# Federal Contaminated Sites Action Plan
# Annual Report
# 2006–07

May 2009

ISSN 1929-2333

Cat. No. En1-43/2007E-PDF

# 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 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 for priority federal contaminated sites, the FCSAP is a 15-year cost-shared program. FCSAP expands on the previous Federal Contaminated Sites Accelerated Action Plan (FCSAAP) (which ran 2003–04 and 2004–05), and it provides a mechanism to accelerate the remediation or risk management of these priority federal contaminated sites. Prior to the creation of the FCSAAP/FCSAP, the majority of departments and agencies collectively reallocated up to $100 million per year[1] from other priorities to manage the risk associated with or remediate federal contaminated sites.

In its second year of operation (2006–07), FCSAP spent a total of $182.3 million on federal contaminated sites projects, program management, and secretariat/expert support services. The most significant proportion of expenditures were directed to the execution of assessment, remediation/risk management, and care and maintenance projects. Of the total FCSAP amount budgeted for project expenditures ($183.36 million), $162.86 was actually spent by 15 custodians—an increase of approximately $27 million from the previous fiscal year. In addition to the FCSAP amount, custodians contributed $28.77 million.

The increase in project funding for the 2006–07 fiscal year facilitated a two-fold increase in the number of assessment and remediation/risk management projects where work was undertaken. In 2006–07, a total of 210 remediation/risk management projects consisting of 424 sites was undertaken in all provinces and territories; 10 projects covering 13 sites received care and maintenance funding in the Yukon and Northwest Territories; and 1252 sites grouped into 280 projects were assessed across the country. Projects included, but were not limited to, the cleanup of sites where the environmental consequences of past practices were not fully understood: harbours and ports, military bases, Distant Early Warning (DEW) line sites, light stations, and abandoned mines.

As the program evolves, additional tools and resources will be developed to assist custodians to better manage and remediate federal contaminated sites.

It is expected that existing projects will be completed and their associated environmental liability reduced or eliminated. As of March 31, 2007, a liability of $3.015 billion[2] was recorded for approximately 2630 contaminated sites. However, after subtracting liability amounts for large projects not funded by the FCSAP, a $69.4 million decrease in total contaminated sites liability over the period of March 31, 2006 to March 31, 2007 was identified.

The continued success of the Federal Contaminated Sites Action Plan is a sign of the solid groundwork laid in the first year of the FCSAP (2005–06) and in the Federal Contaminated Sites Accelerated Action Plan (2003–04 and 2004–05). The two-fold increase in the number of assessment and remediation/risk management projects funded in 2006–07 attests to the commitment by federal custodians to proactively manage these legacy contaminated

**FY 2006–07 at a glance:**

| | |
|---|---|
| **$182.29** | million in total FCSAP expenditures, including federal contaminated sites projects, program management, and secretariat/expert support services |
| **$147.69** | million in FCSAP funds spent on the care and maintenance of contaminated sites and on remediation/risk management projects |
| **$25.35** | million in federal custodian funds spent on care and maintenance and remediation/risk management projects funded under FCSAP |
| **$15.17** | million in FCSAP funds spent on assessment projects |
| **$3.46** | million in custodian funds spent on assessment projects |
| **220** | priority care and maintenance and remediation/risk management projects funded |
| **1252** | site assessments funded (as 280 projects) |

[1] "Taking Action on Federal Contaminated Sites: An Environmental and Economic Priority", Environment Canada, July 2005, page ii.
[2] Excluding the liability amount for sites affected by unexploded explosive ordnance.

sites under the enhanced program. Moreover, these achievements represent dedication by the Government of Canada to managing federal contaminated sites sustainably in adherence to the “polluter pays” principle.

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

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

## Table of Contents

# 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 FCSAP 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 (NCS) 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 pose or are likely to pose an immediate or long-term hazard to human health or the environment, or (2) exceeding levels specified in policies and regulations.

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

Originally, 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. For the first five years of the program, the notional amount of $1.45 billion has been approved.

The number of custodians that participate in FCSAP varies annually, as do the number and type of projects that receive funding under FCSAP. In fiscal year 2006–07, 15 custodians received funding through FCSAP. Projects included, but were not limited to sites where the environmental consequences of past practices were not fully understood: harbours and ports, military bases, Distant Early Warning (DEW) line sites, light stations, and abandoned mines.

FCSAP builds on the previous two-year Federal Contaminated Sites Accelerated Action Plan (FCSAAP), which was in place from fiscal year 2003 to 2005. Before FCSAAP, the majority of departments and agencies collectively reallocated up to $100 million per year[3] from other priorities in order to manage the risks associated with or to remediate 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 the Federal Contaminated Sites Action Plan. 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 progress. TBS ensures the program's adherence to Treasury Board 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 in addressing federal contaminated sites funded under FCSAP.

[3] "Taking Action on Federal Contaminated Sites: An Environmental and Economic Priority", Environment Canada, July 2005, page ii

FCSAP helps custodians to address priority contaminated sites where the nature and mobility of contaminants represent the highest risk to human health and the environment. Responsibility and accountability for managing contaminated sites rest with custodians. Custodians are the project champions and are responsible for program delivery: identifying and prioritizing sites of concern; conducting risk assessments; developing risk management/remediation plans and project funding proposals consistent with their contaminated sites management plans (CSMP's); 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 areas such as Aboriginal training and employment, innovative technology usage, and federal brownfields, where possible.

Environment Canada, 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 the development and promotion of best practices, and to ensure that custodians adopt a consistent approach to the assessment of risk to human health and ecological risk across the program. EC, HC and DFO expert support departments 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, 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 coordinate Interdepartmental Regional Working Groups (IRWG);
- 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*).

Environment Canada, Health Canada, and Fisheries and Oceans Canada also carry out their respective mandates related to regulatory compliance. Environment Canada and Health Canada focus on improving and promoting environmental and health risk assessments as a key part of the project selection process, while Fisheries and Oceans Canada ensures that site remediation or risk management activities do not further compromise any fish or fish habitat resources. Public Works and Government Services Canada provide project management tools and related training, and act as the lead department for liaison with industry. As well, 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.

Two other departments, Industry Canada and Human Resources and Social Development Canada (HRSDC), also provide support to the program related to their specific mandates. Industry Canada works 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. Human Resources and Social Development Canada provides support through involvement with socio-economic linkages such as the promotion of training and employment opportunities and studies of labour market supply and demand.

In addition, three interdepartmental groups provide strategic direction.

1. **Federal Contaminated Sites Steering Committee.** The 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 is composed of 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).** CSMWG is a working-level committee comprised of representatives from expert support departments and federal custodians with contaminated sites. CSMWG contributes to the development of procedures, tools, guidance, program funding plans, and making 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 (IRWG).** The IRWGs are in place in regions or sub-regions to advise custodians on the management of contaminated sites. The IRWGs 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 the FCSAP program.

## *1.2 Program Administration*

The Federal Contaminated Sites Action Plan was developed as a comprehensive 15-year program intended to support federal custodians in reducing risks to human health and the environment and decreasing federal financial liabilities associated with priority federal contaminated sites. FCSAP funds are available for site assessment, remediation/risk management, and care and maintenance activities. 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[4] are eligible for remediation/risk management funding. It is expected that the existing list of Class 1 and Class 2 priority sites 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 and care and maintenance 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 and care and maintenance 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, the FCSAP program allows custodians to internally reallocate FCSAP funds in-year, among care and maintenance, remediation/risk management and assessment projects. In doing so, 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 2006–07, funding was approved for assessment projects, remediation/risk management projects, care and maintenance projects, program management activities, and program support activities for expert support departments, the FCSAP Secretariat, and TBS. Of the $275 million that was available to be allocated to remediation/risk management, care and maintenance, and assessment projects in 2006–07, a total of $183.3 million was allocated to the custodian departments, with no more than $25 million of this

[4] The Canadian Council of Ministers of the Environment 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 (NCS) 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 – Action Required
- Class 2 – Action Likely Required
- Class 3 – Action May Be Required
- Class N – Action Not Likely Required
- Class I – Insufficient Data

amount to be used to conduct assessment projects. Actual project expenditures for 2006–07 totalled $163.9 million—approximately $20 million dollars less than was requested.

In addition to federal contaminated sites expenditures, program management funds were spent by custodians on salaries to support the implementation of the department's expanded 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 2006-07, there was a total of $7,264,187 of program management funding approved for 13 custodians. After taking into account funds transferred from previous fiscal years, a total of $7,577,819 of program management funding was available. The breakdown of program management expenditures for 2006-07 is outlined in Table 1.

**Table 1: Summary of FCSAP Program Management Expenditures by Custodian (2006-07)**

| | FCSAP Program Management | | | |
|---|---|---|---|---|
| **Custodian** | **Approved Funding** | **Adjustment [a]** | **Expenditure** | **Variance (approved + adjustment - expenditure)** |
| Agriculture and Agri-Food Canada | $150,000 | | $120,000 | $30,000 [b] |
| Correctional Service Canada | $67,670 | | $67,670 | $0 |
| Fisheries and Oceans Canada | $920,626 | | $682,932 | $237,694 [e] |
| Department of National Defence | $1,200,000 | | $1,200,000 | $0 |
| Environment Canada | $467,958 | | $467,958 | $0 |
| Health Canada | $121,429 | | $121,429 | $0 |
| INAC-IIABL | $735,035 | | $735,035 | $0 |
| INAC-NAP | $2,207,500 | | $2,805,925 | -$598,425 [c] |
| Natural Resources Canada | $150,000 | $79,980 | $0 | $229,980 [d] |
| Parks Canada Agency | $367,969 | $233,652 | $183,200 | $418,421 [b] |
| Public Works and Government Services Canada | $200,000 | | $163,370 | $36,630 [e] |
| Royal Canadian Mounted Police | $225,000 | | $225,000 | $0 |
| Transport Canada | $451,000 | | $451,000 | $0 |
| **Total** | **$7,264,187** | **$313,632** | **$7,223,519** | **$354,300** |

[a] Adjustments include the transfer of funds from the previous fiscal year(s)

[b] Program management funding brought forward to future fiscal years ($30,000+$418,421 = $448,421)

[c] Remediation/Risk Management funding was spent on program management activities

[d] Funding spent on non-FCSAP sites. Natural Resources Canada will return this funding to the program in future fiscal years.

[e] Funding lapsed ($237,694+36,630=$274,324)

Overall, a total of $7,223,519 was spent on program management activities in 2006-07. The variance between the approved and actual expenditures can be attributed to a variety of factors. The main factor identified by custodians as contributing to the variance was their inability to staff the vacant positions funded by the program.

## *1.4 Project Types*

Three types of projects are funded under the Federal Contaminated Sites Action Plan: assessment, care and maintenance, and remediation/risk management.

**Assessment Projects –** Funding assessment work is an important part of FCSAP. Assessment projects involve detailed analysis to identify the nature and extent of the contamination at a site. A full-scale assessment of the severity of contamination at a specific site can be a lengthy and complex process (see steps 1 to 6 in the Ten Step Process). 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.

Following assessment, many sites are determined not to pose a risk to human health and/or the environment – these sites are then considered closed. A 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/RM".

**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.

An important element of the remediation process is public consultation and information sharing, especially with communities in close proximity to sites where work has been or will be done. Custodians share information with surrounding communities by holding public information sessions and workshops and through other communication activities.

In FCSAP, a site is considered completed once Step 9 (confirmatory sampling and final reporting) has been finished following the remediation of the site, or once Step 10 (long-term monitoring) has been finished if the site has been risk managed. 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. A FCSAP remediation/risk management project is considered completed once all sites within the project have been completed.

**Care and Maintenance Projects** – 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. Typically, care and maintenance are implemented at abandoned/idled mines or other large properties with extensive contamination.

Care and maintenance projects often involve managing health and environmental concerns and maintaining necessary infrastructure, such as retaining structures, while proper remediation options can be fully developed. It should be noted that care and maintenance projects are treated under the same funding envelope as remediation projects because project selection for both categories is based on health and environmental risks/impacts.

Depending on the nature of the risks present on the site, various methods and approaches can be implemented. These include, but are not limited to, the following types of activities:

- monitoring the site;
- posting warnings;
- restricting access to the site;
- changing land use patterns at or around the site;
- isolating contaminants or pollutants by stabilizing them;
- erecting barrier walls;
- capping the site; and
- partially remediating the site.

# 2.0 2006–07 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 that the site is at 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 multifaceted undertaking, particularly at large and/or highly contaminated sites. Because contaminated sites may contain various types of contaminants in different media (e.g., soil, groundwater), different remediation activities may be required at different times throughout the project lifecycle. 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, particularly at sites undergoing care and maintenance activities where it may be necessary to carry out activities urgently (in order to prevent a severe environmental event from occurring) that would normally be undertaken in later steps.

In 2006–07, 15 custodians undertook activities on 10 care and maintenance projects, 210 remediation/risk management projects, and 280 assessment projects. Total expenditures under the Federal Contaminated Sites Action Plan by custodian and project category are summarized in Table 2.

**Table 2: FCSAP Project Expenditures by Custodian (2006–07)**

| Custodian | Assessment | | Care and maintenance | | Remediation/risk management | |
|---|---|---|---|---|---|---|
| | Number of projects | FCSAP funds spent ($) | Number of projects | FCSAP funds spent ($) | Number of projects | FCSAP funds spent ($) |
| Agriculture and Agri-Food Canada (AAFC) | 4 | 224,000 | -- | -- | 1 | 72,000 |
| Canada Border Services Agency (CBSA) | -- | -- | -- | -- | 1 | 211,327 |
| Correctional Service of Canada (CSC) | -- | 12,079* | -- | -- | 2 | 56,906 |
| Environment Canada (EC) | 8 | 359,676 | -- | -- | 5 | 2,261,504 |
| Fisheries and Oceans Canada (DFO) | 36 | 2,015,700 | -- | -- | 100 | 1,962,865 |
| Health Canada (HC) | 9 | 288,000 | -- | -- | 3 | 440,834 |
| Indian and Northern Affairs Canada (Indian and Inuit Affairs Business Line) | 22 | 1,960,034 | -- | -- | 26 | 7,863,739 |
| Indian and Northern Affairs Canada (Northern Affairs Program) | 28 | 758,997 | 10 | 62,283,225 | 14 | 23,281,345 |
| The Jacques Cartier and Champlain Bridges Inc. (JCCBI) | 1 | 225,449 | -- | -- | -- | -- |
| National Defence (DND) | 22 | 3,409,891 | -- | -- | 29 | 41,412,117 |
| National Capital Commission (NCC) | 7 | 413,782 | -- | -- | -- | -- |
| Natural Resources Canada (NRCan) | 6 | 150,190 | -- | -- | -- | -- |
| Parks Canada Agency (PC) | 30 | 1,101,717 | -- | -- | 8 | 593,804 |
| Public Works and Government Services Canada (PWGSC) | 12 | 2,286,677 | -- | -- | 7 | 441,329 |
| Royal Canadian Mounted Police (RCMP) | 85 | 1,088,439 | -- | -- | 3 | 569,752 |
| Transport Canada (TC) | 10 | 873,651 | -- | -- | 11 | 6,271,662 |
| Total | 280 | 15,168,282 | 10 | 62,283,225 | 210 | 85,439,184 |
| Total FCSAP funds spent on assessment, care and maintenance, and remediation/risk management projects ($) | 162,890,691 | | | | | |

* Eligible project management expenditures. Onsite assessment activities delayed.

## *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, custodial cost share requirements will differ depending on the estimated total cost of the projects being implemented.

Custodians are required to meet cost shares on an annual basis. In fiscal year 2006-2007, four departments (EC, DND, INAC-NAP and Transport Canada) had projects that produced adjusted FCSAP cost shares[5]. All other federal custodians were required to respect the typical 80/20 (FCSAP/custodian) cost share requirement.

In 2006-2007, most departments either met or surpassed their annual cost share requirement. Only three departments did not meet their cost share requirement – Health Canada, Natural Resources Canada and the Northern Affairs Program at Indian and Northern Affairs Canada. Natural Resources Canada's cost share was 19.4%, which represents a shortfall of $1,426. Health Canada's cost share was 10%, and a commitment was made to repay the $88,167 shortfall in future fiscal years. INAC-NAP had an adjusted cost share requirement of 16.8%[6], but their actual adjusted cost share was 16.4%. However, the 0.4% shortfall represents $142,486, which is only 2% of their total custodian expenditures ($7,407,842).

**Table 3: Summary of Project Funding Approvals and Actual Expenditures (2006–07)**

| Project type | FCSAP funding allocated (millions) | Project work undertaken in fiscal year 2006–07 | | | |
|---|---|---|---|---|---|
| | | Number of projects | Number of sites | FCSAP Fund expenditures (millions) | Custodian expenditures (millions) |
| Care and maintenance | $62.40 | 10 | 13 | $62.28 | $1.98 |
| Remediation/risk management | $101.72 | 210 | 424 | $85.44 | $23.37 |
| Assessment | $19.20 | 280 | 1 252 | $15.17* | $3.46 |
| Total | $183.31 | | | $162.89 | $28.81 |

*Includes $12,079 of approved project management expenditures for the Correctional Service of Canada for projects where onsite assessment activities were delayed.

[5] 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: BAF 5 – Resolution Island, FOX-M Hall Beach DEW Line, United Keno Hill Mine, CAM-2 Gladman Point DEW Line, FOX-5 Broughton Island DEW Line and Rock Bay; one project received 88% FCSAP funding: Pacific Environmental Centre; two projects received 81% FCSAP funding: CAM F – Sarcpa Lake and CAM-4 Pelly Bay DEW Line Cleanup.

[6] INAC-NAP's required cost share was adjusted as they had projects with 100%, 90%, 81% and 80% FCSAP cost share agreements.

### 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 2006–07, 1252 sites, grouped into 280 projects, were allocated a total of $19,197,488 of FCSAP assessment funds. Of this $19,197,488, a total of $15,168,282 was spent by 14 different custodians. The greatest number of sites assessed were reported for Quebec (243 sites), British Columbia (234 sites), and Atlantic Canada (392 sites). As in 2005–06, the large number of sites in Quebec, Atlantic Canada, and British Columbia is linked to DFO activity. Assessment activities associated with a total of 650 smaller scale sites (contained within 36 provincial assessment projects) were undertaken by DFO in 2006–07.

Overall, the number of sites assessed in 2006–07 (1252) was almost double the number of assessments in fiscal year 2005–06 (660). Newfoundland and Labrador and Nunavut showed the greatest proportional increase, with approximately seven times more assessments completed in 2006–07. DFO activity is linked to the increase in the number of sites in Newfoundland and Labrador (no DFO activity was reported in any of the three territories). The relatively significant increase in the number of sites in Nunavut was a function of program initiatives of the RCMP.

A summary of 2006–07 assessment projects, sites, and estimated 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 (2006–07)**

| Province/territory | Number of projects | Number of sites | Estimated FCSAP funds spent ($) [7] |
|---|---|---|---|
| Alberta | 15 | 38 | 609,101 |
| British Columbia | 53 | 234 | 4,155,420 |
| Manitoba | 10 | 16 | 260,308 |
| New Brunswick | 22 | 60 | 467,414 |
| Newfoundland and Labrador | 20 | 218 | 1,185,452 |
| Northwest Territories | 23 | 24 | 696,877 |
| Nova Scotia | 32 | 103 | 501,903 |
| Nunavut | 19 | 63 | 1,572,871 |
| Ontario | 28 | 169 | 1,418,766 |
| Prince Edward Island | 4 | 11 | 139,900 |
| Quebec | 35 | 243 | 2,968,874 |
| Saskatchewan | 6 | 52 | 702,103 |
| Yukon Territory | 13 | 21 | 477,215 |
| Total | 280 | 1 252 | 15,168,282 [8] |

[7] The actual amount of assessment expenditures by province/territory was not reported in 2006–07. 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, and 2006–07 assumptions were compared with 2005–06 values. Custodians will be required to provide confirmed assessment expenditures by province/territory in future years.

[8] Actual total assessment expenditure reported for 2006-07. Includes eligible project management costs ($12,079) reported by Correctional Services Canada for projects where onsite assessment activities were delayed.

**Table 5: Number of Assessment Projects and Sites by Custodian (2006–07)**

| Federal custodian | Number of projects | Number of sites | FCSAP funds spent ($) |
|---|---|---|---|
| Agriculture and Agri-Food Canada | 4 | 6 | 224,000 |
| Correctional Service of Canada* | 0 | 0 | 12,079 |
| Environment Canada | 8 | 99 | 359,676 |
| Fisheries and Oceans Canada | 36 | 650 | 2,015,700 |
| Health Canada | 9 | 9 | 288,000 |
| Indian and Northern Affairs Canada (Indian and Inuit Affairs Business Line) | 22 | 62 | 1,960,034 |
| Indian and Northern Affairs Canada (Northern Affairs Program) | 28 | 28 | 758,997 |
| The Jacques Cartier and Champlain Bridges Inc. | 1 | 2 | 225,449 |
| National Capital Commission | 7 | 22 | 413,782 |
| National Defence | 22 | 133 | 3,409,891 |
| Natural Resources Canada | 6 | 6 | 150,190 |
| Parks Canada Agency | 30 | 47 | 1,101,717 |
| Public Works and Government Services Canada | 12 | 21 | 2,286,677 |
| Royal Canadian Mounted Police | 85 | 155 | 1,088,439 |
| Transport Canada | 10 | 12 | 873,651 |
| Total | 280 | 1 252 | 15,168,282 |

- Eligible project management expenditures. Onsite assessment activities delayed.

#### 2.1.2.1 Explanation of Financial Variance for FCSAP Assessment Projects (2006-07)

A total of $19,197,488 was approved for assessment activities in 2006–07. As shown in Table 3, custodians contributed funds amounting to $3,3,457,274 and FCSAP provided $15,168,282 in funding for assessment activities. As indicated in the financial table in Appendix 3b, the difference between planned and actual expenditures for assessment projects overall was $4,304,359, after adjusting for the funds transferred from the previous fiscal year ($275,153[9]). The variance is due to the following factors.

1. Custodians who received funds and could not complete the assessment work in 2006–07 rescheduled the work for the next season and transferred unspent FCSAP funds in the amount of $2,258,475[10] to fiscal year 2007–08.
2. Parks Canada spent $132,219 of its FCSAP funds that had been allocated for remediation/risk management on assessment projects.
3. National Defence spent $1,466,207 of its FCSAP funds for assessment on remediation/risk management projects.
4. FCSAP funds in the amount of $711,896 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 as the nature and extent of contamination is unknown at the outset of the project.

[9] $275,153 = Three custodians transferred FCSAP assessment funds from fiscal year 2005–06 to 2006–07: Parks Canada ($224,231), Natural Resources Canada ($42,000), and the Royal Canadian Mounted Police ($8,922).

[10] $2,258,475 = Seven custodians transferred FCSAP assessment funds from fiscal year 2006-2007 to 2007-2008 in the amount of $47,810 (Natural Resources Canada), $154,995 (INAC, Indian and Inuit Affairs Business Line), $439,122 (INAC, Northern Affairs Program), $1,128,300 (DFO), $27,921 (Correctional Service Canada), $870 (National Capital Commission) and $459,457 (Transport Canada).

**Department of Fisheries and Oceans: Assessment of Small Craft Harbours**
**Multiple Locations across Canada**

The Department of Fisheries and Oceans (DFO, Department) is the custodian of a diverse array of urban, rural (mostly coastal) and remote properties. DFO is one of the largest real property custodial departments within the federal government with interest in over 8,100 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.

For contaminated sites management purposes, DFO has statistically ranked all 8,100 properties into 12 broad environmental categories based on the likelihood of contamination, and associated potential risks to human health and/or the environment. A substantial number of DFO properties have been assessed in 2006-2007, including 382 Small Craft Harbours (SCH) properties across canada, which are ranked third for assessment priority.

The Department's SCH program is responsible for the maintenance and operations of fishing harbours and recreational harbours with structures including but not limited to wharves, breakwaters, fuelling stations and boat haul-outs. Site assessments performed at these sites evaluate the likelihood and actual occurrences of contamination based on past and/or present operations, identify and quantify risks to human health at staffed sites and/or sites with public access, and identify and quantify risks to the environment. Typically, SCH contamination issues, as identified during assessment activities, include petroleum and polycyclic aromatic hydrocarbons, metals, and organic pollutants resulting from fuel storage and handling activities, historical vessel activities including lead base paint application and removal, and improper waste storage and dumping.

DFO SCH properties remain in operation during assessment and risk management/remediation activities and as such, measures are taken to prevent disruption to daily operations.

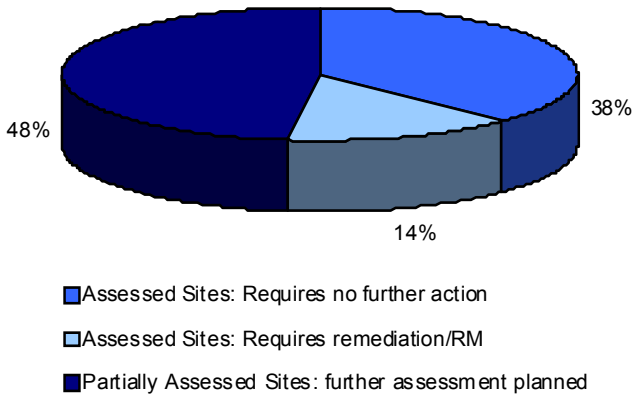
### 2.1.2.2 Results of Assessment for FCSAP Assessment Projects (2006-07)

The results of assessment for sites where activity was undertaken in 2006-07, were distributed among three outcomes:

1. Assessed: Requires no further action
2. Assessed: Requires remediation/risk management
3. Partially Assessed: Further assessment planned

Given that, one project will often contain numerous sites distributed across multiple provinces/territories, Figure 1 and Figure 2 present the distribution of these outcomes at the site level.

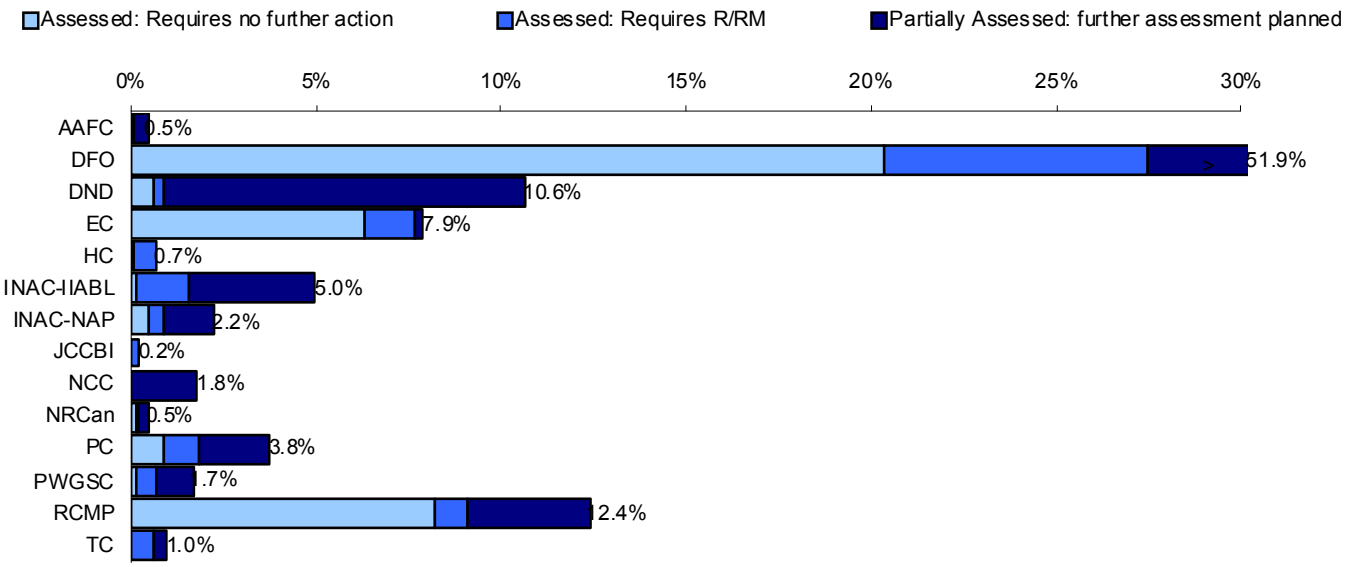
**Figure 1: FCSAP Assessment Results (2006–07)**




Approximately half (48%) of the sites assessed in 2006-07 indicated the need for additional investigation, while 14% of sites confirmed contamination and identified the need to proceed with remediation/risk management activities. Fourteen percent (14%) of the total number (1252) of FCSAP

assessment funded sites led to closure in 2006-07. Of note is the proportionally large percentage of sites closed by Fisheries and Oceans Canada, Environment Canada, and the Royal Canadian Military Police evident in Figure 2.

**Figure 2: FCSAP Assessment Results by Custodian (2006–07)**




Process steps 1 to 4 (identification of a suspect site, historical review, initial testing, and classification) constitute the first stage of the assessment process, and 69% of sites were in the process of completing or had completed initial assessment. Steps 5 and 6 (intrusive testing and site reclassification) are the second stage of assessment work, and 15% of sites reported activity in the final stages of and/or the completion of a full site assessment. In addition, as of the time of reporting, approximately 2% of the total number of sites had been closed[11a], archived[11b], or contained protected information.

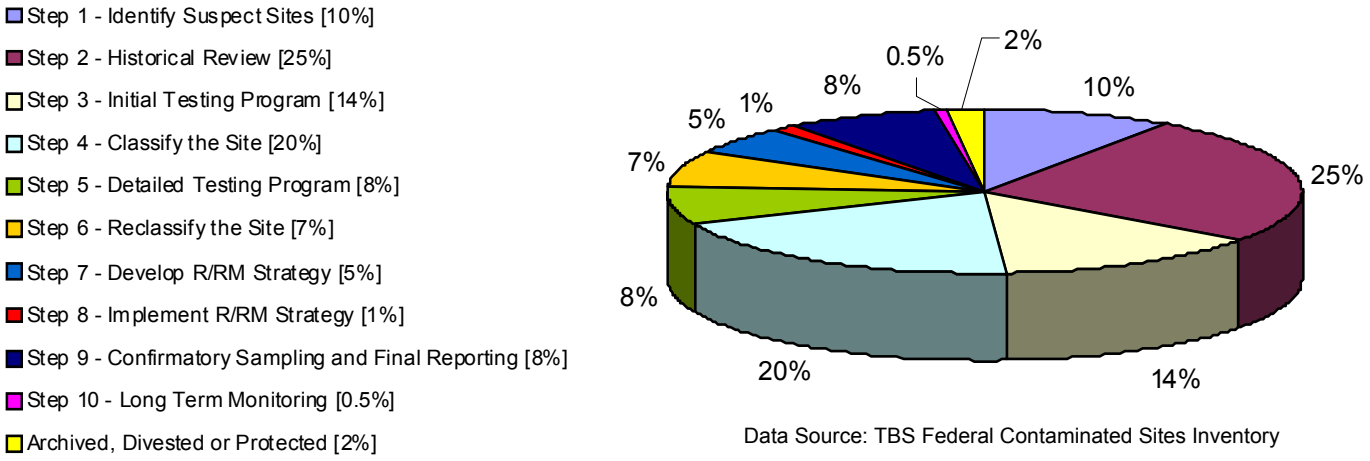
Step 6 is normally considered the end point for the funding of assessments, however occasionally, if the contamination is minimal, it is often more efficient and cost effective to undertake remediation activities at the same time as the assessment activities. Consequently, 15% of the 2006–07 assessment sites that received funding had completed activities in Step 7 or higher.

Figure 3 presents the last step completed for FCSAP assessment projects that received funding in 2006–07. Similar to the distribution of projects in fiscal year 2005–06 distribution, the highest percentages of activity was undertaken in Step 2 (25%) and Step 4 (20%).

[11a] A closed (or divested) site refers to a contaminated site located on a property that has been sold to a subsidiary company as an investment or otherwise disposed.

[11b] An archived site refers to a site that has been deleted from the Federal Contaminated Sites Inventory as the result of (1) its consolidation with an existing site; or (2) because the site was reported in error.

**Figure 3: Status of FCSAP Assessment Projects by Step (2006–07)**




Data Source: TBS Federal Contaminated Sites Inventory

## 2.1.3 Care and Maintenance and Remediation/Risk Management Projects

FCSAP supports federal custodians responsible for contaminated sites in all parts of Canada. In 2006–07, 210 remediation/risk management projects consisting of 424 sites were addressed throughout Canada. Unlike the broad distribution of risk management/remediation activities, only the Yukon and Northwest Territories received care and maintenance funding (for 10 projects covering 13 sites). Nine of these projects comprised abandoned/idle mine sites at which private owners relinquished their property rights according to the legislation of the day or where companies have gone bankrupt. The tenth project was undertaken at a staging/support area for oil, gas, and mineral exploration in the North.

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

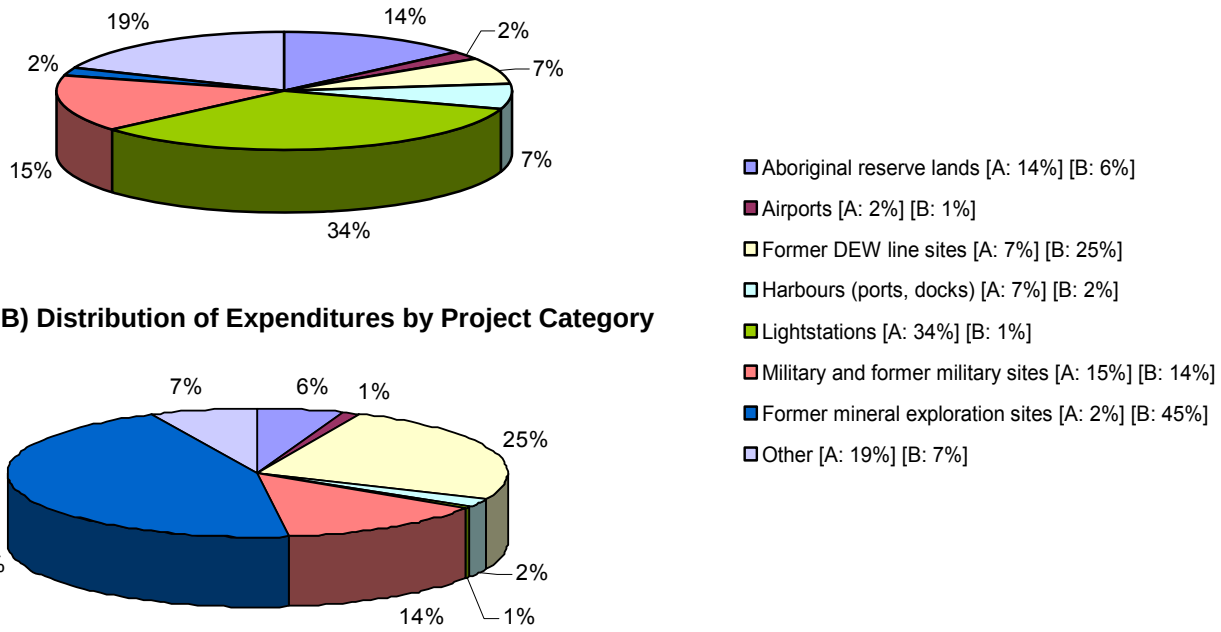
A contaminated site is an area in which substances occur at concentrations above normally occurring background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment. Determining the risk posed by the presence of these substances involves identifying 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, military bases and training facilities, former DEW line sites, and Aboriginal reserve lands.

The broad distribution of care and maintenance and remediation/risk management projects funded under FCSAP in 2006–07 by type is presented in Figure 4. Of these 220 projects, 34% of remediation/risk management activity occurred at DFO lightstations.

**Figure 4: Care and Maintenance and Remediation/Risk Management Projects Categories (2006–07)**

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




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




**Table 6: Care and Maintenance and Remediation/Risk Management Project Expenditures by Project Category (2006–07)**

| Project category | Number of projects | FCSAP funds spent ($) |
|---|---|---|
| Aboriginal communities | 30 | 8,317,573 |
| Airports | 5 | 1,570,999 |
| Former DEW line sites | 16 | 36,952,647 |
| Harbours (ports, docks) | 15 | 3,069,102 |
| Lightstations | 74 | 848,563 |
| Military and former military sites | 34 | 20,130,338 |
| Former mineral exploration sites | 5 | 66,707,983 |
| Other | 41 | 10,125,204 |
| Total | 220 | 147,722,409 |

The sites targeted for FCSAP funding are contaminated by a wide variety of substances resulting from one or more historic activities. In Figure 5, FCSAP projects with confirmed contamination are grouped by affected media. In Figure 6, the distribution of confirmed chemicals of concern are illustrated.

As in previous years of the program, soil and groundwater contamination was most often related to the presence of petroleum hydrocarbons (72% of sites), metals (57% of sites), polychlorinated biphenyls (PCBs)

and dioxins and furans (PCDD/Fs) (29% of sites), and polycyclic aromatic hydrocarbons (PAHs) (16% of projects). Overall, 61% of sites reported the presence of more than one contaminant of concern.

**Figure 5: Contaminated Media in Remediation/Risk Management and Care and Maintenance Sites (2006–07)**

Data Source: TBS Federal Contaminated Sites Inventory

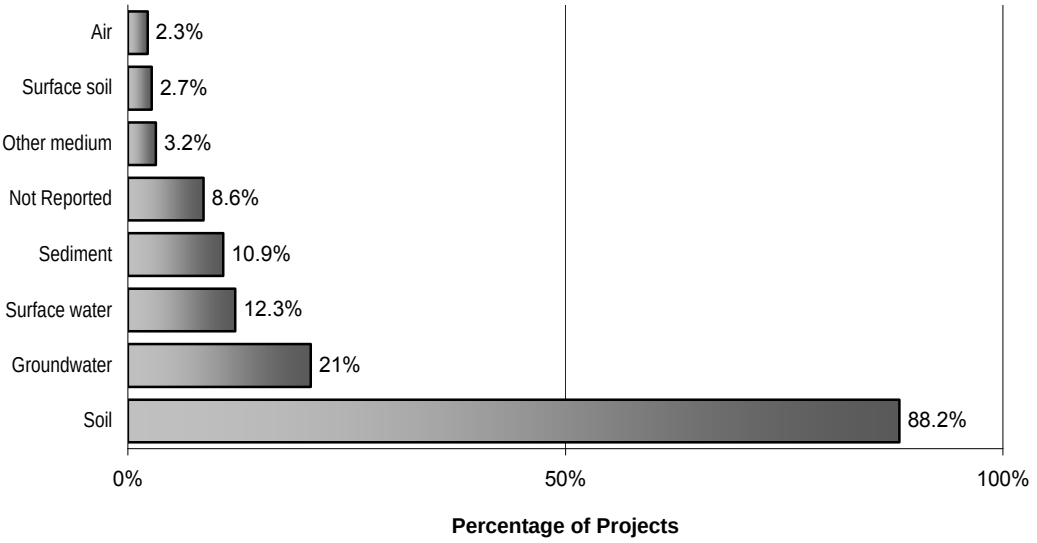
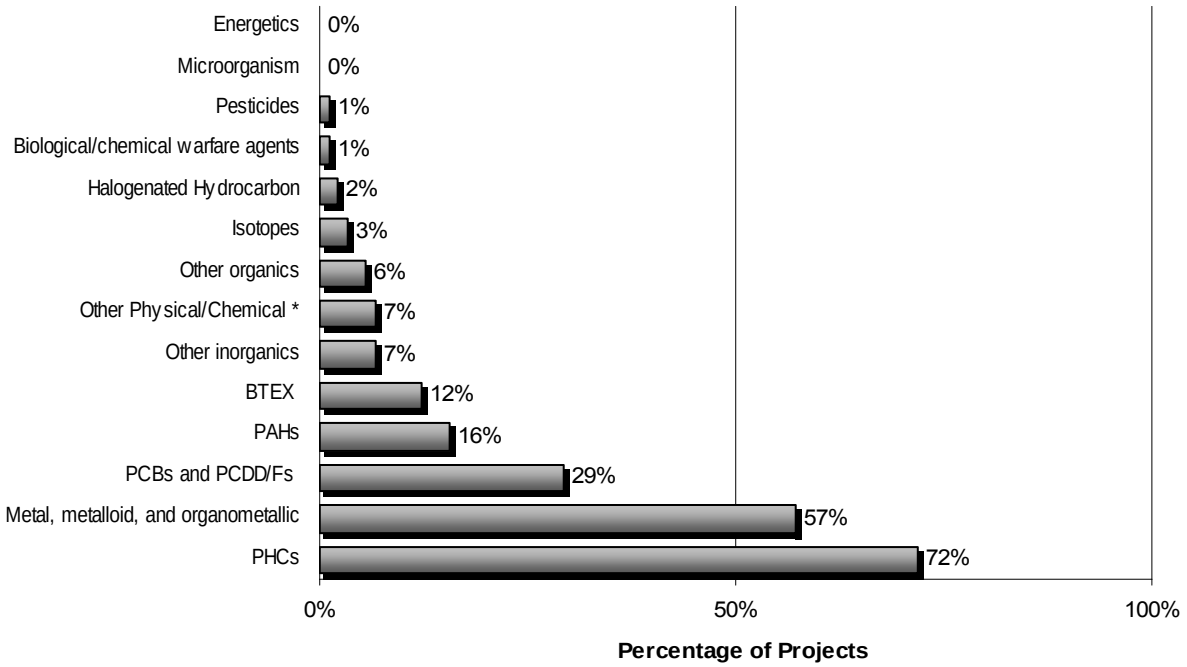



**Figure 6: Types of Contamination in Remediation/Risk Management and Care and Maintenance Sites (2006–07)**




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

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

Due to the large number of care and maintenance and remediation/risk management projects funded by FCSAP in 2006-07, 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 submission requires the streamlined or regular risk evaluation process 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

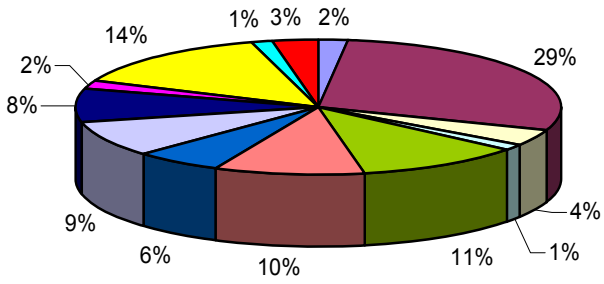
A detailed summary of the provincial/territorial distribution is provided in Appendix 2, and the national distribution of care and maintenance and remediation/risk management projects funded in 2006–07 is mapped in Figure 7. The map identifies the number and location of projects with expected completion 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 Fisheries and Oceans Canada are distributed along the coastlines; high-cost projects (with total estimated expenditures of greater than $10 million) managed by the Northern Affairs Program at Indian and Northern Affairs Canada and by National Defence are concentrated in northern Canada.

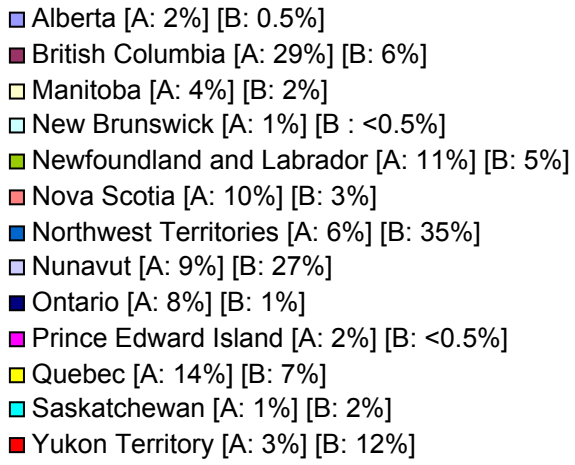
**Figure 7: National Distribution of FCSAP Care and Maintenance and Remediation/Risk Management Projects (2006–07)**

Figure 8 demonstrates that the distribution of care and maintenance and remediation/risk management projects is greatest in British Columbia, Atlantic Canada[12], and Quebec. 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 67% of the number of projects but only one fifth (21%) 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 (74%) of the expenditures. The remaining 15% of projects and 5% of expenditures are distributed among the provinces. Table 9 provides more details.

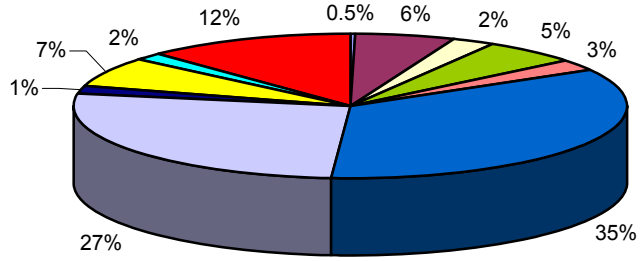
**Figure 8: National Distribution of Care and Maintenance and Remediation/Risk Management Projects (2006–07)**

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




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




[12] Atlantic Canada includes: New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador.

**Table 9: National Distribution of Care and Maintenance and Remediation/Risk Management Project Expenditures (2006–07)**

| Province/territory | Number of projects | FCSAP care and maintenance ($) | FCSAP remediation/ risk management ($) | Total FCSAP funds spent ($) |
|---|---|---|---|---|
| Alberta | 4 | - | 502,976 | 502,976 |
| British Columbia | 63 | - | 8,590,209 | 8,590,209 |
| Manitoba | 9 | - | 3,629,090 | 3,629,090 |
| New Brunswick | 3 | - | 41,866 | 41,866 |
| Newfoundland and Labrador | 24 | - | 7,986,017 | 7,986,017 |
| Nova Scotia | 22 | - | 3,709,406 | 3,709,406 |
| Northwest Territories | 13 | 44,462,159 | 6,526,054 | 50,988,213 |
| Nunavut | 19 | - | 39,606,990 | 39,606,990 |
| Ontario | 18 | - | 2,194,437 | 2,194,437 |
| Prince Edward Island | 4 | - | 33,264 | 33,264 |
| Quebec | 31 | - | 10,101,818 | 10,101,818 |
| Saskatchewan | 3 | - | 2,346,865 | 2,346,865 |
| Yukon Territory | 7 | 17,821,066 | 170,192 | 17,991,258 |
| Total | 220 | 62,283,225 | 85,439,184 | 147,722,409 |

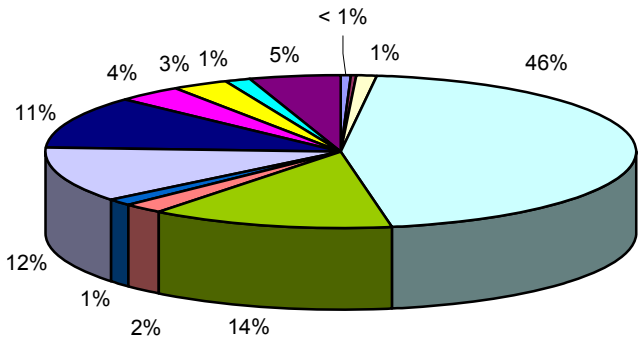
The relatively large concentration of remediation/risk management projects evident in Quebec, Atlantic Canada, and British Columbia (Figure 8) is the direct result of many smaller scale projects (such as light stations and small craft harbours) that are being managed by Fisheries and Oceans Canada. As an overall percentage, in 2006–07 DFO was responsible for 46% of projects (including 100% of the projects in Quebec and Newfoundland and Labrador) but received only 1% of the FCSAP annual funding allocated to care and maintenance and remediation/risk management. At the time of reporting, only 1% of DFO projects were projected to have costs exceeding one million dollars per project.

Unlike DFO, National Defence and Indian and Northern Affairs Canada 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 2006–07 alone, DND and INAC Northern Affairs Program combined spent $126,976,687 (86%) of the FCSAP funds allocated to care and maintenance and remediation/risk management. Approximately half (48%) of DND and 75% of INAC Northern Affairs Program care and maintenance and remediation/risk management projects are expected to exceed a total cost of $10 million dollars per project.

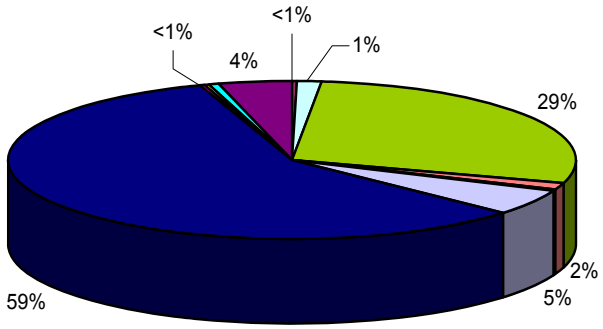
Refer to Figures 9A/B and Table 10 for details of the 2006–07 distribution of activities and expenditures by custodian.

**Figure 9: Distribution of Care and Maintenance and Remediation/Risk Management Projects by Custodian (2006–07)**

**A) Distribution of Projects by Custodian**




**B) Distribution of Expenditures by Custodian**




- Agriculture and Agri-Food Canada [A: <1%] [B: <1%]
- Canada Border Services Agency [A: <1%] [B: <1%]
- Correctional Service of Canada [A; 1%] [B: <1%]
- Fisheries and Oceans Canada [A: 46%][B: 1%]
- National Defence [A: 14%] [B: 29%]
- Environment Canada [A: 2%] [B: 2%]
- Health Canada [A: 1%] [B: <1%]
- Indian and Northern Affairs Canada – IIABL [A: 12%] [B: 5%]
- Indian and Northern Affairs Canada – NAP [A: 11%] [B: 59%]
- Parks Canada Agency [A: 4%] [B: <1%]
- Public Works and Government Services Canada [A: 3%] [B: <1%]
- Royal Canadian Mounted Police [A: 1%] [B: <1%]
- Transport Canada [A: 5%] [B: 4%]

**Table 10: Distribution of Care and Maintenance and Remediation/Risk Management Project Expenditures by Custodian (2006–07)**

| Custodian | Number of projects | FCSAP care and maintenance ($) | FCSAP remediation/ risk management ($) | FCSAP funds spent ($) |
|---|---|---|---|---|
| Agriculture and Agri-Food | 1 | | 72,000 | 72,000 |
| Canada Border Services Agency | 1 | | 211,327 | 211,327 |
| Correctional Service of Canada | 2 | | 56,906 | 56,906 |
| Environment Canada | 5 | | 2,261,504 | 2,261,504 |
| Fisheries and Oceans Canada | 100 | | 1,962,865 | 1,962,865 |
| Health Canada | 3 | | 440,834 | 440,834 |
| INAC (Indian and Inuit Affairs Business Line) | 26 | | 7,863,739 | 7,863,739 |
| INAC (Northern Affairs Program) | 24 | 62,283,225 | 23,281,345 | 85,564,570 |
| National Defence | 29 | | 41,412,117 | 41,412,117 |
| Parks Canada Agency | 8 | | 593,804 | 593,804 |
| Public Works and Government Services Canada | 7 | | 441,329 | 441,329 |
| Royal Canadian Mounted Police | 3 | | 569,752 | 569,752 |
| Transport Canada | 11 | | 6,271,662 | 6,271,662 |
| Total | 220 | 62,283,225 | 85,439,184 | 147,722,409 |

#### 2.1.3.3 Explanation of Financial Variance for FCSAP Care and Maintenance and Remediation/Risk Management Projects (2006-07)

In 2006-2007, $62,398,361 was approved for care and maintenance projects. As shown in Table 3, over the course of the year, INAC-NAP contributed funds amounting to $1,978,536 and utilized $62,283,225 of the FCSAP funding. The difference between allocated FCSAP funding and actual expenditures is $115,136.

As indicated in Table 3, the total funding approved in 2006-2007 for FCSAP remediation/risk-management projects was $101,716,861. Over the course of the year, custodians contributed funds amounting to $23,369,342, and spent $85,439,184 of FCSAP funding. The variance between allocated FCSAP funding and actual expenditures is $19,954,923, after adjusting for the funds transferred from the previous fiscal year ($3,677,246[13,14]).

The combined variance for remediation/risk management and care and maintenance projects is $20,040,059. This variance is due to several factors:

1. Custodians rescheduled some planned 2006-2007 work activities for the next season, transferring FCSAP funding in the amount of $17,582,071[15] to fiscal year 2007-2008.
2. The Department of National Defence spent $1,466,207 of their approved FCSAP assessment funding on their remediation/risk management projects. FCSAP funding in the amount of $26,070 was inadvertently spent on non-FCSAP sites; however, this was compensated for by an overall departmental cost share that greatly exceeded the required amount.
3. Parks Canada spent $132,219 of their approved FCSAP remediation/risk management funds on assessment projects.
4. Indian and Northern Affairs Canada (Northern Affairs Program) spent $598,425 of FCSAP remediation/risk management funds on program management activities.
5. FCSAP funds in the amount of $3,167,481 were not spent. Reasons for this funding not being spent can include:
   - 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; and
   - Litigation or legal issues prevented work from proceeding.

#### 2.1.3.4 Care and Maintenance and 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

[13] Four custodians transferred FCSAP funds from fiscal year 2005-2006 to 2006-2007, in the amount of $1,058,950 (INAC, Northern Affairs Program), $1,485,968 (INAC, Indian and Inuit Affairs Business Line), $758,992 (Correctional Service Canada), and $373,336 (Parks Canada).

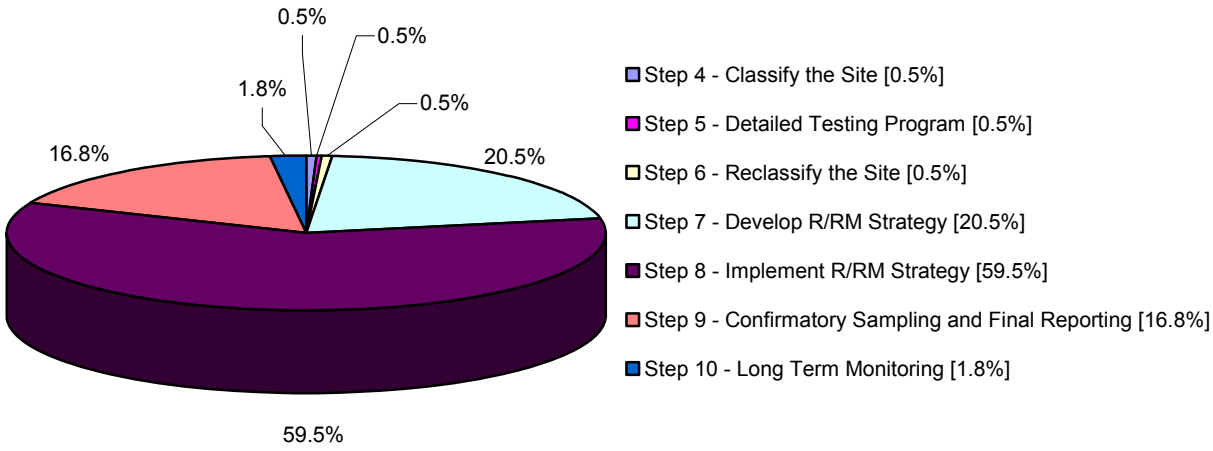
[14] Transport Canada did not request the funds that they reprofiled from fiscal year 2005-2006 to 2006-2007 ($2,552,974).

[15] Seven custodians transferred FCSAP funds from fiscal year 2006-2007 to 2007-2008, in the amount of $8,214,543 (Transport Canada), $2,694,200 (INAC, Northern Affairs Program), $621,873 (Parks Canada), $1,291,243 (INAC, Indian and Inuit Affairs Business Line), $3,734,960 (DFO), $882,086 (Correctional Service Canada), and $143,166 (Health Canada).

10) is required. In 2006–07, FCSAP provided first-time funding for one care and maintenance and 118 remediation/risk management projects and successive funding for 9 care and maintenance and 82 remediation/risk management projects. As in 2005–06, 60% of projects were in Step 8 at the time of reporting.

Figure 10 provides an overall picture of the highest step in which work was undertaken based on 2006–07 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. Refer to Figure 11 and Figure 12 for a detailed report of the progress of individual FCSAP care and maintenance projects and remediation/risk management projects, respectively, with 2006–07 expenditures greater than $1 million. Refer to the document "Report on Progress of FCSAP Priority Projects" for summary information by individual project.

**Figure 10: Status of FCSAP Care and Maintenance and Remediation/Risk Management Projects by Step (2006–07)**




Because care and maintenance and remediation/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 on larger projects. With complex multi-site 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 10) will reflect only the most advanced part of the project.

The activities and disbursements for all care and maintenance projects and remediation/risk management projects with fiscal year expenditures greater than $1 million are summarized in Figures 11 and 12.

**Figure 11: Progress of Care and Maintenance Projects Funded under FCSAP with Project Expenditures Greater than $1 Million (2006–07)**

| 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 ($) during fiscal year 2006-07** | **FCSAP funds spent on project ($) since fiscal year 2003-04** |
| **Care and Maintenance** | | | | | | | | | | | | | |
| INAC-NAP | Clinton Creek Mine | | | | | | | ■ | ■ | | | 401,437 | 2,159,650 |
| INAC-NAP | Colomac Mine | | | | | | | | ■ | | | 24,953,965 | 55,738,133 |
| INAC-NAP | Discovery Mine | | | | | | | | ■ | | | 719,730 | 7,312,013 |
| INAC-NAP | Faro Mine | | | | | | ■ | ■ | ■ | | | 13,607,174 | 50,461,184 |
| INAC-NAP | Giant Mine | | | | | | | | ■ | | | 14,385,594 | 36,972,740 |
| INAC-NAP | Johnson Point | | | | | ■ | | ■ | ■ | | | 1,569,918 | 1,569,918 |
| INAC-NAP | Mount Nansen Mine | | | | | | | ■ | ■ | | | 1,252,230 | 3,942,821 |
| INAC-NAP | Silver Bear Mines | | | | | | | ■ | ■ | | | 1,100,773 | 3,090,432 |
| INAC-NAP | Tundra-Taurcanis Mine | | | | | | | | ■ | | | 1,732,179 | 5,478,877 |
| INAC-NAP | United Keno Hill Mine | | | | | | ■ | ■ | ■ | | | 2,560,225 | 10,138,872 |

▒ : Steps completed up to the end of FY **2005-06**

■ : Steps with work undertaken during fiscal year **2006-07**

**Figure 12: Progress of Remediation/Risk Management Projects Funded under FCSAP with Project Expenditures Greater than $1 Million (2006–07)**

| 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 ($) during FY 06-07** | **FCSAP Funds spent on Project ($) since FY 03-04** |
| **Remediation/ Risk -Management Projects** | | | | | | | | | | | | | |
| EC | Pacific Environmental Centre | | | | | | | ■ | ■ | | | 1,771,051 | 3,292,074 |
| INAC-NAP | Resolution Island | | | | | | | | ■ | | | 2,686,056 | 28,025,586 |
| INAC-NAP | CAM F- Sarcpa Lake | | | | | | | | ■ | | | 4,226,898 | 8,126,133 |
| INAC-NAP | FOX C - Ekalugad Fiord | | | | | | | | ■ | | | 5,842,820 | 9,318,368 |
| INAC-NAP | BAR D - Atkinson Point | | | | | | | ■ | ■ | | | 4,226,898 | 8,126,133 |
| INAC-NAP | Port Radium Mine | | | | | | | ■ | ■ | | | 2,901,418 | 6,087,434 |
| INAC-NAP | Radio Island | | | | | | | ■ | ■ | | | 3,686,614 | 3,799,199 |
| INAC-IIABL | Gitxaala Nation Former Power House | | | | | | | | ■ | | | 2,083,217 | 2,227,217 |
| INAC-IIABL | Mathias Colomb Area 5B | | | | | ■ | | ■ | ■ | | | 1,340,000 | 1,340,000 |
| DND | 5 Wing Goose Bay | | ■ | ■ | ■ | ■ | ■ | | ■ | | | 5,628,949 | 9,597,581 |
| DND | 14 Wing Greenwood | | | | | | | | ■ | | | 1,838,980 | 4,570,310 |
| DND | CAM 3 - Shepherd Bay | | | | | | | | ■ | | | 3,460,919 | 5,538,005 |
| DND | CAM 4 - Pelly Bay | | | | | | | | ■ | | | 1,997,650 | 4,971,056 |
| DND | DYE M - Cape Dyer | | | | | | | | ■ | | | 6,451,879 | 21,659,084 |
| DND | FOX 5 - Broughton Island | | | | | | | | ■ | | | 2,429,692 | 7,822,647 |
| DND | FOX M - Hall Beach | | | | | | | | ■ | | | 7,268,972 | 18,612,572 |
| DND | Valcartier | | | | | | | ■ | ■ | | | 7,063,875 | 11,999,937 |
| TC | Bushell Public Port | | | | | | | | ■ | | | 2,171,765 | 2,689,966 |
| TC | Nitchequon | | | | | | | | ■ | | | 1,613,422 | 3,333,369 |

■ : Steps completed up to the end of FY 2005-06

■ : Steps with work undertaken during fiscal year **2006-07**

### 2.1.3.5 Activities at Care and Maintenance and Remediation/Risk Management Projects

**Care and Maintenance Activities**

In several cases, multiple care and maintenance activities are undertaken concurrently. In 2006-07, the most common types of care and maintenance activities include tailings management, physical debris management, and water collection and treatment. There was considerably more physical debris management (60%) and significantly less maintenance of water retaining structures (47%) in 2006–07 than in 2005–06.

The full breakdown of multiple care and maintenance activities for the 10 care and management projects funded under FCSAP in 2006–07 is provided in Figure 13.

**Figure 13: Care and Maintenance Activities (2006–07)**

| | | Care and maintenance projects | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Clinton Creek Mine | Colomac Mine | Discovery Mine | Faro Mine | Giant Mine | Johnson Pt | Mount Nansen Mine | Silver Bear Mines | Tundra-Taurcanis Mine | United Keno Hill Mine |
| Care and maintenance activities | Collection of Hazardous Materials | | | | • | | • | | • | • | |
| | Maintenance of Water Retaining Structures | | | | • | • | | | | | |
| | Management of Health and Safety Concerns | | • | | | • | | | • | | • |
| | Physical Debris Management | • | | | • | • | • | | • | • | • |
| | Tailings Management | • | • | • | • | • | | | • | • | • |
| | Waste Rock Management | | • | | • | | | | | • | |
| | Water Collection / Treatment | | • | • | • | • | | • | | | • |
| | **Total number of care and maintenance activites** | **2** | **4** | **2** | **6** | **5** | **2** | **1** | **4** | **4** | **4** |

Overall, the Northern Affairs Program at Indian and Northern Affairs Canada was responsible for all of the care and maintenance projects in 2006–07. At the end of the fiscal year, the Northern Affairs Program reported spending $64,261,761 (FCSAP: $62,283,225; custodian: $1,978,536) on care and maintenance projects of the total $65,584,169 planned. The difference between the allocated FCSAP funding and the actual expenditure on care and maintenance projects was $115,136[16], representing only 0.2% of the allocated amount (Appendix 3b).

[16] Variance does not include the component related to INAC-NAP's cost share.

**Northern Affairs Program, Indian and Northern Affairs Canada: Mount Nansen Mine, Yukon**

The Mount Nansen Mine is an abandoned gold and silver mine located 60 km west of Carmacks and 180 km north of Whitehorse. The property, which covers 5300 hectares, is within the traditional territory of the Little Salmon/Carmacks First Nation. Intermittent exploration occurred between 1917 and 1984, after which more rigorous exploration started. Mining and milling were not initiated until October 1996 and were suspended three years later in 1999.

Care and maintenance activities were initiated at Mount Nansen in 1999 when the site was abandoned and Indian and Northern Affairs Canada assumed custodial responsibility. The primary concern at the site was the tailings and tailings dam. The secondary concerns for the environment and unauthorized visitors include the buildings, machinery, and miscellaneous hazardous chemicals in and around the mill. The tailings pond water treatment program was initiated by INAC in 1999 and was managed by the Government of Yukon between 2002 and 2006. In 2005, the cyanide concentration in the tailings pond water reached safe discharge levels.

A detailed risk management examination of the property was conducted in 2005 and was updated in 2006. The assessment did not bring forward any major new issues. Current remediation activities have satisfactorily reduced risks in the short and medium term. A terrestrial and aquatic effects study was completed in 2006–07, and a presentation of the findings was made to a local community. A small remediation project was also carried out in 2006–07 to remove hazardous materials and drums from the site. Formal closure objectives for the project were identified in conjunction with federal and territorial governments, the Little Salmon/Carmacks First Nation, the Village of Carmacks, and other stakeholders as part of the closure planning process in the 2006–07 fiscal year.

Source: Performance Report: 2006-07. Indian and Northern Affairs Canada, Contaminated Sites Program.

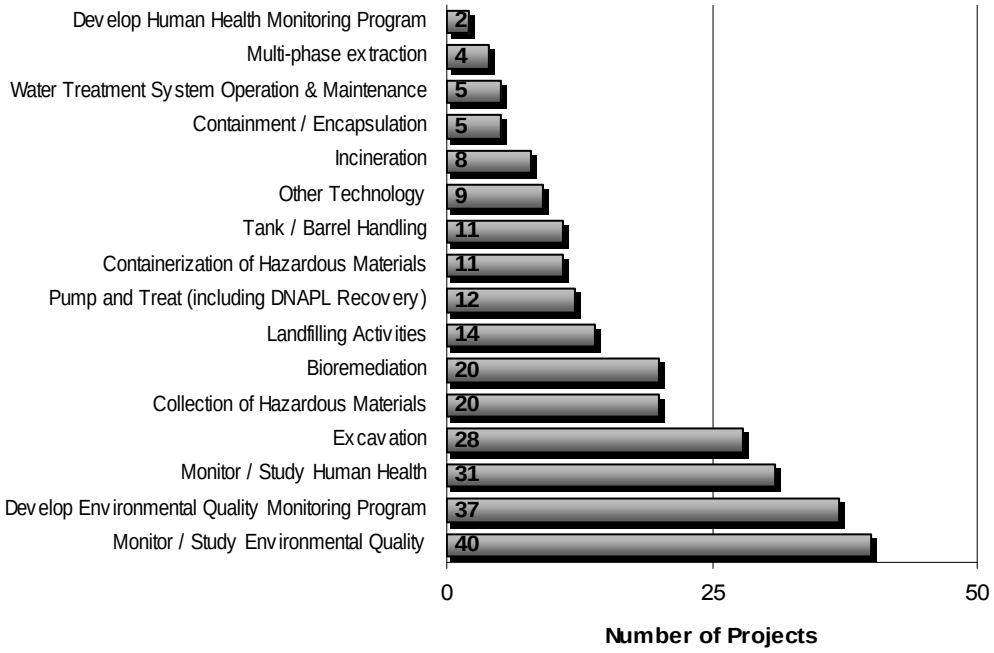
## Remediation/Risk Management Activities

In 2006–07, 44% of care and maintenance and remediation/risk management projects reported remediation and/or risk management activity (i.e. step 8). Within the 97 projects with remediation/risk management activity, concurrent, multiple remediation/risk management activities were reported in 70% of projects.

From Figure 14 it is evident that risk management was a critical part of the work undertaken in 2006-07. This was demonstrated by the number of projects that developed and implemented environmental monitoring programs (37 projects and 40 projects, respectively) and monitored human health (31 projects). Equally, soil excavation (28 projects), the collection of hazardous materials (20 projects), and bioremediation (20 projects) emerged as the predominant activities in the execution of 2006–07 remediation program.

In comparison with the remediation/risk management activities carried out in 2005–06, the 2006–07 activities were significantly more diversified. Under Step 8 of the 10 Step Process, 19 different classes of remediation/risk management activity were reported. An additional six technologies, classified as “other technology,” were also identified at eight sites. In 2006–07, other technology included chemical oxidation, biocell operation and sampling, the installation of a new dam and tailings cover, bio-venting, vibration monitoring, and monitoring treatment wall performance.

**Figure 14: Remediation/Risk Management Activities Undertaken in Care and Maintenance and Remediation/Risk Management Projects (2006–07)**




**Environment Canada: Hydrometric Stations**
**Locations throughout Canada**

Environment Canada is responsible for approximately 2,800 active and 1,000 inactive hydrometric stations across Canada. Of the total number of stations in the national hydrometric network, 1,309 stations are known to have used mercury manometers at some point. Although the manometers were removed by the Water Survey of Canada (WSC) when the potential effects of mercury became better understood, historic apparatus malfunctions (such as the orifice line becoming obstructed) within a number of the gauging houses have caused mercury from spills to become trapped in the cracks and crevices of the station floors (2-3 $m^2$) and in the surrounding soils. Since 1998, WSC has been assessing and remediating known suspect sites. To date, approximately 80% of the assessed sites have reported elevated levels of mercury contamination.

Because many hydrometric stations are remotely located and involve only small amounts of mercury contamination, protocols have been developed to facilitate concurrent assessment and remediation (where necessary) during one site visit. The current strategy and protocol for mercury clean up was developed by PWGSC (Public Works and Government Services Canada) in 1999 with guidance from WTI (Wastewater Technologies International Corporation) Protocol for the Assessment and Remediation of Mercury Manometer Hydrometric Sites in the Northwest Territories (1998).

Per the soil protocol, assessment is performed using a portable mercury vapour analyzer. The analyzer is used to map the vertical and horizontal extent of contamination in the soil. Once the contamination is delineated, the impacted soils are excavated into sealed drums for disposal at an appropriate waste facility. Following excavation, confirmatory laboratory samples are collected and submitted for analysis. If laboratory results indicate unacceptable chemical concentrations, the site is revisited.

Similarly, per the gauging house protocol for OHS standards, if regulated levels of vapour are identified, a mercury spill kit will be used to absorb and vacuum the mercury. If the procedure does not work after two applications, certain parts of the interior station are removed in an attempt to access previously out of reach contaminates. If acceptable vapour levels are still not achieved at that point, the gauging house may be decommissioned.

In 2006-2007, EC visited 95 sites in Alberta, British Columbia, Ontario, and Saskatchewan. Whereas one of the sites requires further assessment, 15 of the sites are assessed but still require remediation and/or risk management. The other 79 sites are now closed in the FCSAP inventory and do not require any further action.

# 3.0 2006–07 Program Achievements: Linkages

In addition to its primary objectives, the Federal Contaminated Sites Action Plan provides opportunities to maximize value for money by promoting linkages with other socio-economic priority areas. Examples include links with skills development, training, and employment of Canadians, particularly in Aboriginal communities and in northern or rural areas, and competitiveness and technological advancement in the environment industry. While 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 small number of other departments where there is alignment with departmental mandates.

Human Resources and Social 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 both individual Canadians through training and skills development and for the environmental industry as a whole.

Similarly, through its expert support role, Public Works and Government Services Canada, 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 2006-2007*

### 3.1.1 Socio-Economic

In support of the Government of Canada commitment to address federal contaminated sites, it is anticipated that there will be an increase in the demand for labour in the environment sector. Because of the increase in demand for highly skilled Canadian environmental workers, positive social and economic outcomes are projected.

To better understand Canada's current capacity to meet this unique labour demand, ECO Canada undertook a study in early 2006. The work was guided by a 29-member National Steering Committee from government, industry, and academia. In addition, a full-day *National Forum on Contaminated Sites* was held in Vancouver on March 28, 2006 to gain support and gather comments on the project from stakeholders, including some members of the National Steering Committee and additional representatives from municipalities, industry, and government. The three main objectives of the study were to provide a clearer picture of the labour demand for contaminated sites work; offer recommendations for "next steps," which may include an 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 build greater industry awareness and support for government and private sector contaminated sites policies.

Already in 2006–07, the demand for skills and services generated by projects funded under the Federal Contaminated Sites Action Plan has helped to create new jobs in the environment sector. Most notably, on northern sites, where Comprehensive Land Claim Agreements often stipulate minimum levels of Aboriginal/Inuit employment, targets are being met and are often surpassed.

The achievements of four custodians (Indian and Northern Affairs Canada, National Defence, Parks Canada, and Environment Canada) are highlighted below to illustrate the range of activities being undertaken by custodians in support of economic development and training in the environmental sector.

- Through the Procurement Strategy for Aboriginal Business and the Aboriginal Benefits Packages and by soliciting bids locally on lower value contracts, Indian and Northern Affairs Canada 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 and economic development opportunities. The Aboriginal Benefits Strategy, which includes an Aboriginal Benefits Plan, is part of the overall competitive procurement process.
- National Defence is committed to encouraging the training and employment of Aboriginal people across Canada. DND has entered into cooperative agreements with the Inuvialuit and the Inuit people of the Yukon and Northwest Territories and Nunavut for the clean up of 21 contaminated sites. In these agreements are clearly marked requirements in terms of 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.
- The Environmental Affairs Division of Environment Canada has developed a Student Mentoring Program intended to guide students into the environmental industry. Over the longer term, the objective is to enlarge the pool of technical talent accessible to both Environment Canada and the environmental industry in general.
- By encouraging the participation of its own Aboriginal and Inuit employees in the remediation and risk management of contaminated sites in the north, Parks Canada is contributing directly to the Northern Strategy in the area of environmental protection. Through consultation with numerous local stakeholders, including Aboriginal and Inuit communities, an advisory committee has been established. The objective of the committee is to study and approve proposed clean-up criteria as well as the development of a future remediation plan.

**Indian and Northern Affairs Canada – Northern Affairs Program (NAP)**

Indian and Northern Affairs Canada is the custodian of most federal lands in the North. The INAC Northern Affairs Program is responsible for managing contaminated sites in the Northwest Territories and Nunavut and for providing funding to address sites in the Yukon.

Throughout its operations in the North, the Northern Affairs Program strives to create positive social and economic impacts for nearby communities. The range of benefits can include direct employment, support to local businesses through the procurement of goods and services, and training programs that help build the capacity of local inhabitants and provide opportunities for them to obtain future work using the skills they have acquired. Commonly purchased goods and services include professional services (i.e., consulting, trades, remediation, construction, laboratory), winter roads, transportation services, air charters, equipment rentals, and fuel.

**Employment and Business in the North (2006–07)**

In 2006–07, socio-economic performance data were submitted for 26 of 30 sites managed by NAP. From the data, the total number of individuals employed in projects managed by NAP was calculated as 1055 people. Of these 1055 employees, 65% were from the North and 42% were Northern Aboriginal people. An additional 24 sites reported doing business with a total of 689 Northern suppliers in the total amount of $42 million, 63% of which was directed to 198 Northern Aboriginal suppliers.

**Workforce Training (2006–07)**

Eighteen sites also reported providing training to a total of over 400 employees, 80% of whom were Northerners and 65% of whom were Northern Aboriginal people. In particular, (1) the Colomac Mine project was part of a Mine Training Society project that involved training several people in trades, (2) the Port Radium project set aside over $100,000 to train people from the hamlet of Déline so that they could participate in the remediation of the site, and (3) the Silver Bear project has been hiring several people from Déline and has been gradually improving their skills through on-the-job training for camp operations, sampling, maintenance, etc.

Source: Performance Report 2005-06 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 purposes of the FCSAP program, the term "innovative technology" is initially defined as follows: 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).[17]

#### 3.1.2.1 FCSAP Expert Support for Remediation Solutions

In 2006-07 Public Works and Government Services Canada and Industry Canada, as FCSAP expert support, promoted the selection and application of innovative remediation technologies at federal sites through the following activities:

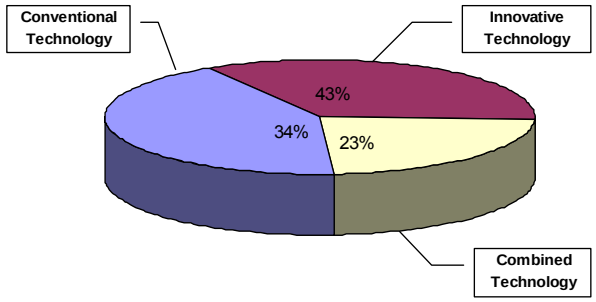
- PWGSC promoted the uptake of innovative remediation technologies through interdepartmental regional working groups as well as the Contaminated Sites Management Working Group;
- PWGSC drafted a reporting format so that information on innovative technologies used during FCSAP could be collected at the project level and disseminated the report through the working group;
- PWGSC and Industry Canada co-sponsored the Innovative Remediation Solutions Workshop in Halifax in February 2007. The workshop profiled applications of innovative technologies at federal sites and identified the issues limiting the use and application of innovative technologies at federal sites;
- Industry Canada coordinated a series of regional Innovative Remediation Solutions Workshops designed to facilitate awareness, communication, and collaboration among federal custodians and technology vendors that have potential solutions;
- PWGSC and Industry Canada established and co-chaired the Technology Advancement Working Group (TAWG), which was proposed to create synergies among the various federal programs available to support innovative remediation technology uptake. (In addition to members from FCSAP, the working group's membership includes representatives from the National Research Council Industrial Research Assistance Program, Sustainable Development Technology Canada, and About REMEDIATION);
- PWGSC developed draft terms of reference (including the potential membership) for TAWG;
- PWGSC in conjunction with the Montréal Centre for Excellence in Brownfields Remediation (MCEBR) and the Biotechnology Research Institute (BRI developed Guidance and Orientation for the Selection of Technologies (GOST), a database of remediation technologies intended to assist federal custodians in identifying remediation technologies appropriate to their sites;
- Industry Canada commissioned the development of several documents, including: Government as First User/Demonstrator within the Federal Contaminated Sites; and Canadian Industry Capability and Canada's Federal Contaminated Sites.

#### 3.1.2.2 2006–07 Remediation Activities and the Use of Innovative Technologies

In 2006–07, 61 of the 220 care and maintenance and remediation/risk management projects (7 of the 10 care and maintenance projects and 54 of the 210 remediation/risk management projects) undertook remediation activity. Of these 61 projects, 40 projects (66%) reported using one or more types of innovative remediation technology. Among the 40 projects that used innovative technology, 26 projects (65%) used innovative technology exclusively and 14 projects (35%) used a combination of innovative and conventional technologies. Entirely conventional remediation activities occurred in the remaining 21 projects (34%) (Figure 15).

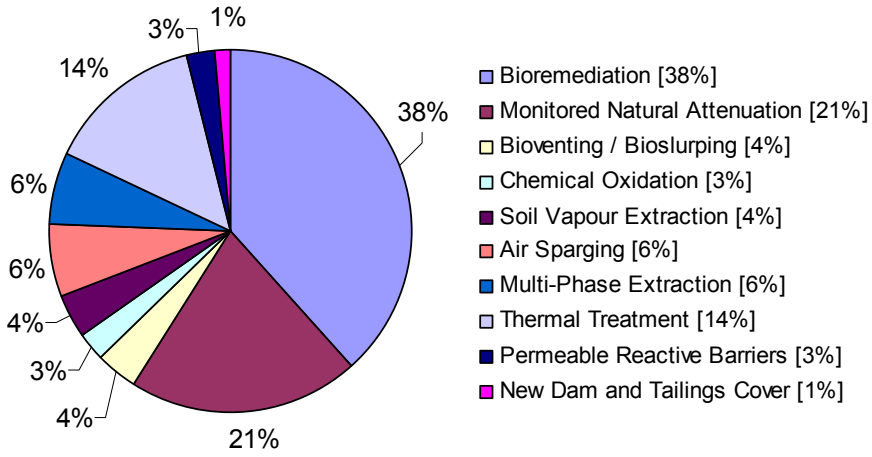
[17] The existing definition was intended to ensure that all possible treatment technologies applied to FCSAP sites were identified. However, this initial definition is under review and based on consultations within the federal contaminated sites community, it is expected that the term 'innovative technology'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

**Figure 15: Conventional versus Innovative Remediation Options (2006–07)**



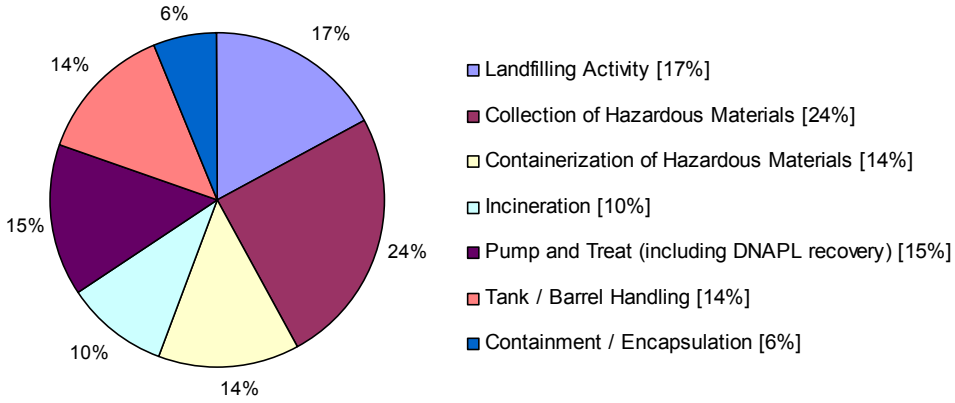

Under the current definition of innovative technology (see Section 3.1.2), 40 projects funded under FCSAP in 2006–07 incorporated one or more of the following 10 types of innovative remediation technologies: bioremediation (on site and/or off site), thermal treatment (including desorption), chemical reduction/oxidation, permeable reactive barriers, monitored natural attenuation, soil vapour extraction, air sparging, bioventing/bioslurping, multiphase extraction, and the installation of a new dam and tailings cover. As in 2005–06, bioremediation accounted for the most significant proportion of the innovative activity (38%) (Figure 16a).

**Figure 16a: Breakdown of Innovative Remediation Activity (2006–07)**




Over the same period, conventional remediation activities, including landfilling, incineration, tank and barrel handling, collection/containerization of hazardous materials, containment/encapsulation, and pumping out and treating groundwater and surface water (including the recovery of dense non-aqueous phase liquids (DNAPL)), were utilized. As is shown in Figure 16b, the use of these activities was fairly evenly balanced in 2006–07. Anomalies include marginally more collection of hazardous materials (24%) and slightly less containment/encapsulation (6%) and incineration (10%).

**Figure 16b: Breakdown of Conventional Remediation Activity (2006–07)**




In a year-over-year comparison of remediation activity by project, there was an increase in the number of projects in 2006–07 (61 vs. 46 in 2005–06), but a decrease in the percentage of projects where remediation was taking place (28% vs. 47% in 2005–06). This reflects the increase in the number of new remediation/risk management projects being funded in 2006–07. The majority of these new projects are working through earlier steps of the Ten Step Process and have not yet begun the implementation phase (Step 8).

More specifically, in terms of the distribution of activities within the active remediation portion of the process, in 2006–07 there was a marked increase in the percentage of projects using innovative technology (66% vs. 53% in 2005–06) and a near doubling of the percentage of projects using exclusively innovative technologies (65% vs. 37.5% in 2005–06). As in 2005–06, bioremediation was the most often implemented non-conventional technology, but as a much less prominent proportion (38% vs. 74% in 2006–07).

#### 3.1.2.3 Going Forward

In the first years of FCSAP, the data that were collected about remediation technologies were broad in scope. Consequently, the innovative technologies presented in this report encompass all remediation efforts outside of standard *ex situ* practices (i.e., soil excavation and disposal and pumping and treating surface water and/or groundwater). 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, the proportion of activities that are categorized as innovative technology will likely decline, not necessarily reflecting a trend but rather the modified baseline.

Specific examples of the use of innovative remediation technologies for projects funded under FCSAP in 2006–07 are highlighted in the following pages.

**National Defence: DEW Line Cleanup**
**Multiple Locations, Nunavut**

At present, National Defence has custodial responsibility for 21 DND Distant Early Warning (DEW) line radar sites located in the Canadian North. These sites (now unused and no longer required) pose ecological risks to surrounding sensitive arctic environments. In order to ensure that harmful substances associated with the activities that took place at these sites in the past do not affect future human and/or environmental health, a cleanup program has been initiated. The program involves the categorical transfer of demolition debris and low-level waste from old landfills into new, engineered landfills expressly designed to stay permanently frozen within the permafrost. As of 2006–07, activities funded under the Federal Contaminated Sites Action Plan were related to the remediation and decommissioning of DND facilities at 10 DEW line sites in Nunavut Territory.

The engineered landfills are excavated down to solid rock or solid permafrost and are surrounded with saturated silty berms that become impermeable once they freeze. Each landfill is completely lined with an impermeable geomembrane synthetic liner that provides primary containment for the first two to three years before the berm freezes. Each landfill is also covered with fill that will also be permanently frozen, creating secondary containment indefinitely. Water from the seasonally active layer of the permafrost above the frozen fill does not penetrate into the frozen ground.

With 14 sites complete and several landfills now 10 years old, the effectiveness of the design has been proven. However, in light of the potential effects of climate change and global warming, a separate study has indicated that additional measures are required to ensure the long-term viability of these landfills. Increasing armouring of the sides to protect against increasing rainfall, adding 0.8 to 1.5 meters extra fill on top to protect against an increasing active layer, and modifying locations of landfills to accommodate rising sea levels and permafrost slumping on hillsides are now being considered. To ensure that landfill performance meets the intent of the design and no contaminants migrate into the environment, confirmatory monitoring is planned for at least 25 years.

**Transport Canada: Williams Lake Airport Fire Fighter Training Area Remediation**
**Williams Lake, British Columbia**

The Williams Lake Airport is situated 11 km northeast of the city of Williams Lake, in the interior of British Columbia. In January 1997, the airport (previously operated by Transport Canada) was transferred to the City of Williams Lake. At the time of the transfer, two former fire fighter training areas were identified as areas of environmental concern. One area was used between 1972 and 1983 and a second area was used between 1983 and 1992. Activities at the fire fighter training areas involved spraying mock-ups with fuel supplied through shallow buried fuel lines and nozzles placed around the mock-up, igniting the fuel, and carrying out fire suppression and control procedures with fire fighting chemicals and agents.

Environmental investigations carried out at the sites between 1993 and 2003 identified 550 $m^3$ of shallow contaminated soil, 3100 $m^3$ of deep contaminated soil, 3 liquid phase hydrocarbon (LPH) plumes, and 3 dissolved phase hydrocarbon groundwater plumes at the first area and an estimated 7600 $m^3$ of deep contaminated soil, 3 LPH plumes, 3 dissolved phase hydrocarbon groundwater plumes, and localized elevated volatile organic compounds at the second. Perfluorinated chemicals (PFCs) resulting from the use of aqueous film-forming foam (AFFF) in fire training exercises were also identified as a contaminant of concern following a risk assessment problem formulation in 2006. The LPH and dissolved plumes presently extend off airport lands onto provincial Crown land.

The contamination extends down 7 to 12 m, so *ex situ* remediation was ruled out due to costs and logistics. After considering several *in situ* remedial technologies, a pump and treat system was selected; however, in 1996 it was determined to be unsuccessful. In 2004 remedial options were re-evaluated and in 2005 a vaccum enhanced multi-phase extraction (VEMPE) system was installed. The VEMPE system has effectively recovered 846 kg of free-phase hydrocarbons from the groundwater of the vadose zone (above the water table). Performance monitoring has shown that increased groundwater recovery, hydraulic control, and hydrocarbon recovery rates are achieved by operating the wells in priming mode. Priming mode involves the introduction of outside air into the well through a valve as a way of providing enough air velocity to carry entrained liquid droplets up the well.

With the VEMPE system operating in priming mode annually between spring and fall, it is expected that all the liquid phase hydrocarbons that can be recovered will be removed by 2010. The groundwater PFC data set is not yet large enough to allow remedial progress of PFCs at the site to be evaluated.

### 3.1.3 Federal Brownfields

For purposes of the Federal Contaminated Sites Action Plan, 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 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.

The scope of FCSAP presents an opportunity for custodians to redevelop brownfields that are part of their real property portfolio. In 2005–06, Public Works and Government Services Canada 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 as well as with 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 is scheduled for 2007–08. Trials of the tool will be conducted using the PWGSC Real Property Inventory database.

In order to establish an inventory of federally owned brownfields, custodians will be expected in future years to report on whether the sites for which they are seeking FCSAP funding are considered brownfields. The Brownfields Portfolio Classification Tool will be used in this assessment.

Preliminary reports in 2006–07 suggest that six different custodians defined one or more of their sites as a federal brownfield. Overall, ten projects (three in Ontario, one in Quebec, three in Newfoundland and Labrador, and three in British Columbia) were identified. Unknown or no development plans were reported for seven of the ten sites. The three remaining sites were considered as potential divestments for private redevelopment.

# 4.0 2006–07 Program Achievements: Program Administration

The first year of the Federal Contaminated Sites Action Plan (2005–06) focused on the groundwork for successful program implementation—namely, the design of a government-wide strategy and mechanisms to identify and address higher priority federal contaminated sites by building on the program of the Federal Contaminated Sites Accelerated Action Plan. The second year of the program (2006–07) was an opportunity to solidify these processes.

## *4.1 Expert Support and Secretariat Funding*

A total of $16,231,781 of Secretariat and Expert Support funding was approved for 2006-07 and $11,017,497 was spent. A breakdown of these expenditures is outlined in Table 11.

**Table 11: Summary of FCSAP Program Management Expenditures for Secretariat and Expert Support Services (2006-07)**

| | Secretariat and Expert Support Services | | | |
|---|---|---|---|---|
| | **Approved Funding** | **Adjustment** | **Expenditure** | **Variance (approved + adjustment - expenditure)** |
| Environment Canada Secretariat/Expert Support | 6,184,460 | | 3,860,565 | 2,323,895 |
| Treasury Board of Canada Secretariat | 482,083 | | 472,347 | 9,736 |
| Health Canada Expert Support | 5,729,603 | | 4,099,693 | 1,629,910 |
| Public Works and Government Services Canada | 1,000,000 | | 746,612 | 253,388 |
| Fisheries and Oceans Expert Support | 2,835,637 | | 1,838,280 | 997,357 |
| **Total Secretariat and Expert Support** | 16,231,783 | - | 11,017,497 | 5,214,286 |

A total of $5,214,286 in Secretariat and Expert Support funding was lapsed in 2006-07. The main factor identified by the expert support departments and the Secretariat as contributing to the variance was also their inability to staff the vacant positions funded by the program. Given that there was a lower than expected number of staff for expert support and the Secretariat functions, it created the inability to spend significant portions of operational funds that could have been used to undertake various projects to accelerate or benefit the program.

## *4.2 Key Activities in 2006–07*

### 4.1.1 Federal Contaminated Sites Action Plan Secretariat

Some of the major activities undertaken by the FCSAP Secretariat:

- Prepared annual funding documents for ministerial approval;
- Coordinated training and workshops on reporting and submission processes;
- Developed and coordinated the 2006 project submission process;
- Established interim eligibility criteria for waste disposal sites in consultation with Treasury Board Secretariat;
- Revised the FCSAP eligible/ineligible costs documents in consultation with a sub-committee of the Contaminated Sites Management Working Group;

- In consultation with TBS, assisted Environment Canada Communications Branch in the development of a FCSAP Web portal intended to provide general information about the program and on activities at federal contaminated sites;
- Provided numerous presentations to other government departments and stakeholders on FCSAP.
- Organized a one-day workshop with financial officers of the custodian departments;
- Commenced discussions with the Commissioner of the Environment and Sustainable Development in preparation for the 2008 follow-up audit;
- Provided ongoing secretariat support to the working group and the Federal Contaminated Sites Steering Committee;
- Developed numerous documents, such as the FCSAP Manual, FCSAP Evaluation Plan, and Version 2 of Interim Guidance Document on the Determination of Eligible/Ineligible Costs;
- Created policy related specifically to the enhancement of FCSAP, the development and coordination of the call and training for FCSAP 2005–06 reporting, and the custodian training package for reporting on 2006–07 activities and expenditures.

Interdepartmental Data Exchange Application Website (https:\\idea.gc.ca)

The Interdepartmental Data Exchange Application (IDEA) is a secure website that was developed in 2003–04 to allow custodians to exchange information related to FCSAP through a single access point. In 2006–07, the FCSAP Secretariat assisted the Chief Information Officer Branch at Environment Canada in Downsview (under a service agreement) with the ongoing development of a new IDEA web-based application. Other activities undertaken included the update and preparation of the IDEA secure database application for the 2006 project submission process and 2006–07 reporting module.

### 4.1.2 Treasury Board Secretariat

In 2006–07, the Real Property and Materiel Policy Division of the Treasury Board Secretariat undertook the following work related to FCSAP.

- Supported the FCSAP Secretariat in program development activities, including the preparation of funding approval documentation, and continued to strengthen annual reporting.
- Chaired and coordinated planning for the 2008 Federal Contaminated Sites National Workshop, held in Vancouver, British Columbia, from April 28 to May 1, 2008. The workshop is expected to bring together over 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.
- Monitored reporting by custodians to the Federal Contaminated Sites Inventory.
- Participated in interdepartmental working groups and contributed to the development and refinement of guidance material.
- Developed guidance for the preparation of contaminated sites management plans and reviewed annual submissions.
- Elaborated content for the FCSAP Web portal.

On November 1, 2006, the Treasury Board Policy Framework for the Management of Assets and Acquired Services and its associated policy instruments came into effect. These documents set the direction for the management of assets and acquired services throughout the federal government to ensure the conduct of these activities provides value for money and demonstrates sound stewardship in program delivery. The Treasury Board Policy on Management of Real Property and the associated Reporting Standard on Real Property contain information on the mandatory requirements for the management of federal contaminated sites and replace the Treasury Board Federal Contaminated Sites Management Policy and the Treasury Board Federal Contaminated Sites and Solid Waste Landfills Inventory Policy. Additional guidance on the management of contaminated sites can be found in the Treasury Board Guide to the Management of Real Property.

### 4.1.3 Expert Support Departments

In 2006–07, 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.

- Environment Canada promoted the use of widely accepted and standardized approaches to ecological risk assessment from the Canadian Council of Ministers of the Environment (CCME) and the U.S. Environmental Protection Agency.
- Environment Canada provided expert support advice to custodians, including Fisheries and Oceans Canada, other units of Environment Canada, Parks Canada, Indian and Northern Affairs Canada, and Public Works and Government Services Canada, on the best practices and management options for the remediation and risk management of federal contaminated sites.
- Environment Canada performed reviews of the ecological risk evaluations (ERE 1 and 2) for projects in the regions.
- Environment Canada 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 (IRWGs).
- PWGSC prepared six project management tools (Scope Management, Time Management, Quality Management, Procurement Planning, Cost Management, and Project Lessons Learned) to assist custodians in better managing their contaminated sites projects. PWGSC also developed a training session for each of these project management tools.
- 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 Halifax in February 2007, developing the Interdepartmental Technology Advancement Working Group, and developing the Guidance and Orientation for the Selection of Technologies (GOST) database.
- 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 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 Health Canada and Environment Canada.
- HC continued work on the development and advancement of soil quality guidelines based on human health for several chemicals that are typically found at federal contaminated sites across Canada. HC also provided training in the areas of public involvement and risk communication, which resulted in considerable progress in these areas by custodians.
- 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.

Detailed information on the activities carried out by the four expert support departments (Fisheries and Oceans Canada, Environment Canada, Health Canada, and Public Works and Government Services Canada) 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, 15th 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** – 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. The Public Accounts notes that the environmental liability includes "the estimated costs related to the management and remediation of contaminated sites and unexploded ordnance affected sites where the Government is obligated, or likely obligated to incur such costs, as well as the estimated costs to decommission Atomic Energy of Canada Limited's nuclear facilities." Contingent liabilities are defined as potential liabilities that may be incurred when more information is known.

The requirements for the recording of environmental liabilities can be found in the Treasury Board Policy on Accounting for Costs and Liabilities Related to Contaminated Sites. Additional guidance is located in the Treasury Board Guidance on Accounting for Environmental Liabilities As specified in these documents, the recorded liability for contaminated sites reflects the cost estimates for 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) site under the CCME classification. As noted in the 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 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 2006–07 Public Accounts show an increase in the accrued liability related to the management and remediation of federal contaminated sites. As of March 31, 2007, a liability of $3.015 billion[18] was recorded for approximately 2630 contaminated sites, compared with a liability of $2.909 billion[19] for 2700 sites in 2006. This represents a 3.65% increase, which can be attributed to the increase in the total departmental contaminated sites liability reported by Natural Resources Canada. The 2006–07 Departmental Performance Report for Natural Resources Canada notes that the increase was "primarily a result of the revised assessment of the cost estimate for one of the sites".[20]

For a number of reasons, not all of the contaminated sites reporting liabilities in the Public Accounts are eligible for funding under the Federal Contaminated Sites Action Plan. As a result, in order to get 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. As well, certain federal custodians with contaminated sites do not participate in FCSAP. As demonstrated in Table 12, once these amounts are removed from the total liability recorded on the Public Accounts, there is a $69.4 million decrease in total contaminated sites liability over the period March 31, 2006, to March 31, 2007.

[18] Excluding the liability amount for sites affected by unexploded explosive ordnance.
[19] Excluding the liability amount for sites affected by unexploded explosive ordnance.
[20] Natural Resources Canada 2006-2007 Departmental Performance Report, Annex – Financial Statements, Section 14 Contingent Liabilities (http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/rsn/rsn04-eng.asp).

**Table 12: Adjusted Total Contaminated Sites Liability (2006–07)**

| | March 31, 2006 ($) | March 31, 2007 ($) |
|---|---|---|
| Total contaminated sites liability[21] | 2,908,633,000 | 3,014,836,315 |
| Less: | | |
| Sydney Tar Ponds[22] | (272,202,263) | (280,817,000) |
| Port Hope Area Initiative[23] | (187,368,000) | (387,173,243) |
| Cape Breton Development Corporation[24] | (118,980,000) | (108,857,000) |
| Federal custodians not participating in FCSAP | (23,123,500) | (432,281) |
| Adjusted total contaminated sites liability | 2,306,959,237 | 2,237,556,791 |

Although total liability for contaminated sites decreased in 2006–07 after subtracting liability amounts for large projects that do not participate in FCSAP, it is possible that continued assessment work will identify additional contaminated sites that require risk management/remediation. This would result in an increase in federal liability in the short term. Continued work on all types of FCSAP projects will also result in further refinement of the liability estimates.

The information in Table 13 shows liability for contaminated sites as reported by custodians in their 2006–07 departmental performance reports.

**Table 13: Contaminated Sites Liability by Federal Custodian as of March 31, 2007**

| Custodian | Contaminated sites liability ($)[25] |
|---|---|
| Agriculture and Agri-Food Canada | 1,779,574 |
| Canada Border Services Agency | 870,000 |
| Canadian Food Inspection Agency | 0 |
| Correctional Service of Canada | 13,775,571 |
| Environment Canada | 63,266,228 |
| Fisheries and Oceans Canada | 169,200,000 |
| Health Canada | 3,197,000 |
| Indian and Northern Affairs Canada | 1,313,856,000 |
| The Jacques Cartier and Champlain Bridges Inc. | 1,000,000 |
| National Capital Commission | 21,800,000 |
| National Defence[26] | 378,272,040 |
| Natural Resources Canada | 387,800,000 |
| Parks Canada | 40,000,000 |
| Public Works and Government Services Canada | 320,154,947 |
| Royal Canadian Mounted Police | 3,752,007 |
| Transport Canada | 186,814,790 |
| Other custodians | 432,281 |
| Cape Breton Development Corporation | 108,857,000 |
| Total[27] | 3,014,787,438 |

[21] *Public Accounts of Canada, 2006-2007*; Volume 1, Section 5, page 5.12.
[22] Public Works and Government Services Canada Departmental Performance Report.
[23] Natural Resources Canada Contaminated Sites Management Plan.
[24] *Public Accounts of Canada, 2006-2007*; Volume 1, Section 5, page 5.12.
[25] Liability totals taken from the federal custodians' 2006–07 departmental performance reports, available at: http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/institutions-eng.asp.
[26] DND's liability was taken from the *Public Accounts of Canada, 2006-2007*; Volume 1, Section 5, page 5.12, as this total does not include the liability amount for sites affected by unexploded explosive ordnance.
[27] The difference between this total and the total reported in the Public Accounts is due to rounding.

# 6.0 Measuring Performance and Looking Forward

In its second year of operation of the Federal Contaminated Sites Action Plan, 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 done 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.

The Federal Contaminated Sites Action Plan spent a total of $182.29 million on federal contaminated sites projects, program management, and secretariat/expert support services. The most significant proportion of the money was allocated to the execution of assessment, remediation/risk management, and care and maintenance projects. Of the total amount budgeted for project expenditures ($183.36 million), $162.86 was actually spent, an increase of approximately $27 million from the previous fiscal year.

The increase in project funding in the 2006–07 fiscal year enabled the number of active assessment and remediation/risk management projects to be doubled. In 2006–07, a total of 210 remediation/risk management projects covering 424 sites was addressed across the country; 10 projects covering 13 sites received care and maintenance support in the Yukon and Northwest Territories; and 1252 sites grouped into 280 projects were assessed across the country. Overall, $85.41 million, $62.28 million, and $15.17 million of FCSAP funds and $23.37 million, $1.98 million, and $3.42 million of custodian funds, representing an average cost share of 19.74%, were contributed to remediation/risk management, care and maintenance, and assessment projects, respectively.

As the program evolves, additional tools and resources will be developed to help custodians manage and remediate their contaminated sites better. It is expected that existing projects will be completed and removed from the federal contaminated sites liability. As of March 31, 2007, a liability of $3.015 billion[28] was recorded for approximately 2630 contaminated sites. Despite a decrease in the total liability for 2006–07 (after subtracting liability amounts for large projects that do not participate in FCSAP), it is possible that continued assessment work will result in an increase in federal liability in the short term. The full magnitude of federal liability will not be fully understood until all sites requiring assessments have been assessed. Only as the program progresses will the liabilities start to show a significant ongoing reduction.

The continued success of the Federal Contaminated Sites Action Plan is a sign of the solid groundwork laid in the first year of FCSAP (2005–06) and in the Federal Contaminated Sites Accelerated Action Plan (2003–05) that preceded it. The doubling of the number of assessment, care and maintenance, and remediation/risk management projects funded in 2006–07 attests to the commitment by federal custodians to manage contaminated sites under the updated program. Moreover, these achievements represent dedication by the Government of Canada to manage federal contaminated sites sustainably in adherence to the “polluter pays” principle.

[28] Excluding the liability amount for unexploded explosive ordnance affected sites.

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

In order 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 the FCSAP program: (**A**) Health Canada's **Human Health Preliminary Quantitative Risk Assessment** tool and (**B**) Environment Canada'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)

| **Source** | | **Hazard** | | **Release** | | **Pathway** | | **Receptor** |
|---|---|---|---|---|---|---|---|---|
| Waste storage at Site A | → | Quantity and nature of waste stored on site | → | Leakage from storage facility | → | Movement of contaminants off site in groundwater | → | Well water -- user drinks contaminated water |

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, over-burden, 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; and
- Land use information (on site and surrounding).[29]

[29] National Classification System for Contaminated Sites, Canadian Council of Ministers of the Environment, March 1992

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

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, that is, the ways in which the individuals will contact the contaminant (ingestion, inhalation, dermal contact) as well as 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 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 the Health Canada web site: http://hc-sc.gc.ca/ewh-semt/pubs/contamsite/index_e.html

(**B**) **Ecological Risk Evaluation (ERE)**

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

More specifically, the Ecological Risk Evaluation framework assesses contaminated sites to determine:

- If the contaminated area is affecting or has the potential of affecting 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; and
- 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 Care and Maintenance and Remediation/Risk Management Projects by Expected Completion Cost (2006-07)

### a) Provincial/Territorial Distribution of Care and Maintenance and Remediation/Risk Management Projects and Sites by Expected Completion Cost (2006–07)

| Province/territory | ≤$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 | 8 | - | - | 1 | 1 | 1 | 6 | 4 | 15 |
| British Columbia | 41 | 97 | 11 | 23 | 9 | 11 | 2 | 2 | 63 | 133 |
| Manitoba | 1 | 1 | 3 | 3 | 5 | 5 | - | - | 9 | 9 |
| New Brunswick | 2 | 2 | - | - | 1 | 1 | - | - | 3 | 3 |
| Newfoundland and Labrador | 15 | 16 | 2 | 2 | 5 | 6 | 2 | 42 | 24 | 66 |
| Northwest Territories | - | - | 1 | 1 | 4 | 4 | 8 | 11 | 13 | 16 |
| Nova Scotia | 15 | 17 | 3 | 3 | 4 | 5 | - | - | 22 | 25 |
| Nunavut | 1 | 1 | - | - | 2 | 2 | 16 | 16 | 19 | 19 |
| Ontario | 9 | 15 | 3 | 5 | 5 | 19 | 1 | 2 | 18 | 41 |
| Prince Edward Island | 4 | 4 | - | - | - | - | - | - | 4 | 4 |
| Quebec | 18 | 18 | 10 | 29 | 2 | 2 | 1 | 1 | 31 | 50 |
| Saskatchewan | 1 | 47 | - | - | 2 | 2 | - | - | 3 | 49 |
| Yukon Territory | 2 | 2 | - | - | 1 | 1 | 4 | 4 | 7 | 7 |
| Total | 111 | 228 | 33 | 66 | 41 | 59 | 35 | 84 | 220 | 437 |

**b) Custodial Distribution of Care and Maintenance and Remediation/Risk Management Projects and Sites by Custodian by Expected Completion Cost (2006–07)**

| 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 |
| Correctional Service of Canada | - | - | - | - | 2 | 2 | - | - | 2 | 2 |
| Fisheries and Oceans Canada | 85 | 93 | 14 | 45 | - | | 1 | 2 | 100 | 140 |
| Environment Canada | 4 | 111 | - | - | - | - | 1 | 1 | 5 | 112 |
| Health Canada | - | - | - | - | 3 | 3 | - | - | 3 | 3 |
| Indian and Northern Affairs Canada (Indian and Inuit Affairs Business Line) | 8 | 8 | 9 | 9 | 9 | 23 | - | - | 26 | 40 |
| Indian and Northern Affairs Canada (Northern Affairs Program) | - | - | - | - | 6 | 6 | 18 | 21 | 24 | 27 |
| National Defence | 3 | 3 | 5 | 5 | 7 | 11 | 14 | 59 | 29 | 78 |
| Parks Canada | 6 | 6 | 1 | 1 | 1 | 1 | - | - | 8 | 8 |
| Public Works and Government Services Canada | 5 | 7 | 1 | 3 | 1 | 1 | - | - | 7 | 11 |
| Royal Canadian Mounted Police | - | - | 2 | 2 | 1 | 1 | - | - | 3 | 3 |
| Transport Canada | - | - | 1 | 1 | 9 | 9 | 1 | 1 | 11 | 11 |
| Total | 111 | 228 | 33 | 66 | 41 | 59 | 35 | 84 | 220 | 437 |

## Appendix 3: *Expenditure Tables*

a: Program Expenditures

| | Planned FCSAP Expenditures | Adjustments [1] | Actual FCSAP Expenditures |
|---|---|---|---|
| **Federal Contaminated Sites Projects** | | | |
| *Indian and Northern Affairs Canada (INAC) - Northern Program* | *89,413,244* | *1,058,950* | *86,323,567* |
| *INAC - Indian and Inuit Affairs Business Line* | *9,921,422* | *1,485,968* | *9,823,773* |
| Total INAC | 99,334,666 | 2,544,918 | 96,147,340 |
| Agriculture and Agri-Food Canada | 296,000 | | 296,000 |
| Canada Border Services Agency | 214,320 | | 211,327 |
| Correctional Service Canada | 220,000 | 758,992 | 68,985 |
| Environment Canada | 5,302,677 | | 2,621,180 |
| Fisheries and Oceans | 9,125,840 | | 3,978,565 |
| Health Canada | 872,000 | | 728,834 |
| Jacques Cartier and Champlain Bridges Incorporated | 290,000 | | 225,449 |
| National Capital Commission | 414,652 | | 413,782 |
| National Defence | 44,848,078 | | 44,822,008 |
| Natural Resources | 156,000 | 42,000 | 150,190 |
| Parks Canada | 1,719,827 | 597,567 | 1,695,521 |
| Public Works and Government Services | 2,774,296 | | 2,728,006 |
| Royal Canadian Mounted Police | 1,925,041 | 8,922 | 1,658,191 |
| Transport Canada | 15,819,313 | 2,552,974 [2] | 7,145,313 |
| **Total Project Expenditures** | **183,312,710** | **6,505,373** | **162,890,691** |
| **Program Management** | | | |
| Agriculture and Agri-Food Canada | 150,000 | | 120,000 |
| Correctional Service Canada | 67,670 | | 67,670 |
| Environment Canada | 467,958 | | 467,958 |
| Fisheries and Oceans | 920,626 | | 682,932 |
| Health Canada | 121,429 | | 121,429 |
| INAC - Indian and Inuit Affairs Business Line | 735,035 | | 735,035 |
| INAC - Northern Affairs Program | 2,207,500 | 598,425 [3] | 2,805,925 |
| National Defence | 1,200,000 | | 1,200,000 |
| Natural Resources | 150,000 | 79,980 | 0 |
| Parks Canada | 367,969 | 233,652 | 183200 |
| Public Works and Government Services | 200,000 | | 163,370 |
| Royal Canadian Mounted Police | 225,000 | | 225,000 |
| Transport Canada | 451,000 | | 451,000 |
| **Total Program Management Expenditures** | **7,264,187** | **912,057** | **7,223,519** |
| **Secretariat and Expert Support Services** | | | |
| Environment Canada | | | |
| *EC Secretariat* | *3,376,049* | | *2,229,877* |
| *EC Expert Support* | *2,808,411* | | *1,630,688* |
| Total EC Secretariat/Expert Support | 6,184,460 | | 3,860,565 |
| Treasury Board of Canada Secretariat | 482,083 | | 472,347 |
| Health Canada Expert Support | 5,729,603 | | 4,099,693 |
| Public Works and Government Services | 1,000,000 | | 746,612 |
| DFO Expert Support | 2,835,637 | | 1,838,280 |
| **Total Secretariat and Expert Support Expenditures** | **16,231,783** | **0** | **11,017,497** |
| PWGSC Accommodation costs | 1,295,822 | | 1,295,822 |
| **Total FCSAP Expenditures** | **208,104,502** | **7,417,430** | **182,427,529** |

[1] Funding brought forward from previous fiscal years

[2] Funds reprofiled from 2005-06 to 2006-07, however these funds were not requested through Supplementary Estimated in 2006-07

[3] Remediation/Risk Management funds transferred to Program Management.

## b: Detailed FSCAP and Custodian Expenditures

| | Planned FCSAP Funding | | | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| **Federal Contaminated Sites Projects** | **FCSAP Fund** | **Custodian Share** | **Adjustments[a]** | **FCSAP Fund** | **Custodian Share** | **(planned + adjustments - actual)** |
| | | | | | | |
| **Agriculture and Agri-Food Canada** | | | | | | |
| ATL-1 Kentville Central Heating Plant (NS) | 72,000 | 18,000 | | 72,000 | 18,000 | 0 |
| Assessment (4) | 224,000 | 56,000 | | 224,000 | 141,233 | 0 |
| **Total Agriculture and Agri-Food Canada** | **296,000** | **74,000** | | **296,000** | **159,233** | **0** |
| | | | | | | |
| **Canada Border Services Agency** | | | | | | |
| Pleasant Camp Border Crossing (BC) | 214,320 | 53,580 | | 211,327 | 52,831 | 2,993 |
| **Total Canada Border Services Agency** | **214,320** | **53,580** | | **211,327** | **52,831** | **2,993** |
| | | | | | | |
| **Correctional Service Canada** | | | | | | |
| Atlantic Fuel Spill Site (NB) | 120,000 | 30,000 | | 31,478 | 7,870 | 88,522 |
| Bowden Fuel Depot Site (AB) | 60,000 | 15,000 | | 25,428 | 6,357 | 34,572 |
| Assessment (5) | 40,000 | 10,000 | | 12,079 | 3,020 | 27,921 |
| **Total Correctional Service Canada** | **220,000** | **55,000** | **758,992**[b] | **68,985** | **17,247** | **910,007** |
| | | | | | | |
| **Environment Canada** | | | | | | |
| Hydrometric Stations in AB 2006-07 (AB) | 24,672 | 6,168 | | 26,346 | 6,586 | -1,674 |
| Hydrometric Stations in BC 2006-07 (BC) | 52,800 | 13,200 | | 42,202 | 10,550 | 10,598 |
| Hydrometric Stations in ON 2006-07 (ON) | 40,673 | 10,168 | | 31,848 | 7,962 | 8,825 |
| Hydrometric Stations in QC (QC) | 100,728 | 25,182 | | 0 | 0 | 100,728 |
| Hydrometric Stations in SK 2006-07 (SK) | 104,512 | 26,128 | | 132,098 | 33,025 | -27,586 |
| Pacific Environment Centre (BC) | 4,289,580 | 584,943 | | 2,029,010 | 507,978 | 2,260,570 |
| Assessment (8) | 689,712 | 172,428 | | 359,676 | 150,528 | 330,036 |
| **Total Environment Canada** | **5,302,677** | **838,217** | | **2,621,180** | **716,629** | **2,681,497** |
| | | | | | | |
| **Fisheries and Oceans** | | | | | | |
| Active Pass (BC) | 7,200 | 1,800 | | 6,016 | 1,504 | 1,184 |
| Addenbroke Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Anse aux Érables, ancien FR (QC) | 0 | 0 | | 0 | 34,891 | 0 |
| Baccaro Point (NS) | 0 | 0 | | 12,249 | 11,189 | -12,249 |
| Ballenas Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Bear River (NS) | 0 | 0 | | 6,793 | 6,206 | -6,793 |
| Belleville Small Craft Harbour (ON) | 4,000,000 | 1,000,000 | | 639,992 | 160,000 | 3,360,008 |
| Bishops Falls Warehouse (NL) | 9,600 | 2,400 | | 8,851 | 2,212 | 749 |
| Boat Bluff (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Bonavista Small Craft Harbour (NL) | 10,400 | 2,600 | | 694 | 173 | 9,706 |
| Bonilla Island Sector (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Cap au Saumon (QC) | 20,000 | 5,000 | | 0 | 1 | 20,000 |
| Cap d'Espoir (QC) | 0 | 0 | | 549 | 0 | -549 |
| Cap de la Tête-de-Chien (QC) | 20,000 | 5,000 | | 72,853 | 20,000 | -52,853 |
| Cap-Saint-Ignace, ancien amer (QC) | 0 | 0 | | 0 | 13,317 | 0 |
| Cape Beale (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |

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

[b] Funds transferred from fiscal year 2005-2006.

| Federal Contaminated Sites Projects | Planned FCSAP Funding | | Adjustments[a] | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| | FCSAP Fund | Custodian Share | | FCSAP Fund | Custodian Share | (planned + adjustments - actual) |
| | | | | | | |
| **Fisheries and Oceans (continued)** | | | | | | |
| Cape d'Or (NS) | 0 | 0 | | 4,703 | 4,297 | -4,703 |
| Cape Mudge (BC) | 80,000 | 20,000 | | 6,017 | 1,504 | 73,983 |
| Cape Scott (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Cape St. Marys (NS) | 0 | 0 | | 8,100 | 7,399 | -8,100 |
| Carmanah Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Chatham Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Chrome Island Range (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Cultus Lake Laboratory (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Deep Bay Small Craft Harbour (NL) | 0 | 0 | | 694 | 173 | -694 |
| Discovery Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Dryad Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| East Point (PE) | 9,800 | 2,450 | | 8,316 | 4,284 | 1,484 |
| Eddy Point (NS) | 0 | 0 | | 4,703 | 4,297 | -4,703 |
| Egg Island (BC) | 7,200 | 1,800 | | 1,504 | 6,017 | 5,696 |
| Entrance Island (BC) | 7,200 | 1,800 | | 1,504 | 6,017 | 5,696 |
| Estevan Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Fox Harbour Loran C (NL) | 24,000 | 6,000 | | 10,670 | 2,667 | 13,330 |
| Gabarus (NS) | 0 | 0 | | 6,611 | 6,039 | -6,611 |
| Gillis Point (NS) | 0 | 0 | | 7,301 | 6,669 | -7,301 |
| Goose Cove Small Craft Harbour (NL) | 0 | 0 | | 694 | 173 | -694 |
| Grand Bank Small Craft Harbour (NL) | 0 | 0 | | 694 | 173 | -694 |
| Green Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Harbour Grace (Northside) Small Craft Harbour (NL) | 0 | 0 | | 624 | 173 | -624 |
| Heart's Content SCH (NL) | 0 | 0 | | 694 | 173 | -694 |
| Hickman's Harbour Small Craft Harbour (NL) | 0 | 0 | | 694 | 173 | -694 |
| Île aux Sables, ancien FA (QC) | 0 | 0 | | 1,600 | 400 | -1,600 |
| Île aux Sables, ancien FP (QC) | 0 | 0 | | 1,600 | 400 | -1,600 |
| Île Brion (QC) | 240,000 | 60,000 | | 170,542 | 43,296 | 69,458 |
| Île du Corossol (QC) | 0 | 0 | | 28,024 | 7,000 | -28,024 |
| Île Grosbois (ex-tour radar), ancien amer (QC) | 0 | 0 | | 1,224 | 306 | -1,224 |
| Île Sainte-Rosalie, ancien feu de référence (ON) | 0 | 0 | | 1,224 | 306 | -1,224 |
| Île Verte (QC) | 0 | 0 | | 0 | 28,557 | 0 |
| Institute of Ocean Sciences (and Victoria MCTS) (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Ivory Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Killarney East (ON) | 0 | 0 | | 0 | 7,076 | 0 |
| Killarney Northwest (ON) | 0 | 0 | | 0 | 14,152 | 0 |
| Knapp Point (ON) | 0 | 0 | | 0 | 15,950 | 0 |
| Langara Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Lennard Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Lockeport (NS) | 0 | 0 | | 4,703 | 4,297 | -4,703 |
| Long Harbour Bait Depot (NL) | 24,000 | 6,000 | | 1,283 | 5,135 | 22,717 |
| Low Point (NS) | 0 | 0 | | 3,397 | 3,103 | -3,397 |
| Maughers Beach (NS) | 0 | 0 | | 5,194 | 4,744 | -5,194 |
| McInnes Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Merry Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Mouse Island Radio Beacon (NL) | 280,000 | 70,000 | | 220,327 | 55,081 | 59,673 |
| New Aiyansh Office & Residences- Nass Camp (BC) | 55,200 | 13,800 | | 13,000 | 3,250 | 42,200 |

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

| Federal Contaminated Sites Projects | Planned FCSAP Funding | | Adjustments[a] | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| | FCSAP Fund | Custodian Share | | FCSAP Fund | Custodian Share | (planned + adjustments - actual) |
| | | | | | | |
| **Fisheries and Oceans (continued)** | | | | | | |
| Nine Mile Point (ON) | 0 | 0 | | 0 | 15,945 | 0 |
| Nootka Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| North Cape (PE) | 0 | 0 | | 8,316 | 4,284 | -8,316 |
| Pachena Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Pacific Biological Station Risk Management (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Partridge Island Light and DGPS Station (NB) | 0 | 0 | | 5,194 | 4,744 | -5,194 |
| Percé (QC) | 0 | 0 | | 549 | 0 | -549 |
| Pine Island (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Pistolet Bay Former Transmitter Site (NL) | 20,000 | 5,000 | | 41,947 | 10,486 | -21,947 |
| Point Atkinson Lightstation Risk Management (BC) | 8,000 | 2,000 | | 6,017 | 1,504 | 1,983 |
| Pointe au Baril Lightstation (ON) | 0 | 0 | | 0 | 19,590 | 0 |
| Pointe de l'Ouest (QC) | 60,000 | 15,000 | | 68,339 | 15,000 | -8,339 |
| Pointe Heath (QC) | 60,000 | 15,000 | | 39,660 | 15,000 | 20,340 |
| Pointe-Noire (QC) | 3,000 | 750 | | 0 | 16,917 | 3,000 |
| Port Bickerton (NS) | 0 | 0 | | 3,658 | 3,341 | -3,658 |
| Port de Grave Small Craft Harbour (NL) | 0 | 0 | | 694 | 173 | -694 |
| Portlock Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Prim Point (NS) | 0 | 0 | | 5,194 | 4,744 | -5,194 |
| Prim Point (PEI) | 5,800 | 1,450 | | 8,316 | 4,284 | -2,516 |
| Prince Rupert - Seal Cove Risk Management (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Prince Rupert Marine Station - Sourdough Bay Risk Management (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Pulteney Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Quatsino (Kains Island) (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Red Head MF Receiver Site (NF) | 24,000 | 6,000 | | 926 | 231 | 23,074 |
| Rocher aux Oiseaux (QC) | 400,000 | 100,000 | | 148,291 | 37,647 | 251,709 |
| Rose Blanche (Diamond Cove) Small Craft Harbour (NF) | 32,000 | 8,000 | | 17,111 | 4,277 | 14,889 |
| Salvage Small Craft Harbour (NF) | 24,000 | 6,000 | | 9,377 | 2,344 | 14,623 |
| Saturna Island Sector (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Scarlett Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Sea Island Hovercraft Base Risk Management (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Sheringham Point (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Souris East (NS) | 8,400 | 2,100 | | 8,316 | 4,284 | 84 |
| Swallowtail (NB) | 87,800 | 21,950 | | 5,194 | 4,744 | 82,606 |
| Trial Islands (BC) | 7,200 | 1,800 | | 6,017 | 1,504 | 1,183 |
| Victoria Base Risk Management (BC) | 40,080 | 10,020 | | 18,167 | 4,542 | 21,913 |
| Wake-Up Hill Antenna (NS) | 9,000 | 2,250 | | 0 | 0 | 9,000 |
| West Vancouver Laboratory (BC) | 28,080 | 7,020 | | 18,167 | 4,542 | 9,913 |
| Wood Islands Light (PE) | 7,000 | 1,750 | | 8,316 | 4,284 | -1,316 |
| Assessment (36) | 3,144,000 | 786,000 | | 2,015,700 | 1,013,312 | 1,128,300 |
| **Total Fisheries and Oceans** | **9,125,840** | **2,281,460** | | **3,978,565** | **1,758,357** | **5,147,275** |

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

| | Planned FCSAP Funding | | | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| **Federal Contaminated Sites Projects** | **FCSAP Fund** | **Custodian Share** | **Adjustments[a]** | **FCSAP Fund** | **Custodian Share** | **(planned + adjustments - actual)** |
| | | | | | | |
| **Health Canada** | | | | | | |
| Kasabonika (ON) | 52,800 | 13,200 | | 66,237 | 0 | -13,437 |
| Lansdowne House (ON) | 52,800 | 13,200 | | 0 | 0 | 52,800 |
| Moose Factory Hospital (ON) | 320,000 | 80,000 | | 247,300 | 0 | 72,700 |
| Remediation of Wapekeka Nursing Station (ON) | 38,400 | 9,600 | | 0 | 0 | 38,400 |
| Weagamow Lake (ON) | 120,000 | 30,000 | | 127,297 | 0 | -7,297 |
| Assessment (9) | 288,000 | 72,000 | | 288,000 | 81,100 | 0 |
| **Total Health Canada** | **872,000** | **218,000** | | **728,834** | **81,100** | **143,166** |
| | | | | | | |
| **INAC (Northern Affairs Program)** | | | | | | |
| Axe Point (NT) | 648,000 | 162,000 | | 408,793 | 102,198 | 239,207 |
| BAF 5 - Resolution Island (NU) | 3,063,204 | 340,356 | | 2,686,056 | 298,451 | 377,148 |
| BAR D - Atkinson Point (NT) | 1,377,580 | 344,395 | | 1,553,696 | 388,424 | -176,116 |
| CAM - D Simpson Lake (NU) | 208,000 | 52,000 | | 83,413 | 20,853 | 124,587 |
| CAM F - Sarcpa Lake (NU) | 4,998,952 | 1,172,594 | | 4,226,898 | 1,015,732 | 772,054 |
| Cape Christian (NU) | 120,000 | 30,000 | | 269,482 | 67,371 | -149,482 |
| Clinton Creek Mine (YT) | 400,000 | 100,000 | | 401,437 | 100,359 | -1,437 |
| Colomac Mine (NT) | 23,324,400 | 0 | | 24,953,965 | 0 | -1,629,565 |
| Contact Lake (NT) | 563,200 | 140,800 | | 526,137 | 131,534 | 37,063 |
| Discovery (NT) | 1,370,711 | 342,678 | | 719,730 | 179,933 | 650,981 |
| El Bonanza Mine (NT) | 506,000 | 126,500 | | 452,922 | 113,230 | 53,078 |
| Faro Mine (YT) | 13,188,380 | 0 | | 13,607,174 | 0 | -418,794 |
| FOX A - Bray Island (NU) | 440,000 | 110,000 | | 458,815 | 114,704 | -18,815 |
| FOX C - Ekalugad Fiord (NU) | 7,302,356 | 1,825,589 | | 5,482,820 | 1,203,981 | 1,819,536 |
| Giant Mine (NT) | 11,445,000 | 0 | | 14,385,594 | 0 | -2,940,594 |
| Indore Gold Mine-Beaverlodge Lake (NT) | 408,560 | 102,140 | | 332,338 | 83,084 | 76,222 |
| Johnson Pt (NT) | 2,074,000 | 518,500 | | 1,569,918 | 392,479 | 504,082 |
| Mount Nansen Mine (YT) | 1,852,000 | 463,000 | | 1,252,230 | 313,058 | 599,770 |
| Port Radium Mine (NT) | 1,835,712 | 458,928 | | 2,901,418 | 725,355 | -1,065,706 |
| Radio Island (NU) | 4,129,600 | 1,032,400 | | 3,686,614 | 921,653 | 442,986 |
| Roberts Bay Mine (NU) | 215,600 | 53,900 | | 211,943 | 52,986 | 3,657 |
| Silver Bear Mines (NT) | 1,596,000 | 399,000 | | 1,100,773 | 275,193 | 495,227 |
| Tundra-Taurcanis Mine (NT) | 4,092,640 | 1,023,160 | | 1,732,179 | 433,045 | 2,360,461 |
| United Keno Hill Mine (YT) | 3,055,230 | 339,470 | | 2,560,225 | 284,469 | 495,005 |
| Assessment (28) | 1,198,119 | 299,530 | | 758,997 | 189,750 | 439,122 |
| **Sub-total INAC-NAP** | **89,413,244** | **9,436,939** | **1,058,950** [b] | **86,323,567** | **7,407,842** | **4,148,627** |
| | | | | | | |
| **INAC (Indian and Inuit Affairs Business Line)** | | | | | | |
| 1550 Clifford Road (BC) | 0 | 0 | | 452,430 | 252,450 | -452,430 |
| Attawapiskat J.R Nakogee School (ON) | 120,000 | 30,000 | | 0 | 0 | 120,000 |
| Barrenlands Former DOT Site (MB) | 560,000 | 140,000 | | 98,554 | 24,638 | 461,446 |
| Barrenlands/Brochet Frontier School Tankfarm (MB) | 160,000 | 40,000 | | 60,294 | 68,757 | 99,706 |
| Former Beren's River Pumphouse Tankfarm (MB) | 95,008 | 23,752 | | 67,180 | 23,020 | 27,828 |
| Former God's Lake School Tankfarm (MB) | 187,772 | 46,943 | | 424,480 | 76,120 | -236,708 |
| Former Northlands School Tankfarm (MB) | 160,000 | 40,000 | | 575,070 | 144,780 | -415,070 |
| Former Red Sucker Lake School Tankfarm (MB) | 80,000 | 20,000 | | 481,943 | 128,408 | -401,943 |

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

[b] Funds transferred from fiscal year 2005-2006.

| Federal Contaminated Sites Projects | Planned FCSAP Funding | | Adjustments[a] | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| | FCSAP Fund | Custodian Share | | FCSAP Fund | Custodian Share | (planned + adjustments - actual) |
| **INAC (Indian and Inuit Affairs Business Line) (continued)** | | | | | | |
| Gitxaala Nation Former Power House (BC) | 480,000 | 120,000 | | 2,083,217 | 1,643,985 | -1,603,217 |
| God's Lake Band Tankfarm (MB) | 312,800 | 78,200 | | 424,480 | 76,120 | -111,680 |
| Heiltsuk Community School (BC) | 134,634 | 33,659 | | 23,893 | 5,973 | 110,741 |
| Kahnawake - ancien dépotoir Beauvais (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kahnawake - Ancien dépotoir Goodleaf (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kahnawake - Ancien dépotoir Johnson's Point (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kahnawake - Ancien dépotoir Khanata (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kahnawake - Ancien dépotoir Morris (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kahnawake - Ancien dépotoir Patton-Lawrence (QC) | 9,600 | 2,400 | | 7,142 | 1,786 | 2,458 |
| Kingfisher Lake Omahama Store (ON) | 391,200 | 97,800 | | 194,480 | 48,620 | 196,720 |
| Kwadacha Powerhouse (BC) | 180,000 | 45,000 | | 174,623 | 43,655 | 5,377 |
| Mathias Colomb Area 5B (MB) | 1,760,374 | 440,094 | | 1,340,000 | 335,000 | 420,374 |
| Mount Lolo (BC) | 0 | 0 | | 253,108 | 0 | -253,108 |
| Obedjiwan - Poste de police (QC) | 40,000 | 10,000 | | 0 | 0 | 40,000 |
| Red Bridge Spur (BC) | 200,000 | 50,000 | | 200,000 | 50,000 | 0 |
| Sandy Lake Remediation Project (ON) | 800,000 | 200,000 | | 574,518 | 153,675 | 225,482 |
| Tahltan First Nation- Dease Lake band maintenance yard (BC) | 174,023 | 43,506 | | 0 | 0 | 174,023 |
| Tsay Keh Dene generator station (BC) | 155,000 | 38,750 | | 136,375 | 34,093 | 18,625 |
| Unamen Shipu - Camp des travailleurs (QC) | 176,000 | 44,000 | | 242,684 | 60,671 | -66,684 |
| Wapekeka Soil Remediation Project (ON) | 1,480,000 | 370,000 | | 0 | 385,000 | 1,480,000 |
| Wemotaci - Maison des jeunes (QC) | 26,400 | 6,600 | | 13,558 | 3,390 | 12,842 |
| Assessment (22) | 2,190,611 | 547,653 | | 1,960,034 | 0 | 230,577 |
| **Sub-total INAC-IIABL** | **9,921,422** | **2,480,356** | **1,485,968**[b] | **9,823,773** | **3,569,071** | **1,583,617** |
| **Total INAC** | **99,334,666** | **11,917,295** | **2,544,918**[b] | **96,147,340** | **10,976,913** | **5,732,244** |
| **National Defence** | | | | | | |
| 14 Wing Greenwood (NS) | 1,268,000 | 317,000 | | 1,838,980 | 547,468 | -570,980 |
| 5 Wing Goose Bay Remediation (NF) | 6,500,000 | 0 | | 5,628,949 | 0 | 871,051 |
| Ancienne SFC Moisie - site Admin (QC) | 910,368 | 227,592 | | 314,872 | 78,718 | 595,496 |
| ASU London Highbury Complex (ON) | 12,000 | 3,000 | | 44,246 | 11,063 | -32,246 |
| ASU London Wolsley Barracks (ON) | 136,000 | 34,000 | | 49,545 | 12,386 | 86,455 |
| BFC Valcartier - Perchlorate - eau souterraine (QC) | 184,800 | 46,200 | | 42,769 | 10,692 | 142,031 |
| CAM-1 Jenny Lind Island DEW Line Cleanup (NU) | 160,000 | 40,000 | | 108,809 | 43,442 | 51,191 |
| CAM-2 Gladman Point DEW Line Cleanup (NU) | 36,000 | 4,000 | | 36,000 | 1,394,536 | 0 |
| CAM-3 Shepherd Bay DEW Line Cleanup (NU) | 4,000,000 | 1,000,000 | | 3,460,919 | 1,120,692 | 539,081 |
| CAM-4 Pelly Bay DEW Line Cleanup (NU) | 1,529,612 | 358,798 | | 1,997,650 | 499,412 | -468,038 |
| CAM-5 Mackar Inlet DEW Line Cleanup (NU) | 120,000 | 30,000 | | 18,962 | 9,663 | 101,038 |
| CFAD Dredge Disposal Site (NS) | 630,000 | 157,500 | | 993,466 | 248,367 | -363,466 |
| CFB Esquimalt DY-4 FMF Shops Remediation (BC) | 1,200,000 | 300,000 | | 878,000 | 219,171 | 322,000 |
| Colwood Aggregate (BC) | 400,000 | 100,000 | | 714,000 | 369,079 | -314,000 |
| DYE-M Cape Dyer DEW Line Cleanup (NU) | 5,850,000 | 0 | | 6,451,879 | 528,815 | -601,879 |

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

[b] Funds transferred from fiscal year 2005-2006.

| Federal Contaminated Sites Projects | Planned FCSAP Funding | | Adjustments[a] | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|
| | FCSAP Fund | Custodian Share | | FCSAP Fund | Custodian Share | (planned + adjustments - actual) |
| **National Defence (continued)** | | | | | | |
| FOX-5 Broughton Island DEW Line Cleanup (NU) | 940,000 | 104,444 | | 2,429,692 | 269,966 | -1,489,692 |
| FOX-M Hall Beach DEW Line Cleanup (NU) | 5,600,000 | 622,222 | | 7,268,972 | 4,677,411 | -1,668,972 |
| Gate 5, METC Nicolet (QC) | 93,000 | 23,250 | | 47,682 | 14,818 | 45,318 |
| Marlant Bedford Rifle Range (NS) | 225,000 | 56,250 | | 211,758 | 52,940 | 13,242 |
| Marlant DCD School Former Pump House (NS) | 80,000 | 20,000 | | 104,930 | 26,232 | -24,930 |
| Marlant DCD School Site 901 (NS) | 110,000 | 27,500 | | 142,452 | 35,614 | -32,452 |
| Marlant Great Village Former AST Remediation (NS) | 82,000 | 20,500 | | 83,906 | 20,977 | -1,906 |
| PIN-3 Lady Franklin Point DEW Line Cleanup (NU) | 32,000 | 8,000 | | 556,932 | 139,233 | -524,932 |
| PIN-4 Byron Bay DEW Line Cleanup (NU) | 160,000 | 40,000 | | 131,134 | 51,836 | 28,866 |
| Saglek Sediments (NF) | 542,000 | 135,500 | | 157,696 | 39,424 | 384,304 |
| Shea Heights/Southside Tank Farm Remediation (NF) | 516,000 | 129,000 | | 163,210 | 40,803 | 352,790 |
| Suffield EPG Remediation (AB) | 551,200 | 137,800 | | 339,200 | 84,800 | 212,000 |
| Sydney Underground Storage Tank Removal (NS) | 704,000 | 176,000 | | 131,632 | 32,908 | 572,368 |
| TCE Contamination Valcartier (QC) | 7,400,000 | 0 | | 7,063,875 | 0 | 336,125 |
| Assessment (22) | 4,876,098 | 1,219,025 | | 3,409,891 | 0 | 1,466,207 |
| **Total National Defence** | **44,848,078** | **5,337,581** | | **44,822,008** | **10,580,466** | **26,070** |
| **Parks Canada** | | | | | | |
| Banff National Park (AB) | 152,000 | 38,000 | | 0 | 0 | 152,000 |
| Cape Breton Highlands National Park (NS) | 358,800 | 89,700 | | 61,490 | 12,058 | 297,310 |
| Dégagement chenal (QC) | 160,000 | 40,000 | | 13,235 | 4,430 | 146,765 |
| Enlèvement haut fonds (QC) | 28,000 | 7,000 | | 174,765 | 58,570 | -146,765 |
| Glacier National Park (BC) | 0 | 0 | | 30,960 | 17,901 | -30,960 |
| Ivvavik NP, Sheep Creek Fuel Spill (YT) | 17,520 | 4,380 | | 17,520 | 4,400 | 0 |
| Lake Louise Compound (AB) | 91,600 | 22,900 | | 98,745 | 24,682 | -7,145 |
| Remediation of Gilman River, Quttinirpaaq National Park (NU) | 48,000 | 12,000 | | 40,000 | 10,000 | 8,000 |
| Riding Mountain NP, Maintenance Compound Garage, Former UST (MB) | 118,640 | 29,660 | | 157,089 | 39,268 | -38,449 |
| Assessment (30) | 745,267 | 186,317 | 224,231 [b] | 1,101,717 | 444,633 | -132,219 |
| **Total Parks Canada** | **1,719,827** | **429,957** | **597,567** [c] | **1,695,521** | **615,942** | **621,873** |
| **Public Works and Government Services Canada** | | | | | | |
| 350 King Edward Monitoring Program (ON) | 16,000 | 4,000 | | 16,000 | 25,213 | 0 |
| 419-421 Range Road, Whitehorse - Remediation (YT) | 20,800 | 5,200 | | 2,723 | 10,890 | 18,077 |
| Campbell River Federal Building - Risk Management (BC) | 31,080 | 7,770 | | 31,080 | 7,695 | 0 |
| Esquimalt Graving Dock Uplands - Risk Management (BC) | 14,976 | 3,744 | | 14,976 | 6,754 | 0 |
| Esquimalt Graving Dock Waterlot - Risk Management (BC) | 156,400 | 39,100 | | 156,400 | 42,453 | 0 |
| Former DND Radar Base Restoration (ON) | 201,760 | 50,440 | | 201,750 | 373,250 | 10 |
| Kelowna Federal Building - Risk Management (BC) | 18,400 | 4,600 | | 18,400 | 6,022 | 0 |
| Assessment (12) | 2,314,880 | 578,720 | | 2,286,677 | 739,003 | 28,203 |
| **Total Public Works and Government Services Canada** | **2,774,296** | **693,574** | | **2,728,006** | **1,211,280** | **46,290** |

[b] Funds transferred from fiscal year 2005-2006.

[c] Includes $373,336 of remediation funds transferred from fiscal year 2005-06

| Federal Contaminated Sites Projects | Planned FCSAP Funding | | Adjustments[a] | | Actual FCSAP Expenditures | | FCSAP Variance |
|---|---|---|---|---|---|---|---|
| | FCSAP Fund | Custodian Share | | | FCSAP Fund | Custodian Share | (planned + adjustments - actual) |
| | | | | | | | |
| **Royal Canadian Mounted Police** | | | | | | | |
| Ft. Providence RCMP Remediation (NT) | 456,000 | 114,000 | | | 350,750 | 87,687 | 105,250 |
| Hopedale RCMP Remediation (NF) | 176,000 | 44,000 | | | 176,000 | 44,000 | 0 |
| Old Firing Range, RCMP Depot Training Academy (SK) | 0 | 0 | | | 43,002 | 10,750 | -43,002 |
| Assessment (87) | 1,293,041 | 323,260 | 8,922 | [b] | 1,088,439 | 280,352 | 213,524 |
| **Total Royal Canadian Mounted Police** | **1,925,041** | **481,260** | **8,922** | [b] | **1,658,191** | **422,789** | **275,772** |
| | | | | | | | |
| **Transport Canada** | | | | | | | |
| Bushell Public Port Facility Remediation (SK) | 3,555,280 | 888,820 | | | 2,171,765 | 542,941 | 1,383,515 |
| Coal Harbour Public Port Facility Remediation (BC) | 72,000 | 18,000 | | | 53,999 | 13,500 | 18,001 |
| Former Remote Radar Site 59 (NF) | 1,680,000 | 420,000 | | | 505,578 | 126,395 | 1,174,422 |
| Nitchequon (QC) | 1,358,975 | 339,744 | | | 1,613,422 | 403,355 | -254,447 |
| Remediate Helicopter Site (NF) | 720,000 | 180,000 | | | 466,346 | 116,586 | 253,654 |
| Remediate Marine Fire Training Area (NF) | 560,000 | 140,000 | | | 44,882 | 11,220 | 515,118 |
| Remediate Soil and Groundwater at FTA (NF) | 560,000 | 140,000 | | | 527,382 | 131,845 | 32,618 |
| Rock Bay (BC) | 5,044,500 | 560,500 | | | 311,017 | 307,862 | 4,733,483 |
| Smithers Airport FFTA Remediation (BC) | 296,000 | 74,000 | | | 219,703 | 54,926 | 76,297 |
| Watson Lake Remediation (YT) | 359,450 | 89,863 | | | 149,949 | 37,487 | 209,501 |
| Williams Lake Airport FFTA Remediation (BC) | 280,000 | 70,000 | | | 207,619 | 51,905 | 72,381 |
| Assessment (11) | 1,333,108 | 333,277 | | | 873,651 | 218,413 | 459,457 |
| **Total Transport Canada** | **15,819,313** | **3,254,203** | **0** | [d] | **7,145,313** | **2,016,435** | **8,674,000** |
| | | | | | | | |
| **Other Assessment Projects** | | | | | | | |
| Jacques Cartier and Champlain Bridges Incorporated (1) | 290,000 | 72,500 | | | 225,449 | 56,362 | 64,551 |
| National Capital Commission (7) | 414,652 | 103,663 | | | 413,782 | 103,446 | 870 |
| Natural Resources (6) | 156,000 | 39,000 | 42,000 | [b] | 150,190 | 36,122 | 47,810 |
| **Sub-total Other Assessments** | **860,652** | **215,163** | **42,000** | [b] | **789,421** | **195,930** | **113,231** |
| | | | | | | | |
| Remediation/Risk Management Total | 101,716,861 | 17,864,110 | 3,677,246 | [b] | 85,439,184 | 23,369,342 | 19,954,923 |
| Care and Maintenance Total | 62,398,361 | 3,185,808 | | | 62,283,225 | 1,978,536 | 115,136 |
| **Total Remediation/Care and Maintenance/Risk Management Projects** | **164,115,222** | **21,049,918** | **3,677,246** | [b] | **147,722,409** | **25,347,878** | **20,070,059** |
| **Total Assessments** | **19,197,488** | **4,799,372** | **275,153** | [b] | **15,168,282** | **3,457,274** | **4,304,359** |
| | | | | | | | |
| **GRAND TOTAL** | **183,312,710** | **25,849,290** | **3,952,399** | | **162,890,691** | **28,805,152** | **24,374,418** |

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

[b] Funds transferred from fiscal year 2005-06

[d] Transport Canada reprofiled funds in the amount of $2,552,974 from 2005-06 to 2006-07. However, they did not request these funds through Supplementary Estimates in 2006-07.

## Appendix 4: *List of Acronyms*

| | |
|---|---|
| AAFC | Agriculture and Agri-Food Canada |
| ADM | Assistant Deputy Minister |
| AFFF | Aqueous Film-forming Foam |
| BTEX | Benzene Toluene Ethyl-Benzene Xylene |
| BTI | Biotechnology Research Institute |
| CBSA | Canada Border Services Agency |
| CCME | Canadian Council of Ministers of the Environment |
| CSC | Correctional Service Canada |
| CSMP | Contaminated Sites Management Plan |
| CSMWG | Contaminates Sites Management Working Group |
| DEW | Distant Early Warning |
| DFO | Fisheries and Oceans Canada |
| DNAPL | Dense Non-Aqueous Phase Liquids |
| DND | National Defence |
| EC | Environment Canada |
| ECO Canada | Environmental Careers Organization |
| ERE | Ecological Risk Evaluations |
| FCSAAP | Federal Contaminated Sites Accelerated Action Plan |
| FCSAP | Federal Contaminated Sites Action Plan |
| FFTA | Fire Fighter Training Area |
| FY | Fiscal Year |
| GOST | Guidance and Orientation for the Selection of Technologies |
| HC | Health Canada |
| HRSDC | Human Resources and Social Development Canada |
| IDEA | Interdepartmental Data Exchange Application |
| INAC | Indian and Northern Affairs Canada |
| INAC-IIABL | Indian and Northern Affairs Canada - Indian and Inuit Affairs Business Line |
| INAC-NAP | Indian and Northern Affairs Canada - Northern Affairs Program |
| IRWG | Interdepartmental Regional Working Group |
| JCCBI | Jacques Cartier and Champlain Bridges Inc. |
| LPH | Liquid Phase Hydrocarbon |
| MCEBR | Montreal Centre for Excellence in Brownfields Remediation |
| NCC | National Capital Commission |
| NCS | National Classification System |
| NRCan | Natural Resources Canada |
| PAHs | Polycyclic aromatic hydrocarbons |
| PC | Parks Canada Agency |
| PCBs | Polychlorinated biphenyls |
| PCDD/Fs | Polychlorinated dibenzo-p-dioxins and dibenzofurans |
| PFCs | Perfluorinated chemicals |
| PHCs | Petroleum Hydrocarbons |
| PWGSC | Public Works and Government Services Canada |
| RCMP | Royal Canadian Mounted Police |
| TAWG | Technology Advancement Working Group |
| TBS | Treasury Board Secretariat |
| TC | Transport Canada |
| WSC | Water Survey of Canada |
| WTI | Wastewater Technologies International Corporation |