

Federal Contaminated Sites Action Plan  
Annual Report  
2007–08

January 21, 2010

## List of Acronyms

AAFC	Agriculture and Agri-Food Canada
ADM	Assistant Deputy Minister
AST	Above-ground storage tanks
BTEX	Benzene Toluene Ethyl-Benzene Xylene
CCME	Canadian Council of Ministers of the Environment
CSC	Correctional Service of Canada
CSMWG	Contaminated Sites Management Working Group
DEW	Distant Early Warning
DFO	Fisheries and Oceans Canada
DNAPL	Dense Non-Aqueous Phase Liquids
DND	Department of National Defence
EC	Environment Canada
ECO Canada	Environmental Careers Organization
FCSAAP	Federal Contaminated Sites Accelerated Action Plan
FCSAP	Federal Contaminated Sites Action Plan
FY	Fiscal Year
HC	Health Canada
INAC	Indian and Northern Affairs Canada
INAC-IIABL	Indian and Northern Affairs Canada - Indian and Inuit Affairs Business Line
INAC-NAO	Indian and Northern Affairs Canada - Northern Affairs Organization
JCCBI	The Jacques Cartier and Champlain Bridges Incorporated
NCC	National Capital Commission
NRCan	Natural Resources Canada
PAHs	Polycyclic aromatic hydrocarbons
PCA	Parks Canada Agency
PCBs	Polychlorinated biphenyls
PCDD/Fs	Polychlorinated dibenzo-p-dioxins and dibenzofurans
PWGSC	Public Works and Government Services Canada
RCMP	Royal Canadian Mounted Police
TBS	Treasury Board Secretariat
TC	Transport Canada

# Table of Contents

<b>Executive Summary</b> .....	4
<b>1.0 Introduction</b> .....	5
1.1 Program Structure.....	5
1.2 Program Administration .....	7
1.3 Program Resources .....	7
1.4 Project Types .....	8
<b>2.0 2007–08 Program Achievements: FCSAP Projects</b> .....	10
2.1 FCSAP Priority Sites.....	12
2.1.1 FCSAP Funding Approvals and Expenditures .....	12
2.1.2 Assessment Projects .....	12
2.1.2.1 <i>Explanation of Financial Variance for FCSAP Assessment Projects (2007–08)</i> .....	14
2.1.2.2 <i>Results of Assessment for FCSAP Assessment Projects (2007-08)</i> .....	15
2.1.3 Remediation / Risk Management Projects .....	16
2.1.3.1 <i>Nature of Contamination in Remediation/ Risk Management Projects Funded under FCSAP</i> 16	
2.1.3.2 <i>Location and Distribution of FCSAP Remediation / Risk Management Projects</i> .....	20
2.1.3.3 <i>Explanation of Financial Variance for FCSAP Remediation / Risk Management Projects (2007–08)</i> .....	24
2.1.3.4 <i>Remediation / Risk Management Project Achievements</i> .....	24
2.1.3.5 <i>Activities at Remediation / Risk Management Projects</i> .....	29
<b>3.0 2007–08 Program Achievements: Linkages</b> .....	30
3.1 Key Activities in 2007–2008.....	30
3.1.1 Socio-Economic.....	30
3.1.2 Innovative Technology.....	33
3.1.2.1 <i>2007–08 Remediation Activities and the Use of Innovative Technologies</i> .....	33
3.1.3 Federal Brownfields.....	38
<b>4.0 2007–08 Program Achievements: Program Administration</b> .....	39
4.1 Expert Support and Secretariat Funding .....	39
4.2 Key Activities in 2007–08.....	39
4.2.1 Federal Contaminated Sites Action Plan Secretariat .....	39
4.2.2 Treasury Board Secretariat .....	40
4.2.3 Expert Support Departments.....	40
<b>5.0 Federal Contaminated Sites Financial Liability</b> .....	43
<b>6.0 Measuring Performance and Looking Forward</b> .....	45
<b>Appendix 1: Evaluation of Human Health and Ecological Risks at Federal Contaminated Sites</b> .....	46
<b>Appendix 2: Provincial/Territorial and Custodial Distribution of Remediation / Risk Management Projects by Expected Completion Cost (2007–08)</b> .....	48
<b>Appendix 3: Expenditure Tables</b> .....	49
a) Program Expenditures .....	49
b) Detailed FSCAP and Custodian Expenditures.....	50

## Executive Summary

The Federal Contaminated Sites Action Plan (FCSAP) is a collaborative effort by federal departments, agencies, and consolidated Crown corporations (“custodians”) to identify, assess and prioritize the remediation or risk management of federal contaminated sites based on the level of risk posed to human health and the environment.

Originally developed in response to the 2004 federal budget commitment of \$3.5 billion in multi-year funding, the FCSAP is a 15-year cost-shared program that provides a mechanism to accelerate the remediation or risk management of priority federal contaminated sites. The FCSAP expands on the previous Federal Contaminated Sites Accelerated Action Plan (FCSAAP) (which ran during 2003–04 and 2004–05), prior to which the majority of departments and agencies collectively reallocated up to \$100 million per year<sup>1</sup> from other priorities to risk-manage and/or remediate their federal contaminated sites.

In its third year of operation (2007–08), expenditures were reported nationally by 15 custodians for 276 remediation / risk management projects (consisting of 519 sites where activity was undertaken) and 590 assessment projects (consisting of 2269 sites where activity was undertaken). These projects included the cleanup of sites where the environmental consequences of past practices were not fully understood, including such sites as: harbours and ports, military bases, former Distant Early Warning (DEW) line sites, light stations, and abandoned mines.

In 2007–08, \$188.4 million of FCSAP funds were spent on federal contaminated sites projects, program management, secretariat/expert support services, and Public Works and Government Services Canada (PWGSC) accommodation costs. In addition to the FCSAP funds, and in adherence to the Government of Canada’s “polluter pays” principle, custodians contributed \$25.3 million in cost-share. Of the total amount spent (\$213.7 million), the greatest proportion of the funds (\$190.7 million) went towards the actual assessment and remediation / risk management of federal contaminated sites.

As of March 31, 2008, a liability of \$3.332 billion was recorded for approximately 2360 contaminated sites, compared with a liability of \$3.014 billion for 2630 sites in 2007.<sup>2</sup> This increase in federal environmental liability is primarily attributed to changes recorded to planned cost estimates for remediation activities of large projects. It is also attributed to the fact that increased spending on assessment activities results in a more accurate estimate of liability, often leading to an increase. Continued work on all types of FCSAP projects will result in further refinement of liability estimates, and total liability is expected to decline as sites are remediated.

If you have questions or comments on this report, or wish to obtain additional copies of this report, please contact:

FCSAP Secretariat  
Contaminated Sites Division  
Environmental Protection Operations Directorate  
Environment Canada  
351 St. Joseph Boulevard, 15<sup>th</sup> Floor  
Gatineau QC K1A 0H3  
Tel: 819-934-2155 / Fax: 819-994-0502  
Email: fcsap.pascf@ec.gc.ca

### **FY 2007–08 at a glance:**

<b>\$188.4</b>	million in total FCSAP expenditures, including federal contaminated sites projects, program management, secretariat/expert support services, and PWGSC accommodation costs
<b>\$146.9</b>	million in FCSAP funds spent on remediation/risk management projects
<b>\$19.2</b>	million in federal custodian funds spent on remediation/risk management projects funded under FCSAP
<b>\$18.5</b>	million in FCSAP funds spent on assessment projects
<b>\$6.1</b>	million in custodian funds spent on assessment projects
<b>276</b>	priority remediation/risk management projects funded
<b>2269</b>	assessment sites funded (on 590 projects)

<sup>1</sup> *Taking Action on Federal Contaminated Sites: An Environmental and Economic Priority* (Environment Canada, July 2005), p. ii.

<sup>2</sup> *Public Accounts of Canada 2008*, Volume I (PWGSC, 2008), S. 5, p. 5.12.

## 1.0 Introduction

The Federal Contaminated Sites Action Plan (FCSAP) is a collaborative effort by federal departments, agencies, and consolidated Crown corporations ("custodians") to identify, assess and prioritize the management of federal contaminated sites based on the level of risk they pose to human health and the environment. The Program has a number of key objectives:

1. to remediate and/or manage the risk associated with federal contaminated sites classified as requiring action or likely to require action under the National Classification System or an accepted alternative classification system (i.e., Class 1 and 2);
2. to reduce federal financial liability or, in the case of care and maintenance sites, prevent increases in federal financial liability related to known federal contaminated sites;
3. to reduce human health and ecological risks at the highest-risk federal sites; and
4. to increase public confidence in the overall management of federal contaminated sites and in the remediation / risk management of individual federal contaminated sites.

### **Contaminated Site**

A site at which substances occur at concentrations (1) above background levels (background is defined as an area not influenced by chemicals released from the site under evaluation) and posing or likely to pose an immediate or long-term hazard to human health or the environment, or (2) exceeding levels specified in policies and regulations.

*From A Federal Approach to Contaminated Sites, developed by the Contaminated Sites Management Working Group, November 1999*

The FCSAP was established as a 15-year cost-shared program, developed in response to the 2004 federal budget commitment of \$3.5 billion in multi-year funding for priority federal contaminated sites.

The number of custodians that participate in FCSAP varies annually, as do the number and type of projects that receive funding under FCSAP. In the fiscal year 2007–08, 15 custodians received funding through FCSAP. Projects included sites where the environmental consequences of past practices were not fully understood, including such sites as: harbours and ports, military bases, former DEW line sites, light stations, and abandoned mines.

The FCSAP builds on the previous two-year Federal Contaminated Sites Accelerated Action Plan (FCSAAP), which was in place from fiscal year 2003–2004 to fiscal year 2004–2005. Before FCSAAP, the majority of departments and agencies collectively reallocated up to \$100 million per year<sup>3</sup> from other priorities in order to remediate or to manage the risks associated with their contaminated sites. The majority of the spending was concentrated in a small number of departments that were responsible for the highest proportion of federal contaminated sites.

## 1.1 Program Structure

Environment Canada (EC) and the Treasury Board Secretariat (TBS) jointly administer FCSAP. Within EC, the FCSAP Secretariat provides program oversight and administers the non-financial aspects of the program. EC manages the project selection process, maintains a secure website, develops communication materials, and monitors and reports on progress. TBS ensures the Program's adherence to Treasury Board (TB) policies on the management of federal real property, reviews the financial aspects of proposals, assesses custodians' reallocation capacity, administers the fund, and advises the FCSAP Secretariat on the monitoring of Government-wide progress.

The FCSAP helps custodians address priority contaminated sites where the nature and mobility of contaminants represent the highest risk to human health and the environment. The responsibility and accountability for managing contaminated sites rests with custodians. Custodians are the project champions

<sup>3</sup> *Taking Action on Federal Contaminated Sites: An Environmental and Economic Priority* (EC, July 2005), p. ii

and are responsible for program delivery: identifying and prioritizing sites of concern; conducting risk assessments; developing remediation / risk management plans and project funding proposals consistent with their contaminated sites management plans; implementing approved projects; and achieving the contaminated sites management objectives set out in the contaminated sites management plans and project proposals. Custodians are also expected to incorporate linkages with other government of Canada initiatives such as Aboriginal training and employment, innovative technology usage, and federal brownfields, where possible.

EC, Health Canada (HC), Fisheries and Oceans Canada (DFO), and Public Works and Government Services Canada (PWGSC) are FCSAP expert support departments. The role of the expert support departments is to assist the Secretariat with development and promotion of best practices, and to ensure that custodians adopt a consistent approach to the assessment to human health and ecological risk across the program. EC, HC and DFO also:

- provide project/site-specific advice and training to custodians;
- assist in communicating the rules and policies of the Program to custodians;
- assist in the development of standardized approaches, tools and guidance materials, and in the understanding and management of health and ecological issues;
- provide expert review of risk assessments and risk-scoring of sites;
- provide liaison with provincial and territorial counterparts;
- lead and co-ordinate Interdepartmental Regional Working Groups;
- advise on risk management and risk communication strategies;
- assist with the development of communication strategies and public outreach activities; and
- offer expert knowledge related to federal environmental laws (e.g., *Canadian Environmental Protection Act, 1999, Fisheries Act, Species at Risk Act, Canadian Environmental Assessment Act*).

EC, HC, and DFO also carry out their mandates related to regulatory compliance. EC and HC focus on improving and promoting environmental and health risk assessments as a key part of the project selection process, while DFO ensures that site remediation or risk management activities do not further compromise any fish or fish habitat resources.

PWGSC provides project management tools and related training, and acts as the lead department for liaison with industry. PWGSC also works closely with Industry Canada (IC), which supports the Program by working to optimize the participation of the Canadian environmental industry in the remediation of federal contaminated sites, and to facilitate the introduction and use of innovative remediation technologies at these sites. PWGSC is responsible for disseminating information on innovative technologies so that custodian departments, other levels of government, and industry can benefit from technological advances and strategies.

In addition, three interdepartmental groups provide strategic direction:

1. **Federal Contaminated Sites Steering Committee.** This steering committee is an interdepartmental group at the Assistant Deputy Minister (ADM) level. It oversees the implementation of FCSAP. The committee is co-chaired by EC and TBS, and comprises representatives from all federal custodians with responsibility for contaminated sites and from expert-support departments as well as other departments, agencies, and consolidated Crown corporations with an interest in the Program. The steering committee recommends strategic direction, approves the work plans of the Secretariat and the expert support departments, guides the development of the strategic plan, approves funding options, and ratifies funding recommendations. The steering committee oversees program implementation and is responsible for setting project priorities, monitoring progress, and providing recommendations on the funding of sites under FCSAP.
2. **Contaminated Sites Management Working Group (CSMWG).** The CSMWG is a working-level committee comprising representatives from expert support departments and federal custodians with contaminated sites. The CSMWG contributes to the development of procedures, tools, guidance, and program funding plans, and makes recommendations to the Steering Committee. The CSMWG also establishes sub-committees and working groups to provide support to departments on opportunities related to linkages to other socio-economic outcomes such as skills development, training and employment of Canadians, and technological development in the environment industry.

- 3. Interdepartmental Regional Working Groups.** The Interdepartmental Regional Working Groups are in place in regions to advise custodians on the management of contaminated sites. The Groups provide custodians with training and access to the advice of expert support departments on compliance, health and ecological risks/impacts of contaminated sites and risk-assessment approaches, as well as advice on the development of remediation / risk management plans for their sites, with priority given to those projects funded under FCSAP.

## 1.2 Program Administration

FCSAP was developed in 2005 as a comprehensive 15-year program intended to support custodians in reducing risks to human health and the environment and decreasing federal financial liabilities associated with priority federal contaminated sites. Although any site that has been identified as potentially contaminated based on past (prior to July 1, 2002) activities on or near the site is entitled to assessment funding, only those sites classified as Class 1 or 2 under the Canadian Council of Ministers of the Environment (CCME) National Classification System<sup>4</sup> are eligible for remediation / risk management funding. It is expected that the existing list of Class 1 and Class 2 priority sites that will seek funding under FCSAP will change in future years as remediation / risk management projects progress, newly assessed sites are considered, and remediation / risk management plans are fine-tuned.

In recognition of the “polluter pays” principle underlying the program, FCSAP operates on a cost-shared basis with custodians. To assist custodians in classifying their contaminated sites, assessment funding is available through FCSAP at an 80/20 (FCSAP/custodian) cost-share, up to a program maximum of \$25 million per year. For remediation / risk management projects with total estimated project costs of \$10 million or less, the cost-share is also 80/20 (FCSAP/custodian). Once estimated project costs for remediation / risk management projects exceed \$10 million, the custodian's share is reduced to 10% on the amount exceeding \$10 million. Certain exceptionally large projects with total costs in excess of \$90 million may be eligible for full funding of project costs.

In order to give custodians the flexibility to better manage their contaminated sites programs, FCSAP allows custodians to internally reallocate FCSAP funds in-year among projects. In so doing, FCSAP is providing custodians with the flexibility to respond to unforeseen circumstances within a given fiscal year, while continuing to make progress and meet the requirements of the Program.

## 1.3 Program Resources

In 2007–08, funding was approved for assessment and remediation / risk management projects, program management activities, and program support activities for expert support departments, the FCSAP Secretariat, and TBS. Of the \$280 million that was available in the fiscal framework to be allocated to remediation / risk management and assessment projects in 2007–08, \$217.7 million was allocated to the custodian departments, with no more than \$25 million of this amount to be used to conduct assessment projects. Actual FCSAP project expenditures for 2007–08 totalled \$165.4 million—approximately \$52 million less than was requested. Available FCSAP funding for 2007-08 included the funds allocated (\$217.7 million) and the annual in-year adjustments (including funds carried forward from 2006-07) of \$8.5 million, giving a total of \$226 million. Hence, the total variance between available funding and spent funds was \$61 million.

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<sup>4</sup> The CCME provides the principal forum among governments in Canada for the joint development of environmental policies and technical guidance for environmental management. The National Classification System for Contaminated Sites is a screening tool for the evaluation of contaminated sites according to their current or potential adverse impacts on human health and the environment. Sites are classified as:

- Class 1 – High Priority for Action
- Class 2 – Medium Priority for Action
- Class 3 – Low Priority for Action
- Class N – Not a Priority for Action
- Class INS – Insufficient Information

The National Classification System for Contaminated Sites was updated and a new version was released in 2008. Custodians may also seek remediation / risk management funding for sites classified as Class 1 or 2 using the Federal Contaminated Sites Action Plan Classification System (2005).

In addition to federal contaminated sites expenditures, program management funds were spent by custodians on salaries to support the implementation of the custodian's contaminated sites management program through FCSAP, and to fund various operational costs related to program planning, implementation and reporting (i.e. travel, training, etc.).

In 2007–08, \$8,023,752 of program management funding was available to 12 custodians. Of the total amount available, \$471,152 was transferred from previous fiscal years and \$7,552,600 was approved in Treasury Board submissions. Overall, \$6,711,316 was spent.

The breakdown of program management expenditures and variance for 2007-08 is outlined in Table 1.

**Table 1: Summary of FCSAP Program Management Expenditures by Custodian (2007–08)**

	Program Management			
	Planned FCSAP Expenditures (\$)	Adjustments (\$)	Actual FCSAP Expenditures (\$)	Variance (\$) (approved + adjustment - expenditure)
Agriculture and Agri-Food Canada	150,000	30,000 <sup>1</sup>	120,000	60,000
Correctional Service of Canada	67,670		67,670	0
Environment Canada	467,958		467,958	0
Fisheries and Oceans Canada	1,033,315	22,731 <sup>2</sup>	894,046	162,000
Health Canada	121,429		121,429	0
Indian and Northern Affairs Canada				
<i>Indian and Inuit Affairs Business Line</i>	735,035		735,035	0
<i>Northern Affairs Organization</i>	2,213,980		2,293,652	-79,672
Department of National Defence	1,200,000		660,849	539,151
Natural Resources Canada	150,000		0	150,000
Parks Canada Agency	366,713	418,421 <sup>1</sup>	367,414	417,720
Public Works and Government Services Canada	200,000		191,829	8,171
Royal Canadian Mounted Police	395,500		340,434	55,066
Transport Canada	451,000		451,000	0
<b>Total Expenditures</b>	<b>7,552,600</b>	<b>471,152</b>	<b>6,711,316</b>	<b>1,312,436</b>

<sup>1</sup> Funding brought forward from the previous fiscal year

<sup>2</sup> Funds received from the FCSAP Secretariat or Expert Support

## 1.4 Project Types

FCSAP funded two types of projects in 2007–08: assessment and remediation / risk management. In the past, there were also several care and maintenance projects funded under FCSAP<sup>5</sup>, however, given that the majority of activities on these previously-identified care and maintenance projects are now remediation activities, these projects have been converted to remediation / risk management projects. Some remediation / risk management projects may still have one or more care and maintenance activities.

**Assessment Projects** – Funding assessment work is an important part of FCSAP. By assessing sites suspected of being contaminated, the federal government is able to more accurately estimate human health and environmental risk, and the level of financial liability for historically contaminated federal sites.

<sup>5</sup> Care and maintenance activities are initiated in exceptional circumstances to prevent severe environmental damage or catastrophes from occurring before a site assessment can be completed and/or an action plan can be developed. Short-term activities are undertaken to reduce or prevent the spread of contamination in order to avoid an imminent environmental disaster that would harm human and/or wildlife populations. In past years, care and maintenance have been implemented at several abandoned/idled mines or other large properties with extensive contamination.



A full-scale assessment of the severity of contamination at a site can be a lengthy and complex process (see steps 1 to 6 in the Ten Step Process in section 2.0). An FCSAP assessment project is considered completed once all sites within the project have a status of either “Assessment Completed: Requires no Further Action” or “Assessment Completed: Requires Remediation / Risk Management.”

Following assessment, many sites are determined not to pose a risk to human health and/or the environment—these sites are considered closed.

**Remediation / Risk Management Projects** – After a site is assessed and the need for contamination to be addressed is confirmed, a remediation / risk management plan is used to explore the various alternatives and to identify the preferred option to reduce the risk to human health and the environment. The remediation / risk management method that is chosen is designed to address the unique conditions of the site. Common remediation activities involve reducing exposure to contaminants by removing, destroying or containing them.

Under FCSAP, a site is considered completed once Step 9 (confirmatory sampling and final reporting) has been finished following site remediation, or once Step 10 (long-term monitoring) is finished at risk-managed sites. A completed site is not eligible for FCSAP funds in the future unless it is reactivated by the custodian based on the discovery of new information.

An FCSAP remediation / risk management project is considered completed once all sites within the project have been completed.

## 2.0 2007–08 Program Achievements: FCSAP Projects

### **Federal Approach for Addressing Contaminated Sites— Ten Step Process**

Step 1 – *Identify Suspect Sites*: Identify potentially contaminated sites based on activities (past or current) on or near the site.

Step 2 – *Historical Review*: Assemble and review all historical information pertaining to the site.

Step 3 – *Initial Testing Program*: Provide a preliminary characterization of contamination and site conditions.

Step 4 – *Classify Contaminated Site using the CCME National Classification System*: Prioritize the site for future investigations and/or remediation / risk management actions.

Step 5 – *Detailed Testing Program*: Focus on specific areas of concern identified in Step 3 and provide further in-depth investigations and analysis.

Step 6 – *Reclassify the Site using CCME National Classification System*: Update the ranking based on the results of the detailed investigations.

Step 7 – *Develop Remediation / Risk Management Strategy*: Develop a site-specific plan to address contamination issues.

Step 8 – *Implement Remediation / Risk Management Strategy*: Implement the site-specific plan that addresses contamination issues.

Step 9 – *Confirmatory Sampling and Final Reporting*: Verify and document the success of the remediation/risk management strategy.

Step 10 – *Long-Term Monitoring*: If required, long term-monitoring ensures that remediation and long-term risk management goals are achieved.

Source: *A Federal Approach to Contaminated Sites* (CSMWG, 1999)

Note: The steps indicate the stage of each site and not the effort associated with each step. Significantly more time and energy are required to complete Step 8 than any other step.

Progress in managing FCSAP projects is tracked according to the 10 steps of the CSMWG Federal Approach to Contaminated Sites (see box). However, managing a contaminated site is a complex and multi-faceted undertaking, particularly at large and/or highly contaminated sites. Because contaminated sites may contain various types of contaminants in different media (e.g. soil, sediment, groundwater), different remediation activities may be required at different times throughout the project life cycle. This variability can affect how progress is described. Also, activities on contaminated sites do not necessarily progress in the linear manner described by the Ten Step Process. At times, it may be necessary to carry out urgent activities that would normally be undertaken in later steps in order to prevent a severe environmental event from occurring.

In 2007–08, 15 custodians reported activity at 276 remediation / risk management projects, and 590 assessment projects. Total expenditures under FCSAP by custodian and project category are summarized in Table 2.

**Table 2: FCSAP Project Expenditures by Custodian (2007–08)**

Custodian	Assessment					Remediation / risk management				
	Number of projects with activity	Number of sites with activity	FCSAP funding available* (\$)	FCSAP funds spent (\$)	Custodian share spent (\$)	Number of projects with activity	Number of sites with activity	FCSAP funding available (\$)	FCSAP funds spent (\$)	Custodian share spent (\$)
Agriculture and Agri-Food Canada	21	36	796,000	445,897	111,474	1	1	500,000	562,503	140,626
Canada Border Services Agency	-	-	-	-	-	2	2	341,360	327,098	82,346
Correctional Service of Canada	-	-	27,921	-	-	1	1	1,062,086	1,349	337
Environment Canada	15	203	3,976,350	634,652	158,663	4	140	5,364,209	2,696,354	473,169
Fisheries and Oceans Canada	71	605	6,357,929	3,819,994	954,998	103	133	10,514,184	3,877,973	969,474
Health Canada (HC)	10	10	136,000	136,000	262,381	7	7	1,174,366	442,585	136,383
Indian and Northern Affairs Canada <i>Indian and Inuit Affairs Business Line</i>	47	580	3,232,003	2,310,115	567,679	31	45	10,515,480	7,607,531	1,901,810
<i>Northern Affairs Organization</i>	118	118	1,559,122	898,806	224,706	26	29	99,231,835	75,569,559	5,927,381
The Jacques Cartier and Champlain Bridges Inc.	-	-	-	-	-	-	-	92,000	-	-
Department of National Defence	43	167	5,310,337	5,310,337	2,347,114	52	103	51,004,136	42,824,283	6,323,902
National Capital Commission	23	66	609,670	566,633	141,658	2	2	192,000	192,000	113,139
Natural Resources Canada	4	4	175,810	35,428	8,857	-	-	-	-	-
Parks Canada Agency	34	50	1,406,341	1,343,122	391,705	9	11	1,530,856	1,004,774	303,013
Public Works and Government Services Canada	11	26	958,764	851,119	350,940	15	19	3,037,461	2,127,703	585,463
Royal Canadian Mounted Police	188	397	2,820,000	2,020,622	519,515	9	9	2,213,600	912,112	228,027
Transport Canada	5	7	520,000	111,000	103,000	14	17	11,548,948	8,733,435	1,996,978
<b>Total</b>	<b>590</b>	<b>2269</b>	<b>27,886,247</b>	<b>18,483,725</b>	<b>6,142,690</b>	<b>276</b>	<b>519</b>	<b>198,322,521</b>	<b>146,879,259</b>	<b>19,182,048</b>
<b>Total FCSAP funds spent on assessment and remediation / risk management projects</b>	<b>165,362,984</b>									

\* Total FCSAP funding available = 2007–08 allocated amount + brought forward amounts from 2006–07.

## 2.1 FCSAP Priority Sites

### 2.1.1 FCSAP Funding Approvals and Expenditures

Table 3 provides a summary of the approved FCSAP funding, actual FCSAP expenditures and the corresponding custodian expenditures.

As described in Section 1.2, custodians are required to meet cost shares on an annual basis. In fiscal year 2007–08, four custodians (Department of National Defence [DND], Indian and Northern Affairs Canada–Northern Affairs Organization [INAC-NAO], EC and Transport Canada [TC]) had projects that produced adjusted FCSAP cost shares.<sup>6</sup> All other federal custodians were required to respect the typical 80/20 (FCSAP/custodian) cost-share requirement.

In 2007–08, all but two custodians (INAC (including both NAO and Indian and Inuit Affairs Business Line [IIABL]) and EC) either met or surpassed their annual cost-share requirement. The shortfalls were calculated as follows: \$837,179 for INAC-NAO (which represents 14% of their total custodian expenditures); \$85,713 for EC (14% of their total custodian expenditures); and \$9,923 for INAC-IIABL (less than 1% of their total custodian expenditures).

**Table 3: Summary of Project Funding Approvals and Actual Expenditures (2007–08)**

Project type	FCSAP funding allocated (millions)	Project work undertaken in fiscal year 2007–08			
		Number of projects with activity	Number of sites with activity	FCSAP Fund expenditures (millions)	Custodian expenditures (millions)
Remediation / risk management	\$192.69	276	519	\$146.88	\$19.18
Assessment	\$25.0	590	2269	\$18.48	\$6.14
<b>Total</b>	<b>\$217.69<sup>7</sup></b>	<b>866</b>	<b>2788</b>	<b>\$165.36</b>	<b>\$25.32</b>

### 2.1.2 Assessment Projects

Funding of assessment projects is an important part of FCSAP. The results of assessments facilitate the identification of risks to human health and the environment, and the accurate estimation of federal financial liability for contaminated sites. In assessment Steps 1 to 4 (initial) and 5 to 6 (detailed) of the Ten Step Process, scientifically defensible work is undertaken to identify the presence, nature and extent of site contamination.

In 2007–08, \$18,483,725 of the available FCSAP assessment funds (\$27,886,247) were spent by 12 different custodians at 2269 sites, grouped into 590 projects. The available amount included \$25,000,000 that was allocated in 2007–08, and \$2,886,247 of unused FCSAP assessment funds that were transferred from the previous fiscal year. Assessment activities were most prominent in Manitoba (567 sites), Atlantic Canada (482 sites), and Quebec (228 sites), as a result of large-scale assessment initiatives undertaken by DFO and the Royal Canadian Mounted Police (RCMP) in Atlantic Canada, and Quebec and INAC-IIABL in Manitoba. Overall, the number of sites assessed in 2007–08 (2269) was almost double the number of assessments in fiscal year 2006–07 (1252) and more than three times the number of sites assessed in

<sup>6</sup> In 2007–08, six projects received 100% FCSAP funding: Giant Mine, Faro Mine, Colomac Mine, 5 Wing Goose Bay, TCE Valcartier and DYE-M Cape Dyer DEW Line. Six projects received 90% FCSAP funding: FOX-M Hall Beach DEW Line, United Keno Hill Mine, Rock Bay, CAM-F Sarcpa Lake, FOX-C Ekalugad Fjord, and CAM-2 Gladman Point. Four projects received between 82.5% and 84.9% FCSAP funding: Port Radium Mine (83.8%), CAM-3 Shepherd Bay (84.9%), Tundra-Taurcanis Mine (84.5%) and PEC (82.5%).

<sup>7</sup> The allocated amount presented does not include the FCSAP funds of approximately \$8.5M carried forward from 2006-07. Actual available funding for 2007-08 would therefore be \$226M.

2005–06 (660). A summary of 2007–08 assessment projects, sites and FCSAP expenditures is presented by province/territory in Table 4 and by custodian in Table 5.

**Table 4: Number of Assessment Projects and Sites by Province/Territory (2007–08)**

Province/territory	Number of projects with activity	Number of sites with activity	Estimated FCSAP funds spent (\$) <sup>8</sup>
Alberta	44	142	1,479,860
British Columbia	52	163	1,268,335
Manitoba	27	567	2,553,448
New Brunswick	56	106	718,102
Newfoundland and Labrador	51	311	2,246,400
Northwest Territories	56	200	1,521,341
Nova Scotia	26	35	219,687
Nunavut	111	148	2,070,820
Ontario	53	150	1,820,041
Prince Edward Island	11	30	196,418
Quebec	62	228	3,403,393
Saskatchewan	35	183	901,028
Yukon Territory	6	6	84,851
<b>Total</b>	<b>590</b>	<b>2269</b>	<b>18,483,725</b> <sup>9</sup>

**Table 5: Number of Assessment Projects and Sites by Custodian (2007–08)**

Federal custodian	Number of projects	Number of sites	FCSAP funds spent (\$)
Agriculture and Agri-Food Canada	21	36	445,897
Environment Canada	15	203	634,652
Fisheries and Oceans Canada	71	605	3,819,994
Health Canada	10	10	136,000
Indian and Northern Affairs Canada <i>Indian and Inuit Affairs Business Line</i>	47	580	2,310,115
<i>Northern Affairs Organization</i>	118	118	898,806
National Capital Commission	23	66	566,633
Department of National Defence	43	167	5,310,337
Natural Resources Canada	4	4	35,428
Parks Canada Agency	34	50	1,343,122
Public Works and Government Services Canada	11	26	851,119
Royal Canadian Mounted Police	188	397	2,020,622
Transport Canada	5	7	111,000
<b>Total</b>	<b>590</b>	<b>2269</b>	<b>18,483,725</b>

<sup>8</sup> The actual amount of assessment expenditures by province/territory was not reported in 2007–08. Instead, the national distribution of funds was estimated using a proportion of each department's reported expenditures and the number of sites that the department worked on in each province/territory. Confirmed assessment expenditures by province/territory are expected to be included within reporting in future years of the Program.

<sup>9</sup> Actual total assessment expenditure reported for 2007–08.

### **2.1.2.1 Explanation of Financial Variance for FCSAP Assessment Projects (2007–08)**

A total of \$25,000,000 was approved for assessment activities in 2007–08. As shown in Table 3, custodians contributed funds amounting to \$6,142,690 and FCSAP provided \$18,483,725 in funding for assessment activities. As indicated in the financial table in Appendix 3b, the difference between planned and actual expenditures for assessment projects was \$9,402,522, after adjusting for the funds transferred from the previous fiscal year and funds transferred from Expert Support (\$2,886,247<sup>10</sup>). The variance is due to the following factors:

1. Custodians who received funds and could not complete the assessment work in 2007–08 rescheduled the work for the next season and transferred unspent FCSAP funds in the amount of \$7,662,642<sup>11</sup> to fiscal year 2008–09.
2. INAC-IIABL spent \$418,403 of its FCSAP funds that had been allocated for remediation / risk management on assessment projects.
3. Agriculture and Agri-Food Canada (AAFC) spent \$62,503 of its FCSAP funds for assessment on remediation / risk management projects.
4. FCSAP funds in the amount of \$2,095,780 were not spent.

Variance between planned and actual expenditures for individual assessment projects can be attributed to a variety of factors, including the reallocation of funding from previously approved sites to more urgent assessment requirements, shifting custodian demands or priorities, and the difficulty in initial estimation of the projected costs of assessments because the nature and extent of contamination is unknown at the outset of the project.

#### **Fisheries and Oceans Canada: Assessment of Minor Shore Lights Multiple Locations across Canada**

The Fisheries and Oceans Canada (DFO) is the custodian of a diverse array of urban, rural (mostly coastal) and remote properties. DFO is one of the largest custodians of real-property within the federal government, with interest in more than 8200 properties across the country. The Department is a program manager, regulator and facilitator; a building owner; an operator; and a manager of assets such as buildings, vehicles, aircraft, vessels and harbours.

Minor Shore Lights have served as navigational aids to vessels for centuries. Of DFO's entire property portfolio, approximately 2200 properties are classified as Minor Shore Lights. There are a variety of different types of Minor Shore Lights under the custodianship of DFO, including those with an aluminum/steel skeleton tower, a wooden structure, or a fibreglass cylindrical structure, among others. These aids are fixed in place, equipped with a light, and can also include former light stations. Historically, the use of mercury baths, compressed gas, batteries and lead-based paint were common to these sites and have subsequently resulted in high levels of heavy metals, hydrocarbons and other pollutants at many of these locations.

The assessment of these properties is risk-based and takes into account the likelihood of contamination based on past and/or present operations, and the potential for risks to human health and the environment. The anticipated future use of the site is taken into account during the assessment and management of these sites, including whether or not the Department intends to retain the site or the site is being actively marketed for divestiture.

<sup>10</sup> \$2,886,247 = Five custodians transferred FCSAP funds from fiscal year 2006–2007 to 2007–2008 in the amount of \$47,810 (Natural Resources Canada [NRCan]), \$594,117 (Indian and Northern Affairs Canada [INAC] : \$154,995 (INAC-IIABL) and \$439,122 (INAC-NAO)), \$1,503,260 (DFO), \$27,921 (Correctional Service of Canada [CSC]), \$870 (National Capital Commission [NCC]). One custodian received funds from DFO Expert Support in the amount of \$712,269 (DFO).

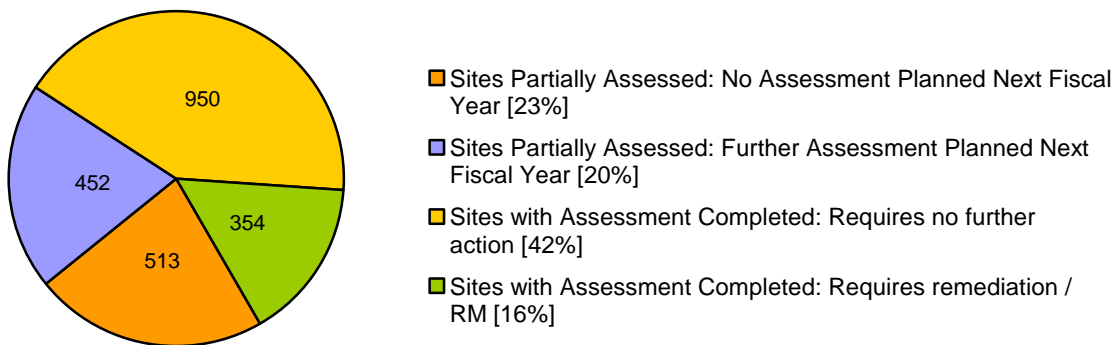
<sup>11</sup> Ten custodians transferred FCSAP funds from fiscal year 2007–2008 to 2008–2009, in the amount of \$1,843,320 (INAC : \$660,316 (INAC-NAO) and \$1,183,004 (INAC-IIABL)), \$790,465 (RCMP), \$2,537,935 (DFO), \$63,219 (Parks Canada Agency [PC]), \$128,000 (NRCan), \$1,532,145 (EC), \$43,037 (NCC), \$27,921 (CSC), \$287,600 (AAFC) and \$409,000 (TC).

### 2.1.2.2 Results of Assessment for FCSAP Assessment Projects (2007-08)

In 2007–08, assessment activity—resulting in one of the following four outcomes—was reported for 2269 sites. Figure 1 presents the distribution of the 2007–08 assessment outcomes on these sites.

There were an additional 1063 sites, which were reported as not assessed with no further action planned. These had generally been divested in-year or were the result of multiple Federal Contaminated Sites Inventory numbers that had been consolidated into one site. There were an additional 3263 active assessment sites that were not assessed in 2007-08.

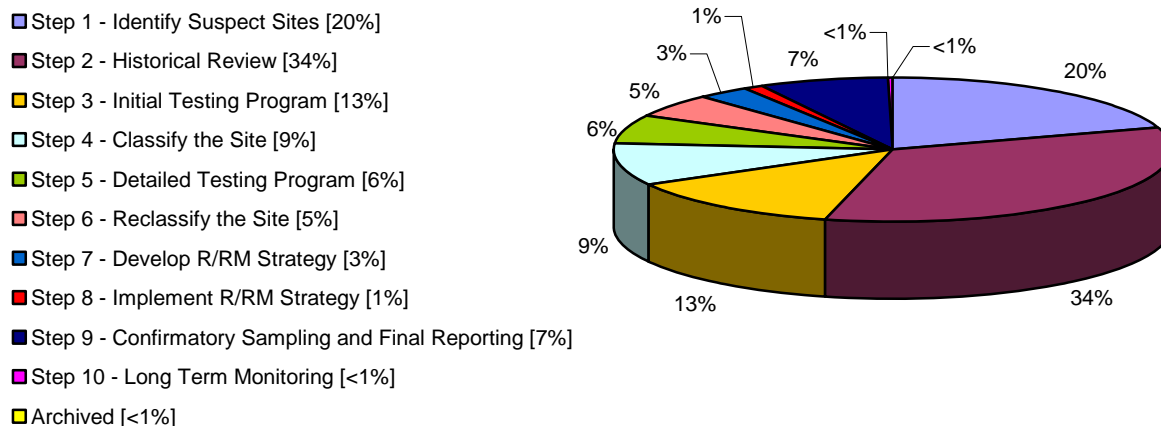
**Figure 1: FCSAP Assessment Results (2007–08)**



Referring to Figure 1 above, approximately 20% of the sites indicated the need for additional investigation and 16% of sites confirmed contamination in need of remediation / risk management. The remaining 65% of sites (for which assessment was either partially [23%] or fully [42%] completed) indicated that no further assessment activities would be undertaken in future fiscal years.

For the 2269 sites where assessment activity occurred, Figure 2 presents the last step completed in 2007–08. Seventy-six percent (76%) of sites were in the process of completing or had completed initial assessment work, which is delivered as steps 1 to 4 (identification of a suspect site, historical review, initial testing, and classification). Eleven percent (11%) of sites reported activity in the final stages of and/or the completion of a full site assessment, the second stage of assessment work which is undertaken in steps 5 and 6 (intrusive testing and site reclassification). The remaining 13% of sites had completed activities in Step 7 or higher (or were archived); and while Step 6 is normally considered the end point for the funding of assessments, occasionally—if the contamination is minimal—it is often more efficient and cost effective to undertake site remediation concurrent with assessment activities.

**Figure 2: Status of FCSAP Assessment Projects by Step (2007–08)**



Data Source: TBS Federal Contaminated Sites Inventory, June 2009

### 2.1.3 Remediation / Risk Management Projects

FCSAP supports federal custodians responsible for contaminated sites in all parts of Canada. In 2007–08, remediation / risk management accounted for 87% of total expenditure under the FCSAP and activity was reported throughout Canada at 276 remediation / risk management projects consisting of 519 sites. Within these 276 projects, 35% of projects (96 projects) reported delays or project setbacks, such as weather (12% of projects), industry capacity issues (8% of projects), the identification of new contamination (7% of projects), legal issues (3% of projects), and lack of custodian financial resources (1%).

#### 2.1.3.1 Nature of Contamination in Remediation / Risk Management Projects Funded under FCSAP

A contaminated site is an area in which substances occur at concentrations above normally occurring background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment. Determining the risk posed by the presence of these substances involves identifying the potential receptors, determining potential exposure pathways, and estimating the level of risk based on the pathways. Refer to Appendix 1 for more information on how human health and ecological risks are evaluated under FCSAP.

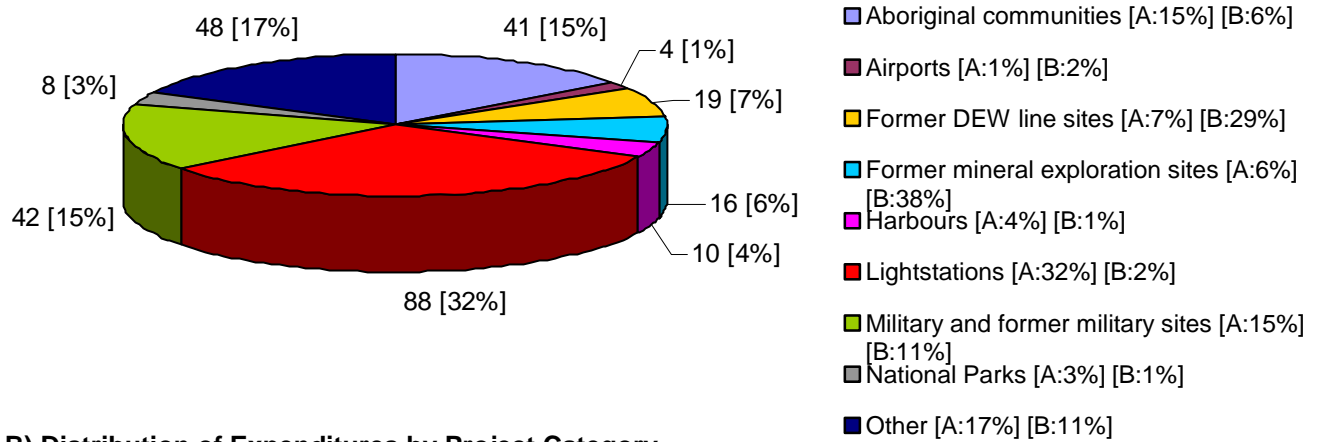
Contamination of sites is primarily a result of past practices and activities whose environmental consequences were not fully understood at the time. The size and scope of federal contaminated sites vary greatly. Common examples include abandoned mines on federal Crown land in the North, airports, government laboratories, harbours, lighthouse stations, national parks, military bases and training facilities, former DEW line sites, and Aboriginal communities (Figure 3).

In 2007–08, the greatest proportion of remediation / risk management activity was reported for DFO light station projects (32% of all remediation / risk management projects) comprising 2% of total remediation / risk management FCSAP expenditures. The most significant proportion of expenditures was reported by INAC-NAO and DND (67% of all remediation / risk management expenditures) for activities undertaken at abandoned mines (6% of all remediation / risk management projects) and former DEW line sites (7% of all remediation / risk management projects) in the Canadian North.

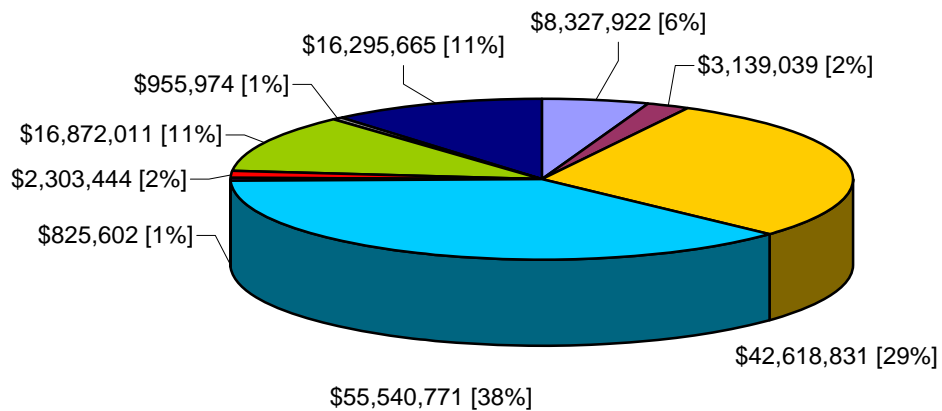


**Figure 3: Remediation / Risk Management Project Categories (2007–08)**

**A) Distribution of Projects by Project Category**



**B) Distribution of Expenditures by Project Category**



Data Source: TBS Federal Contaminated Sites Inventory, June 2009

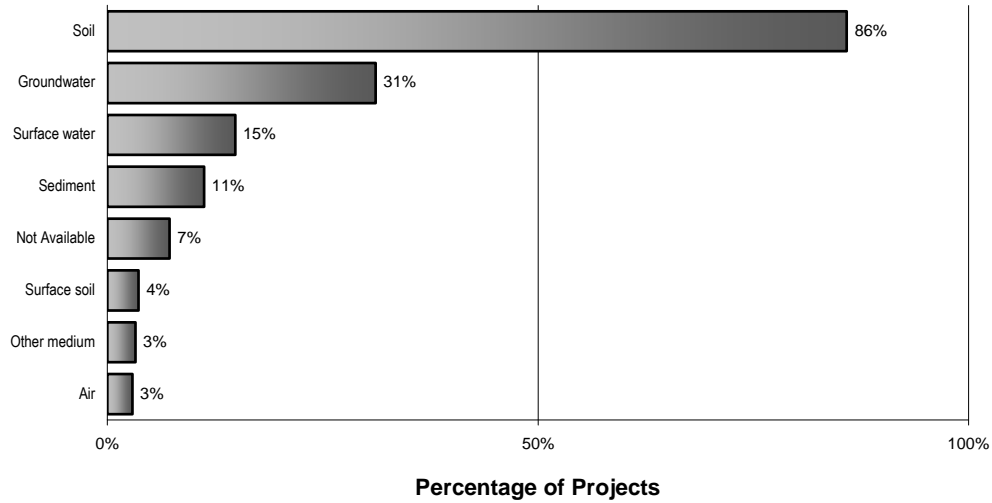
Remediation / risk management sites targeted for FCSAP funding have multiple types of affected media (Figure 4) that are contaminated by a wide variety of substances (Figure 5) resulting from one or more historic activities (Table 6). In 2007–08, soil contamination (86% of projects) and groundwater contamination (31% of projects) was most often related to the presence of metals (71% of projects), petroleum hydrocarbons (68% of projects), and polycyclic aromatic hydrocarbons (PAHs) (42% of projects). The main sources of contamination were fuelling activities/spilling (33% of projects), the presence of above-ground storage tanks (AST)/piping (20% of projects with above-ground storage tank capacity of less than 2500 litres [AST < 2500L]; 21% of projects with AST ≥ 2500L), lead/metal/PCB containing paints (28% of projects), and batteries (24% of projects) on-site.

**Table 6: Contaminant Sources Identified for Remediation / Risk Management Projects (2007–08)**

Contaminant Sources	Number of projects	Percentage of projects
Above-ground Storage Tank(s)/Piping (<2500L)	56	20%
Above-ground Storage Tank(s)/Piping (>=2500L)	57	21%
Active Waste Disposal Site	40	14%
Adjacent Property	3	1%
Batteries	66	24%
Burn Pit	21	8%
Chemical Storage / Spill	11	4%
Creosote / Chromated Copper Arsenate Materials	2	1%
Dredging Materials	1	0.3%
Fill Materials	13	5%
Fire Fighting Training Area	5	2%
Firing Range Operations	6	2%
Fuelling Activities / Spill	90	33%
Galvanized Steel	5	2%
Golf Course Maintenance / Landscaping Activities	0	0%
Hazardous Construction Materials	9	3%
Historical Vessel Activities	7	3%
Inactive Waste Disposal Site	35	13%
Lead/Metal/PCB-Containing Paint	78	28%
Mercury Bath	23	8%
Mining and/or Milling Industries	15	5%
Miscellaneous On-Shore Harbour/Port Activities	6	2%
Oil and Gas Extraction Activities	0	0%
Other	55	20%
Other Waste Materials	9	3%
PCB Storage	2	1%
Pesticide / Herbicide Dump	2	1%
Petroleum Products Storage Area	11	4%
Road Salt Storage / Application	9	3%
Sewage / Liquid or Sewage Effluent	5	2%
Snow Disposal	0	0%
Tires	1	0.3%
Underground Storage Tank(s)/Piping	28	10%
Unknown/Unsure	4	1%
Waste Storage	17	6%

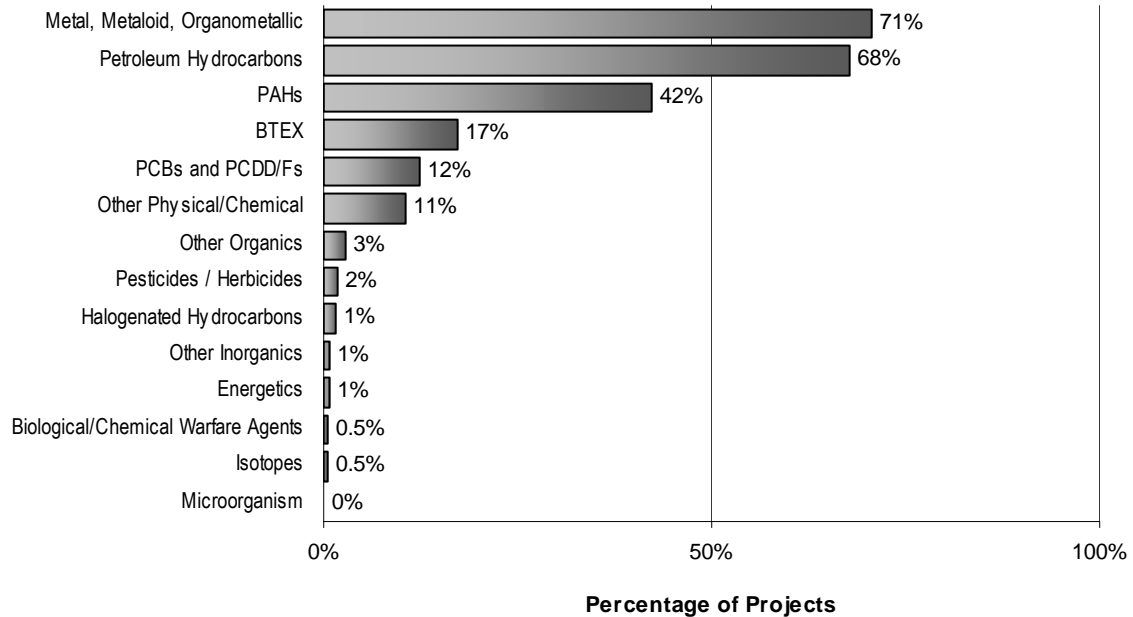
**Figure 4: Contaminated Media at Remediation / Risk Management Sites (2007–08)**

Data Source: TBS Federal Contaminated Sites Inventory, June 2009



**Figure 5: Types of Contamination at Remediation / Risk Management Sites (2007–08)**

Data Source: TBS Federal Contaminated Sites Inventory, June 2009



The Physical/Chemical category includes such factors as temperature, pH, turbidity, and total dissolved solids.

### **2.1.3.2 Location and Distribution of FCSAP Remediation / Risk Management Projects**

Due to the large number of remediation / risk management projects funded by FCSAP in 2007–08, for the purpose of distribution analyses the projects have been categorized based on their total expected completion costs. The estimated completion costs serve two functions: (1) to determine whether the project approval submission follows the streamlined or regular risk evaluation process<sup>12</sup> and (2) to provide the FCSAP Secretariat with information useful for work-planning and estimating future demands on the program.

Total expected completion costs are structured as follows:

- less than or equal to \$250,000
- greater than \$250,000 up to and including \$1,000,000
- greater than \$1,000,000 up to and including \$10,000,000
- greater than \$10,000,000

A detailed summary of the provincial/territorial distribution of remediation / risk management projects funded in 2007–08 is provided in Appendix 2, and the national distribution is mapped in Figure 6. The map identifies the number and location of projects with expected completion costs less than or equal to \$10 million and projects with expected completion costs greater than \$10 million. A large number of small projects that fall under DFO are distributed along the coastlines. High-cost projects (with total estimated expenditures of greater than \$10 million) managed by INAC-NAO and by DND are concentrated in northern Canada.

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<sup>12</sup> The streamlined process refers to the provision of an NCS or FCSAP score for projects with a total estimated project cost of \$50,000 while the regular process refers to the provision of an NCS or FCSAP score as well as the completion of an ecological risk evaluation and a preliminary quantitative risk assessment for the project. Refer to Appendix 1 for details on these processes.

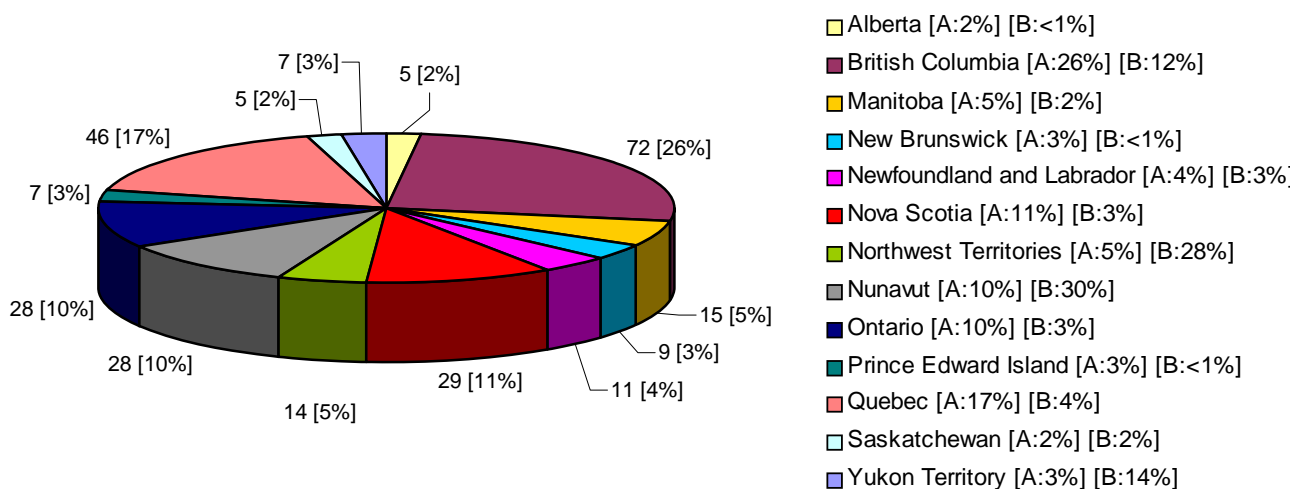
Figure 6: National Distribution of FCSAP Remediation / Risk Management Projects (2007–08)



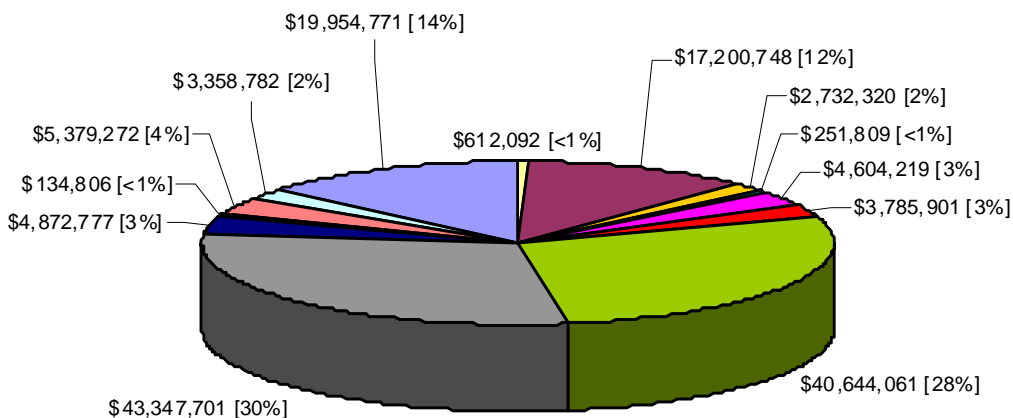
The distribution of remediation / risk management projects is greatest in British Columbia (26% of projects), Atlantic Canada<sup>13</sup> (21% of projects), and Quebec (17% of projects). However, when the location and expenditure data are compared, it becomes clear that the number of projects is not directly related to the overall project expenditures. Together, British Columbia, Quebec, and Atlantic Canada account for 64% of the number of projects but less than one quarter (<23%) of the associated expenditures. Similarly, northern Canada—Nunavut, Yukon, and the Northwest Territories—has only 18% of the projects but accounts for nearly three quarters (72%) of the FCSAP expenditures. The remaining 18% of projects and >5% of expenditures are distributed among the Prairies. (Figure 7)

**Figure 7: National Distribution of Remediation / Risk Management Projects (2007–08)**

**A) Distribution of Projects by Province/Territory**



**B) Distribution of Expenditures by Province/Territory**



<sup>13</sup> Atlantic Canada includes: New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador.

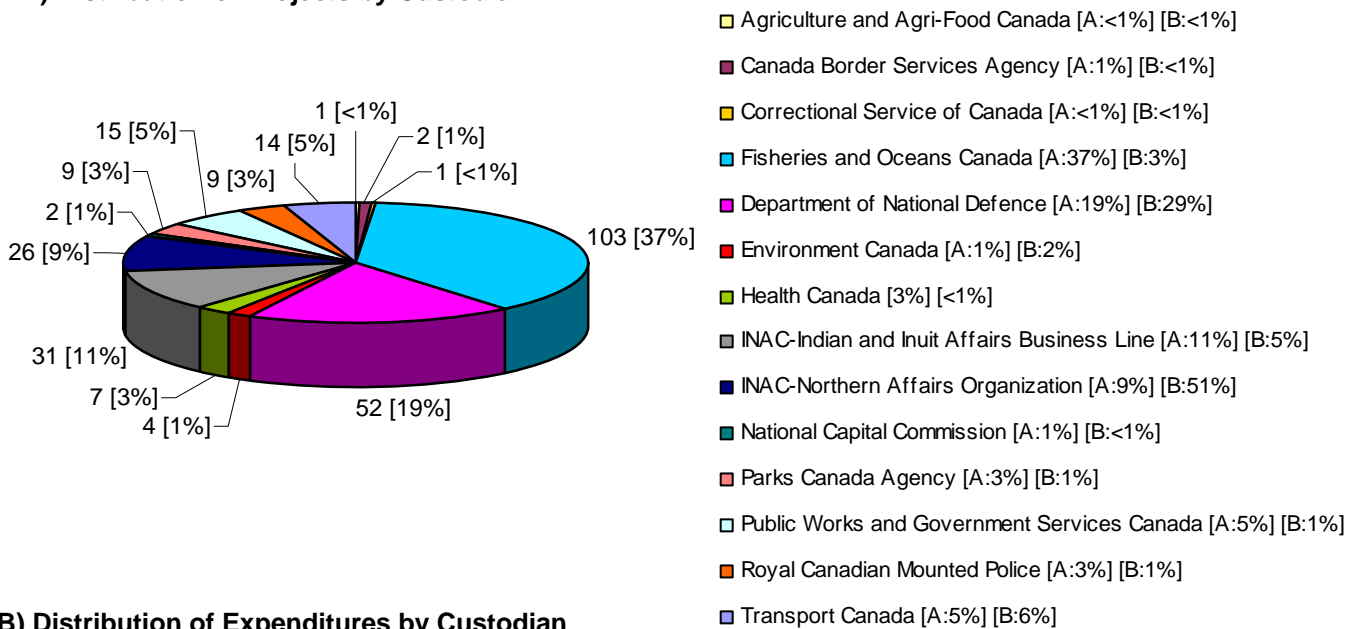
The relatively large concentration of remediation / risk management projects being undertaken in Quebec, Atlantic Canada, and British Columbia (Figure 7) is the direct result of many smaller-scale projects (such as light stations and small-craft harbours) that are being managed by DFO. As an overall percentage, in 2007–08 DFO was responsible for 37% of projects but only received 3% of the FCSAP annual funding allocated to remediation / risk management projects.

Unlike DFO, DND and INAC have fewer projects but they tend to be larger—primarily abandoned mines and former DEW line sites in the Canadian North. Located in Nunavut, the Yukon, and the Northwest Territories, these projects are associated with significant costs for logistics. In 2007–08 alone, DND and INAC-NAO combined spent \$118,393,842 (80%) of the FCSAP funds allocated to remediation / risk management on 78 (28%) projects.

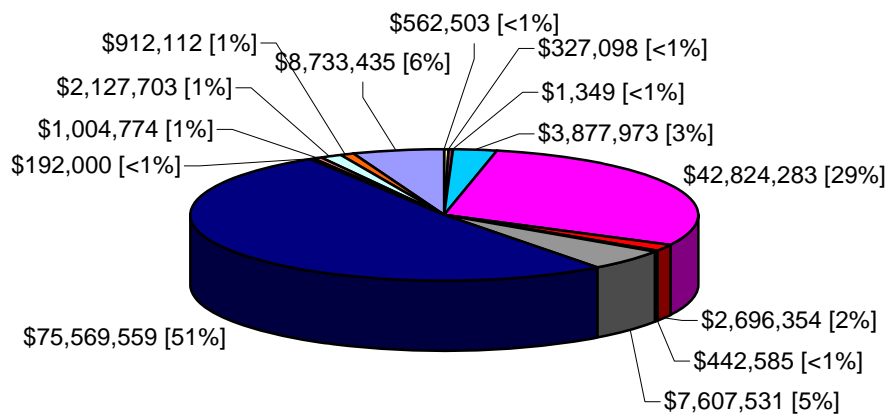
Refer to Figures 8A/B for details of the 2007–08 distribution of projects and expenditures by custodian.

**Figure 8: Distribution of Remediation / Risk Management Projects by Custodian (2007–08)**

**A) Distribution of Projects by Custodian**



**B) Distribution of Expenditures by Custodian**



### **2.1.3.3 Explanation of Financial Variance for FCSAP Remediation / Risk Management Projects (2007–08)**

As indicated in Table 3, the total funding approved in 2007–2008 for FCSAP remediation / risk management projects was \$192,689,953. Over the course of the year, custodians contributed funds amounting to \$19,182,048, and spent \$146,879,259 of FCSAP funding. The variance between allocated FCSAP funding and actual expenditures is \$51,443,262, after adjusting for the funds transferred from the previous fiscal year (\$5,632,568<sup>14</sup>). This variance is due to several factors:

1. Custodians rescheduled some planned 2007–2008 work activities for the next season, transferring FCSAP funding in the amount of \$35,154,788<sup>15</sup> to fiscal year 2008-2009.
2. AAFC spent \$62,503 of their approved FCSAP assessment funding on their remediation / risk management projects.
3. INAC-IIABL spent \$418,403 of their approved FCSAP remediation / risk management funds on assessment projects.
4. INAC-NAO spent \$79,672 of FCSAP remediation / risk management funds on program management activities.
5. FCSAP funds in the amount of \$15,852,902 were not spent. Reasons for this funding not being spent can include the following:
  - change in scope of work
  - actual costs different from estimates
  - some activities were postponed to future years
  - required access to site was not possible due to weather, transportation, or other factors
  - litigation or legal issues prevented work from proceeding

### **2.1.3.4 Remediation / Risk Management Project Achievements**

Under normal conditions, the implementation of the remediation / risk management plan falls under Step 8 of the Ten Step Process. Step 8 is composed of a wide variety of activities, which include evaluating the available remediation / risk management technology, performing cost-benefit analyses, selecting a contractor, and obtaining the necessary permits (i.e., water licence, land use permit, or approval under the *Canadian Environmental Assessment Act*). Because of the large number and variety of activities that can be undertaken under Step 8, it is often many years before a project is ready to proceed to Step 9. In Step 9 of the Ten Step Process, confirmatory sampling and final reporting are completed. Following Step 9, contaminated sites are considered to have been “addressed,” other than where long-term monitoring (Step 10) is required. In 2007–08, approximately one third of sites were reported as Step 9 and 198 sites were marked as completed.

Figure 9 provides an overall picture of the highest step in which work was undertaken based on 2007–08 reporting and does not imply that the step is complete. Data are compiled at the project level and include two caveats: (1) not all sites in a project are necessarily in the same step and (2) the step is not necessarily complete — a project will often work through the same step for a number of years before proceeding to the next stage of the program.

Because remediation and risk management are non-linear processes, occasionally some projects experience an apparent “jump” in the step that is reported at fiscal year end. This is often the result of simultaneous assessment and remediation work occurring on larger projects. With complex multi-site

<sup>14</sup> Four custodians transferred FCSAP funds from fiscal year 2006–2007 to 2007–2008, in the amount of \$143,166 (HC), \$3,985,443 (INAC : \$2,694,200 (NAO) and \$1,291,243 (IIABL)), \$882,086 (CSC), and \$621,873 (PC). In 2006–07 two custodians had identified that they were transferring funds to 2008–09. Of these funds, TC reported that they returned \$2,964,000 to the fiscal framework and transferred \$5,710,000 originally allocated in 2006–07 to fiscal year 2008–09. This includes assessment funding in the amount of \$459,457 that was transferred to 2007-08 with the intention of being spent on remediation / risk management projects. DFO transferred \$3,360,000 originally allocated in 2006–07 to fiscal year 2008–09.

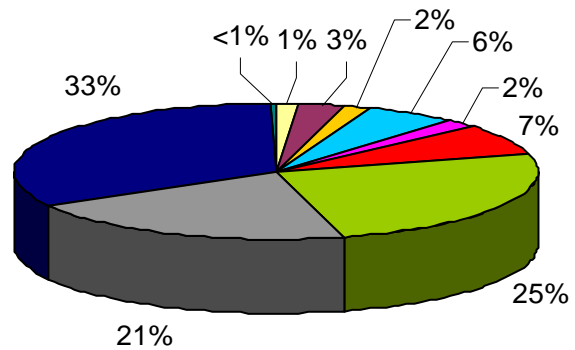
<sup>15</sup> Eight custodians transferred FCSAP funds from fiscal year 2007–2008 to 2008–2009, in the amount of \$2,532,000 (TC), \$19,748,371 (INAC : \$17,258,825 (NAO) and \$2,489,546 (IIABL)), \$526,082 (PC), \$6,636,211 (DFO), \$1,060,737 (CSC), \$731,781 (HC), \$1,251,751 (RCMP), and \$2,667,855 (EC).



projects, remediation may be occurring at one or more sites while assessment work or remediation planning is being undertaken at others. This apparent “back-tracking” of steps can also be related to the discovery of previously unidentified contamination, the need for additional delineation, and/or the overhaul or enhancement of an existing remediation plan, with the result that more work may be required than was previously anticipated. Therefore, the last step completed or the highest step with activity that is reported at the end of the fiscal year will reflect this change. Consequently, the proportion of projects within a given step (Figure 9) will reflect only the most advanced part of the project. The activities and expenditures for all remediation / risk management projects with FCSAP year-to-date expenditures greater than \$1 million are summarized in Figure 10.

**Figure 9: Status of FCSAP Remediation / Risk Management (RM) Projects by Step (2007–08)<sup>16</sup>**

- Step 1 - Identify Suspect Sites [1%]
- Step 2 - Historical Review [3%]
- Step 3 - Initial Testing Program [2%]
- Step 4 - Classify the Site [6%]
- Step 5 - Detailed Testing Program [2%]
- Step 6 - Reclassify the Site [7%]
- Step 7 - Develop R/RM Strategy [25%]
- Step 8 - Implement R/RM Strategy [21%]
- Step 9 - Confirmatory Sampling and Reporting [33%]
- Step 10 - Long Term Monitoring [<1%]





Data Source: TBS Federal Contaminated Sites Inventory, June 2009

<sup>16</sup> A small percentage of these remediation / risk management projects are found in early steps of the 10-step for a few reasons: unexpected contamination and/or addition of new sites to a project may require stepping back from remediation activities and conduct additional assessment activities at those sites.

**Figure 10: Progress of Remediation / Risk Management Projects Funded under FCSAP with Project Expenditures Greater than \$1 Million (2007–08)**

Federal Custodian	Project	Steps in the Ten Step Process (from the Federal Approach to Contaminated Sites)										FCSAP Funds spent on project (\$) during FY 07–08	FCSAP Funds spent on project (\$) since FY 03–04	
		1	2	3	4	5	6	7	8	9	10			
<b>Remediation / Risk Management Projects</b>														
DFO	Belleville SCH												464,683	1,641,090
DND	5 Wing Goose Bay												3,315,444	12,913,025
DND	14 Wing Greenwood												808,053	5,378,363
DND	CAM 1 - Jenny Lind Island												2,473,850	2,650,410
DND	CAM 2 - Gladman Point												94,316	7,948,212
DND	CAM 3 - Shepherd Bay												4,605,906	10,143,911
DND	CAM 4 - Pelly Bay												503,530	5,474,586
DND	CAM 5 - Mackar Inlet												3,540,395	3,729,627
DND	Colwood Aggregate												2,895,982	6,415,694
DND	DYE M - Cape Dyer												5,135,020	26,794,104
DND	FOX 5 - Broughton Island												223,505	8,046,152
DND	FOX M - Hall Beach												8,584,748	27,197,320
DND	PIN 3 - Lady Franklin Point												102,113	1,188,453
DND	PIN 4 - Byron Bay												1,979,982	3,864,034
DND	Shea Heights/ Southside Tank Farm												727,251	1,208,215
DND	Suffield EPG												328,356	1,464,322
DND	Valcartier TCE												2,915,968	14,915,905

 : Steps completed up to the end of FY 2006–07  
 : Steps with work undertaken during FY 2007–08

\* Funds spent in FY 2003–04 and 2004–05 under the Federal Contaminated Sites Accelerated Action Plan (FSCAAP)

**Figure 10 (continued): Progress of Remediation / Risk Management Projects Funded under FCSAP with Project Expenditures Greater than \$1 Million (2007–08)**

Steps in the Ten Step Process (from the Federal Approach to Contaminated Sites)													
Federal Custodian	Project	1	2	3	4	5	6	7	8	9	10	FCSAP Funds spent on project (\$)	FCSAP Funds spent on project (\$)
												during FY 07–08	since FY 03–04*
<b>Remediation / Risk Management Projects</b>													
EC	Pacific Environmental Centre											2,523,305	7,845,254
HC	Moose Factory Hospital											144,000	1,308,182
HC	Weagamow Lake											76,500	1,562,162
INAC-IIABL	1550 Clifford Road											113,000	1,245,430
INAC-IIABL	Barrenlands /Brochet Frontier School											37,476	2,385,392
INAC-IIABL	Former God's Lake School Tankfarm											250,560	1,006,044
INAC-IIABL	Former Red Sucker Lake School Tankfarm											720,720	1,202,663
INAC-IIABL	Gitxaala Nation Former Power House											1,690,913	3,918,130
INAC-IIABL	God's Lake Band Tankfarm											250,560	1,171,545
INAC-IIABL	Mathias Colomb Area 5B											625,600	1,965,600
INAC-IIABL	Sandy Lake Remediation Project											833,380	1,407,898
INAC-IIABL	Wapekeka Soil Remediation Project											1,480,000	1,480,000
INAC-NAO	Axe Point											1,481,313	2,218,024
INAC-NAO	BAR D - Atkinson Point											3,843,779	5,651,241
INAC-NAO	CAM F- Sarcpa Lake											5,129,352	13,255,485
INAC-NAO	Clinton Creek Mine											147,686	2,307,336
INAC-NAO	Colomac Mine											11,730,181	67,468,314

||||| : Steps completed up to the end of FY 2006–07

||||| : Steps with work undertaken during FY 2007–08

\* Funds spent in FY 2003–04 and 2004–05 under the Federal Contaminated Sites Accelerated Action Plan (FSCAAP)

**Figure 10 (continued): Progress of Remediation / Risk Management Projects Funded under FCSAP with Project Expenditures Greater than \$1 Million (2007–08)**

Steps in the Ten Step Process (from the Federal Approach to Contaminated Sites)												FCSAP Funds spent on project (\$) during FY 07–08	FCSAP Funds spent on project (\$) since FY 03–04*	
Federal Custodian	Project	1	2	3	4	5	6	7	8	9	10			
<b>Remediation / Risk Management Projects</b>														
INAC-NAO	Contact Lake												601,759	1,127,896
INAC-NAO	Discovery Mine												1,021,803	8,333,816
INAC-NAO	Faro Mine												15,537,999	65,999,183
INAC-NAO	FOX C - Ekalugad Fiord												5,009,951	14,328,319
INAC-NAO	Giant Mine												10,752,398	47,725,138
INAC-NAO	Johnson Point												382,897	1,952,815
INAC-NAO	Mount Nansen Mine												1,062,005	5,004,826
INAC-NAO	Port Radium Mine												4,012,197	10,099,631
INAC-NAO	Radio Island												2,906,473	6,705,672
INAC-NAO	Roberts Bay Mine												465,374	1,147,686
INAC-NAO	Silver Bear Mines												1,072,576	4,163,008
INAC-NAO	Tundra-Taurcanis Mine												4,700,244	10,179,121
INAC-NAO	United Keno Hill Mine												3,043,848	13,182,720
TC	Bushell Public Port												2,985,241	5,675,207
TC	Former Remote Radar Site 59												102,367	3,493,854
TC	Fort Nelson Airport												2,456,623	2,456,623
TC	Nitchequon												254,981	3,588,350
TC	Rock Bay												1,341,938	12,154,937

||||| : Steps completed up to the end of FY 2006–07

||||| : Steps with work undertaken during FY 2007–08

\* Funds spent in FY 2003–04 and 2004–05 under the Federal Contaminated Sites Accelerated Action Plan (FSCAAP)

### 2.1.3.5 Activities at Remediation / Risk Management Projects

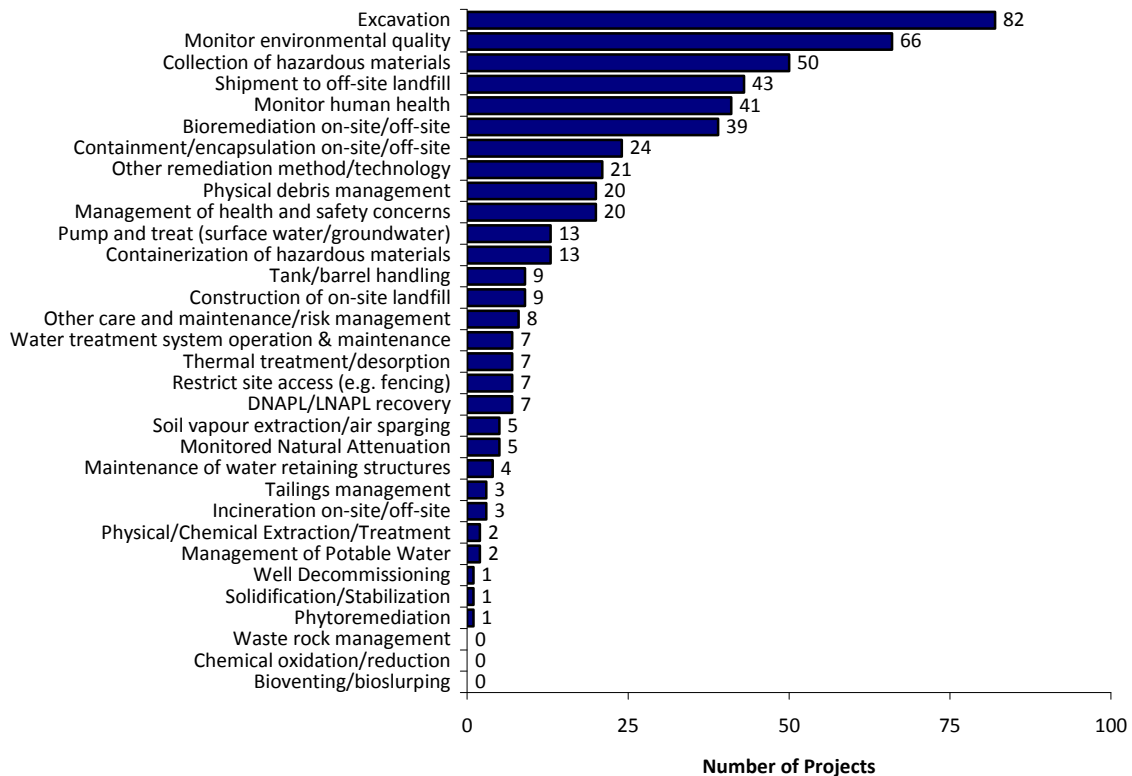
#### Remediation / Risk Management Activities

In 2007–08, 200 of 276 remediation / risk management projects undertook one or more remediation / risk management activity as part of Step 8 of the 10-step process. Of these 200 projects, 183 projects (66%) were reported as having active remediation / risk management activity (i.e. Step 8 B/C/D)<sup>17</sup>, which is significantly higher than 2006–07, when only 44% of projects were actively being remediated / risk managed. The remaining 17 remediation / risk management projects reported activities in Step 8A.

A total of 513 remediation / risk management activities occurred across these 183 projects (123 (68%) of the 183 projects reported concurrent, multiple remediation / risk management activities). In total, 29 different classes of remediation / risk management activity were undertaken (Figure 11).

As in 2006–07, the most common remediation activities for 2007–08 were soil excavation (82 projects), the collection of hazardous materials (50 projects), and bioremediation (39 projects). The most common risk management strategies were the implementation of environmental (66 projects) and human health (41 projects) monitoring programs.

**Figure 11: Remediation / Risk Management Activities Undertaken in 2007–08**



<sup>17</sup> Activities under step 8 can be categorized as active, being risk-reducing activities (Steps 8 B (removal of contaminated media off-site) / 8 C (treatment of contaminated media) / 8 D (containment or other risk reduction activities)) and planning activities (Step 8 A). As an example, activity under Step 8 A could include technology evaluation or contractor selection.

### **3.0 2007–08 Program Achievements: Linkages**

In addition to its primary objectives, FCSAP provides opportunities to maximize value for money by promoting linkages with other government of Canada socio-economic priority initiatives. Examples include links with skills development for, and training and employment of, Canadians, particularly in Aboriginal communities and in northern or rural areas; and competitiveness and technological advancement in the environment industry. Although custodians are generally responsible for identifying opportunities to incorporate such linkages into the management of their contaminated sites portfolio, they are largely supported in these activities by a number of other departments where there is alignment with departmental mandates.

Human Resources and Skills Development Canada has committed to working with custodians, Aboriginal organizations, the Environmental Careers Organization (ECO Canada), the private sector, learning institutions, and other stakeholders, to develop synergies between investments in the cleanup of contaminated sites and capacity building, for individual Canadians through training and skills development and for the environmental industry as a whole.

Similarly, through its expert support role, PWGSC, with support from Industry Canada, provides information on innovative technologies so that custodians, other levels of government, and industry can benefit from the technological advances that will accrue from this long-term program. PWGSC also provides liaison with the environment industry that delivers the remediation services required for program implementation, so that industry is aware of remediation requirements and can build capacity to meet projected future demand.

#### **3.1 Key Activities in 2007–2008**

##### **3.1.1 Socio-Economic**

In 2007–08, ECO Canada tabled the report *When Supply does not Meet Demand: Labour Gaps and Issues in Canada's Contaminated Sites Sector – 2008*, which built on ECO Canada's previous study completed in 2006–07 *Who will do the Cleanup? Canadian Labour Requirements for Remediation and Reclamation of Contaminated Sites – 2006–2009*. The purposes of these studies were: (1) to provide a clearer picture of the labour demand for contaminated sites work; (2) to offer recommendations for next steps, which may include additional examination of the existing and forecasted labour supply, an analysis of training and educational gaps, and the development of procurement policies that reflect labour market reality and identified best practices; and (3) to build greater industry awareness and support for Government and private sector contaminated sites policies.

In response to the positive social and economic outcomes projected by ECO Canada, FCSAP has collected detailed data on the demand for Aboriginal skills and services generated by remediation / risk management projects funded under the Program. Overall in 2007–08, minimum levels of Aboriginal/Inuit employment (as stipulated by Comprehensive Land Claim Agreements in the North) were generally met or surpassed: eight custodians reported employing 663 Aboriginal individuals and training 202 Aboriginal individuals at 56 projects.

Examples of the range of FCSAP activities being undertaken in support of economic development and training for Aboriginal people in the environmental sector are highlighted below:

- Through the Procurement Strategy for Aboriginal Business and the Aboriginal Benefits Packages, and by soliciting bids locally on lower-value contracts, INAC is bringing socio-economic benefits to local communities, where possible. The objective of the Procurement Strategy is to maximize Northern and Aboriginal community, business and individual participation, as well as economic development opportunities. The Aboriginal Benefits Strategy, which includes an Aboriginal Benefits Plan, is part of the overall competitive procurement process.
- DND is committed to encouraging the training and employment of Aboriginal people across Canada. DND has entered into co-operative agreements with the Inuvialuit and the Inuit people of the Yukon, Northwest Territories and Nunavut, for the cleanup of 21 contaminated sites. These

agreements contain clearly-marked requirements regarding the minimum Aboriginal employment content, as well as the minimum Aboriginal contracting content for each site. This has resulted in the successful training and employment of many Aboriginal people in the North as well as the use of Aboriginal firms to complete work on these sites.

- EC has developed a Student Mentoring Program to guide students into the environmental industry. Over the longer term, the objective is to enlarge the pool of technical talent accessible to EC and the environmental industry in general.
- By encouraging the participation of its Aboriginal and Inuit employees in the remediation and risk management of contaminated sites in the North, the Parks Canada Agency (PC) is contributing directly to the Northern Strategy in the area of environmental protection. The assessment of Stokes Point, a former DEW line site located along the coast of the Beaufort Sea in Ivvavik National Park, Yukon Territory, is a concrete example of environmental protection with links to the Northern Strategy. Through consultation with local Inuvialuit stakeholders and federal departments, an advisory committee has been established. The objective of the committee is to study and approve proposed cleanup criteria as well as the development of a future remediation plan.
- TC is committed to using the Government of Canada's Aboriginal Set-Aside and Procurement Strategy Program for Aboriginal Business for projects in the North. In 2007-08, TC employed between 5-7 aboriginals for two weeks for the Airport Apron and Sea Can Drum Cache projects in Iqaluit. In addition, aboriginal sub-contractors were employed for remediation work at Inuvik and Norman Wells in the Northwest Territories. Contaminated site projects have social, environmental and economic benefits for local communities. These projects inject revenue into the local economies not only through employment but also local procurement of goods and services. For projects in the North, approximately half of the expenditures are spent within the local community.

## **Indian and Northern Affairs Canada – Northern Affairs Organization**

INAC-NAO is the custodian of most federal lands in the North. In the Northwest Territories and Nunavut, the NAO holds direct responsibilities for assessment and remediation of identified and suspected contaminated sites. Within the Yukon, the Organization's activities are guided by the requirements of the Devolution Transfer Agreement between the federal and Yukon governments, and responsibilities for contaminated sites are shared between the two levels of government.

As assessment and remediation / risk management activities are carried out in the North, the NAO strives to create social and economic benefits through direct employment of local people, support to local businesses, and training programs that develop local capacity and build skills. Commonly procured goods and services from local businesses include professional services (i.e., consulting, trades, remediation, construction, laboratory), winter road construction, transportation services, air charters, equipment rentals, and fuel.

Overall in 2007–08, a greater percentage of employees were northern Aboriginal, more employees received training, and a greater number of northern suppliers were hired than in 2006–07.

### **Employment and Business in the North (2007–08)**

In 2007–08, the total reported employment for NAO-managed sites was 1027 people, down 28 people from the previous year. Despite the overall decrease in jobs in 2007–08, the proportion of Northern and Aboriginal employees increased: 73% of employees were from the North, and 49% of employees were Aboriginal. Twenty-eight sites reported doing business with 929 northern suppliers in 2007–08, of which 187 were northern Aboriginal suppliers. The total value of business with northern suppliers was roughly \$25 million, 53% of which was from northern Aboriginal suppliers.

### **Workforce Training (2007–08)**

Fifteen sites reported providing training to approximately 1460 employees in 2007–08, which is over twice the number of employees who were reportedly trained in 2006–07. Of the 1460 people who were trained in 2007–08, 73% were northerners and 26% were northern Aboriginal people. In total, 7278 hours of training were reported at sites in 2007–08, up from 5689 hours reported in 2006–07.

Source: *Performance Report 2007–08*, Indian and Northern Affairs Canada, Contaminated Sites Program



### 3.1.2 Innovative Technology

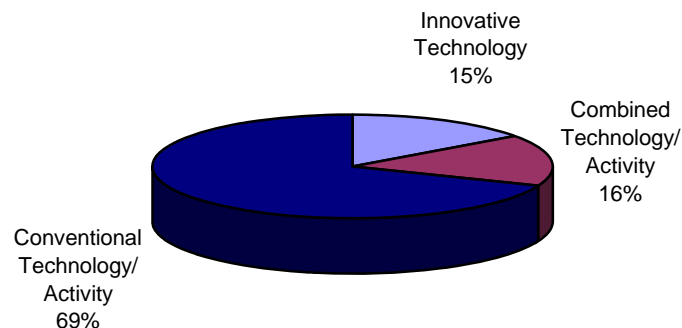
The scope of FCSAP presents a valuable opportunity for the Canadian remediation industry sector to respond to the needs and challenges of cleaning up federal contaminated sites by providing effective new solutions.

For the current purposes of FCSAP, the term “innovative technology” is defined as any treatment method for soil, groundwater or vapour, excluding traditional excavation and disposal or pump and treat technologies (i.e., *ex situ* treatment technologies where cost and performance data are readily available).<sup>18</sup> However, the way that innovative technologies are analyzed is expected to evolve in future years of the Program, as technologies that were once considered innovative begin to form part of the standard suite of remediation options.

#### 3.1.2.1 2007–08 Remediation Activities and the Use of Innovative Technologies

In 2007–08, 200 of 276 remediation / risk management projects undertook one or more remediation / risk management activity as part of Step 8 of the 10-step process. Of these 200 projects, 62 projects (31%) reported using one or more types of innovative remediation technology. Among the 62 projects that used innovative technology, 30 projects (48%) used innovative technology exclusively and 32 projects (52%) used a combination of innovative and conventional technologies or activities. Entirely conventional remediation / risk management technologies or activities occurred in the remaining 138 projects (69%) (Figure 12).

**Figure 12: Conventional versus Innovative Remediation Options (2007–08)**

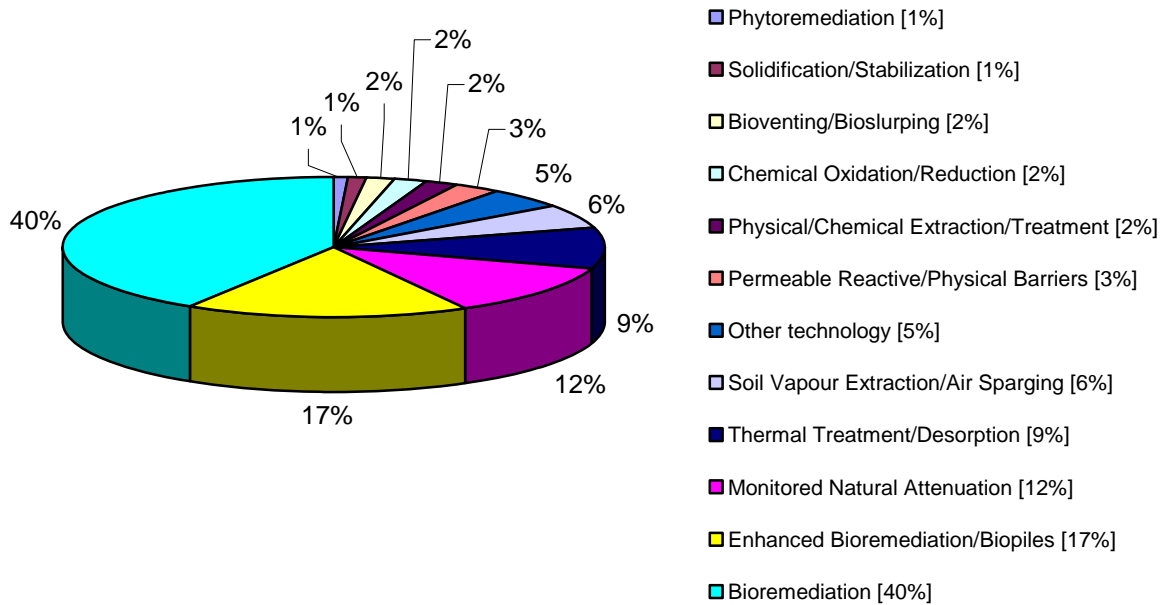


Under the current definition of innovative technology (see Section 3.1.2), 62 projects funded under FCSAP in 2007–08 incorporated one or more of the twelve types of innovative remediation technologies illustrated on Figure 13. Bioremediation accounted for the most significant proportion of innovative technologies (40%), followed by enhanced bioremediation/biopiles (17%), monitored natural attenuation (12%) and thermal treatment/desorption (9%).

In addition to the 62 projects that used innovative remediation technologies in 2007–08, innovative technologies were considered but not implemented at another 25 projects. Within this subset of projects that considered but did not implement innovative technologies, one or more of the following reasons were identified: cost (9 projects); time frame (13 projects); type of contamination (9 projects); site conditions (13 projects); public attitude/stakeholder consultation (6 projects); and/or the conventional technologies were considered most effective (15 projects).

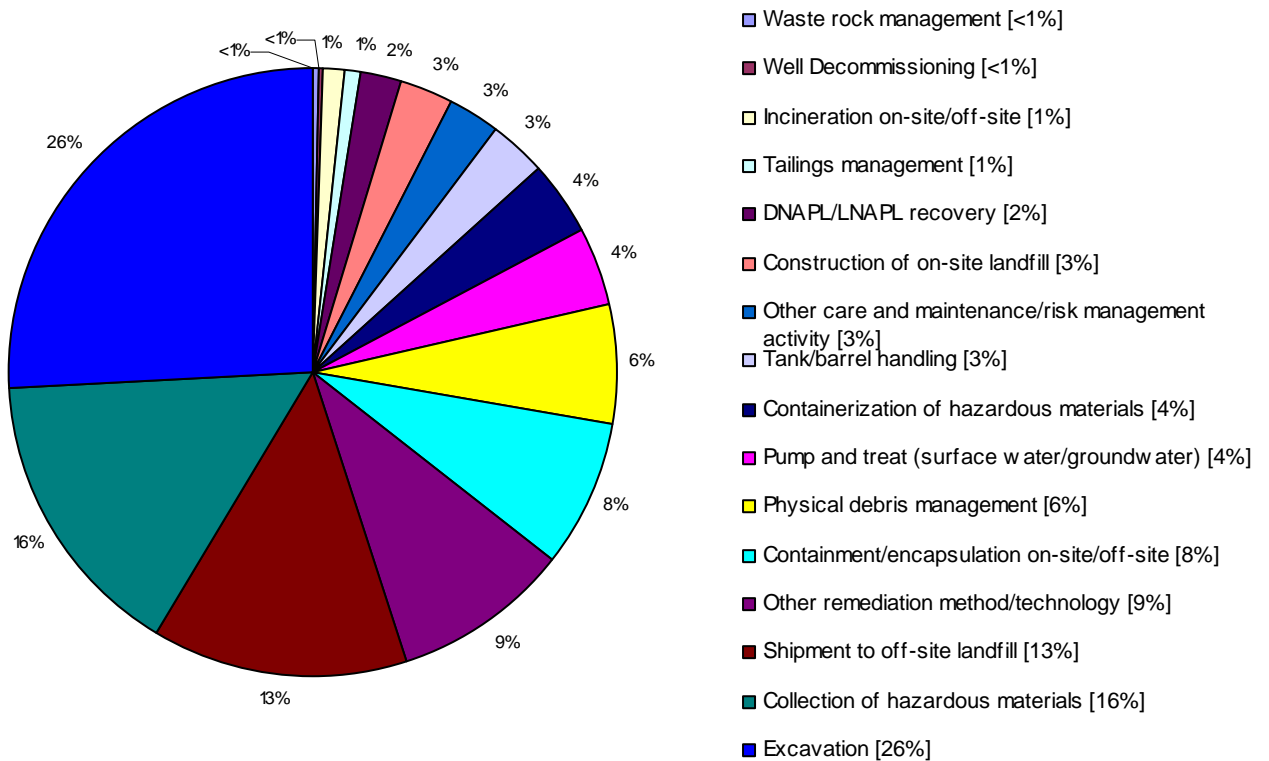
<sup>18</sup> The existing definition was intended to ensure that all possible treatment technologies applied to FCSAP sites were identified. However, this initial definition is under review, and, based on consultations within the federal contaminated sites community, it is expected that the term “innovative technology” will be revised in future years of FCSAP. Thus, the annual statistical analysis of innovative technology uptake will not be directly comparable year over year until this definition is finalized.

**Figure 13: Breakdown of Innovative Remediation Activity (2007–08)**



Over the same period, a number of conventional remediation technologies/activities occurred, as illustrated on Figure 14. Excavation accounted for the most significant proportion of conventional remediation technologies/activities (26%), followed by collection of hazardous materials (16%) and shipment to off-site landfills (13%).

**Figure 14: Breakdown of Conventional Remediation Activity (2007–08)**



In a year-over-year comparison of remediation technology/activity by project, there was an increase in the number of projects in 2007–08 (276 vs. 61 in 2006–07) and an increase in the percentage of projects where remediation / risk management activities were taking place (72% vs. 28% in 2006–07). This reflects the increase in the number of new remediation / risk management projects being funded in 2007–08.

In terms of the distribution of technologies/activities within the active remediation portion of the process (Steps 8 B/C/D), in 2007-08 there was an increase in the number of projects using innovative technology (51 vs. 40 in 2006–07), but a decrease in the overall percentage of projects using innovative technology [51/183 projects (31%) vs. 40/61 projects (66%) in 2006–07]. There was also a decrease in the percentage of projects using innovative technologies exclusively [19/51 projects (48%) vs. 26/40 projects (65%) in 2006–07]. As in 2006–07, bioremediation was the most often implemented non-conventional technology in 2007–08.

## Transport Canada: Bushell Public Port Facility Remediation

The Bushell Public Port Facility (PPF) was built in 1951, on the southeastern shore of Black Bay on Lake Athabasca in Saskatchewan, and was used until the mid-1980s to supply various goods and services to local mines as well as petroleum products to the communities of Bushell and Uranium City. As the mines closed and Bushell and Uranium City shrank in size, marine activity at the Bushell facility decreased to the occasional barge.

Over the years, the storage, unloading and loading of bunker C fuel oil at the facility resulted in oil-contaminated soil, blast rock, bedrock and some sediment impacts in Black Bay. Following numerous assessments, EC's Pacific Region Environmental Services led the development of a Remedial Action Plan in early 2005 to address the remaining contamination. The Plan called for the excavation of the oil-soaked blast rock and contaminated soil. Where oil had impregnated the bedrock within cracks and fissures, the bedrock was to be blasted and removed. The excavated contaminated soil, blast rock and bedrock were to be crushed in preparation for treatment by low-temperature thermal desorption, a process where the contaminated media would be put through an incinerator to burn off the oil residue. This method was chosen due to the costs and difficulty of other treatment strategies given the remote northern location of the facility.

When tendering the remediation contract in early 2005, a sustainable development component was incorporated, resulting in an alternative remedial option being revealed during the bid process. A local contractor was aware of Saskatchewan Highways' plan to resurface the Uranium City Airport runway within the next few years, and proposed the opportunity to recycle the oil-contaminated rock and soil from the Bushell facility for use in the runway project. Given that Saskatchewan Highways would be quarrying and crushing new material and then applying oil to the crush in preparation for sealing the runway, this was considered a win-win opportunity. Saskatchewan Highways was contacted and an agreement was reached where Transport Canada would crush and mix the contaminated soil and rock to meet the required specification for the runway resurfacing, then transport it to the airport where Saskatchewan Highways would take ownership of the material. Cost savings of this option are \$1,750,000 compared to the original plan for incineration. Cost savings for Saskatchewan Highways are expected in the order of \$1,000,000. Considering the fuel savings, primarily from the incineration process that would have required nearly 1 000 000 litres of diesel fuel, this solution realizes a reduction in greenhouse gas emissions of approximately 2600 tonnes.

Transport Canada also signed an agreement with the Saskatchewan Research Council in order to transfer aggregate to them in its reclamation of the Cold War Legacy Uranium Mine and Mill Sites.



## Penhold Transmitter Bunker – PWGSC Western Region

This is a former cold war-era communications bunker site located in farmland in southern Alberta. During the decommissioning of the bunker in 2001, petroleum hydrocarbon (PHC)-impacted soils were discovered both under the bunker and alongside the structure. Since there is no documentation indicating management of fuel at the military site, it is difficult to determine the time frame and the quantity of fuel released into the environment.

Multiple investigative programs were undertaken to complete delineation and to determine the best option for remediation of the soils. Due to the large amount of overburden materials that were not impacted, the cost of removal of the clean soil to access the contamination was prohibitive. A multi-phase extraction system was selected as the best way to remove the PHC product from the groundwater matrix and was installed at the site in 2004. This contract included hydraulic ground fracturing, installation of recovery wells and networks, and the supply and operation of a multi-phase recovery system to treat groundwater.

The system consists of six recovery wells installed 6 to 9 metres below surface, connected to two recovery networks. The recovery wells consist of 50-mm diameter PVC pipes, perforated with sand packs in the active zone. The infiltration gallery for return of treated groundwater consists of a trench 20 m long by 4 m deep, excavated and backfilled with pea gravel, located approximately 20 m up-gradient of the plume. Two summer networks were added in April 2006 to enhance the system, and these additional networks vastly improved productivity of removal of product within the groundwater matrix.

The custom multi-phase extraction system consists of a steel container unit divided by a firewall into a small control room and a larger process room. The control room houses the electrical power and control components and the air compressor, and the process room contains the treatment components, including liquid ring pump, vapour-liquid separator, in-line filter, oil-water separators, and carbon vessels for water treatment. The process-room electrical equipment is equipped with explosion-proof components.

Fluid, vapour and air from the recovery wells are drawn into the network pipes and to the system by the liquid ring pump, and into the liquid-vapour separator. The vapour phase is discharged to the atmosphere. The liquid phase, consisting mainly of groundwater with diesel, is pumped to an oil-water separator. Floating product is skimmed off and transferred to two storage containers located in a lined area adjacent to the unit. The groundwater is then polished through two activated carbon vessels, and returned to the ground via the infiltration trench.

Between June 2004 and December 2008, over 4700 litres of diesel fuel have been successfully recovered from the groundwater through the system. Recovery rates have significantly dropped over the past year, however, and alternative remediation methods are now being considered to deal with the remaining PHCs in sub-surface soils.



### **3.1.3 Federal Brownfields**

For purposes of FCSAP, a federal brownfield is defined as an idle or underused property for which the Government of Canada has accepted all or partial responsibility for past environmental contamination, and that exhibits good potential for other uses (or upgrading) and/or provides viable social/economic opportunities. Brownfields are typically located in established areas, where existing municipal services are readily available, or along transportation corridors. In 2007–08, 22 projects identified the potential for one or more sites to be federal brownfields. Redevelopment plans, such as divestiture (4 project locations) or redevelopment by the federal government (2 project locations), were identified for 6 of the 22 projects.

The scope of FCSAP presents an opportunity for custodians to redevelop brownfields that are part of their real property portfolio. In 2005–06, PWGSC initiated the development of a brownfields classification tool to assist custodians in identifying candidate brownfield redevelopment sites. In 2006–07, PWGSC conducted several consultations with federal custodians and other levels of government in order to create a preliminary brownfields classification tool for the purposes of identifying, classifying, prioritizing and preparing brownfields sites, from the perspective of program planning and divestiture. In order to assist in the development of individual business cases, further refinement of this tool was scheduled for 2007–08. Trials of the tool were conducted using the PWGSC Real Property Inventory database and the TBS Directory of Federal Real Property. The Brownfields Portfolio Classification Tool has been refined in consultation with custodians, based on these initial trials.

## 4.0 2007–08 Program Achievements: Program Administration

### 4.1 Expert Support and Secretariat Funding

In 2007–08, a total of \$18,179,932 was approved for Secretariat and Expert Support Services. Of this amount, \$14,995,312 was spent and \$3,184,620 was lapsed. The expenditure breakdown is provided in Table 7.

**Table 7: Summary of FCSAP Program Management Expenditures for Secretariat and Expert Support Services (2007–08)**

	Secretariat and Expert Support Services			
	Planned FCSAP Expenditures (\$)	Adjustments (\$)	Actual FCSAP Expenditures (\$)	Variance (\$) (approved + adjustment - expenditure)
Environment Canada Secretariat Expert Support	6,640,276		4,067,566	2,572,710
Treasury Board of Canada Secretariat	481,363		429,184	52,179
Health Canada Expert Support*	6,722,656		7,502,223	-779,567
Public Works and Government Services Canada	1,000,000		780,810	219,190
Department of Fisheries and Oceans Expert Support	3,335,637		2,215,529	1,120,108
<b>Total Expenditures</b>	<b>18,179,932</b>	<b>0</b>	<b>14,995,312</b>	<b>3,184,620</b>

\* Additional internal funds totalling approximately \$780,000 were allocated by Health Canada to augment FCSAP Expert Support resources

The main factor contributing to the variance (as identified by the expert support departments and the Secretariat) was the inability to staff the vacant positions funded by the Program. A lower than expected number of staff for expert support and the Secretariat functions created the inability to spend significant portions of operational funds.

### 4.2 Key Activities in 2007–08

#### 4.2.1 Federal Contaminated Sites Action Plan Secretariat

In 2007–08, the FCSAP Secretariat undertook the following work:

- Developed and co-ordinated the fall 2007 project submission and 2006-07 reporting processes, including the development and delivery of bilingual training to all custodians.
- Screened and analyzed funding proposals for eligibility, and developed funding options for committee approval and inclusion in the 2008 annual TB Submission.
- Developed and co-ordinated multi-departmental approval of the 2007 TB Submission and commenced the development of the 2008 TB Submission.
- Assisted with the completion of the FCSAP Formative Evaluation Plan, in co-operation with EC's Evaluation group.
- Maintained and upgraded the Interdepartmental Data Exchange Application (IDEA) for the 2007 project submission process and 2007–2008 reporting module.
- Prepared ministerial dockets and communication materials for ministerial announcement, in co-operation with the FCSAP communications group.
- Provided ongoing secretariat support to the CSMWG and the Federal Contaminated Sites ADM Steering committee; co-chaired monthly CSMWG meetings and organized tri-annual ADM Steering committee meetings.
- Completed, in co-operation with TBS, the draft fiscal year 2004–2005 and fiscal year 2005–2006 annual reports.
- Co-ordinated departmental review and sign-off of the Auditor General's follow-up report on federal contaminated sites released in March 2008.



- Co-ordinated the “train the trainer” session on the Canada-Wide Standard for Petroleum Hydrocarbons in soils: participants from EC Regions and HQ and from other expert support departments attended the day-and-a-half course that took place in Gatineau, Quebec.
- In consultation with TBS, assisted EC Communications with the development and approval of a FCSAP Web portal that provides general information about the program and about activities on federal contaminated sites.
- Updated the FCSAP guidance documents (Handbook, eligible costs document, FCSAP classification, Ecological Risk Evaluation 1 & 2) to assist custodians in understanding FCSAP requirements.

#### **4.2.2 Treasury Board Secretariat**

In 2007–08, the Real Property and Materiel Policy Division of TBS undertook the following work related to FCSAP:

- Supported the FCSAP Secretariat in program development activities, including the preparation of funding approval documentation, preliminary work on the Program risk profile and key performance indicators, and annual reporting.
- Assisted EC in the development of an Evaluation Plan for the FCSAP Formative Program Evaluation.
- Co-ordinated the TBS response to the Auditor General’s follow-up audit on contaminated sites, tabled in March 2008.
- Chaired and co-ordinated planning for the 2008 Federal Contaminated Sites National Workshop, held in Vancouver, British Columbia, from April 28 to May 1, 2008. The workshop brought together more than 500 federal managers, remediation specialists and industry representatives from across the country, to learn about technical, scientific and organizational innovations and best practices for the management of federal contaminated sites.
- Administered the Federal Contaminated Sites Inventory, monitored custodian reporting and data quality, and supported ongoing system improvements through creation of an interdepartmental working group.
- Participated in interdepartmental working groups and contributed to the development and refinement of program guidance material.
- Developed guidance for the preparation of contaminated sites management plans and reviewed annual submissions.
- Elaborated content for the FCSAP Web portal.

#### **4.2.3 Expert Support Departments**

In 2007–08, much of the work of expert support departments focused on the development and delivery of guidance documents and training, the provision of advice, third-party review, and the promotion of innovative technologies:

- DFO created internal inter-regional working groups (training, reporting, communications, tools, and capacity building) to track progress and help deliver Program management tools, including a draft training plan, improvements to the reporting process, information management (update the Program Activity Tracking System (PATH) DFO Expert Support data archive and retrieval tool), the final draft of the Expert Support handbook, the annual report, and major changes to DFO’s reporting mechanisms (revisions to DFO Expert Support mid-year and annual reporting templates for management of funds allocated to regions).
- DFO focused on the development, improvement and application of science-based risk assessment tools within DFO and in conjunction with HC and EC.
- EC promoted the use of widely accepted and standardized approaches to ecological risk assessment from the CCME and U.S. Environmental Protection Agency. EC also initiated the development of supplemental guidance for ecological risk assessment based on the existing CCME framework (CCME, 1996, 1997). This guidance, which comprises 13 technical modules, will provide



custodians of federal contaminated sites with nationally consistent advice with respect to ecological risk assessment and risk management of their sites.

- EC, through its Atlantic Region, chaired a task group to update/upgrade the ecological risk assessment component of the Atlantic risk-based tool. In addition, this region continued to develop a regional background-soil database and is partnering with the North American Soil Geochemical Landscape Project, a tri-national initiative led in Canada by Natural Resources Canada (NRCan) to collaborate on sampling efforts and share data sets.
- EC provided expert support advice to custodians, including DFO, other units of EC, PC, INAC, DND and PWGSC, on the best practices and management options for the remediation and risk management of federal contaminated sites.
- EC performed reviews of site classification and assessment reports and of the ecological risk evaluations (Ecological Risk Evaluation 1 and 2) and conducted site visits for projects in the regions.
- EC provided custodians with training and access to the advice of expert support departments on compliance, health and ecological risks/impacts of contaminated sites and risk-assessment approaches, as well as advice on the development of remediation / risk management plans for their sites through the facilitation of Interdepartmental Regional Working Groups.
- HC peer-reviewed risk assessment reports regarding 44 federal contaminated sites, in order to assist custodians and the Secretariat with the consistent determination of risks posed by federal contaminated sites across Canada, and as part of the FCSAP funding application process.
- HC continued work on the development and advancement of human-health-based soil quality guidelines and toxicological reference values for several chemicals that are typically found at federal contaminated sites across Canada.
- HC continued work on developing and updating the series of human-health-risk assessment guidance documents for use at federal contaminated sites, to allow for a standardized and consistent approach in assessing and quantifying the risks to human health posed by contaminants present on federal sites across Canada.
- HC provided training to the various FCSAP stakeholders in human health risk assessment and in the areas of public involvement and risk communication. This training resulted in considerable advancement in the custodians' knowledge and understanding of these areas.
- HC, EC and DFO conducted site visits to gain further understanding of the unique situations at many sites and to enable the departments to provide better guidance and advice relating to activities at contaminated sites. HC, EC and DFO also provided custodians with advice regarding risk assessments, site classifications, regulations, remedial plans, and technical requirements.
- PWGSC prepared four project management tools (Quality Management, Integration Management, Communication Management, and Risk Management) to assist custodians in better managing their contaminated sites projects. PWGSC also developed a training session for each of these project management tools. Training sessions related to these tools were presented in Ottawa, Québec, Montréal, Toronto and Calgary.
- PWGSC collected and communicated results of projects that employed innovative technologies, and shared best practices with other federal custodians, other levels of government, and the environment industry, by participating in interdepartmental regional workgroups, organizing the Innovative Remediation Solutions workshop held in Montréal in November 2007, participating in the Interdepartmental Technology Advancement Working Group, and developing the Guidance and Orientation for the Selection of Technologies database.
- PWGSC developed the Demand Forecast Analysis to share information with the private sector regarding the anticipated federal contaminated sites projects for which private sector assistance would be required to enable implementation.

Detailed information on the activities carried out by the four expert support departments (DFO, EC, HC and PWGSC) during the fiscal year can be obtained by contacting the specific expert support department directly:

- **DFO** – Expert Support Federal Contaminated Sites, Habitat Program Services Branch, Habitat Management, Oceans Sector, Fisheries and Oceans Canada, 200 Kent Street, Ottawa ON K1A 0E6.

- **EC** – Contaminated Sites Division, Environmental Protection Operations Directorate, Environment Canada, 351 St. Joseph Blvd, 15<sup>th</sup> Floor, Gatineau QC K1A 0H3.
- **HC** – Contaminated Sites Division, Bureau of Risk and Impact Assessment, Safe Environments Program, Healthy Environments and Consumer Safety Branch, Health Canada, 269 Laurier Avenue West, Ottawa ON K1A 0K9.
- **PWGSC** – National Manager, Contaminated Sites, Environmental Services Directorate, Public Works and Government Services Canada, 11 Laurier Avenue, Gatineau QC K1A 0S5.

## 5.0 Federal Contaminated Sites Financial Liability

Each year, financial information, including the overall environmental liability and contingent liability for federal contaminated sites, is reported to the Public Accounts of Canada. In the Public Accounts, total environmental liability includes the estimated costs for the management and remediation of contaminated sites and unexploded explosive ordnance-affected sites, as well as the estimated costs for decommissioning Atomic Energy of Canada Limited's nuclear facilities. For contaminated sites, a liability is accrued and an expense is recorded when the contamination occurs or when the Government becomes aware of the contamination and is obligated, or is likely obligated, to incur such costs. A contingent liability is recorded when the Government's obligation to incur these costs is unknown or unlikely, or if the amount cannot be reasonably estimated.<sup>19</sup>

The requirements for recording environmental liabilities can be found in the Treasury Board Policy on Accounting for Costs and Liabilities Related to Contaminated Sites ([www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12152](http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12152)). Additional guidance is contained in the Treasury Board Guidance on Accounting for Environmental Liabilities ([www.tbs-sct.gc.ca/rpm-gbi/doc/liabilities-passifs/liabilities-passifs-eng.aspx](http://www.tbs-sct.gc.ca/rpm-gbi/doc/liabilities-passifs/liabilities-passifs-eng.aspx)). As indicated in these documents, the environmental liability recorded for contaminated sites reflects the estimated cost of site remediation to a level appropriate to the land's current or intended federal use. Costs include any estimated expenses related to the remediation and management of federal sites associated with steps 5 to 10 of the Ten Step Process, for sites identified as a Class 1, Class 2 or, in limited cases, Class I (insufficient information) under the CCME classification. As noted in Guidance on Accounting for Environmental Liabilities, Class I sites may have a liability recorded when the federal custodian has sufficient information to determine that the Government is likely obligated to remediate the site but there are insufficient data to generate a classification under the CCME National Classification System. When a custodian intends to perform the remediation itself, the liability may include estimated project management costs. The liability amount excludes any expenses associated with determining the existence of contamination (i.e., steps 1 to 4 of the Ten Step Process), overhead costs, and project management costs internal to the custodian. This means that the costs associated with assessment (steps 1 to 4) and with care and maintenance activities are not included in the liability calculation, as they are undertaken to determine the existence and extent of contamination (assessment) or to mitigate the spread of contamination when the danger to human health or the environment is imminent (care and maintenance).

The 2007–08 Public Accounts show an increase in the accrued liability related to the management and remediation of federal contaminated sites. As of March 31, 2008, a liability of \$3.332 billion was recorded for approximately 2360 contaminated sites, compared with a liability of \$3.014 billion for 2630 sites in 2007.<sup>20</sup> For a number of reasons, not all of the contaminated sites that are included in the Public Accounts' liability totals are eligible for, or have received, funding under FCSAP. Therefore, in order to obtain a more accurate picture of the impact that FCSAP has had on liability, exceptional sites such as the Sydney Tar Ponds and Port Hope Area Initiative are removed from the total. In addition, the liability amounts were excluded for federal custodians with contaminated sites that do not participate in FCSAP. As demonstrated in Table 8, once these amounts are removed from the total liability recorded in the Public Accounts for contaminated sites, there is a \$306 million increase in liability during the period of March 31, 2007, to March 31, 2008. The majority (95%) of the net increase is attributed to an increase in the liability reported for three custodians—INAC, DND and DFO. This increase in federal environmental liability is primarily attributed to changes recorded to planned cost estimates for remediation activities of large projects. It is also attributed to the fact that increased spending on assessment activities results in a more accurate estimate of liability, often leading to an increase. Continued work on all types of FCSAP projects will result in further refinement of liability estimates, and total liability is expected to decline as sites are remediated.

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<sup>19</sup> *Public Accounts of Canada 2008*, Volume I (PWGSC, 2008), S. 2, pp. 2.10-2.11.

<sup>20</sup> *Ibid.*, S. 5, p. 5.12.

**Table 8: Adjusted Total Environmental Liability for Contaminated Sites (2007–08)**

	March 31, 2007 (\$)	March 31, 2008 (\$)
Total environmental liability <sup>21</sup>	6,061,913,899	6,668,721,493
<b>Less:</b>		
Unexploded explosive ordnance affected sites (Department of National Defence)	119,143,584	327,757,635
Atomic Energy of Canada Limited's nuclear facility decommissioning	2,927,934,000	3,008,236,000
Sydney Tar Ponds <sup>22</sup>	280,817,000	271,425,194
Port Hope Area Initiative <sup>23</sup>	387,173,243	335,373,318
Cape Breton Development Corporation	108,857,000	180,338,000
VIA Rail Canada Inc.		1,500,000
Industry Canada	132,281	99,657
National Research Council of Canada	<u>300,000</u>	<u>100,000</u>
<b>Adjusted total contaminated sites liability</b>	<b>2,237,556,791</b>	<b>2,543,891,689</b>

The information in Table 9 shows liability for contaminated sites as reported in the 2007–08 Public Accounts.

**Table 9: Federal Custodians Participating in FCSAP – Environmental Liability for Contaminated Sites**

Custodian	Opening Liability April 1, 2007 (\$)	Closing Liability March 31, 2008 (\$)	Difference
Agriculture and Agri-Food Canada	1,779,574	1,925,334	145,760
Canada Border Services Agency	867,400	769,165	(98,235)
Correctional Service of Canada	13,775,571	14,354,720	579,149
Environment Canada	63,266,228	55,520,174	(7,746,054)
Fisheries and Oceans Canada	169,196,803	223,544,198	54,347,395
Health Canada	3,197,100	2,303,800	(893,300)
Indian and Northern Affairs Canada	1,313,856,272	1,497,136,925	183,280,653
The Jacques Cartier and Champlain Bridges Inc.	1,000,000	1,000,000	0
National Capital Commission	21,794,000	24,799,000	3,005,000
Department of National Defence	378,272,040	431,514,508	53,242,468
Natural Resources Canada <sup>24</sup>	387,792,662	336,678,572	(51,114,090)
Parks Canada Agency	40,027,640	42,017,836	1,990,196
Public Works and Government Services Canada <sup>25</sup>	320,154,947	310,523,035	(9,631,912)
Royal Canadian Mounted Police	3,752,007	4,275,715	523,708
Transport Canada	<u>186,814,790</u>	<u>204,327,220</u>	<u>17,512,430</u>
<b>Total</b>	<b>2,905,547,034</b>	<b>3,150,690,202</b>	<b>245,143,168</b>

<sup>21</sup> *Public Accounts of Canada 2008*, Volume I (PWGSC, 2008), S. 5, p. 5.12.

<sup>22</sup> *Public Works and Government Services Canada Departmental Performance Report 2007–2008* (PWGSC, 2008), S. IV, Notes to the Consolidated Financial Statements (Unaudited).

<sup>23</sup> Natural Resources Canada 2008–2011 Contaminated Sites Management Plan.

<sup>24</sup> Includes the environmental liability for Port Hope Area Initiative (shared responsibility site which is managed outside of FCSAP).

<sup>25</sup> Includes the environmental liability for Sydney Tar Ponds.

## 6.0 Measuring Performance and Looking Forward

In its third year of operation, FCSAP's key achievements included the development and enhancement of program policies and procedures, and further development of guidance material and training for federal custodians. Work was carried out to address the key program-activity objectives of FCSAP, including reducing the number of high-risk sites, reducing human and ecological risks and financial liabilities, and increasing public confidence in the management of federal contaminated sites.

FCSAP spent \$188.4 million on federal contaminated sites projects, program management, Secretariat/expert support services, and PWGSC accommodation costs, with the most significant proportion of the money allocated to the execution of assessment and remediation / risk management projects. Of the total amount budgeted for project expenditures (\$217.7 million), \$165.4 million was spent, representing an increase of approximately \$2.5 million from the previous fiscal year. As a result of the amounts spent in 2007–08, activities were undertaken at 276 remediation / risk management projects (consisting of 519 sites) and 590 assessment projects (consisting of 2269 sites) across Canada.

As of March 31, 2008, a liability of \$3.332 billion was recorded for approximately 2360 contaminated sites, compared with a liability of \$3.014 billion for 2630 sites in 2007.<sup>26</sup> This increase in federal environmental liability is primarily attributed to changes recorded to planned cost estimates for remediation activities of large projects. It is also attributed to the fact that increased spending on assessment activities results in a more accurate estimate of liability, often leading to an increase. Continued work on all types of FCSAP projects will result in further refinement of liability estimates, and total liability is expected to decline as sites are remediated.

Finally, in March 2008, the Office of the Auditor General of Canada (OAG) tabled a Status Report on the progress the federal government had made with respect to the management of federal contaminated sites. For this status report, the OAG assessed the progress that four departments — Fisheries and Oceans Canada, Indian and Northern Affairs Canada, National Defence, and Transport Canada — made in addressing select findings and recommendations from the [2002 Audit Report](#). These four departments were selected for examination because they are collectively responsible for approximately 89 percent of the contaminated sites under federal responsibility. The Report also assessed the actions of Environment Canada and the Treasury Board of Canada Secretariat in providing central leadership to deal with priority contaminated sites, and what the federal government did to determine and report the costs of dealing with these sites.

The OAG Status report concluded that the government has made satisfactory progress in managing its contaminated sites by initially allocating approximately \$1.5 billion over five years as a first installment of its \$3.5 billion budgetary announcement and by developing the FCSAP. The OAG found that the four audited departments are putting significant effort into managing their contaminated sites. They had remediated about 340 sites, and about 480 others were undergoing remediation. All four departments had developed management plans that include some time-bound commitments for dealing with their contaminated sites in order to meet the program's objective of reducing the risk they pose to human health and the environment.

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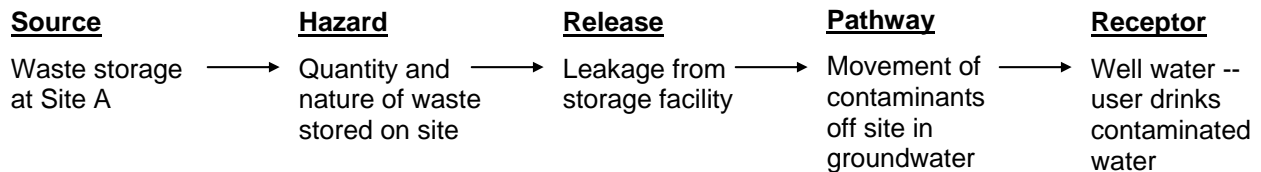
<sup>26</sup> *Public Accounts of Canada 2008*, Volume I (PWGSC, 2008), S. 5, p. 5.12.

## Appendix 1: Evaluation of Human Health and Ecological Risks at Federal Contaminated Sites

To assist federal custodians in the evaluation of human health and environmental risks at federal contaminated sites, two key analytical tools were developed under the 2003–2005 Accelerated Action Plan and refined under FCSAP: (A) HC's Human Health Preliminary Quantitative Risk Assessment tool and (B) EC's Ecological Risk Evaluation framework.

The purpose of each tool is to define the level of risk posed by a contaminated site, based on the following three evaluation criteria and their relationship to contaminant movement between source and receptor (human or ecological):

1. Contaminant characteristics – the relative hazard of contaminants present at a site
2. Exposure pathways – the route a contaminant may follow (e.g., groundwater, surface water, direct contact, and/or air) to a receptor
3. Receptors – living beings or resources that may be exposed to and affected by contamination (e.g., humans, plants, animals, or environmental resources)



To create an accurate representation of the complex source-receptor pathway, multiple sources of information are required. As such, analytical factors can include, but are not limited to, any of the following considerations:

- Description of the site location
- Type of contaminants or materials likely to be present at site (and/or description of historical activities)
- Approximate size of site and quantity of contaminants
- Approximate depth of water table
- Geologic map or survey information (soil, overburden, and bedrock information)
- Annual rainfall data (can be inferred from rainfall map of Canada)
- Surface-cover information
- Proximity to surface water
- Topographic information
- Flood potential of site
- Proximity of drinking water supply
- Uses of adjacent water resources
- Land use information (on site and surrounding)<sup>27</sup>

<sup>27</sup> National Classification System for Contaminated Sites, CCME, March 1992.

### **(A) Human Health Preliminary Quantitative Risk Assessment**

In the preliminary quantitative risk assessment for a federal contaminated site, the following factors are considered:

- historical information to identify previous site uses and the possible contaminants to be investigated in soil and groundwater;
- identification of contaminants of concern by comparing measured concentrations to regulatory guidelines;
- identification of potential human exposure, which will vary depending on land use and the accessibility of the site;
- examination of contaminant exposure pathways, i.e., the ways in which the individuals will contact the contaminant (ingestion, inhalation, dermal contact), and an estimation of the movement of contaminants in the environment.

Overall, Health Canada's Preliminary Quantitative Risk Assessment tool uses prescribed methods and assumptions, standard exposure pathways, human characteristics, and levels of toxicity in order to ensure that exposures and risk are not underestimated. When combined with site-specific information, the model helps in the assessment of toxicity and hazards associated with exposure to various chemicals.

For more details on the Preliminary Quantitative Risk Assessment, visit HC's website at [http://hc-sc.gc.ca/ewh-semt/pubs/contamsite/index\\_e.html](http://hc-sc.gc.ca/ewh-semt/pubs/contamsite/index_e.html).

### **(B) Ecological Risk Evaluation**

The Ecological Risk Evaluation framework was developed by EC as a tool to enable objective, transparent analysis of the ecological risks associated with individual federal contaminated sites.

More specifically, the framework assesses contaminated sites to determine the following:

- if the contaminated area is affecting or has the potential to affect specific habitat(s);
- the types of chemicals found at the site and the degree to which individual chemicals exceed environmental guidelines;
- how the chemical(s) are finding their way into the environment;
- any physical (non-chemical) impacts or hazards that may affect the quality of the environment or pose a risk to humans or wildlife.

## Appendix 2: Provincial/Territorial and Custodial Distribution of Remediation / Risk Management Projects by Expected Completion Cost (2007–08)

### a) Provincial/Territorial Distribution of Remediation / Risk Management Projects and Sites by Expected Completion Cost (2007–08)

Province	≤\$250,000		>\$250,000 to ≤\$1,000,000		>\$1,000,000 to ≤\$10,000,000		>\$10,000,000		Total	
	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites
Alberta	2	2	-	-	2	2	1	6	5	10
British Columbia	38	183	14	28	16	18	4	4	72	233
Manitoba	5	5	3	3	7	7	-	-	15	15
New Brunswick	7	7	1	1	1	1	-	-	9	9
Newfoundland and Labrador	2	2	2	2	6	7	1	41	11	52
Nova Scotia	21	24	3	6	5	6	-	-	29	36
Northwest Territories	-	-	1	1	5	5	8	11	14	17
Nunavut	2	4	2	3	4	4	20	20	28	31
Ontario	14	17	4	6	9	23	1	2	28	48
Prince Edward Island	7	7	-	-	-	-	-	-	7	7
Quebec	30	38	12	26	3	6	1	1	46	71
Saskatchewan	3	80	1	1	1	1	-	-	5	82
Yukon Territory	2	2	-	-	1	1	4	4	7	7
<b>Total</b>	<b>133</b>	<b>371</b>	<b>43</b>	<b>77</b>	<b>60</b>	<b>81</b>	<b>40</b>	<b>89</b>	<b>276</b>	<b>618</b>

### b) Custodial Distribution of Remediation / Risk Management Projects and Sites by Custodian by Expected Completion Cost (2007–08)

Custodian	≤\$250,000		>\$250,000 to ≤\$1,000,000		>\$1,000,000 to ≤\$10,000,000		>\$10,000,000		Total	
	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites	Number of projects	Number of sites
Agriculture and Agri-Food Canada	-	-	-	-	1	1	-	-	1	1
Canada Border Services Agency	1	1	-	-	1	1	-	-	2	2
Correctional Service of Canada	-	0	-	-	1	1	-	-	1	1
Fisheries and Oceans Canada	88	98	14	42	-	-	1	2	103	142
Environment Canada	3	224	-	-	-	-	1	1	4	225
Health Canada	4	4	-	-	3	3	-	-	7	7
Indian and Northern Affairs Canada										
<i>I/ABL</i>	9	9	8	8	14	28	-	-	31	45
<i>NAO</i>	-	-	-	-	7	7	19	22	26	29
National Capital Commission	1	1	-	-	1	1	-	-	2	2
Department of National Defence	13	13	8	12	14	21	17	62	52	108
Parks Canada Agency	6	8	2	2	1	1	-	-	9	11
Public Works and Government Services Canada	3	5	3	5	9	9	-	-	15	19
Royal Canadian Mounted Police	4	4	5	5	-	-	-	-	9	9
Transport Canada	1	4	3	3	8	8	2	2	14	17



## Appendix 3: Expenditure Tables

### a) Program Expenditures

	Planned FCSAP Expenditures	Adjustments	Actual FCSAP Expenditures
<b>Federal Contaminated Sites Projects</b>			
Indian and Northern Affairs Canada (INAC)			
<i>Northern Affairs Organization</i>	97,657,635	3,133,322 <sup>1</sup>	76,468,365
<i>Indian and Inuit Affairs Business Line</i>	12,531,245	1,216,238 <sup>2</sup>	9,917,646
<b>Total INAC</b>	<b>110,188,880</b>	<b>4,349,560</b>	<b>86,386,011</b>
Agriculture and Agri-Food Canada	1,296,000		1,008,400
Canada Border Services Agency	341,360		327,098
Correctional Service Canada	180,000	910,007 <sup>1</sup>	1,349
Environment Canada	9,340,559		3,331,006
Department of Fisheries and Oceans	14,656,584	1,503,260 <sup>1</sup>	7,697,967
		712,269 <sup>3</sup>	
Health Canada	1,167,200	143,166 <sup>4</sup>	578,585
Jacques Cartier and Champlain Bridges Incorporated	92,000		0
National Capital Commission	800,800	870 <sup>1</sup>	758,633
Department of National Defence	56,314,473		48,134,620
Natural Resources Canada	128,000	47,810 <sup>1</sup>	35,428
Parks Canada Agency	2,085,324	851,873 <sup>5</sup>	2,347,896
Public Works and Government Services Canada	3,996,225		2,978,822
Royal Canadian Mounted Police	5,033,600		2,932,734
Transport Canada	12,068,948	2,964,000 <sup>6</sup>	8,844,435
		-2,964,000 <sup>6</sup>	
<b>Total Project Expenditures</b>	<b>217,689,953</b>	<b>8,518,815</b>	<b>165,362,984</b>
<b>Program Management</b>			
Agriculture and Agri-Food Canada	150,000	30,000 <sup>1</sup>	120,000
Correctional Service Canada	67,670		67,670
Environment Canada	467,958		467,958
Department of Fisheries and Oceans	1,033,315	22,731 <sup>3</sup>	894,046
Health Canada	121,429		121,429
Indian and Northern Affairs Canada (INAC)			
<i>Indian and Inuit Affairs Business Line</i>	735,035		735,035
<i>Northern Affairs Organization</i>	2,213,980		2,293,652
Department of National Defence	1,200,000		660,849
Natural Resources Canada	150,000		0
Parks Canada Agency	366,713	418,421 <sup>1</sup>	367,414
Public Works and Government Services Canada	200,000		191,829
Royal Canadian Mounted Police	395,500		340,434
Transport Canada	451,000		451,000
<b>Total Program Management Expenditures</b>	<b>7,552,600</b>	<b>471,152</b>	<b>6,711,316</b>
<b>Secretariat and Expert Support Services</b>			
Environment Canada (EC)			
<i>EC Secretariat</i>	3,465,995		1,855,534
<i>EC Expert Support</i>	3,174,281		2,212,032
<b>Total EC Secretariat/Expert Support</b>	<b>6,640,276</b>		<b>4,067,566</b>
Treasury Board of Canada Secretariat	481,363		429,184
Health Canada Expert Support	6,722,656		7,502,223 <sup>7</sup>
Public Works and Government Services Canada	1,000,000		780,810
Department of Fisheries and Oceans Expert Support	3,335,637		2,215,529
<b>Total Secretariat and Expert Support Expenditures</b>	<b>18,179,932</b>	<b>0</b>	<b>14,995,312</b>
PWGSC Accommodation costs	1,367,467		1,367,467
<b>Total FCSAP Expenditures</b>	<b>244,789,952</b>	<b>8,989,967</b>	<b>188,437,079</b>
<sup>1</sup> Funding brought forward from the previous fiscal year <sup>2</sup> Funding brought forward from the previous fiscal year. Total does not include \$230,000 that was transferred to Parks Canada <sup>3</sup> Funds received from the DFO Expert Support <sup>4</sup> Custodian cost share owed to FCSAP from 2006-07 <sup>5</sup> Total adjustments include \$230,000 transferred from INAC-IIABL <sup>6</sup> \$2,964,000 of remediation/risk management funds were returned to the fiscal framework <sup>7</sup> Additional internal funds totalling approximately \$780,000 were allocated by Health Canada to augment FCSAP Expert Support resources			

**b) Detailed FSCAP and Custodian Expenditures**

Federal Contaminated Sites Projects	Planned FCSAP Funding		Adjustments <sup>a</sup>	Actual FCSAP Expenditures		FCSAP Variance (planned + adjustment - actual)
	FCSAP Fund	Custodian Share		FCSAP Fund	Custodian Share	
<b>Agriculture and Agri-Food Canada (AAFC)</b>						
ATL-1 - Kentville Central Heating Plant (NS)	500,000	100,000		562,503	140,626	-62,503
Assessment (21 projects)	796,000	159,200		445,897	111,474	350,103
<b>Total AAFC</b>	<b>1,296,000</b>	<b>259,200</b>		<b>1,008,400</b>	<b>252,100</b>	<b>287,600</b>
<b>Canada Border Services Agency (CBSA)</b>						
Pleasant Camp Border Crossing (BC)	181,360	36,272		181,360	45,912	0
West Poplar (SK)	160,000	32,000		145,738	36,434	14,262
Assessment	0	0		0	0	0
<b>Total CBSA</b>	<b>341,360</b>	<b>68,272</b>		<b>327,098</b>	<b>82,346</b>	<b>14,262</b>
<b>Correctional Service Canada (CSC)</b>						
Atlantic Fuel Spill Site, 231-C02 (NB)	120,000	24,000		1,349	337	118,651
Bowden Fuel Depot Site 537-C02 (AB)	60,000	12,000		0	0	60,000
Assessment	0	0	27,921 <sup>b</sup>	0	0	27,921
<b>Total CSC</b>	<b>180,000</b>	<b>36,000</b>	<b>910,007 <sup>c</sup></b>	<b>1,349</b>	<b>337</b>	<b>1,088,658</b>
<b>Department of Fisheries and Oceans (DFO)</b>						
Active Pass (BC)	8,595	1,719		6,542	1,635	2,053
Addenbroke Island (BC)	8,619	1,724		6,542	1,635	2,077
Baccaro Point (NS)	80,000	16,000		75,265	18,816	4,735
Ballenas Island (BC)	8,619	1,724		6,542	1,635	2,077
Bear Point Small Craft Harbour (NS)	11,200	2,240		16,025	4,006	-4,825
Bear River (NS)	80,000	16,000		47,057	11,764	32,943
Belleville Small Craft Harbour (ON)	6,802,022	1,360,404		464,683	116,171	6,337,339
Berthier (QC)	8,000	1,600		6,000	1,500	2,000
Betty Island (NS)	0	0		12,000	3,000	-12,000
Boat Bluff (BC)	8,619	1,724		6,542	1,635	2,077
Bonilla Island Sector (BC)	8,619	1,724		6,542	1,635	2,077
Camp Cove Small Craft Harbour (NS)	40,000	8,000		92,864	23,216	-52,864
Cap d'Espoir (QC)	0	0		217,781	54,445	-217,781
Cap Gaspé (QC)	0	0		146,588	36,647	-146,588
Cap-Chat (QC)	0	0		7,378	1,844	-7,378
Cap-de-la-Madeleine (QC)	0	0		7,378	1,844	-7,378
Cap-des-Rosiers (QC)	0	0		55,404	13,851	-55,404
Cap-Saint-Ignace, ancien amer (QC)	64,000	12,800		2,672	668	61,328
Cape Beale (BC)	8,619	1,724		6,542	1,635	2,077
Cape Bear (PE)	0	0		10,440	2,610	-10,440
Cape d'Or (NS)	8,000	1,600		4,400	1,100	3,600
Cape Egmont (PE)	8,000	1,600		18,431	4,608	-10,431
Cape Mudge (BC)	8,595	1,719		6,542	1,635	2,053
Cape Scott (BC)	8,621	1,724		6,542	1,635	2,079
Cape St. Marys (NS)	80,000	16,000		29,497	7,374	50,503

<sup>a</sup> Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

<sup>b</sup> FCSAP funds transferred from the previous fiscal year

<sup>c</sup> Total includes \$882,086 of remediation/risk management funds transferred from the previous fiscal year

Caribou Ferry Small Craft Harbour (NS)	11,600	2,320	0	0	11,600
Carmanah Point (BC)	8,619	1,724	6,542	1,635	2,077
Cascades-Soulanges (QC)	12,000	2,400	0	0	12,000
Caveau Point (NS)	8,000	1,600	0	0	8,000
Chatham Point (BC)	8,619	1,724	6,542	1,635	2,077
Chrome Island Range (BC)	8,619	1,724	6,542	1,635	2,077
Cultus Lake Laboratory (BC)	81,800	16,360	70,981	17,745	10,819
Discovery Island (BC)	8,619	1,724	6,542	1,635	2,077
Dixon Point Light (NB)	8,000	1,600	18,431	4,608	-10,431
Drews Head (NB)	0	0	12,634	3,159	-12,634
Dryad Point (BC)	8,619	1,724	6,542	1,635	2,077
Dublin Shore Small Craft Harbour (NS)	6,800	1,360	9,795	2,449	-2,995
East Point (PE)	64,000	12,800	0	0	64,000
Egg Island (BC)	8,619	1,724	6,542	1,635	2,077
Enrage Point (NS)	8,000	1,600	0	0	8,000
Entrance Island (BC)	8,619	1,724	6,542	1,635	2,077
Estevan Point (BC)	8,619	1,724	6,542	1,635	2,077
Fox Harbour Loran C (NL)	175,200	35,040	0	0	175,200
Gabarus (NS)	80,000	16,000	44,297	11,074	35,703
Gillis Point (NS)	80,000	16,000	53,097	13,274	26,903
Grand Bank Small Craft Harbour (NL)	36,000	7,200	19,626	4,907	16,374
Green Island (BC)	8,619	1,724	6,542	1,635	2,077
Howards Cove (PE)	0	0	15,897	3,974	-15,897
Île au Marteau (QC)	0	0	4,240	1,060	-4,240
Île aux Noix, ancien FP - 1 (QC)	0	0	1,110	278	-1,110
Île aux Noix, ancien FP - 2 (QC)	0	0	1,110	278	-1,110
Île Brion (QC)	40,000	8,000	0	0	40,000
Île du Corossol (QC)	32,000	6,400	12,185	3,046	19,815
Île Grosbois (ex-tour radar), ancien amer (QC)	0	0	10,258	2,564	-10,258
Île Sainte-Marie (QC)	24,000	4,800	33,913	8,478	-9,913
Institute of Ocean Sciences (and Victoria MCTS) (BC)	81,799	16,360	147,952	36,988	-66,153
Ivory Island (BC)	8,619	1,724	6,542	1,635	2,077
Kenora Base (ON)	64,000	12,800	0	0	64,000
Killarney East (ON)	25,600	5,120	24,635	6,159	965
Killarney Northwest (ON)	28,000	5,600	52,188	13,047	-24,188
Killarney West Entrance (ON)	20,000	4,000	16,741	4,185	3,259
Knapp Point (ON)	40,000	8,000	171,167	42,792	-131,167
Lameque Small Craft Harbour (NB)	64,000	12,800	25,654	6,413	38,346
Langara Island (BC)	8,619	1,724	6,542	1,635	2,077
Lennard Island (BC)	8,619	1,724	6,542	1,635	2,077
Longue Pointe (QC)	8,000	1,600	11,396	2,849	-3,396
Low Point (NS)	40,000	8,000	59,497	14,874	-19,497
Maughers Beach (NS)	0	0	12,634	3,159	-12,634
McInnes Island (BC)	8,619	1,724	6,542	1,635	2,077
Melocheville (QC)	12,000	2,400	3,640	910	8,360
Merry Island (BC)	8,619	1,724	6,542	1,635	2,077

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

New Aiyansh Office & Residences- Nass Camp (BC)	166,400	33,280		5,641	1,410	160,759
Nine Mile Point (ON)	126,400	25,280		21,592	5,398	104,808
Nootka Island (BC)	8,619	1,724		6,542	1,635	2,077
North Cape (PE)	64,000	12,800		13,801	3,450	50,199
North Rustico Small Craft Harbour (PE)	6,800	1,360		3,535	884	3,265
Pachena Point (BC)	8,619	1,724		6,542	1,635	2,077
Pacific Biological Station Risk Management (BC)	81,799	16,360		144,249	36,062	-62,450
Partridge Island Light and DGPS Station (NB)	80,000	16,000		12,634	3,159	67,366
Percé (QC)	0	0		157,274	39,318	-157,274
Pine Island (BC)	8,619	1,724		6,542	1,635	2,077
Point Atkinson Lightstation Risk Management (BC)	8,000	1,600		6,542	1,635	1,458
Point Escuminac (NB)	0	0		18,431	4,608	-18,431
Pointe au Baril Lightstation (ON)	100,000	20,000		6,477	1,619	93,523
Pointe de l'Ouest (QC)	240,000	48,000		65,870	16,467	174,130
Pointe Dowker (QC)	12,000	2,400		5,510	1,377	6,490
Pointe du Débarquement, terrain pour hélicoptère (QC)	0	0		5,826	1,456	-5,826
Pointe du Débarquement, terrain pour hélicoptère - 2 (QC)	0	0		5,826	1,456	-5,826
Pointe Heath (QC)	240,000	48,000		3,768	942	236,232
Pointe-Noire (QC)	160,000	32,000		130,443	32,611	29,557
Port Bickerton (NS)	80,000	16,000		16,049	4,012	63,951
Portlock Point (BC)	8,618	1,724		6,542	1,635	2,076
Prim Point (NS)	0	0		164,049	41,012	-164,049
Prim Point (PEI)	64,000	12,800		27,442	6,860	36,558
Prince Rupert - Seal Cove Risk Management (BC)	81,802	16,360		164,298	41,075	-82,496
Prince Rupert Marine Station - Sourdough Bay Risk Management (BC)	81,802	16,360		149,383	37,346	-67,581
Pulteney Point (BC)	8,619	1,724		6,542	1,635	2,077
Quatsino (Kains Island) (BC)	8,618	1,724		6,542	1,635	2,076
Richibucto Head (NB)	0	0		5,874	1,469	-5,874
Rocher aux Oiseaux (QC)	40,000	8,000		43,283	10,821	-3,283
Sainte-Angèle-de-Laval (QC)	16,000	3,200		3,276	819	12,724
Sainte-Marthe-de-Gaspé (QC)	0	0		7,378	1,844	-7,378
Saturna Island Sector (BC)	8,621	1,724		6,542	1,635	2,079
Scarlett Point (BC)	8,619	1,724		6,542	1,635	2,077
Sea Island Hovercraft Base Risk Management (BC)	81,800	16,360		170,924	42,731	-89,124
Sheringham Point (BC)	8,619	1,724		6,542	1,635	2,077
Souris East (NS)	64,000	12,800		89,779	22,445	-25,779
Swallowtail (NB)	8,000	1,600		0	0	8,000
Terence Bay (NS)	0	0		12,634	3,159	-12,634
Trial Islands (BC)	8,619	1,724		6,542	1,635	2,077
Victoria Base Risk Management (BC)	57,798	11,560		35,604	8,901	22,194
West Vancouver Laboratory (BC)	81,800	16,360		124,296	31,074	-42,496
Wood Islands Light (PE)	64,000	12,800		0	0	64,000
Assessment (71 projects)	4,142,400	828,480	1,503,260	3,819,994	954,998	2,537,935
			712,269			
<b>Total DFO</b>	<b>14,656,584</b>	<b>2,931,317</b>	<b>2,215,529</b>	<b>7,697,967</b>	<b>1,924,472</b>	<b>9,174,146</b>

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

b FCSAP funds transferred from the previous fiscal year

c FCSAP funds received from the FCSAP Secretariat or Expert Support

<b>Department of National Defence (DND)</b>						
14 Wing Greenwood NSLZB (NS)	540,000	108,000		808,053	202,013	-268,053
22 Wing Wood Hobby Club Site Remediation (ON)	52,000	10,400		24,127	6,032	27,873
5 Wing Goose Bay (NL)	4,000,000	0		3,315,444	0	684,556
ADMIE OPSEE Remediation (BC)	0	0		396,315	99,079	-396,315
ADMMAT BAF-3 POL Storage Facility (NU)	0	0		52,800	13,200	-52,800
ADMMAT FOX B SRR SUMMIT (S-493) (NU)	0	0		58,402	14,601	-58,402
Ancienne SFC Moisie - site Admin (QC)	420,000	84,000		252,009	63,002	167,991
Assainissement du site de l'ancien puit P-2 (QC)	120,000	24,000		39,200	9,800	80,800
ASU London Highbury Complex (ON)	80,000	16,000		28,981	7,245	51,019
ASU London Wolsley Barracks (ON)	56,000	11,200		30,109	7,527	25,891
BFC Valcartier - Perchlorate - eau souterraine (QC)	80,000	16,000		93,214	23,304	-13,214
Cadet Camp Landfill (ON)	0	0		42,917	10,729	-42,917
CAM-1 Jenny Lind Island DEW Line (NU)	3,136,000	627,200		2,473,850	618,463	662,150
CAM-2 Gladman Point DEW Line (NU)	36,000	3,600		94,316	10,480	-58,316
CAM-3 Shepherd Bay DEW Line (NU)	3,284,936	525,590		4,605,906	917,315	-1,320,970
CAM-4 Pelly Bay DEW Line (NU)	810,000	81,000		503,530	55,948	306,470
CAM-5 Mackar Inlet DEW Line (NU)	5,320,000	1,064,000		3,540,395	885,099	1,779,605
CFAD Bedford Dump Sites (CSites 801, 802, 803 & 820) Risk Mngmt (NS)	50,400	10,080		76,581	19,145	-26,181
CFAD Eastside Peninsula Area (CSite 7402) Remediation (NS)	68,000	13,600		87,881	21,970	-19,881
CFB Esquimalt DY-4 FMF Shops (BC)	800,000	160,000		0	0	800,000
CFB Trenton FFTA - (ON)	64,000	12,800		7,600	1,900	56,400
Colwood Aggregate (BC)	1,600,000	320,000		2,895,982	723,996	-1,295,982
DCD School CSite 909 Remediation (NS)	200,000	40,000		167,002	41,751	32,998
DYE-M Cape Dyer DEW Line (NU)	9,500,000	0		5,135,020	0	4,364,980
Former POL Storage Area, Naval Annex Dockyard (CSite 1107B) Risk (NS)	50,800	10,160		24,617	6,154	26,183
FOX-2 Longstaff Bluff DEW Line - (NU)	64,000	12,800		217,641	54,410	-153,641
FOX-3 Dewar Lakes DEW Line (NU)	200,000	40,000		354,677	88,669	-154,677
FOX-5 Broughton Island DEW Line (NU)	36,000	3,600		223,505	24,834	-187,505
FOX-M Hall Beach DEW Line (NU)	6,300,000	630,000		8,584,748	953,861	-2,284,748
Marlant Bedford Rifle Range (NS)	496,000	99,200		512,478	128,120	-16,478
Marlant Former Firefighter Training Area Site 907, DCD School (NS)	40,000	8,000		36,795	9,199	3,205
Marlant Great Village Former AST Remediation (NS)	40,000	8,000		30,677	7,669	9,323
METC Nicolet Building 5 - (QC)	112,000	22,400		79,686	19,922	32,314
METC Nicolet OP-6 - (QC)	48,000	9,600		14,484	3,621	33,516
NAD 1 - Jr. NCM (BC)	560,000	112,000		848,371	212,093	-288,371
PCB Amended Paint Removal Project (NU)	400,000	80,000		3,034	758	396,966
PIN-2 Cape Young DEW Line (NU)	64,000	12,800		62,860	15,715	1,140
PIN-3 Lady Franklin Point DEW Line (NU)	32,000	6,400		102,113	25,528	-70,113
PIN-4 Byron Bay DEW Line (NU)	3,776,000	755,200		1,979,982	494,995	1,796,018
RDDC Valcartier-Secteurs d'essais et Batiment 307 (QC)	80,000	16,000		332,842	83,211	-252,842
Remediation of PCB contaminated soil at BAF-3, Brevoort Island (NU)	0	0		27,740	6,935	-27,740
Restauration champ de tir 600 verges à St-Bruno (QC)	80,000	16,000		167,012	41,753	-87,012
Restauration du dépôt à St-Bruno (QC)	60,000	12,000		31,354	7,839	28,646
Saglek Sediments (NL)	120,000	24,000		93,918	23,480	26,082
Shea Heights/Southside Tank Farm (NL)	640,000	128,000		727,251	181,813	-87,251

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

Shearwater (CSite 207) - Former USTs at Hangar 3 (NS)	4,000	800		4,000	1,000	0
Shearwater (CSite 230)-Buildings 31,31A,31B,32 (Mobile support) (NS)	4,000	800		4,000	1,000	0
Shirley Road Dump/Landfill (NB)	40,000	8,000		36,802	9,201	3,198
Suffield EPG (AB)	800,000	160,000		328,356	82,089	471,644
Summerside Armoury (PE)	40,000	8,000		45,260	11,315	-5,260
Sydney Underground Storage Tank Removal (NS)	400,000	80,000		118,521	29,630	281,479
TCE Contamination Valcartier (QC)	4,700,000	0		2,915,968	0	1,784,032
YA 2 - Small Boat Float (BC)	1,600,000	320,000		185,957	46,489	1,414,043
Assessments (43 projects)	5,310,337	1,062,067		5,310,337	2,347,114	0
<b>Total DND</b>	<b>56,314,473</b>	<b>6,773,297</b>		<b>48,134,620</b>	<b>8,671,016</b>	<b>8,179,853</b>
<b>Environment Canada (EC)</b>						
Hydrometric Stations in BC (BC)	74,400	14,880		81,876	20,468	-7,476
Hydrometric Stations in QC (QC)	100,000	20,000		0	0	100,000
Hydrometric Stations in SK 2007-08 (SK)	144,400	28,880		62,708	15,677	81,692
Lansdowne House (EC) (ON)	77,684	15,537		0	0	77,684
PEC (BC)	4,786,600	574,392		2,523,305	429,908	2,263,295
Pointe-de-l'Est RNF (APEC) (QC)	42,120	8,424		28,465	7,116	13,655
Projet de rehabilitation - Ile de la Providence (QC)	91,941	18,388		0	0	91,941
Sable Island Upper Air Station (NS)	47,064	9,413		0	0	47,064
Assessments (15 projects)	3,976,350	795,270		634,652	158,663	3,341,698
<b>Total EC</b>	<b>9,340,559</b>	<b>1,485,184</b>		<b>3,331,006</b>	<b>631,832</b>	<b>6,009,553</b>
<b>Health Canada (HC)</b>						
Kasabonika (ON)	52,800	10,560		41,290	20,443	11,510
Lansdowne House (ON)	52,800	10,560		0	0	52,800
Moose Factory Hospital (ON)	320,000	64,000		144,000	31,833	176,000
Remediation of North Spirit Lake (former) Nursing Station (ON)	104,000	20,800		0	0	104,000
Remediation of Norway House Hospital (MB)	96,000	19,200		103,000	25,750	-7,000
Remediation of Red Sucker Lake Nursing Station (MB)	96,000	19,200		14,769	3,872	81,231
Remediation of Shamattawa Nursing Station (MB)	80,000	16,000		52,676	13,169	27,324
Remediation of Summer Beaver Nursing Station (ON)	96,000	19,200		10,350	16,983	85,650
Remediation of Wapekeka Nursing Station (ON)	53,600	10,720		0	0	53,600
Weagamow Lake (ON)	80,000	16,000		76,500	24,333	3,500
Assessment (10 projects)	136,000	27,200		136,000	262,381	0
<b>Total HC</b>	<b>1,167,200</b>	<b>233,440</b>	<b>143,166</b>	<b>578,585</b>	<b>398,764</b>	<b>731,781</b>
<b>Indian and Northern Affairs Canada - Indian and Inuit Affairs Business Line (INAC-IIABL)</b>						
1550 Clifford Road (BC)	0	0		113,000	28,250	-113,000
Barrenlands Former DOT Site (MB)	240,000	48,000		88,800	22,200	151,200
Barrenlands/Brochet Frontier School Tankfarm (MB)	68,240	13,648		37,476	9,369	30,764
Big Grassy First Nation (ON)	64,000	12,800		32,200	8,000	31,800
Bob Thomas and IR # 5 (BC)	1,051,600	210,320		136,800	34,200	914,800
Burnt Church - Off old bridge road contaminated site remediation (NB)	0	0		120,000	30,000	-120,000
Former Beren's River Pump house Tankfarm (MB)	372,960	74,592		198,880	49,720	174,080

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

b Custodian cost share owed to FCSAP from 2006-07

Former God's Lake School Tankfarm (MB)	221,840	44,368		250,560	62,640	-28,720	
Former Northlands School Tankfarm (MB)	52,880	10,576		29,104	7,276	23,776	
Former Red Sucker Lake School Tankfarm (MB)	1,004,000	200,800		720,720	180,180	283,280	
Former School Site "Manto Sipi Cree Nation" (MB)	360,000	72,000		104,400	26,100	255,600	
Gitwinksihkw Front of Village Administration Office (BC)	55,000	11,000		0	0	55,000	
Gitxaala Nation Former Power House (BC)	0	0		1,690,913	422,728	-1,690,913	
God's Lake Band Tankfarm (MB)	221,840	44,368		250,560	62,640	-28,720	
Goodfish Drycleaning Plant Remediation (AB)	0	0		48,954	12,239	-48,954	
Heiltsuk Community School (BC)	80,634	16,127		0	0	80,634	
Kahnawake - ancien dépotoir Beauvais (QC)	10,400	2,080		6,031	1,508	4,369	
Kahnawake - Ancien dépotoir Goodleaf (QC)	10,400	2,080		6,031	1,508	4,369	
Kahnawake - Ancien dépotoir Johnson's Point (QC)	10,400	2,080		6,031	1,508	4,369	
Kahnawake - Ancien dépotoir Khanata (QC)	10,400	2,080		6,031	1,508	4,369	
Kahnawake - Ancien dépotoir Morris (QC)	10,400	2,080		6,031	1,508	4,369	
Kahnawake - Ancien dépotoir Patton-Lawrence (QC)	10,400	2,080		6,031	1,508	4,369	
Kingfisher Lake Omahama Store (ON)	50,240	10,048		50,240	12,560	0	
Kwadacha Powerhouse (BC)	318,200	63,640		43,191	10,798	275,009	
Macoah I.R. 1 Generator Site Remediation (BC)	179,136	35,827		285,341	71,335	-106,205	
Mathias Colomb Area 5B (MB)	1,249,600	249,920		625,600	156,400	624,000	
Mistawasis Bluestone Pit (SK)	64,000	12,800		26,080	6,520	37,920	
Nemaska - station service Cree Energy (QC)	8,000	1,600		0	0	8,000	
Obedjiwan - Poste de police (QC)	48,000	9,600		0	0	48,000	
Red Bridge Spur (BC)	2,000	400		0	0	2,000	
Remediation of Former Cutler Acid Site (ON)	200,000	40,000		253,880	63,470	-53,880	
Sandy Lake Remediation Project (ON)	960,000	192,000		833,380	208,320	126,620	
Squamish Nation Kits Wye Site (BC)	39,144	7,829		0	0	39,144	
St. Theresa Point - Former School Tankfarm & Distribution Lines (MB)	320,000	64,000		100,000	25,000	220,000	
Tahltan First Nation- Dease Lake band maintenance yard (BC)	174,023	34,805		0	0	174,023	
Tsay Keh Dene generator station (BC)	286,900	57,380		41,482	10,371	245,418	
Unamen Shipu - Camp des travailleurs (QC)	0	0		9,784	2,446	-9,784	
Wapekeka Soil Remediation Project (ON)	1,469,600	293,920		1,480,000	370,000	-10,400	
Assessment (47 projects)	3,307,008	661,402	154,995	2,310,115	567,679	921,888	
			-230,000				
<b>Total INAC IIABL</b>	<b>12,531,245</b>	<b>2,506,249</b>	<b>1,216,238</b>	<b>d</b>	<b>9,917,646</b>	<b>2,469,489</b>	<b>3,829,837</b>
<b>Indian and Northern Affairs Canada - Northern Affairs Organization (INAC-NAO)</b>							
Axe Point (NT)	2,944,000	588,800		1,481,313	370,328	1,462,687	
BAR D - Atkinson Point (NT)	7,935,512	1,428,392		3,843,779	960,945	4,091,733	
Bear Island (NU)	16,000	3,200		455,756	113,939	-439,756	
CAM D - Simpson Lake (NU)	96,000	19,200		239,941	59,985	-143,941	
CAM F - Sarcpa Lake (NU)	5,630,286	563,029		5,129,352	569,928	500,934	
Cape Christian (NU)	2,684,000	536,800		444,958	111,239	2,239,042	
Clinton Creek Mine (YT)	298,400	59,680		147,686	36,921	150,714	
Colomac Mine (NT)	9,170,534	0		11,730,181	0	-2,559,647	
Contact Lake (NT)	619,200	123,840		601,759	150,440	17,441	
Discovery Mine (NT)	981,796	196,359		1,021,803	102,922	-40,007	
EI Bonanza Mine (NT)	669,200	133,840		477,633	119,408	191,567	

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

b FCSAP funds transferred from the previous fiscal year

c FCSAP funds given to another custodian

d Total includes \$1,291,243 of remediation/risk management funds transferred from the previous fiscal year

Faro Mine (YT)	14,620,000	0			15,537,999	0	-917,999
FOX A - Bray Island (NU)	120,000	24,000			9,959	2,490	110,041
FOX C - Ekalugad Fjord (NU)	8,398,574	1,679,715			5,009,951	556,661	3,388,623
Giant Mine (NT)	11,680,000	0			10,752,398	0	927,602
Indore Gold Mine-Beaverlodge Lake (NT)	388,695	77,739			250,165	62,541	138,530
Johnson Pt (NT)	956,000	191,200			382,897	95,724	573,103
Mount Nansen Mine (YT)	1,476,000	295,200			1,062,005	265,501	413,995
North Inca Mine - Remediation (NT)	446,695	89,339			282,006	70,501	164,689
Padloping Island (NU)	296,000	59,200			0	0	296,000
PIN B - Clifton Point (NU)	244,000	48,800			507,306	126,826	-263,306
PIN E - Cape Peel (NU)	16,000	3,200			0	0	16,000
Port Radium Mine (NT)	7,110,328	853,239			4,012,197	179,523	3,098,131
Radio Island (NU)	2,677,150	535,430			2,906,473	726,618	-229,323
Roberts Bay Mine (NU)	1,526,560	305,312			465,374	116,343	1,061,186
Silver Bear Mines (NT)	3,444,800	688,960			1,072,576	268,144	2,372,224
Tundra-Taurcanis Mine (NT)	8,959,500	1,791,900			4,700,244	522,249	4,259,256
United Keno Hill Mine (YT)	3,132,405	313,241			3,043,848	338,205	88,557
Assessment (118 projects)	1,120,000	224,000	439,122	b	898,806	224,706	660,316
<b>Total INAC NAO</b>	<b>97,657,635</b>	<b>10,833,615</b>	<b>3,133,322</b>	<b>c</b>	<b>76,468,365</b>	<b>6,152,087</b>	<b>24,322,592</b>
<b>National Capital Commission (NCC)</b>							
Bayview Remediation (ON)	56,000	11,200			56,000	33,474	0
Ridge Road Landfill (ON)	136,000	27,200			136,000	79,665	0
Assessment (23 projects)	608,800	121,760	870	b	566,633	141,658	43,037
<b>Total NCC</b>	<b>800,800</b>	<b>160,160</b>	<b>870</b>		<b>758,633</b>	<b>254,797</b>	<b>43,037</b>
<b>Natural Resources Canada (NRCan)</b>							
Assessments (4 projects)	128,000	25,600	47,810	b	35,428	8,857	140,382
<b>Total NRCan</b>	<b>128,000</b>	<b>25,600</b>	<b>47,810</b>		<b>35,428</b>	<b>8,857</b>	<b>140,382</b>
<b>Parks Canada Agency (PC)</b>							
Banff National Park Site Remediation (AB)	14,400	2,880			14,400	51,100	0
Cape Breton Highlands NP (NS)	268,851	53,770			613,854	153,463	-345,003
Enlèvement haut fonds (QC)	0	0			0	0	0
Glacier National Park (BC)	22,400	4,480			19,900	5,600	2,500
Ingonish Compound Remediation (NS)	184,000	36,800			0	0	184,000
Ivvavik NP, Sheep Creek Fuel Spill (YT)	19,248	3,850			8,548	2,137	10,700
Lachine site 12.2 (QC)	192,000	38,400			48,800	12,200	143,200
Quttinirpaaq NP - Tanquary Fiord (NU)	142,032	28,406			130,675	32,669	11,357
Remediation of Gilman River, Quttinirpaaq National Park (NU)	8,080	1,616			27,437	10,554	-19,357
Riding Mountain NP, Maintenance Compound Garage, Former UST (MB)	13,780	2,756			26,480	6,620	-12,700
Waterton Lakes NP - Stalage Salt Storage remediation (AB)	44,192	8,838			114,680	28,670	-70,488
Assessment (34 projects)	1,176,341	235,268	230,000	d	1,343,122	391,705	63,219
<b>Total PC</b>	<b>2,085,324</b>	<b>417,065</b>	<b>851,873</b>	<b>e</b>	<b>2,347,896</b>	<b>694,718</b>	<b>589,301</b>

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

b FCSAP funds transferred from the previous fiscal year

c Total includes \$2,694,200 of remediation/risk management funds transferred from the previous fiscal year

d FCSAP funds received from another Custodian

e Total includes \$621,873 of remediation/risk management funds transferred from the previous fiscal



**Public Works and Government Services Canada (PWGSC)**

350 King Edward Monitoring Program (ON)	40,000	8,000		39,605	9,901	395
Alaska Highway - Fireside Maintenance Camp R/RM (BC)	186,160	37,232		129,360	32,340	56,800
Alaska Highway - Fort Nelson Gravel Pit R/RM (BC)	31,200	6,240		36,560	9,140	-5,360
Alaska Highway - Iron Creek Maintenance Camp (YT)	140,514	28,103		102,116	25,529	38,398
Alaska Highway - Liard River Maintenance Camp R/RM (BC)	622,960	124,592		743,009	185,752	-120,049
Alaska Highway - Muncho Lake Maintenance Camp R/RM (BC)	204,880	40,976		122,480	30,620	82,400
Alaska Highway - Sikanni Maintenance Camp R/RM (BC)	101,140	20,228		73,940	18,485	27,200
Alaska Highway - Steamboat Maintenance Camp R/RM (BC)	36,400	7,280		17,760	4,440	18,640
Alaska Highway - Toad Maintenance Camp - R/RM (BC)	528,320	105,664		536,320	134,080	-8,000
Campbell River Federal Building - Risk Management (BC)	20,047	4,009		0	0	20,047
Décontamination des sols Beauceville (QC)	680,000	136,000		26,247	6,561	653,753
Esquimalt Graving Dock Uplands - Risk Management (BC)	14,000	2,800		6,954	1,738	7,046
Esquimalt Graving Dock Waterlot - Risk Management (BC)	267,600	53,520		170,466	42,617	97,134
Former DND Radar Base Restoration (ON)	0	0		0	50,335	0
Kelowna Federal Building - Risk Management (BC)	6,400	1,280		0	0	6,400
Penhold Transmitter Bunker MPES (AB)	137,840	27,568		105,702	26,425	32,138
Remedial Action at Moose Factory (ON)	20,000	4,000		17,184	7,500	2,816
Assessment (11 projects)	958,764	191,753		851,119	350,940	107,645
<b>Total PWGSC</b>	<b>3,996,225</b>	<b>799,245</b>		<b>2,978,822</b>	<b>936,403</b>	<b>1,017,403</b>

**Royal Canadian Mounted Police (RCMP)**

Coquitlam RCMP Gun Range (BC)	176,000	35,200		345,994	86,498	-169,994
Ft. Providence RCMP Remediation (NT)	40,000	8,000		35,110	8,777	4,890
Haines Junction RCMP Garage (YT)	72,000	14,400		52,569	13,142	19,431
Holman Detachment Remediation (NT)	56,000	11,200		0	0	56,000
Hopedale RCMP Remediation (NL)	48,000	9,600		65,906	16,477	-17,906
Lac Megantic Remediation (QC)	196,000	39,200		0	0	196,000
Nain RCMP Complex (NL)	158,400	31,680		62,423	15,606	95,977
Nelson RCMP District Office (BC)	132,000	26,400		68,934	17,233	63,066
Old Crow RCMP Detachment Compound (YT)	88,800	17,760		0	0	88,800
Old Firing Range, RCMP Depot Training Academy (SK)	940,000	188,000		139,015	34,753	800,985
Rigolet (Former Detachment Location) (NL)	110,400	22,080		12,866	3,217	97,534
Winnipeg Air Services Hangar (MB)	196,000	39,200		129,295	32,324	66,705
Assessment (188 projects)	2,820,000	564,000		2,020,622	519,515	799,378
<b>Total RCMP</b>	<b>5,033,600</b>	<b>1,006,720</b>		<b>2,932,734</b>	<b>747,542</b>	<b>2,100,866</b>

**Transport Canada (TC)**

Bonnechere Airport remediation (ON)	188,000	37,600		221,013	55,253	-33,013
Bushell Public Port Facility Remediation (SK)	3,333,920	666,784		2,985,241	746,310	348,679
Coal Harbour Public Port Facility Remediation (BC)	16,560	3,312		16,000	4,000	560
Décontamination – Terrains excédentaires . Village de Kuujuaq (QC)	481,040	96,208		99,533	24,883	381,507
Former Remote Radar Site 59 (NL)	240,000	48,000		102,367	25,592	137,633
Fort Nelson Airport Environmental Remediation (BC)	2,804,050	560,810		2,456,623	614,156	347,427
Nitchequon (QC)	397,920	79,584		254,981	63,745	142,939
Pickering Lands Site PIN 614462 Remediation (ON)	567,504	113,501		589,918	147,480	-22,414
Remediate Helicopter Site (NL)	24,000	4,800		10,270	2,567	13,730
Remediate Marine Fire Training Area (NL)	280,000	56,000		188,000	47,000	92,000

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

Remediate Soil and Groundwater at FTA (NL)	325,440	65,088		6,148	1,537	319,292
Rock Bay (BC)	1,476,000	147,600		1,341,938	149,104	134,062
Smithers Airport FFTA Remediation (BC)	217,040	43,408		94,116	23,529	122,924
Watson Lake Remediation (YT)	747,634	149,527		0	0	747,634
Williams Lake Airport FFTA Remediation (BC)	449,840	89,968		367,287	91,822	82,553
Assessment (5 projects)	520,000	104,000		111,000	103,000	409,000
<b>Total TC</b>	<b>12,068,948</b>	<b>2,266,190</b>	<b>0</b>	<b>8,844,435</b>	<b>2,099,978</b>	<b>3,224,513</b>
<b>Jacques Cartier and Champlain Bridges Incorporated (JCCBI)</b>						
Projet pilote Parcelle 3 (QC)	92,000	18,400		0	0	92,000
<b>Total JCCBI</b>	<b>92,000</b>	<b>18,400</b>		<b>0</b>	<b>0</b>	<b>92,000</b>
<b>Total for remediation/risk management</b>	<b>192,689,953</b>	<b>24,819,953</b>	<b>5,632,568</b>	<b>146,879,259</b>	<b>19,182,048</b>	<b>51,443,262</b>
<b>Total for assessment</b>	<b>25,000,000</b>	<b>5,000,000</b>	<b>2,886,247</b>	<b>18,483,725</b>	<b>6,142,690</b>	<b>9,402,522</b>
<b>GRAND TOTAL</b>	<b>217,689,953</b>	<b>29,819,953</b>	<b>8,518,815</b>	<b>165,362,984</b>	<b>25,324,738</b>	<b>60,845,784</b>

a Adjustments include the transfer of funds from the previous fiscal year, and FCSAP funds not requested

b Zero balance for variance includes \$2,964,000 of remediation/risk management funds brought forward from the previous fiscal year and given to another custodian in FY 2007-08

