial or local restrictions were followed.

## Appendix A – Case Studies

## **BAF-5 Resolution Island**

Location: Nunavut Custodian: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

BAF-5 Resolution Island is a former radar site on the southeastern tip of Baffin Island, about 310 km southeast of Iqaluit and just outside Frobisher Bay.

#### Background

BAF-5 was built in 1954 as part of the Distant Early Warning (DEW) Line system, and has since operated as a communications post and a navigational aid for the Canadian Coast Guard. Two weather stations have also operated in the vicinity.

Over 200 people were stationed at the 3km<sup>2</sup> site when it operated. More than 20 buildings, eight dumpsites, numerous barrels, and large amounts of visible debris were left when the station closed. The land then reverted to CIRNAC.

Site remediation began in 1998 and was completed in 2006. A landfill containing polychlorinated biphenyls (PCBs) had monitoring equipment installed, as did another containing non-hazardous waste. The remaining dumps and regrade areas have been subject to visual monitoring only.



#### New challenges emerge

A contractor hired by CIRNAC identified potential deficiencies in 2012, including

Removal of last beach tank to the demobilization staging area

Credit: Crown-Indigenous Relations and Northern Affairs

the need to replace PCB barriers on steep slopes. The department scheduled additional remediation for the summer of 2018. Inclement weather and delays in the sealift provider impeded mobilization to the site (sealift is the most economical way to transport bulk goods to the Arctic). CIRNAC reviewed the planned work, to compress it from two years to one. The contractor was able to complete the work in 2019 – but an early winter delayed the removal of some equipment and waste, as well as the final site inspection, to 2020.

That spring, the COVID-19 pandemic further derailed the planned work, as the Government of Nunavut implemented a 14-day mandatory quarantine for visitors.

The pandemic also affected the ongoing Environmental Sampling and Analysis Training program. Funded by FCSAP, this program by Queen's University's Analytical Services Unit (ASU) offers a technical course on contaminants to the residents of Iqaluit. Since 2010, it has been delivered through the Iqaluit Analytical Services Unit (IASU) at the Nunavut Research

Institute (NRI). The aim is to increase understanding and problem solving for environmental issues facing the Arctic. The knowledge gained about monitoring, analyzing and remediating contaminants also helps prepare trainees for employment. From 2010 to 2019, ASU personnel travelled to Iqaluit to deliver the training, which was mostly hands-on.

## **Overcoming logistical challenges**

To complete the final demobilization and site inspection, CIRNAC planned to minimize the number of people required to quarantine, which was both expensive and unproductive. Delaying the project closure would also have added significant costs. However, a quarantine exemption for travellers coming from within the territories provided an opportunity: the contractor hired an lqaluit-based company to help, avoiding any issues with travel restrictions. Although the company's employees were not experts in demobilization, they were trained to manage the logistics. After the final demobilization, the departmental representative also commissioned a subcontractor in Iqaluit and a team lead from Yellowknife to conduct the final inspection. These innovations allowed the BAF-5 project to be completed in 2020 as planned, despite COVID-19.

## A better interface

Moreover, the IASU instructors saw the pandemic as an opportunity to offer the course remotely for the first time. With funding from CIRNAC and the cooperation of NRI staff, they conducted the laboratory training remotely over Microsoft Teams.

Aided by a previous student of the course, who was hired as a laboratory demonstrator, instructors gave additional lectures over Microsoft Teams. They also created videos to ensure that the students were prepared for the laboratory components. Instead of analyzing student samples at IASU, they shipped them to Queen's University, which allowed for a broader suite of analyses, while discussions and reporting continued online. Since the lectures, labs and videos were available online throughout the course, students could learn at their own pace, or



An ASU instructor meets with IASU students in Iqaluit over MS Teams

Credit: Analytical Services Unit, Queen's University

attend from communities other than Iqaluit. The virtual course proved successful and could be re-used or built on in 2021–2022.

Completion of the project will meet the objectives of CIRNAC's Northern Contaminated Sites Program to protect the health and safety of Nunavummiut, protect the environment, reduce liability associated with contaminated sites, and fulfill the department's custodial obligations.

This project was funded through Canada's Federal Contaminated Sites Action Plan (FCSAP). FCSAP provides funding to assess and remediate federal contaminated sites and to reduce environmental and human-health risks from known federal contaminated sites.

## Edéhzhíe Dehcho Protected Area and Proposed National Wildlife Area

#### Location: Northwest Territories

**Custodian:** Environment and Climate Change Canada (ECCC), co-managed with the Dehcho First Nations

The Edéhzhíe Dehcho Protected Area lies in the remote wilderness of the Dehcho Region in the Northwest Territories, about 200 km west of Yellowknife. Covering about 14,218 km<sup>2</sup>, this area has great ecological and cultural significance for the Dehcho and Tłįcho Dene people, and the nearby communities of Tthets'ék'edélį, Pehdzeh Ki, Łíídlįį Kų́ę, Deh Gáh Got'ie Kų́ę (Jean Marie River, Wrigley, Fort Simpson and Fort Providence):

- Part of Edéhzhíe is recognized as an International Biological Program Site, and the area includes a key migratory bird terrestrial habitat site.
- It has biologically diverse terrestrial and aquatic habitats, with a significant critical habitat for the woodland (boreal) caribou and an Important Bird Area for waterfowl at Mills Lake/Wetland.
- It also protects the headwaters of much of the watershed of the Dehcho region and is an important hunting and spiritual gathering place for Indigenous Peoples, having extensive harvesting areas, cultural sites and traditional trails throughout.

Edéhzhíe is co-managed by the Dehcho First Nations and the Government of Canada's Canadian Wildlife Service and ECCC, to conserve biodiversity and wildlife habitat while respecting and preserving the Dene relationship with the Edéhzhíe land. Edéhzhíe was designated as a Dehcho Protected Area in 2018 and is expected to be established as a National Wildlife Area in 2022.

#### Identifying risk conditions and liabilities

In 2020, ECCC conducted a limited Phase I environmental site assessment desktop review for Edéhzhíe. This drew on site records, previous environmental reports and interviews; however, site visits were not completed due to COVID-19 travel restrictions. The objectives of the review were to:

- identify and document potential environmental liabilities that might have resulted from existing and previous land uses or site-development activities on, and adjacent to, Edéhzhíe, and
- identify present conditions that present significant environmental risks or liabilities.

The review also provided recommendations for follow-up activities, including a detailed work plan, along with cost estimates for future activities, to enhance the assessment of various parts of Edéhzhíe.

The review was completed with the assistance of local Indigenous community members and Edéhzhíe Guardians: under the 2018 Edéhzhíe Establishment Agreement, the Dehcho First Nations administer the Dehcho K'éhodi Stewardship and Guardian Program, which employs the

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Edéhzhíe Guardians. The Guardians are considered the eyes and ears of Edéhzhíe and carry out ecological monitoring, cultural protection, mentorship, training and education activities - and contribute to monitoring and management in Edéhzhíe. The Guardians provided a list of potential contaminated sites, which they had observed on the land, while information about the past and current use of Edéhzhíe was obtained through interviews with local Indigenous land users and traditional-knowledge holders. Notable activities included former mineral and oil exploration, fueldrum handling and storage, a potential landfill, current and former structures such as cabins, and dynamite use. The review also identified possible former use of herbicides and pesticides such as DDT, a former plane crash with debris, and a sunken boat.



Edéhzhíe Guardian Richard Sanguez from Tthets'ék'edél (Jean Marie River) heading out on the Edéhzhíe Dehcho Protected Area

Credit: Edéhzhíe Guardian William Alger (Dehcho First Nations)

### Looking ahead

The review recommended site visits to confirm the presence of potential environmental liabilities. As of the end of 2020–2021, ECCC is committed to this assessment process and to continuing its collaboration with the Dehcho First Nations and the Edéhzhíe Guardians.

This project was funded through Canada's Federal Contaminated Sites Action Plan (FCSAP). FCSAP provides funding to assess and remediate federal contaminated sites and to reduce environmental and human-health risks from known federal contaminated sites.

## **KELSET (Reay Creek) Remediation Project**

**Location:** Town of Sidney, North Saanich, Vancouver Island, British Columbia **Custodian:** Transport Canada

The KELSET Remediation Project involved the removal of contaminated sediment from the upper portions of KELSET (formerly Reay Creek), which lie within the Victoria International Airport property, and a downstream pond in the Town of Sidney, located on Vancouver Island, British Columbia. The project is located in the traditional territories of the WSÁNEĆ First Nations: Tsawout, Tseycum, Tsartlip and Pauchauchin.

#### Background

The site was originally a military training airfield, starting in 1939. Transport Canada took over the ownership and administration of the airport in 1948, subsequently handing administration of the airport to the Victoria Airport Authority in 1997. In time, the area around the pond developed into a residential neighbourhood and a city park.

Runoff from maintenance and construction activities in the airport property, such as product storage, machining and electroplating, led to heavy-metal and hydrocarbon contamination. The Victoria Airport Authority upgraded the storm-sewer system to prevent runoff from industrial operations from entering the creek directly. In 2012, the Authority also built a bypass creek alongside



An upper reach of KELSET after remedial excavation and restoration in November 2019

Credit: Transport Canada

KELSET to direct flow around its most contaminated portion. Just upstream of the airport boundary, the Authority built a weir and excavated a depression capable of holding 5,000 m<sup>3</sup> of overflow during storms, to minimize sediment migration and promote sediment deposition inside the airport boundary.

Contamination remained, however, prompting nearby residents to press the Authority to control the runoff and for Transport Canada to remediate the creek and pond sediment. In 2013, the Town of Sidney began planning to upgrade the dam that held back the 200-m pond so that it would be more resistant to seismic activity. The sediment remediation in the pond and the dam upgrade were interconnected, as both projects would require the temporary draining of the pond.

Undertaking the dam upgrade and the pond remediation at the same time posed a significant logistical and contractual challenge for both Transport Canada and the Town of Sidney.

#### 2019 excavation

First, a remediation contractor funded by Transport Canada removed approximately 615 m<sup>3</sup> of metal-contaminated sediment from the airport property and disposed it at a permitted facility. The excavation work involved small excavators where space would allow, and vacuum trucks where there was less sediment. The work took place in the summer construction window authorized by Fisheries and Oceans Canada (DFO), between the spawning and rearing of cutthroat trout in the spring and the return of Coho salmon in the fall. Temporary small dams, pumps and pipes allowed the creek to flow around the construction zones.

#### 2020 pond remediation and dam upgrade

The pond remediation was a larger project. Another remediation contractor removed 5,118 m<sup>3</sup> of contaminated sediment from the pond and disposed it at a permitted facility. To make this possible, Transport Canada and the Town of Sidney negotiated a licence for Transport Canada to have temporary administration of the area. At the end of the sedimentexcavation work, a construction contractor, retained by the Town, undertook the dam-upgrade work. Completing both projects simultaneously within the DFO window required close coordination by all parties, but it generated significant cost savings and reduced the environmental impact, because the pond was drained and its inhabitants were displaced only once.



The dam at the downstream end of KELSET Pond just before completion of the dam upgrade in October 2020

Credit: Transport Canada

In September, near the end of the excavation work, a large storm hit; the runoff was expected to overwhelm the bypass system and accumulate in the excavation. In preparation, the remediation contractor raised the height of the weir within the airport to hold back more water, and expedited and completed the removal of the sediment in the pond so that it would not be moved downstream. The pond excavation eventually flooded, but the dam-construction contractor made a temporary cut through the top of the dam to allow the water to pass through. After the event, the pond was re-drained to allow for restoration of the creek bed and planting. The water flow was re-established in time for the fall salmon run.

### First Nations involvement and recognition

From the onset of the 2019 work within the airport property, the collaboration between Transport Canada and the local Indigenous communities grew significantly.

Cultural monitors from the **Tseycum First Nation were onsite** full-time to oversee the 2019 and 2020 excavation work. In 2020, local Indigenous communities provided even more support. Representatives from the WSÁNEĆ Leadership Council, which represents the Tsawout, Tseycum and Tsartlip First Nations, helped prepare specifications; conducted environmental, cultural and archaeological monitoring; and conducted the post-remediation planting.



Planting of an upland area of KELSET Pond by the WSANEC First Nations in November 2020

Credit: Transport Canada

The name of the KELSET Remediation Project was chosen as culturally appropriate, in honour of the Indigenous designation for the creek, though Reay Creek and Reay Creek Pond were the official names at the time. For the 2020 construction work, the First Nations held a brushing ceremony at the site every second week, to pay respect to their ancestors. At first, the ceremony was attended by First Nations band members alone but, eventually, all the workers at the site participated. In May 2021, the WSÁNEĆ Leadership Council submitted a request to the province to change the official name of the creek to KELSET.

This project was funded through Canada's Federal Contaminated Sites Action Plan (FCSAP). FCSAP provides funding to assess and remediate federal contaminated sites and to reduce environmental and human-health risks from known federal contaminated sites.

## Appendix B – Program Administration

In the 2020–2021 fiscal year, \$16.3 million was spent on program management activities by custodians, the Federal Contaminated Sites Action Plan (FCSAP) Secretariat, the Treasury Board of Canada Secretariat (TBS), and expert support departments. The breakdown of expenditures is shown in Table B.1.

Table B.1: Summary of FCSAP program management expenditur	es (2020–2021) (\$
millions)	

Department	Available FCSAP funding (\$) <sup>5</sup>	FCSAP expenditures (\$)	Variance (\$) <sup>*</sup>
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
Expert support	3.0	3.0	0
Secretariat	2.3	2.3	0
Fisheries and Oceans Canada			
Custodian	0.9	0.9	0
Expert support	2.1	1.8	0.2
Health Canada (expert support)	2.5	2.5	0
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

<sup>&</sup>lt;sup>5</sup> Amounts only include FCSAP funding and do not include any other funding source over and above that amount. A few organizations incurred expenditures that exceeded the funding available – mainly because of salary increases and retroactive payments attributable to new collective agreements, and changes to the rate used for employee benefit plans. These additional amounts have been paid by organizations, not through FCSAP funding and are not included in this table.

Public Services and Procurement Canada			
Custodian	0.2	0.2	0
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
Total expenditures	16.7	16.3	0.4

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

\*Variance = available FCSAP funding - FCSAP expenditures

## **Key Activities**

#### **Custodians**

Custodians generally devote the vast majority of their activity toward managing the federal contaminated sites for which they are responsible. However, they also conduct program-management activities. In 2020–2021, these 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 second year of Phase IV.

#### **FCSAP Secretariat**

In its role as Secretariat of the FCSAP program, Environment and Climate Change Canada (ECCC), with support from TBS, continued to provide overall program oversight, support and administration in 2020–2021:

Program governance and oversight – The FCSAP Secretariat continued to provide advice on site eligibility, manage program performance and reporting requirements, and lead the resolution of operational and technical issues. It also co-chaired and organized meetings for the Contaminated Sites Management Working Group (CSMWG), Federal Contaminated Sites Director Generals Advisory Committee (DG Committee) and Federal Contaminated Sites Assistant Deputy Ministers Oversight Board, ensuring early consideration of potential COVID-19 impacts and possible economic stimulus measures. It provided Q1 and Q2 financial updates to senior management governance committees and supported the creation of Regional Integrated Planning Boards (RIPBs), facilitating their reporting to the DG Committee. The Secretariat also developed a methodology (based on liability, planned spending in Phase IV and other factors) to identify a list of high-risk sites on which to provide progress updates to the governance committees throughout Phase IV. The Secretariat also organized and held a meeting with custodians, focusing on a review of the first year of Phase IV, with special emphasis on the role of the RIPBs, workplans, the governance schedule and procurement.

- Engagement and outreach The FCSAP Secretariat organized and participated in regular meetings of the national leads of expert support departments to ensure a consistent approach to the provision of technical advice and harmonized messaging on program and policy issues. Notably, the Secretariat organized and delivered four training sessions to increase custodians' understanding of best practices for engaging Indigenous Peoples in contaminated-site management. It also organized and delivered two external FCSAP information sessions for Indigenous groups and organizations, to address FCSAP issues most relevant to them: one for the Naskapi Nation (in Quebec) and another for the Keepers of the Water (in Alberta).
- Performance monitoring and reporting The FCSAP Secretariat published the 2017–2018 and 2018–2019 annual reports. The format of the annual reports was improved to convey key achievements to the public more effectively and now include a high-level summary. It also developed the FCSAP Phase IV Performance Measurement Strategy, which outlines the program's key objectives, governance structure, and information on the enhanced performance measurement tools developed for FCSAP Phase IV. The FCSAP Strategic Environmental Assessment Statement was published in January 2020. This links FCSAP activities to the Federal Sustainable Development Strategy and to the United Nations 2030 Agenda Sustainable Development Goals. The FCSAP Secretariat also worked closely with federal custodians and TBS to ensure that information reported to the Federal Contaminated Sites Inventory (FCSI) was accurate and complete.
- Strategic planning The FCSAP Secretariat surveyed custodians in 2020–2021 to understand how it could provide support in Phase IV; this input guided the Secretariat's work with expert support departments to develop guidance documents and tools that would help custodians following FCSAP renewal. The Secretariat also collaborated with the expert support departments to implement changes to the renewed FCSAP program at the outset of Phase IV.

#### **Treasury Board of Canada Secretariat (TBS)**

In 2020–2021, TBS supported ECCC in the management of the FCSAP program through the provision of strategic advice and guidance. In this role, TBS:

- Supports the FCSAP Secretariat in its activities listed above, including co-chairing DG and ADM-level governance committees;
- Supported the development of Phase IV;
- Supported ECCC in monitoring government-wide progress on federal contaminated sites by participating in key program activities such as 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; and
- Was involved in the planning committee and technical review committee for the 2020 Real Property Institute of Canada's Federal Contaminated Sites National Workshop (postponed to November 2021 as a virtual event, due to the pandemic).

## **Expert support departments**

In 2020–2021, expert support departments continued to develop guidance documents and deliver training on the management of federal contaminated sites. They also provided advice, reviewed contaminated-site management documents and promoted innovative and sustainable remediation technologies. Highlights on each of the departments' activities are provided below.

**Fisheries and Oceans Canada** (DFO) provided scientific and technical advice to custodians on the management of their contaminated sites in relation to risks and impacts to fish and fish habitat. DFO conducted 178 site-classification reviews to confirm eligibility for FCSAP funding. It also conducted reviews of 47 technical documents in support of site assessment and remediation and risk management, to ensure that the potential impacts to fish and fish habitat were appropriately considered, and to promote compliance with relevant legislation and regulations. For site classification reviews, DFO met the service standard 96% of the time and for technical document reviews, 98% of the time.

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

- Initiated collaboration projects with federal contaminated-site partners, including demonstration of the use of passive sampling devices at FCSAP sites;
- Initiated updates to the FCSAP Working Harbour Guidance and Long-Term Monitoring Guidance documents to ensure alignment with recent legislative changes (in the Fisheries Act) and FCSAP Phase IV modifications;
- Initiated a review of and edits to the *Monitored Natural Recovery (MNR) Guidance* document;
- Updated the Framework for Addressing and Managing Aquatic Contaminated Sites under FCSAP to ensure alignment with recent legislative changes and FCSAP Phase IV modifications;
- Updated the Aquatic Sites Classification System (ASCS) spreadsheet and user manual to ensure alignment with recent legislative changes, FCSAP Phase IV modifications, and updated guidance pertaining to Question 4a on automatic Class 1 designation of Worksheet 6 (Receptors and Exposure);

- Prepared the final draft of the Fish Toxicity Reference Values (TRVs) State of Knowledge Report and presented an overview of this topic at the Society of Environmental Toxicology and Chemistry's North America annual meeting in November 2020; and
- Updated the <u>DFO FCSAP expert support website</u> to ensure alignment with recent legislative changes and FCSAP Phase IV modifications.

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 expert support departments for the management of their contaminated sites. Activities included coordinating and co-chairing the meetings of the RIPBs, reviewing regional work plans, leading project support meetings, and supporting integrated work planning. ECCC reviewed site-classification scores and site-specific technical reports submitted by custodians, and provided them with technical advice on assessing and managing the environmental risks posed by their contaminated sites. ECCC also disseminated information on program tools and guidelines, shared lessons learned, provided training, and addressed other custodian needs for expert support.

Some specific achievements include the following:

- ECCC worked with the FCSAP Secretariat and other expert support departments to implement the changes involved in the beginning of FCSAP Phase IV, and to inform and advise custodians on new procedures.
- In collaboration with the other expert support departments, ECCC reviewed 178 site classifications submitted by custodians to confirm eligibility for funding, a significantly higher number than in previous years. The department also reviewed 55 technical documents to assist custodians with their assessment and remediation/risk-management projects and to promote regulatory compliance. For site classification reviews, ECCC met the service standard 96% of the time and for technical document reviews, 92% of the time.
- The department published the Ecological Risk Assessment Guidance Module 7: Default Wildlife Toxicity Reference Values Recommended for Federal Contaminated Sites – Version 1.0.
- ECCC finalized these documents prior to the end of the year and submitted them to management for publication approval:
  - Phase IV Guidance for Site-Classification Reviews
  - FCSAP Advisory Bulletin update: How, When and Why Do I Decommission a Groundwater Monitoring Well?
- ECCC continued to develop or update guidance documents and bulletins related to the management of FCSAP sites in the following areas:

- o monitored natural attenuation for soil and groundwater remediation;
- o ecological risk assessment and management for contaminated sites;
- o management and treatment of values less than the detection or quantification limit;
- o use of expedited site-characterization technologies at federal contaminated sites;
- supplemental guidance on implementing a Canada-wide standard for petroleum hydrocarbons in soil at federal contaminated sites;
- applying the Canadian Council of Ministers of the Environment (CCME) 2016 statistical approach to identifying contaminants of concern at federal contaminated sites;
- determining what guidelines can be used if a CCME soil quality guideline is based only on human health protection or environmental protection;
- assessing field duplicates; and
- o application of guidelines to federal sites with multiple land uses.
- The Department delivered five training sessions or presentations on the following topics:
  - o a Canada-wide standard for petroleum hydrocarbons in soil;
  - o clean-up of Canadian federal contaminated sites;
  - o updates to FCSAP Phase IV ecological risk assessment;
  - FCSAP reptile ecological risk assessment; and
  - updates to FCSAP.
- Finally, ECCC made available to custodians the training material on the Canada-wide standard for petroleum hydrocarbons in soil.

**Health Canada** continued to provide scientific and technical advice to federal custodians. This involved close collaboration with the other expert support departments on addressing current and emerging chemical issues, such as perfluorooctane sulfonate and perfluorooctanoic acid, as they relate to federal contaminated sites.

More specifically, Health Canada's activities included:

- Responding to 215 requests from custodians for expert review of National Classification System for Contaminated Sites (NCSCS) scores and technical reviews, delivering 98% of NCSCS and 96% of technical reviews on time;
- Providing input to 10 environmental assessments, with 100% of advice delivered on time;
- Leveraged its expertise related to contamination by participating as an expert witness for the Grassy Mountain Coal Mine panel hearing under the *Canadian Environmental Assessment Act, 2012* and as an observer (in support of Crown-Indigenous Relations and Northern Affairs Canada) for the Rayrock water-license hearings under the Wek'èezhìi Land and Water Board;
- Participating in national and regional working-group meetings, as well as in regularly scheduled and as-needed interdepartmental meetings;

- Publishing several guidance documents, including:
  - Federal Contaminated Site Risk Assessment in Canada: Overview of Health Canada Guidance Documents Related to Human Health Risk Assessment of Federal Contaminated Sites;
  - Federal Contaminated Site Risk Assessment in Canada: Guidance on Human Health Preliminary Quantitative Risk Assessment, Version 3.0;
  - Federal Contaminated Site Risk Assessment in Canada: Toxicological Reference Values, Version 3.0; and
  - Nine soil screening values for energetic substances (RDX, HMX, 2,4-DNT, 2,6-DNT, NTO, DNAN, PETN, Perchlorate, TNT) [IDEA #721].
  - 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; and
    - Federal Contaminated Site Risk Assessment in Canada: Guidance on Human Health Risk Assessment Framework for the Seafood Consumption Pathway at Contaminated Aquatic Sites;
  - Advancing work on several guidelines:
    - o development of a new soil-screening value for TNT;
    - updating soil-screening values for seven energetic substances (RDX, HMX, 2,4-DNT, 2,6-DNT, NTO, DNAN, and PETN);
    - updating soil-screening values for the accelerant perchlorate;
    - advancing work on the CCME human-health component of the lead soil-quality guideline;
    - o advancing the work on the review of human toxicology for arsenic;
    - Guidance for Vapour Intrusion;
    - Guidance for Short Duration Exposure Assessment; and
    - Guidance on Aquatic Seafood Impacted by Contaminated Sites
  - Initiating collaborative work with ECCC on per- and poly-fluoroalkyl substance (PFAS) fate and transport modelling, for the development of a PFAS soil-quality guideline;
  - Publication of three journal articles co-authored by Health Canada:
    - "Per- and poly-fluoroalkyl substances (PFAS) current status and research needs" in *Environmental Technology & Innovation*,
    - "Cohort profile: health effects monitoring programme in Ndilo, Dettah and Yellowknife (YKHEMP)" in *BMJ Open*,
    - "Health risk assessment of arsenic exposure among the residents in Ndilo, Dettah, and Yellowknife, Northwest Territories, Canada" in the *International Journal of Hygiene and Environmental Health*;

- Presenting the virtual "Introduction to Canadian Soil Quality Guidelines (SQGs) for the Protection of Ecological and Human Health" training session to the Water Expert Network group, in conjunction with ECCC;
- Presenting a poster on evaluation and data integration related to elimination kinetics and persistence of effects of chemicals for intermittent exposure analysis at the Society of Toxicology Canada meeting in November 2020; and
- Participating 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, in addition to collecting and sharing innovative and sustainable approaches to industry,

More specifically, PSPC's activities included:

- Maintaining contaminated-site management tools, such as the <u>Guidance and Orientation for</u> the <u>Selection of Technologies</u> tool and <u>Sustainable Development Analysis Tool</u>;
- Informing the private sector about the federal demand for services, through delivery of regional Demand Forecast presentations, as well as updating the <u>FCSAP Interactive Map</u> <u>Tool</u>, which complements the updated <u>FCSAP Phase IV Contaminated Sites Demand</u> <u>Forecast Analysis Report 2020-2025</u>. Both were presented on eight occasions to approximately 470 industry participants across the country;
- Developing technology profiles that have been used at some of the contaminated sites, and are awaiting publication on Canada.ca; and,
- Supporting the integrated planning of FCSAP Phase IV by co-chairing the RIPBs.

## Appendix C – Environmental Liability for Federal Contaminated Sites

## What are environmental liabilities?

Environmental liabilities are the estimated costs related to the risk reduction (remediation and/or risk management) of contaminated sites for which the Government of Canada is obligated, or will likely be obligated, to incur costs. FCSAP specifically aims to address environmental liability. Recording liability is a requirement of the Treasury Board Directive on Accounting Standards; liabilities are reported annually in the <u>Public Accounts of Canada</u>.

According to Treasury Board of Canada Secretariat guidance, a liability at contaminated sites is recognized when all of the following criteria are satisfied:

- an environmental standard exists;
- contamination exceeds the environmental standard;
- the government is directly responsible or accepts responsibility;
- it is expected that future economic benefits will be given up; and
- a reasonable estimate of the amount can be made.

#### **Environmental liability increases and decreases**

Liabilities for a given site are usually first reported once an assessment determines that riskreduction work will be needed. As custodians remediate contaminated sites, the liabilities usually decrease, as the remaining risks to people and the environment are reduced or eliminated. However, it is common for liability to fluctuate year over year until a site is closed, owing to several other factors:

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

Liability reduction is not linear. A decrease in liability in one year may be followed by an increase in 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 (with the exception of those located in the North or on First Nations reserves); and
- sites, such as the low-level radioactive waste sites of the Port Hope Area Initiative, that have their own funding sources.
- 16 sites that were previously funded by FCSAP but are now funded by the Northern Abandoned Mine Reclamation Program, starting in 2020–2021.

### Estimating liability for all federal contaminated sites

As of March 31, 2021, the government has identified 6,857 sites (down from 6,860 sites from the previous year) where contamination may exist and where assessment, remediation and/or risk management and monitoring may be required. Of these, the government has identified 2,555 sites (up from 2,444 sites), where action is required and for which a gross liability of \$6.806 billion (down from \$7.117 billion) has been recorded. 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, based on a projection of the number of sites that will proceed to remediation and based on current and historical costs. This includes 3,438 unassessed sites as of March 31, 2021 (down from 3,562 sites from the previous year), of which 1,412 (down from 1,464 sites) are projected to proceed to remediation and for which an estimated liability of \$245 million (down from \$258 million) has been recorded.

Combined, these two estimates total \$7.051 billion, which is management's best estimate of the costs required to remediate sites to the current minimum environmental standard for its use prior to contamination. This estimate is represents a decrease from \$7.375 billion as of March 31, 2020.

For the remaining 864 sites (up from 854 sites from the previous year), no liability for remediation has been recognized. Some of these sites are at various stages of testing and evaluation and, if remediation is required, liabilities will be reported as soon as a reasonable estimate can be determined. For other sites, the government does not expect to give up any future economic benefits, as any significant environmental impact or human-health threats are unlikely. These sites will be re-examined and a liability for remediation will be recognized if future economic benefits will be given up.

#### **Results for 2020–2021**

From March 31, 2020 to March 31, 2021, the total environmental liability for the remediation and risk management of federal contaminated sites, as reported in the Public Accounts of Canada by 21 federal organizations, including FCSAP custodians, decreased by \$324 million, from \$7.375 billion to \$7.051 billion. Sites that may be eligible for FCSAP funding accounted for \$2.453 billion of the total 2020–2021 liability reported.

#### Figure C.1: Change in total environmental liability, 2020–2021

The Public Accounts of Canada showed that remediation expenditures reduced the liability by \$502 million, of which \$156 million was for FCSAP-funded sites.

However, these reductions were offset by \$138 million in changes to estimated remediation costs and \$40 million in liability for sites not previously recorded. FCSAP-funded remediation sites accounted for \$170 million of financial and project cost adjustments.

A \$0.4 million adjustment in expected recoveries also occurred in 2020–2021. An expected recovery is reported when it is likely that a recovery will be received by the Crown and a reasonable estimate of the amount of the recovery can be made. As detailed in Table C.1, these were factors in the \$324 million net decrease in liability.

	March 31, 2020 (\$)	March 31, 2021 (\$)	Difference (\$)
Opening balance	6,478	7,375	897
Less: expenditures reducing opening liabilities	586	502	-84
Add: changes in estimated remediation costs	1,428	138	-1,290
Add: new liability for sites not previously recorded	54	40	-14
Closing balance (gross)	7,375	7,051	-324
Less: expected recoveries	25.6	25.2	-0.4
Closing balance (net)	7,349	7,026	-324

## Table C.1: Changes in liability for remediation at contaminated sites, 2020–2021 (\$ millions)

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 2020–2021 by \$44.3 million, from \$2.41 billion to \$2.45 billion.

Table C.2: Environmental liability for federal contaminated sites that may have been
eligible for FCSAP, 2020–2021 (\$ millions)

	March 31, 2020 (\$)	March 31, 2021 (\$)	Difference (\$)
Total liability for remediation at contaminated sites <sup>6</sup>	7,375	7,051	-324
Less: <sup>7</sup>			
Atomic Energy of Canada Limited	877	790	-87
Canadian Broadcasting Corporation	0.2	0.1	-0.1
Global Affairs Canada	0.02	0.02	0
Royal Canadian Mounted Police	11.3	10.8	-0.5
Windsor-Detroit Bridge Authority	9.1	4.5	-4.6
Liability for sites in the Northern Abandoned Mine Reclamation Program	4,043	3,767	-276
Expected recoveries	25.6	25.2	-0.4
Liability for federal contaminated sites that may have been eligible for FCSAP	2,409	2,453	44

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, 2020 (\$)	March 31, 2021 (\$)	Difference (\$)
Agriculture and Agri-Food Canada	9.3	9.3	0
Canada Border Services Agency	1.8	1.4	-0.4
Correctional Service of Canada	2.6	2.6	0
Crown-Indigenous Relations and Northern Affairs Canada (excluding liability for sites in the Northern Abandoned Mine Reclamation Program)	318.5	328.7	10.2
Environment and Climate Change Canada	206.0	199.6	-6.4
Fisheries and Oceans Canada	268.0	281.0	13.0

<sup>&</sup>lt;sup>6</sup> Total liability for remediation of contaminated sites, as reported in the Public Accounts of Canada, 2021.

<sup>&</sup>lt;sup>7</sup> 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.

Indigenous Services Canada	379.4	402.7	23.3
Jacques Cartier and Champlain Bridges Incorporated	34.4	31.2	-3.2
National Capital Commission	63.9	64.0	0.1
National Defence	541.3	581.3	40.0
National Research Council of Canada	2.4	2.2	-0.2
Natural Resources Canada	1.9	2.0	0.1
Parks Canada Agency	96.2	98.4	2.2
Public Services and Procurement Canada	253.5	234.2	-19.3
Transport Canada	250.2	233.5	-16.7
VIA Rail Canada Inc.	5.1	6.1	1.0
Less: expected recoveries	25.6	25.2	-0.4
Liability for federal contaminated sites that may have been eligible for FCSAP	2,409	2,453	44

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

## Appendix D – Federal Contaminated Sites Inventory

The <u>Federal Contaminated Sites Inventory</u> (FCSI), managed by the Treasury Board of Canada Secretariat, includes information on federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations, and on non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility.

Sites registered in the FCSI move from "suspected" to "active" status once the contamination has been confirmed. Suspected sites may be closed if a desktop review or a Phase I environmental site assessment determines that historical activities would not likely have caused contamination. Sites undergoing assessment are usually closed if the assessment determines that contaminants are not present or do not pose an unacceptable risk to human health or the environment. Sites can also be closed when risks have been reduced to acceptable levels through remediation and risk management, and when long-term monitoring has been completed.

Suspected: Further assessment work is required to confirm whether the site is considered a federal contaminated site.

Active: Active sites are confirmed as contaminated sites where remedial action is or may be required.

Closed: No further action is required.

As of March 31, 2021, the FCSI listed 23,897 sites, of which 17,192 (72%) have been closed. There are 4,967 active sites (21%), where contamination has been confirmed and remedial action is or may be required. A total of 1,738 sites (7%) may be contaminated but have not yet been assessed.

## Progress of sites through the FCSI

Before FCSAP was established in 2005–2006, the FCSI contained approximately 2,000 suspected and 4,200 active federal contaminated sites. Since then, custodians have added sites to the FCSI when they suspected contamination, and have conducted assessment and risk-reduction activities at these sites, if required and as funding was available.

In 2020–2021, about 35% of expenditures reported to the FCSI were attributable to FCSAP sites, which included both FCSAP funding and the custodian cost-share. The remaining 65% were expenditures on non-FCSAP sites and by federal organizations that are not part of FCSAP. This includes 16 sites that were previously funded by FCSAP but are now funded by the Northern Abandoned Mine Reclamation Program. Over the 2020–2021 fiscal year, these combined expenditures led to a decrease in suspected sites by 3% (from 1,795 to 1,738), an increase in active sites by 2% (from 4,860 to 4,967) and an increase in closed sites by 1% (from 17,059 to 17,192), as shown in Figure D.1.





## Appendix E – Data Tables

Custodian	Number of sites with activity	Available FCSAP funding (\$)	FCSAP assessment expenditure (\$)	Custodian expenditures (cost share) (\$)	Total expenditures (\$)
AAFC	0	0	0	0	0
CBSA	0	0	0	0	0
CIRNAC	0	0	0	0	0
CSC	1	0.2	0.05	0.01	0.06
DFO	15	0.5	0.4	0.1	0.5
DND	40	3.0	3.0	0.7	3.7
ECCC	4	0.2	0.1	0.03	0.2
ISC	23	0.6	0.6	0.8	1.4
ISED	2	0.1	0.1	0.04	0.2
JCCBI	9	1.3	1.1	0.3	1.4
NCC	18	0.5	0.3	0.08	0.4
NRC	0	0.2	0	0	0
NRCan	0	0	0	0	0
PCA	9	0.6	0.4	0.1	0.5
PSPC	7	2.2	2.0	0.5	2.5
TC	0	0	0	0	0
VIA Rail	0	0.1	0	0	0
Total	128	9.5	8.1	2.7	10.8

Table E.1: Available assessment funding and expenditures, by custodian,	2020-2021 (\$
millions)	

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, 2020–2021 (\$ millions)

Custodian	Number of sites with activity	Available FCSAP funding (\$)	FCSAP remediation expenditures (\$)	Custodian expenditures (cost share) (\$)	Total expenditures (\$)
AAFC	11	0.5	0.3	0.05	0.4
CBSA	2	0.4	0.3	0.05	0.3
CIRNAC	40	32.3	21.2	1.7	22.9
CSC	5	0.4	0.4	0.07	0.5
DFO	126	6.3	5.9	1.0	7.0
DND	161	55.6	44.4	4.6	48.9
ECCC	8	17.2	17.2	0.3	17.6
ISC	96	37.6	37.6	7.5	45.1
ISED	0	0	0	0	0
JCCBI	2	1.8	1.4	0.3	1.7
NCC	15	1.6	1.2	0.2	1.4
NRC	3	0.6	0.6	0.1	0.7
NRCan	0	0.3	0	0	0

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PCA	43	5.5	2.1	0.6	2.7
PSPC	19	14.1	13.9	2.4	16.4
TC	76	16.3	14.3	2.1	16.4
VIA Rail	0	2.5	0	0	0
Total	607	192.8	160.9	21.1	182.0

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 (2020–2021) (\$ millions)

FCSAP funds	Program management (\$)	Assessment (\$)	Remediation (\$)	Total (\$)
FCSAP funding approved for 2020–2021	16.7	9.4	157.0	183.1
FCSAP funding brought forward from previous fiscal years	0.1	0.08	35.7	35.9
FCSAP funds received from another custodian (+)	0	0	0	0
FCSAP funds given to another custodian (-)	0	0	0	0
FCSAP funds internally transferred to another stream (assessment, remediation, program management) (±)	-0.1	0	0.1	0
Total available FCSAP funding	16.7	9.5	192.8	219.0

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 (2020–2021) (\$ millions)

FCSAP funds	Program management (\$)	Assessment (\$)	Remediation (\$)	Total (\$)
Total available FCSAP funding	16.7	9.5	192.8	219.0
FCSAP expenditures	16.3	8.1	160.9	185.3
Total variance	0.4	1.4	31.9	33.6
Explanation of variance:				
FCSAP funds reprofiled to a future year	0	0	22.3	22.3
FCSAP funds carried forward to a future year	0.1	0.8	8.4	9.2
Internal cash-management of FCSAP funds to a future year	0	0.2	0.6	0.8
Lapsed FCSAP funds	0.2	0.4	0.6	1.2

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