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Federal Contaminated Sites Action Plan Formative Evaluation

Final Report

Approved by

Senior Management Board
Finance, Evaluation and Accountability (SMB-FEA)
Health Canada

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Canada 

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Formative Evaluation of the Federal Contaminated Sites Action Plan

Final Evaluation Report

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List of abbreviations

CSMWG	Contaminated Sites Management Working Group
CSP	Contaminated Sites Program (with respect to INAC NAO)
DFO	Fisheries and Oceans Canada
DG	Director General
DM	Deputy Minister
DND	National Defence
EC	Environment Canada
FCSAP	Federal Contaminated Sites Action Plan
FCSI	Federal Contaminated Sites Inventory
HC	Health Canada
IDEA	Interdepartmental Data Exchange Application
INAC NAO	Indian and Northern Affairs Canada, Northern Affairs Organization
IRWG	Interdepartmental Regional Working Group
NCS	National Classification System
PWGSC	Public Works and Government Services Canada
PQRA	Preliminary Quantitative Risk Assessment
RMAF	Results-based Management and Accountability Framework
TBS	Treasury Board Secretariat
TC	Transport Canada

Executive Summary

This report presents the findings, conclusions, and recommendations for the Formative Evaluation of the Federal Contaminated Sites Action Plan (FCSAP) conducted from March to September 2008. FCSAP is a cost-shared program that assists federal departments, agencies, and consolidated Crown corporations to address contaminated sites for which they are responsible. The overall objective of FCSAP is to assess, remediate, or risk manage the highest-risk federal contaminated sites, and eliminate (or reduce as much as possible) the related federal liability.

With the program currently in the fourth year of its initial five-year funding period (2005–2006 to 2009–2010), the formative evaluation provides an opportunity to assess the appropriateness of the design and delivery of FCSAP, and to determine how well the program is operating and whether changes will be required to ensure that the program achieves its objectives. In addition, the program is at a stage where one would expect to observe progress being made toward achieving immediate outcomes.¹

The scope of the evaluation included the FCSAP Secretariat, Steering Committee, Expert Support departments (Fisheries and Oceans Canada [DFO], Environment Canada [EC], Health Canada [HC], and Public Works and Government Services Canada [PWGSC]), and four Custodians (Transport Canada [TC], National Defence [DND], DFO, and Indian and Northern Affairs Canada, Northern Affairs Organization [INAC NAO]). Except for the case study of an INAC NAO site, representatives from that department did not participate in the evaluation because INAC NAO has recently conducted its own evaluation of their involvement in FCSAP.

The evaluation considered all FCSAP sites and projects that have been identified, assessed, and/or worked on during the two fiscal years of 2005–2006 and 2006–2007. Some analysis was carried out of sites that received funding under the Federal Contaminated Sites Accelerated Action Plan (FCSAAP) in 2003–2004 and 2004–2005 and continue to receive FCSAP funding today. A number of these sites, such as the Faro and Giant Mines, represent approximately one-third of total federal liability.

¹ Appendix C presents the FCSAP Logic Model (as of 2007), which presents the key activities and outputs, for each of the three components of the FCSAP, namely, the FCSAP Secretariat, Expert Support and Custodians, as well as shared immediate, intermediate and long-term outcomes.

The findings of this evaluation are based on input from individuals who are actively involved with FCSAP. The evaluation employed multiple lines of evidence, including a document review; a review of administrative databases; an online consultation with environmental engineering and consulting firms that assess and remediate federal contaminated sites; case studies of seven FCSAP projects; five in-depth case studies of certain issues that arose during the evaluation and merited further investigation; and an interview programme in which approximately 75 key informants from within and outside government provided their views concerning the design, delivery, and success of FCSAP.² Finally, a panel of three independent contaminated sites experts from the academic and environmental engineering sectors reviewed the evaluation findings.

Overall, the evaluation found that significant changes to the way that FCSAP is designed and delivered are not necessary for the program to meet its objectives. The program was designed in a manner that is appropriate for an interdepartmental program and the objectives it wishes to achieve. In general, FCSAP is well managed, adequately funded, supports Custodians effectively, and has made progress in addressing federal contaminated sites since being launched in 2005.

As the FCSAP Secretariat will begin planning over the next year for the post-2010 phase of FCSAP, the evaluation recommends a number of adjustments to the program be considered to ensure that FCSAP operates as effectively as possible. These recommendations are introduced and discussed in the following pages.

The evaluation found that the FCSAP Secretariat and the Contaminated Sites Management Working Group (CSMWG) have, to a large extent, determined the direction of the program to date. This is in large part due to two factors: attendance by the Assistant Deputy Minister (ADM) at Federal Contaminated Sites (FCS) Steering Committee meetings was lower than anticipated; and a Third Party Expert Panel, intended to provide FCSAP with an external perspective and independent advice, was never implemented. The program does not appear to have suffered, however, since the Directors General (DGs) and Directors who attend meetings in place of ADMs are knowledgeable about contaminated sites, and there have not been major strategic

² Appendix A presents a list of all key informants interviewed as part of this formative evaluation.

issues suitable for an expert panel to tackle. As the second phase of FCSAP approaches, now is the time for management to think strategically about the future of FCSAP. A few program participants suggested that a DG level committee be struck to provide DGs with a venue to raise and discuss strategic issues (the FCS Steering Committee meetings, as they are currently designed and implemented, reportedly do not provide such an opportunity). Evaluators are of the opinion, however, that creating an additional layer of management may not be the optimum way to proceed. Correspondingly, the evaluation makes the following recommendations regarding the FCS Steering Committee and the use of external experts.

Recommendation 1: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider adjusting the FCS Steering Committee from an ADM level to a DG level committee. The discussion of strategic issues should be a regular agenda item for Steering Committee meetings.

Recommendation 2: The FCSAP Secretariat should consider seeking the advice of external experts when developing strategies for the post-2010 period of the program.

FCSAP funded more than \$162 million worth of projects in 2006–2007. It is essential that program resources are directed toward the highest priorities and utilized as effectively as possible. The evaluation found that, in general, this is occurring, but room for improvement exists. The evaluation found that Custodians have tended to err on the side of caution and remediate sites when more cost-effective risk management approaches could have been used. To help Custodians address challenging decisions, the FCSAP Secretariat has solicited the assistance of a consultant in developing a Decision-Making Framework, due for release in March 2009. In addition, the current approach to managing sites with large liabilities, or those that have used engineered approaches such as landfills or dams, may leave Custodians exposed to unnecessary risk.

Recommendation 3: For very large projects, the FCSAP Secretariat should consider requiring peer review of remediation/risk management plans and progress. External experts or interdepartmental representatives could be drawn upon to undertake the peer review. Large projects could be considered those in



excess of a certain dollar level of liability or ranking score.

Recommendation 4: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider making long term periodic monitoring mandatory for the most contaminated FCSAP sites.

FCSAP can also look to the provinces for some practices that help to reduce risk. The provinces of British Columbia, Ontario and Québec require the use of project closure reports for provincial sites, which provide useful summaries of the original problem, the solution pursued, and any remaining risk or concern that should be noted. Some provinces also place a restrictive covenant on land title, identifying the risk management requirements and/or areas. This ensures that any new property owner is aware of the contaminated area and his/her responsibilities for risk managing and monitoring. Without such a covenant, it is possible that a risk managed area or requirement could be overlooked in future years as federal Custodians have a considerable number of pending retirements and associated contaminated sites knowledge may be lost. Although record keeping is in place for the program, evaluators do not consider record keeping to be sufficient to avoid this risk.

Recommendation 5: The FCSAP Secretariat should consider making project closure reports mandatory for all FCSAP projects.

Recommendation 6: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider making restrictive covenants on land titles mandatory for FCSAP sites that are being risk managed or monitored.

The evaluation found that the FCSI and IDEA databases capture sufficient data to measure the progress of the program. There are two pieces of information not captured in FCSI that would assist reporting: a first field would identify a site as an FCSAP funded site, and the second field would identify a site as requiring no further action.

Recommendation 7: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider adding the capability for FCSI to identify a site as an FCSAP funded site, and to identify a site requiring no

further action.

Reporting is currently FCSAP's weakest point and it threatens to overshadow the hard work and progress the program has made to date. A lack of timely and accurate reporting by some Custodians is making it difficult for the FCSAP Secretariat to evaluate, understand, and communicate the achievements of the FCSAP to date. Despite the efforts of the FCSAP Secretariat to provide guidelines and training on reporting, there are errors in the FCSI data of these Custodians that have not been corrected. A few Custodians have reporting errors that date as far back as the 2005–2006 fiscal year and/or have liability data that differ from that reported in the Public Accounts. In an era when the federal government is placing increasing importance on accountability and results, it is important to ensure that Custodians' contaminated sites data in the FCSI is complete and up-to-date.

Recommendation 8: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider various processes that could be implemented to ensure that Custodians improve the quality and timeliness of both IDEA and FCSI data reporting.

Estimating site liability is a difficult task and there remains some degree of uncertainty among Custodians as to the proper practice. Liability experts consulted for the evaluation pointed out that there are other approaches that may reduce the variability and uncertainty associated with estimating contaminated site liability.

Recommendation 9: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, should consider providing additional guidance, training and costing model/templates to help Custodians provide more accurate and consistent liability estimates for projects.

Despite reporting and liability estimation challenges, the picture of federal contaminated sites liability is becoming clearer every year. Based on an analysis of FCSI data, remediation activities at FCSAP sites have reduced federal liability by \$361.9 million to date. However, upward liability revisions to existing sites that have been re-assessed, and liability estimates from sites recently assessed for the first time, offset the above mentioned liability reductions. The net result has been a \$69.4 million reduction in federal liability associated with federal contaminated sites



from March 2006 to March 2007.

The evaluation found that the objective of effectively eliminating federal liability associated with known federal sites by 2020 is probably not realistic for several reasons. Departments, agencies, and crown corporations that participate in FCSAP have other priorities that limit the resources they can devote to addressing federal contaminated sites. There is also a limited pool of qualified consultants that can assess or remediate sites. Many sites are remote and moving people and equipment to them is difficult. It may be several more years before the total federal liability begins to decline, as the liabilities of many sites were underestimated, and other sites have yet to be fully assessed. As planning for the next phase of FCSAP takes place, it would be helpful for the FCSAP Secretariat to have a better understanding of the resource capabilities of Custodians and how many years it will take them to address their sites.

Recommendation 10: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider requesting that Custodians articulate in their contaminated sites management plans estimates of the number of sites they have remaining to assess, how many sites they anticipate assessing each year until all sites have been assessed, and their best estimates for when no further action will be required for these sites.

Recommendation 11: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider undertaking a comprehensive horizontal program capacity/resource assessment; where gaps emerge, determine risks and develop strategies to address them.

Management Response

The following management response was developed to address the evaluation recommendations.

Recommendation 1:

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree in principle with the recommendation. Given that the



existing ADM-level committee is a Cabinet- and Treasury Board-approved governance structure, changes to its mandate cannot be accomplished under the current program. A DG-level committee has been created to provide additional management support during the development and implementation of the renewed program. Proposed changes to the governance structure will be considered as part of the post-2010 FCSAP program renewal, including a continuing role for the DG-level committee.

Recommendation 2

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. As part of the FCSAP program renewal, the FCSAP Secretariat will establish an interdepartmental committee representative of key stakeholders in early 2009 to identify key program issues for the post-2010 period. External experts will then be consulted on significant strategic issues.

Recommendation 3

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. In FY 2009-10, the FCSAP Secretariat will undertake a review and gap analysis of existing peer review practices for large FCSAP projects, defined as projects being 100% funded by the FCSAP or having total project expenditures of over \$10 million. Requirements for additional internal or external peer review of large FCSAP projects will be identified and considered as part of FCSAP program renewal.

Recommendation 4

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the intent of the recommendation and support long-term periodic monitoring for the most contaminated FCSAP sites. However, the ability to make such monitoring mandatory is constrained by the Federal Real Property and Federal Immovables Act which gives Ministers responsibility for the administration of their department's real property:

18. (1) Any federal real property or federal immovable acquired or leased for the purposes of a Minister's department, including any such property acquired by way of a transfer of administration and control from Her Majesty in any right other than Canada, is under the administration of that Minister for the purposes of that department.

As a result of this Act, departments have an enduring responsibility for the management of their contaminated sites. The FCSAP program, on the other hand, has a fixed time horizon, so the inclusion of additional mandatory requirements would not be sustainable beyond the life of the program. It is, therefore, not within the authority of the FCSAP Secretariat nor the Treasury Board Secretariat, Real Property and Materiel Policy Division, to make long-term monitoring mandatory for any federal contaminated site.

However, the FCSAP Secretariat is currently developing a decision-making framework that will, among other things, assist custodians in evaluating the possible need for long-term monitoring on federal contaminated sites receiving funding under FCSAP. This decision-making framework is expected to be approved by the FCS Steering Committee in 2009-10. The Treasury Board Secretariat, Real Property and Materiel Policy Division, in FY 2009-10 will also investigate the feasibility of tracking long-term monitoring on federal contaminated sites using the Federal Contaminated Sites Inventory (FCSI) .

Recommendation 5

The FCSAP Secretariat agrees with the recommendation. In 2009, the FCSAP Secretariat will ask that PWGSC Expert Support develop an appropriate FCSAP closure report template and guidance document for roll-out in the post-2010 period of FCSAP.

Recommendation 6

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees in principle with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, recognizes the merit of introducing such a concept to ensure that future landowners are well informed of the environmental condition of federal real property as well as any monitoring or risk management requirements that may impact future land use.

The Treasury Board's Directive on the Sale or Transfer of Surplus Real Property already requires that, prior to seeking an indication of interest in a surplus property, custodians provide interested parties with sufficient information, including the property's environmental and physical condition (section 6.4). It is necessary to examine the feasibility of the application of restrictive covenants to federal real



property. The Treasury Board Secretariat, Real Property and Materiel Policy Division, will undertake a more thorough examination of the opportunities and constraints of implementing such a mechanism in consultation with the Department of Justice Canada in the 2009–2010 fiscal year.

Recommendation 7

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, has established an interdepartmental working group to explore issues relating to the future improvement of the FCSI. The two issues identified in the recommendation have also been highlighted by the working group and solutions will be implemented in 2009.

Recommendation 8

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. Accurate and timely information supports the measurement and communication of the achievements of the FCSAP program.

Steps have already been undertaken to identify and address data quality issues in IDEA and the FCSI. Some of these include enhanced training for reporting in IDEA, timely calls for FCSAP program reporting in IDEA, the creation of an FCSI interdepartmental working group, and the creation of conditional frozen allotments for future FCSAP funding for custodians with extensive and ongoing data quality issues in the FCSI. The FCSAP Secretariat is also planning to undertake a program data management survey and gap analysis in 2009 to identify areas for improvement in data management between the FCSI and IDEA, such as opportunities for potential system harmonization in order to ease the reporting burden on custodians.

Recommendation 9

The FCSAP Secretariat and the Treasury Board Secretariat agree with the recommendation. The FCSAP Secretariat is planning to carry out a scoping exercise in 2009 to define the issues and risks related to the reporting of environmental liability estimates in support of the FCSAP program. However, given that the policy responsibility for the accounting of environmental liability rests with the Office of the Comptroller General (OCG) at the Treasury Board Secretariat, the FCSAP Secretariat will work closely with the OCG to develop additional guidance, training, and costing

models/templates, to ensure that they will be in line with the new Treasury Board Financial Management policy directions and accounting guidance.

Recommendation 10

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, will undertake a review of the drafting guidance and revise as required for the next call for Contaminated Sites Management Plans (Spring 2009).

Recommendation 11

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, partially agree with the recommendation. The scope of this recommendation involves undertaking activities that are well beyond the current roles and responsibilities of the FCSAP Secretariat or the Treasury Board Secretariat, Real Property and Materiel Policy Division.

However, as part of the post-2010 FCSAP program renewal, an assessment of the existing FCSAP program's human resource issues and gaps will be considered, particularly with respect to the future allocation of departmental program management, Expert Support and FCSAP Secretariat resources. Strategies will be examined to respond to any gaps or program-level risks identified through this analysis.



1.0 Introduction

1.1 Background

The Federal Contaminated Sites Action Plan (FCSAP) is a cost-shared program (between the FCSAP fund and Custodians of federal contaminated sites) with the objective to support federal Custodians in addressing contaminated sites for which they are responsible. The FCSAP Secretariat, housed at Environment Canada (EC), co-administers the program with the Treasury Board Secretariat (TBS). Environment Canada, Fisheries and Oceans Canada (DFO) and Health Canada (HC) provide expert support to Custodians on a broad scope of issues related to potential ecological and human health risks posed by the sites; additionally, Public Works and Government Services Canada (PWGSC) provides support and advice to Custodians on project management and innovative technologies. Reporting on the effectiveness of the program is one of the key roles of the FCSAP Secretariat.

In 1996, the federal Office of the Auditor General estimated that there were approximately 5000 contaminated federal sites in Canada.³ By 2004, this number had grown to 6000 and in Budget 2004 the federal government committed \$3.5 billion to address federal contaminated sites, an amount equivalent to the related financial liability reported in the Public Accounts at that time. An additional amount of \$500 million was also announced in the 2004 Federal Budget for shared responsibility sites.

1.1.1 Objectives of FCSAP

Stewardship for federal real property, including responsibility and accountability for managing contaminated sites, rests with Custodians. The FCSAP complements ongoing custodial activities on contaminated sites and priority is given to those sites that present the highest risk to human health and the environment.

³ Please refer to the 1996 Office of the Auditor General Report for further details

Under the FCSAP, a consistent management regime has been established to address federal contaminated sites within a 15-year timeframe. The specific FCSAP program objectives include:

- Reduce human health and ecological risks at specific highest risk federal sites;
- Remediate and/or risk manage federal contaminated sites with human health and/or ecological risks classified as requiring action or likely to require action (National Classification System [NCS] [class 1 and 2]);
- 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; and,
- Increase public confidence in the overall management of federal contaminated sites and in the remediation / risk management of individual federal contaminated sites.

1.1.2 Delivery Approach⁴

This section describes the contributions of the FCSAP Secretariat, Expert Support departments and Custodians in the delivery of the FCSAP. It should be noted that some departments have multiple roles (e.g., Expert Support and Custodian).

FCSAP Secretariat

The FCSAP Secretariat at EC is responsible for the administration of the program, including leading and coordinating its delivery, coordinating the review of proposals and managing the project selection process. The FCSAP Secretariat also tracks funding requests and project expenditures and develops funding allocation proposals for approval by the FCS Steering Committee. The FCSAP Secretariat develops the procedures to ensure interdepartmental consistency in program implementation and also provides clerical and administrative services to the FCS Steering Committee and the CSMWG.

The TBS (Real Property and Materiel Policy Division) ensures consistency with TB policies on the management of federal real property, including federal contaminated

⁴ Appendix C presents the FCSAP Logic Model (as of 2007), which presents the key activities and outputs, for each of the three components of the FCSAP, namely, the FCSAP Secretariat, Expert Support and Custodians, as well as shared immediate, intermediate and long-term outcomes.

sites, administers and maintains the FCSI and assists the FCSAP Secretariat with the monitoring of and reporting on government-wide progress in addressing federal contaminated sites funded under the FCSAP.

One database, the Interdepartmental Data Exchange Application (IDEA), is maintained at Environment Canada where the FCSAP Secretariat is housed, while the TBS maintains the other database, the Federal Contaminated Sites Inventory (FCSI). Environment Canada developed IDEA as a project-specific database, in which a record is maintained of all sites within a given project. Its purpose is to facilitate the exchange of information between the FCSAP Secretariat, Custodians of federal contaminated sites (departments, agencies, and consolidated Crown corporations), and the Expert Support departments (HC, EC, DFO, and PWGSC). On IDEA, Custodians submit new project funding requests, update their previously approved submissions, and report annually on their FCSAP funded projects. As required by Treasury Board policy, TBS has hosted the FCSI since 2000. The FCSI provides Custodians with access to a central inventory in which they can maintain a record of all contaminated sites (including those that are not funded under FCSAP) for which the Custodian is responsible.

Expert Support⁵

The FCSAP Secretariat is assisted by four Expert Support departments (HC, EC, DFO and PWGSC) whose main role is to provide technical advice, training and guidance to Custodians.

EC, HC and DFO provide advice to the FCSAP Secretariat to develop and promote best practices so that Custodians adopt a consistent national approach to human health and ecological risk assessments. These three Expert Support departments also provide project-specific advice to allow Custodians to make a final decision on project activities; develop guidance materials and training; contribute to the understanding and management of human health and ecological issues; liaise with their provincial and territorial counterparts on behalf of Custodians as appropriate; participate in interdepartmental regional working groups; advise on risk management approaches, risk communication strategies and public outreach; and act as sources of expert knowledge and information related to environmental assessment. These three departments also carry out their respective mandates related to regulatory compliance.

⁵ FCSAP RMAF (2006)

PWGSC provides expert support to the program through the development of project management tools, the dissemination of information on innovative technologies and technologies used in individual projects, and liaison with industry. PWGSC also coordinates forecasts of project requirements and procurement opportunities to support linkages to other federal priorities and provides information to industry. Additionally, PWGSC administers an awards and recognition program for best practices.

All Expert Support departments (EC, DFO, HC and PWGSC) are required to prepare and submit to the FCSAP Secretariat an annual report on their activities and expenditures under the FCSAP. These reports are made available for review by the CSMWG in the fall.

Other departments provide support to the program within their existing mandates. Human Resources and Social Development Canada provides support to Custodians on opportunities to build capacity of the environmental industries sector to manage risks at federal contaminated sites; and on opportunities to develop synergies with the government's skills development and employment agenda. Industry Canada supports Custodians, most specifically PWGSC, in facilitating familiarization and collaboration between contaminated site Custodians and remediation technology vendors, most particularly the introduction and advancement of innovative technologies.

Custodians

To date sixteen Custodians⁶ have accessed FCSAP funding. Custodians seeking resources under the FCSAP program must:

- Prepare work package proposals in consultation with appropriate Expert Support departments including, as required, site classifications, human health preliminary quantitative risk assessments, ecological risk assessments and Ecological Risk Evaluation (level 1) scores for their highest risk sites—Class 1 (Action required) and Class 2 (Action likely required) sites;

⁶ The sixteen Custodians are: Agriculture and Agri-Food Canada (AAFC); Canadian Food Inspection Agency (CFIA); Canada Border Services Agency (CBSA); Correctional Services Canada (CSC); DFO; DND; EC; HC: INAC; Jacques Cartier and Champlain Bridge Incorporated; National Capital Commission (NCC); Natural Resources Canada (NRCan); Parks Canada Agency (PC); PWGSC; Royal Canadian Mounted Police (RCMP); and Transport Canada (TC).

- Develop a Contaminated Sites Management Plan, providing a forward strategy (now a three-year plan) on how the Custodian will address contaminated sites for which they are responsible;
- Implement approved projects as described in their work plans;
- Participate in the interdepartmental Contaminated Sites Management Working Group (CSMWG) and the FCS Steering Committee or in the case of a consolidated Crown corporation, the portfolio department may participate on behalf of the consolidated Crown corporation;
- Update active FCSAP site information in the FCSI at least once per year;
- Respond in a timely manner to requests of the FCSAP Secretariat and/or the TBS relating to the program; and
- Report on resource utilization, progress, and results of approved projects, as requested by the FCSAP Secretariat.

1.1.3 Governance Structure

There are multiple components that interact within the governance structure for the FCSAP. The main components are described briefly below.

Federal Contaminated Sites Steering Committee: EC and TBS co-chair the ADM-level Federal Contaminated Sites Steering Committee (the FCS Steering Committee), which oversees the implementation of the FCSAP program. The FCS Steering Committee is responsible for setting project priorities, monitoring progress, and providing recommendations on the funding of FCSAP projects for Treasury Board approval. The mandate of the FCS Steering Committee is to review and approve FCSAP project proposals, as recommended by the CSMWG, and recommend funding allocations to Treasury Board, in accordance with TB-approved FCSAP selection criteria. The FCS Steering Committee will ensure that allocated FCSAP funds are used to identify, manage, and remediate federal contaminated sites in a manner that is consistent with the TB Policy on Management of Real Property.

Contaminated Sites Management Working Group (CSMWG): EC and DND currently co-chair the CSMWG, a working-level committee representing all Custodians and the four Expert Support departments. The CSMWG was established in 1995 to investigate and propose a common federal approach to the management of contaminated sites under federal custody and related issues. The CSMWG plays an



ongoing role in the development and implementation of the FCSAP program by contributing to the development of procedures, tools and guidance, and other key program outputs; reviewing proposed program funding plans; and making recommendations on project funding to the Steering Committee. The CSMWG meets approximately eight to ten times per year. The CSMWG also establishes subcommittees and working groups, as appropriate, to address scientific and technical issues, and provide support to Custodians on opportunities related to linkages to other socioeconomic outcomes. These include skills development, training and employment of Canadians, and technological development in the environment industry.

FCSAP Interdepartmental Regional Working Groups (IRWGs): IRWGs are in place in EC regions to advise Custodians on the management of contaminated sites. They are comprised of Expert Support members and Custodians' contaminated sites regional staff. 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.

1.1.4 Funding Allocation

FCSAP funding is to be used to reduce risk and liability, investigate potential contaminated sites, and remediate and risk-manage those requiring attention. Program funds can be used for site assessment, remediation/risk management, and care and maintenance activities to prevent an increase in federal financial liability related to these sites. Approximately 90% of the annual funding amount is directed to projects and the remaining 10% is allocated to expert support, management, and administration.

FCSAP operates on a cost-shared basis with Custodians. For projects, the FCSAP will fund the first \$10 million of project costs at a cost-share ratio of 80/20 (FCSAP funding/Custodians). Once total project costs exceed \$10 million, the cost share ratio becomes 90/10. Subject to Treasury Board approval, some exceptional sites exceeding \$90 million may be funded at 100% of project costs.

Additionally, the program will fund site assessments at an 80/20 cost-share ratio to a



maximum from the fund of \$25 million per year, which can be adjusted only at the discretion of the Treasury Board.

1.2 Scope and Objectives of the Evaluation

From January to April 2007, the FCSAP Program Evaluation Working Group and consultants worked to revise the FCSAP logic model and to develop the most appropriate overall approach for the evaluation of FCSAP. The general consensus was that the formative evaluation approach would take into account the following:

- A common set of evaluation issues across departments and agencies, but at the same time, two distinct differences would be recognized:
 - The different roles that the various departments and agencies assume (e.g., Expert Support, Custodian, FCSAP Secretariat); and
 - The different experiences in working with contaminated sites (number of projects, complexity of projects, number of sites, complexity of sites, stages of progression, Custodian priorities)
- The Program Evaluation Working Group would meet to determine specifically how the evaluations will be implemented and managed, taking into account the options and evaluation framework provided in the FCSAP Evaluation Plan. The Program Evaluation Working Group would determine the composition of the Committee that will oversee coordination and guidance of the evaluations;
- One overall final report would be developed. It would then be up to each individual department to present for approval those specific recommendations that pertain to their respective organization and for which their respective senior management would be accountable, according to the reporting requirements of their respective departments;
- The requirement of having some success/results information available at the mid-stage of the initiative in order to feed into the renewal process; and
- Ensure that the evaluations can address the required expenditure review questions; and;
- Evaluation findings would provide an assessment of the design and delivery, as well as the preliminary success achieved to date of the FCSAP.

1.2.1 Evaluation Objectives



The formative evaluation is intended to provide findings mid-way through the initiative. The primary objective of the formative evaluation is to provide information on the appropriateness of design and delivery of the FCSAP at a stage in the program cycle when changes or adaptations can be made to optimize the likelihood of success in achieving expected outcomes. As a second objective, the formative evaluation will examine the preliminary success achieved to date with respect to immediate and intermediate outcomes, and potential areas to explore further in the summative evaluation.

1.2.2 Evaluation Scope

The scope of the formative evaluation includes all federal contaminated sites and projects that have been identified, assessed and/or worked on during the two fiscal years of 2005–2006 and 2006–2007.⁷ This scope was applied to all evaluation methods including the examination of existing administrative databases such as the FCSI and the IDEA.

The formative evaluation issues will focus on the FCSAP Secretariat, all Expert Support departments, and a sample of Custodians. Four of the sixteen Custodians presently receiving funding as Custodians were included in the scope of the formative evaluation. These four departments were chosen to ensure an adequate level of coverage of project types (assessment, remediation/risk management and care and maintenance) and size (from under 50K to over \$10M), and collectively account for 86% of the number of FCSAP funded sites.

The following departments participated in the evaluation:

- ***FCSAP Secretariat***- EC and TBS
- ***Expert support***- HC, EC, DFO and PWGSC
- ***Custodians***- DND, INAC NAO, TC and DFO.

⁷ Note: The scope includes projects that commenced prior to 2005.

1.2.3 Evaluation Issues and Questions

As outlined in the statement of work derived from the evaluation framework, there were fourteen key evaluation questions addressed in the formative evaluation. One main issue addressed was the design and delivery of the FCSAP, which has ten associated evaluation questions. As well, there was some emphasis on the issue of FCSAP success with four associated evaluation questions. The specific questions addressed by the evaluation were:

Issue: Design and Delivery of the FCSAP

Evaluation Questions

1. Is the FCSAP governance model comprehensive, clear and appropriate for a horizontal initiative?
2. Are roles and responsibilities clear and appropriate for a horizontal initiative such as FCSAP? Who is accountable for the program? Is there an appropriate horizontal accountability framework?
3. To what extent has FCSAP been implemented as originally planned? If not implemented as planned, what was the rationale for different implementation?
4. Are decision-making processes in place to allow for the highest areas of importance to be reflected in the allocation of resources (priorities)?
5. Is risk appropriately addressed?
6. To what extent are FCSAP activities and outputs appropriately linked to shared outcomes and the overall horizontal mandate?
7. Are all components of the FCSAP appropriately resourced?
8. Is the funding process supportive of FCSAP objectives?
9. Is the performance measurement sufficient?
10. To what extent has the FCSAP produced key outputs as planned? (see logic model for specific planned outputs)

Issue: FCSAP Success

Evaluation Questions

11. To what extent has the FCSAP achieved immediate outcomes?
 - a. Increase in the number of Class 1 & 2 federal contaminated sites for which remediation/risk management plans are being developed or have been developed and/or implemented.
 - b. Greater reliability of FCSI and financial liability estimates.



- c. More accurate picture of federal contaminated sites, ranked according to human health and ecological risks.
 - d. Increased availability and awareness of nationally consistent management and communications tools to address highest risk sites.
- 12. What is the likelihood that FCSAP will be able to achieve the anticipated intermediate outcomes within the timeframe indicated? What will be the anticipated challenges/barriers to achieving and/or demonstrating these intermediate outcomes?(Refer to logic model for specific intermediate outcomes)
- 13. At this stage, what external factors have contributed to, or detracted from, FCSAP's level of success?
- 14. Have there been any unanticipated results, either positive or negative, that can be attributed to the program?
 - a. If so, how were they addressed?
 - b. If so, to what extent are these results related to the FCSAP being a horizontal initiative?



2.0 Evaluation Methodology

In this section we provide an overview of the approach and methods that were used to conduct the formative evaluation of the FCSAP.

2.1 Overview of Approach⁸

The evaluation team employed a phased approach to the evaluation. This commenced with a design phase comprising the project initiation and method development (Phase 1), followed by data collection and technical reporting (Phase 2), and finally analysis and integrated reporting (Phase 3). Throughout each of these phases, specific deliverables were produced to assist the project authority in having input to the evaluation process, and ensuring that the evaluation met the needs of FCSAP participating Custodians.

The evaluation approach was based on multiple lines of evidence (qualitative and quantitative), where data was triangulated from several sources (interviews, case studies, online survey, admin data, document review, etc.). Comments were weighted based on the number of people who stated the comment, and the source. Single responses/opinions relating to evaluation questions that were contrary to the majority were weighted down. Suggestions and recommendations made by only one or a few persons may be retained however, since they may be very insightful and not apparent to most interviewees. Where possible, we have attempted to balance qualitative and quantitative methods with the understanding that this is a formative evaluation with a heavy emphasis on design and delivery questions, which by their nature often require more qualitative techniques to be adequately addressed.

The methods used for the evaluation are described below.

Document Review⁹

A document review was undertaken of 22 key program documents using a standardized review grid based on the evaluation questions and indicators.

⁸ The evaluation approach is based upon the Methodology Report, approved in April 2008.

Key informant interviews¹⁰

A total of 75 key informant interviews were conducted. Interviewees consisted of the FCSAP Secretariat (7); Expert Support (21); Custodians (25); external scientific experts (5); liability experts (3); industry representatives (10); community representatives (1); and other partners such as provincial governments and utilities (3).

Administrative data review

A review of IDEA and FCSI databases was undertaken, consisting of interviews with representatives responsible for the databases and analysis of the contents.

Because FCSI contains sites that are not funded by FCSAP, federal site identifiers in IDEA were matched with records in FCSI to identify the FCSAP funded sites contained therein. Data for all 16 Custodians were analyzed. Projects that received FCSAAP funding in 2003–2004 and 2004–2005 were included in the analysis, since these submission years contained some sites with large liabilities, and they also offered an opportunity to view project and site progress over a 3–4 year period. Projects that first began receiving FCSAP funding in the 2005–2006 and 2006–2007 submission years were included in the analysis, but those that first began receiving FCSAP funding in 2007–2008 were excluded from the analysis because it was believed that there had not been sufficient time for these projects to demonstrate progress. The analysis therefore covered some 7000 FCSAP funded sites in FCSI.

Online consultations with industry

Using a list of people that attended the Contaminated Sites National Workshop in Vancouver in 2008 provided by Treasury Board Secretariat, the evaluation team developed a list of employees from 51 firms (consulting/engineering firms which have had a role in FCSAP projects, having been contracted to work on contaminated sites) to be invited to participate in the online consultation. An email invitation was sent to employees requesting that each firm provide one consolidated response. Of 51 firms that were invited to participate in the online consultation, 23 (or 45%) completed the online questionnaire.

⁹ Appendix B presents a list of all documents examined as part of the evaluation.

¹⁰ Appendix A presents a more detailed list of KI interviews.

Thematic case studies

During the course of the evaluation, the evaluation team noted several key issues raised by key informants and identified in the document review that could be explored more thoroughly in thematic case studies. The themes proposed to and accepted by the evaluation working group were site selection and prioritization; role of Third Party Expert Panel; awareness, usefulness and use of tools developed by FCSAP; custodial challenges with FCSAP funding; and, role of the IRWG.

The thematic case studies were developed from key informant interviews, documents, and administrative data.

Project/site case studies

Custodian departments (DFO, DND, TC, and INAC NAO) were each asked to recommend four projects or sites that met as many of the following criteria as possible:

1. Very successful remediation;
2. Significant and positive community involvement;
3. Significant challenges overcome;
4. Important lessons learned that could help others remediating sites;
5. Innovative technology used in remediation; and
6. Very large liability/scope.

From the sixteen projects/sites proposed by departments, seven were selected so as to ensure that as many as possible of the above criteria were met, and that there was a mix of geographic locations across Canada. The seven selected sites/projects were:

- FOX-M Hall Beach DEW Line Cleanup (DND);
- MARLANT Bedford Rifle Range (DND);
- Pointe Noire Interpretation and Observation Centre (DFO);
- Mouse Island Radio Beacon (DFO);
- The Giant Mine of Yellowknife (INAC NAO);
- Former Remote Radar Site 59 (TC); and,
- Bushell Public Port Facility (TC).

Panel of Experts

The panel of experts provided informed external perspectives on the quality and content of evidence, and the findings, interpretations and conclusions of the evaluation team. Three individuals were chosen to participate in the expert panel and included recognized experts in the fields of ecological risk, human health risk, and financial liability estimates

The experts reviewed components and findings specific to their field of knowledge following a review guide developed during the design phase. The expert review panel provided guidance by vetting the revised findings, contextualizing issues, and interpreting technical details.

Response Scale

The following quantitative scale is used throughout the report to indicate the relative weight of the responses for qualitative responses within respondent groups (interview programme, case studies, and industry consultations).

- “Majority/most” - findings reflect the views and opinions of at least 50% of the respondents;
- “Many” - findings reflect the views and opinions of at least 25% but less than 50% of the respondents
- “Some” - findings reflect the views and opinions of at least 10% but less than 25% of the respondents; and,
- “A few” - findings reflect the views and opinions of at least two respondents but less than 10% of respondents.

2.2 Limitations

Certain limitations, including the reliability of data gathered in the evaluation, should be noted. First, the number of firms (n=23) that completed the online consultation is relatively low, and does not constitute a sample that is statistically representative of the Canadian industry as a whole. It was apparent during the design phase of the evaluation that a survey frame of Canadian firms that assess and remediate contaminated sites had not been identified. Given our past experience with similar situations, we advised against the use of statistical surveys given the unavailability of a reliable, comprehensive survey frame. Development of survey frames, while



possible, can be very resource and time intensive. Moreover, they are not likely to be suitable for a formative evaluation. While we did not believe that a statistically reliable survey could be completed for the evaluation, we did think that a broader consultation of groups outside the federal government would be desirable and assist in addressing some of the evaluation questions. The online consultation therefore complements the key informant interviews with industry stakeholders.

Second, insights gained from the analysis of the FCSI and IDEA databases depend on the completeness of the data that they contain. It is the responsibility of Custodians to ensure that information in the databases is correct and up to date. During the analysis of the FCSI database in particular, it became apparent that some data from the Custodians have yet to be accepted by TBS as being complete and accurate.

Third, it was hoped that the evaluation would provide the opportunity to solicit input from communities located near federal contaminated sites. Evaluators attempted to solicit names of community representatives from custodians and other interviewees in order to conduct interviews with these persons. Unfortunately, only six names were provided, resulting in only one interview. Correspondingly, the evaluation received limited input from community representatives in the interview programme.

3.0 Evaluation Findings

This section provides the evaluation findings for issues of design and delivery as well as results. A number of evaluation questions that are interrelated have been grouped together.

3.1 Design and Delivery

Q1: Is the FCSAP governance model comprehensive, clear and appropriate for a horizontal initiative?

Q 2: Are roles and responsibilities clear and appropriate for a horizontal initiative such as FCSAP? Who is accountable for the program? Is there an appropriate horizontal accountability framework?

Finding: The governance model is comprehensive, clear, and appropriate for a horizontal initiative. Horizontal roles and responsibilities are clear and appropriate, and a horizontal accountability framework is in place.

EC and 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.¹¹

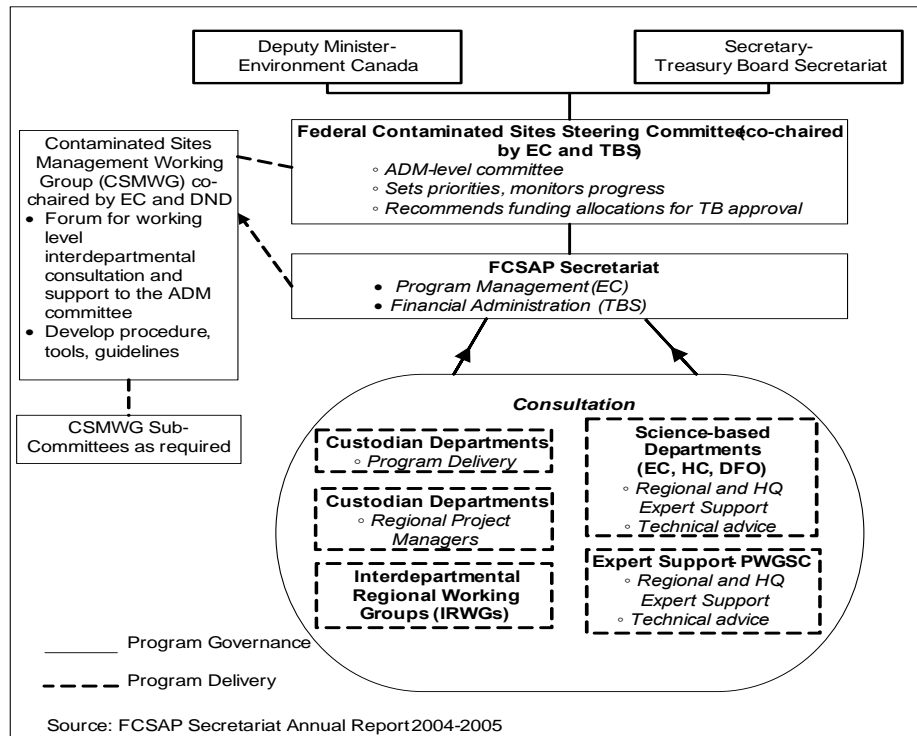
The FCSAP Steering Committee recommends strategic direction, approves the work plans of the secretariat and the Expert Support departments, guides the development of the strategic plan, approves funding options, and ratifies funding recommendations. The Steering Committee oversees program implementation and is responsible for

¹¹ FCSAP Annual Report, 2006–2007 (2008), p.5.

setting project priorities, monitoring progress, and providing recommendations on the funding of sites under FCSAP.

The FCSAP governance structure is presented below.

Exhibit 3.1 FCSAP Governance Structure



FCSAP documentation describes the FCSAP governance model in a comprehensive, clear and appropriate manner for a horizontal initiative. The documents, and in particular, the FCSAP Results Based Management and Accountability Framework, contain detailed descriptions of program components such as the FCSAP Secretariat, Expert Support, FCS Steering Committee, CSMWG, and IRWGs; their responsibilities and accountabilities; and how each contributes to the achievement of the FCSAP's objectives.

Evaluators discussed the governance model, and program roles and responsibilities, with a wide range of Custodians, Expert Support, and FCSAP Secretariat representatives. The majority of those interviewed believe that the roles and responsibilities of the FCSAP Secretariat, Expert Support, Custodians, and committees such as the FCS Steering Committee and CSMWG, are perceived to be

clear and appropriate, and that accountability structures are adequate.

Like any large interdepartmental program, FCSAP does have some challenges, such as achieving effective communication. A few Custodians complain that program information at headquarters does not always flow to the regions on a timely basis, and at the same time, ADMs and DGs can be unaware of what is happening in the regions.

Custodians and Expert Support noted that the IRWGs provide an opportunity for Custodians to access advice from Expert Support. A thematic case study on the role of the IRWGs conducted for the evaluation revealed that members would find the meetings more useful and attendance would improve if workshops and training sessions were offered. In addition, a common frustration voiced by IRWG members was that issues raised at the IRWG meetings are either not passed along to the CSMWG or FCSAP Secretariat, or they are passed along, but no feedback is provided to the IRWG on the issues that were raised.

Q 3: To what extent has FCSAP been implemented as originally planned? If not implemented as planned, what was the rationale for different implementation?

Finding: In general, FCSAP has been implemented as originally planned, with two key exceptions: low ADM attendance at Steering Committee meetings and the absence of a Third Party Expert Panel.

The evaluation found that for the most part, there is consistency between the original plan, as described in program documentation, and what has actually been implemented. Some program augmentations have occurred and are viewed as positive. Key changes were recently made to the program to provide more flexibility to Custodians. The first was the pre-approval of one-year assessment and remediation activities and the second was the decision to allow Custodians to internally reallocate FCSAP remediation and risk management/care and maintenance funds in-year between approved projects. This change was made to allow for more flexibility in using funds and to allow transfers between activities and between projects.

Since FCSAP began in 2005–2006, TBS has attempted to expand and strengthen requirements for three-year custodial management plans and annual reporting, and was part of the organizing committee for two national contaminated sites workshops



hosted by the Real Property Institute of Canada. These activities were not foreseen when FCSAP began.

Two deviations from the original plan for FCSAP have occurred. First, the FCS Steering Committee, which meets twice per year, is intended to provide strategic oversight and act as a challenge function to the decisions made by the FCSAP Secretariat and CSMWG. The evaluation found that many ADMs do not attend these meetings, sending DGs and Directors in their place. According to the ADMs and DGs interviewed, the reason for low ADM attendance is that meeting agendas, set by the FCSAP Secretariat, focus on technical rather than strategic issues. Accordingly, many ADMs feel that the level of the discussions at these meetings is not well suited to their role(s).

Second, according to program documentation, a Third Party Expert Panel was to have been created to provide an external perspective including independent examination, independent advice, and the provision of an extra level of discipline. After operating for two years without the panel, it was decided that the establishment of a panel would be postponed pending recommendation from the program evaluation on the requirement for and value of the panel.

Q 4: Are decision-making processes in place to allow for the highest areas of importance to be reflected in the allocation of resources (priorities)?

Q 5: Is risk appropriately addressed?

Finding: Decision-making processes are in place, and in general, resources are allocated to the projects of highest priority. Risk is addressed appropriately, but there are some weaknesses. On occasion, inexperienced consultants conduct risk assessments that may lead to inappropriate remediation strategies. In rare cases, external pressures can influence the prioritization of projects by Custodians. Other related findings include: opportunities to risk manage rather than remediate sites are being passed over; long-term monitoring of high risk sites is underutilized; the benefits associated with project closure reports are not being realized because the reports are not mandatory; and the likelihood of a risk managed area or requirement being overlooked in future years is significant because restrictive covenants on land title identifying the risk-management

requirements and/or areas are not required by FCSAP.

A review of FCSAP documentation found that the program has well-documented procedures, standards for assessing risk, a risk ranking methodology, and other related guidance documents produced by experts in the field. Remediation, risk management, and care and maintenance projects proposed for funding are ranked using the science-based FCSAAP ranking methodology and criteria approved by TB. The methodology uses risk measurement tools developed by Expert Support departments in consultation with the CSMWG to evaluate the human health and ecological risks associated with a site. Other factors taken into consideration for ranking projects include special considerations (impact of contamination on traditional lands and lifestyles; increase in financial liability over next five years if no action is taken; and potential legal liability or requirements).

A review by evaluators of remediation projects submitted by DFO, DND, INAC, NAO, and TC revealed that average scores for projects were 193 points (out of a maximum of 400) in the 2005–2006 TB submission and decreased to 168 points in the 2008–2009 TB submission. There are some instances where remediation projects with very high scores were submitted in 2008/09; however, it is likely that several years of assessment were required before these sites could be submitted. The downward trend in ranking scores suggests that the highest risk projects have been allocated program resources first.

Exhibit 3.2 Ranking Scores of Projects Submitted for Remediation in 2005/06 and 2008/09 TB Submissions

Dept	2005–2006 TB Submission			2008–2009 TB Submission		
	MIN	MAX	Average	MIN	MAX	Average
DFO	134	175	152	78	150	117
TC	178	219	197	138	284	193
DND	146	287	184	110	247	154
INAC	97	361	204	117	266	181
Total	97	361	193	78	284	168

In general, the evaluation found that resource allocation and the manner in which risk is addressed are appropriate, but there is room for improvement. First, a few senior and highly experienced industry representatives pointed out that how well risk is

assessed depends on the skill level of the people who conduct the risk assessments, which they believe can vary considerably in some cases. Although risk assessments conducted by inexperienced consultants may not impact whether or not a site gets funded (program funding is sufficient to ensure that all sites that meet the basic eligibility requirements are funded), it may impact the remediation strategy and financial liability estimates of sites. For instance, a risk assessment that underestimates the actual contamination may lead to a remediation strategy that is not aggressive enough, and financial liability estimates that are too low.

Second, a few Custodians, Expert Support, and industry representatives stated that on occasion, external pressures influence Custodians in choosing the projects and sites to address with FCSAP funding. It was reported that some sites are cleaned even though that might not be the best use of resources.

Third, some industry and Expert Support representatives pointed out that Custodians tend to be risk averse and proceed with full remediation when Expert Support or consultants recommend a risk management approach. For instance, in the case study of the Pointe Noire Interpretation and Observation Centre (DFO), the Custodian now believes, in retrospect, that it might have been more beneficial—financially and in terms of human health and environmental risk—to manage the risks rather than excavate the Point-Noire site. External scientific experts echoed the views of Expert Support. They suggest advancing the practice of risk management of sites and allowing flexibility to use regional or provincial guidelines for tolerable contaminant levels. The FCSAP Secretariat and a consultant are currently developing a Decision-Making Framework that is slated for release in March 2009, which should guide Custodians in making these kinds of decisions.

Fourth, a few Expert Support interviewees stated that long term or periodic monitoring after project completion should be pursued for highly contaminated sites, and/or those that have used an engineered approach such as a constructed landfill, dam, or dump, in case they fail to work as planned (e.g., melting permafrost can compromise the functioning of a frozen landfill).

Fifth, a few Expert Support interviewees mentioned that an FCSAP project closure report should be required for all sites. Currently the provinces of British Columbia, Ontario, and Quebec require, for provincial sites, project closure reports that summarize the original problem, the solution pursued, and any remaining risk or



concern that should be noted.

Finally, an Expert Support interviewee pointed out that where some sites are being risk managed (e.g., capping ground with a half metre of soil rather than removing all contaminated soil), no formal mechanism exists to ensure risk management and monitoring activities are uninterrupted in future years. Some provinces place a restrictive covenant or other instrument on land title identifying the risk-management requirements and/or areas. This mechanism ensures that any new property owner is aware of the contaminated area and his/her responsibilities for risk managing and monitoring. The Federal government has no such requirement. The likelihood of a risk managed area or requirement being overlooked in future years is significant, especially as federal Custodians have a considerable number of pending retirements and associated contaminated sites knowledge may be lost. Although record keeping is in place for the program, evaluators do not consider record keeping to be sufficient to avoid this risk.

Q 6: To what extent are FCSAP activities and outputs appropriately linked to shared outcomes and the overall horizontal mandate?

Finding: In general, program activities and outputs link appropriately to shared outcomes and the overall mandate. Custodial contaminated sites management plans, however, are not clear in demonstrating how actions of individual Custodians will contribute to the overall objectives of FCSAP.

The evaluation found a logical link between FCSAP activities, outputs and the outcomes desired by the program. The program's logic model was recently updated in Spring 2007.

FCSAP has greatly increased the financial resources at the disposal of Custodians to address contaminated sites. The resulting increase in funding has not only accelerated the management of contaminated sites, but has also contributed to a number of secondary program objectives, such as skill development and employment opportunities for people living in Canada's northern communities, technology development, and human resource development in the private sector.

Expert Support departments provide advice and develop tools to help Custodians complete more rigorous site assessments and make better-informed decisions



concerning the relative benefits of remediation and risk management. Health Canada for instance, has developed tools and provided advice to assist Custodians in addressing the concerns of the public at sites in close proximity to communities.

The evaluation found two weaknesses in the link between custodial activities and desired program outcomes. First, custodial contaminated sites management plans are not clear in demonstrating how actions of individual Custodians will contribute to the overall objectives of FCSAP. The Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons (March 2008), noted that except for DND, plans did not include a clear objective to contribute to the broader government objective of effectively eliminating the known liability related to contaminated sites by 2020. TBS has since issued updated guidelines to Custodians on what to include in their next round of management plans.

Second, circumstances beyond the control of FCSAP could break the link between remediation and the reduction of federal liability. It was pointed out by external scientific experts and private industry representatives that legal risks and potential impacts on the health care system are not reflected in liability estimates and do not reduce in step with remediation activities. For example, people who develop health problems who live (or lived) near a site that was remediated and whose liability was reduced to zero, may nevertheless sue the federal government if they believe the contaminated site caused their illness. However, in examining the link between remediation and the reduction of federal liability, it is important to note that the items to be included in a liability are governed by accounting standards set by the Canadian Institute of Chartered Accountants (CICA) which do not allow the recognition of liability in the financial statements of an entity to be based purely on speculations.¹² Therefore, it is not expected that Custodians account for these possibilities when estimating liability; however, it is an issue of which the Secretariat and FCS Steering Committee should be aware.

Q 7: Are all components of the FCSAP appropriately resourced?

Finding: Funding to assess and remediate sites is adequate in most cases, with two exceptions: DND's assessment funding needs often exceed the amount that the program can provide to them, and due to its large number of sites, DFO

¹² CICA Handbook: PS 3200.08

struggles to meet its obligation of the 80/20 program cost share.

Approximately 90% of annual FCSAP funding is directed to projects and the remaining 10% is allocated to expert support, management, and administration. Based on interviews with Custodians, the evaluation found that funding for site assessment and remediation is adequate, with two exceptions: DND, a Custodian with large and complex sites to assess; and DFO, a Custodian with the largest number of sites receiving FCSAP funding. DND representatives indicated that funding needs for assessment often exceed the amount that the program can provide. DFO representatives consider that because of its large number of sites, their department struggles to meet its obligation of the 80/20 program cost share.

Key informant interviews, case studies, and the document review revealed that Custodians and Expert Support have difficulty attracting and retaining staff to work on contaminated sites. Human resource gaps and difficulties in retaining staff are especially acute in the regions. A few Custodians regard FCSAP as a sun-setting program and choose to hire temporary staff, which makes it very difficult to attract highly skilled staff. The Giant Mine case study highlights the challenges in addressing sites with limited human resources. Even if the mine's remediation plan was in full swing, there would be ongoing concerns regarding staffing. A large part of the project team is either retiring or being reassigned (four out of seven people are leaving).

Key informants, particularly Expert Support, pointed out the need for money to develop more refined tools. Examples that were mentioned include terms of reference modules for site assessments, and soil screening criteria.

Expert Support representatives stated that resource redirections impact their ability to help Custodians adequately address risk. For instance, one Expert Support interviewee stated that they used to conduct site visits, which added considerable value to the Ecological Risk Evaluation Level II scoring process (ERE2), but due to budget redirections within their unit, they now conduct the majority of ERE2s from their office. However, resource re-directions within custodial and/or Expert Support departments are beyond the control of FCSAP.

Ensuring adequate human resources are in place to address contaminated sites is the responsibility of Custodians and Expert Support departments since FCSAP was



intended to accelerate the contaminated sites activities that Custodians were already pursuing. Recognizing the demands that FCSAP funding has placed on human resources within custodial groups and Expert Support departments, the FCSAP Secretariat has provided funding to address their challenges in managing the program (e.g., funding to hire staff).

Q 8: Is the funding process supportive of FCSAP objectives?

Finding: The receipt of FCSAP funding in October/November works against the program's objectives. FCSAP has made multi-year funding available to mitigate the problem.

Custodians and industry representatives stated that the timing of the receipt of FCSAP funding in the fall works contrary to remediation objectives, considering that most work must take place in summer months, especially at northern sites. A representative from an engineering firm who has worked on many contaminated sites over many years noted that not having FCSAP funding in the summer is a major problem for smaller departments that have limited funds to cash manage. It has been the interviewee's experience that the cash flow problem has completely stalled progress in some instances.

The timing of this funding is a result of the Government of Canada business cycle and is unfortunately beyond the control of FCSAP. The FCSAP funding cycle is also a result of the program requirement for annual project submissions. This centralized approach may have been appropriate in the original program design (FCSAAP) because of the need to ensure that very limited resources were directed only to a few highest-priority sites, but it may no longer be necessary.

Custodians can alleviate this problem to some extent by requesting multi-year funding; however, funding for the first year of the project will not be received until the fall, which will delay the start of work until the following spring unless the Custodian is willing to cash manage activities in the interim.

Q 9: Is the performance measurement sufficient?

Finding: Performance measurement is FCSAP's weakest point. Some



Custodians are having a difficult time in providing the FCSAP Secretariat with up to date and complete data on their activities and accomplishments. Correspondingly, annual reporting by the FCSAP Secretariat is behind schedule.

According to program documentation, Custodians are required to:

- Annually update a three-year Federal Contaminated Sites Management Plan;
- Set targets in their Contaminated Management Plans and report on their progress in reaching the targets;
- Demonstrate that they have established an appropriate management framework in accordance with TB Policy on Management of Real Property and requirements of FCSAP;
- Report annually to the FCSAP Secretariat on activities and expenditures related to the FCSAP program through IDEA;
- Report to TBS via FCSI; and
- Provide updated expenditures, liability and site status information through FCSI at least once a year consistent with Public Accounts reporting requirements.

Based on a review of FCSI and IDEA, the evaluation found that the structures of the FCSI and IDEA databases are appropriate and the range of information they capture is generally sufficient to measure the progress of the program. There are two pieces of information not captured in FCSI that would be helpful to the program. First, there is no field identifying a site as an FCSAP funded site. Second, unlike IDEA, which has a field that clearly states whether a project is completed or not, there is no field in FCSI that clearly identifies a site as requiring no further action. At the moment, sites are coded based upon their NCS Classification, namely, “action required”, “action likely required”, “action may be required”, “insufficient data”, or “action not likely required”. Custodians may close sites when no further action is required, but there can be a time lag between the point at which a site requires no further action and when it is closed.

The FCSAP Secretariat has developed several guidance documents to assist Custodians in the area of performance monitoring, measurement, and reporting requirements for FCSAP. For example, available documents for this review include: *Guidance for Completing the FCSAP Reporting Forms*, *Walkthrough for FCSAP Submission Process on IDEA*, and *Project Submission Procedures*. Despite these

guidance documents, some Custodians continue to struggle with reporting. Based on interviews with key informants concerning the quality and currentness of the information, and a review of both databases, the evaluation found that the information in IDEA and FCSI is inconsistent, and some Custodians have found it challenging to maintain up-to-date information in FCSI. Federal Custodians are required to report to the FCSI and certify annually the completeness and accuracy of their records in the FCSI, as stated in the mandatory TB Reporting Standard on Real Property. At the moment, certification is pending for three Custodians because it has not yet been confirmed if the liability information reported in FCSI matches that reported in Public Accounts. TBS has not accepted certification for another six Custodians because there are errors in their reported FCSI data. Furthermore, at the time this report was prepared (FY 2008–2009), certain Custodians were still entering site data for FY 2005–2006.

According to key informants, policy breaches occur when Custodians do not report their information in the required timeframes. Because the data is not reported in a timely fashion, it is difficult to reconcile the liability information reported in FCSI against what has been reported in the Public Accounts of Canada. The problem, it was explained, is that Custodians are not meeting reporting requirements because of tight deadlines coupled with confusion around liability estimates and public accounts reporting. Key informants from the FCSAP Secretariat observed that there seems to be a disconnect between the project level (i.e. Custodian or environmental consultant) and national headquarters level in the manner in which information is interpreted and reported. In response to this challenge, an FCSI interdepartmental working group was established to address issues and errors.

The FCSAP Secretariat produces a FCSAP annual report based mostly on IDEA data. However, due to limited staff to devote to developing an annual report, and inaccurate, incomplete and untimely data supplied by Custodians in the early years of the program, the 2005–2006 and 2006–2007 FCSAP annual reports were only recently developed. The evaluation found that the information in the annual report is useful in understanding the activities undertaken and progress achieved to date.

Q 10: To what extent has the FCSAP produced key outputs as planned?

Finding: In general, key outputs are being produced as planned. The delays in completing FCSAP annual reports and strategic plans stand out however.



Evaluators could not determine if the completion of site assessments is on pace, as it is not apparent that targets were set.

According to the FCSAP Logic Model, Environment Canada is responsible for producing a number of outputs, including procedures and tools; a risk ranking methodology; TB submissions, strategic plans and annual reports; technical training materials and workshops; and the IDEA database. Based on key informant interviews and document review, the evaluation found that these outputs have been produced as planned with two exceptions. Only one strategic plan has been developed for FCSAP (they were to be updated annually), and the FCSAP annual reports have not been developed and finalized as promptly as anticipated.

TBS has developed its outputs as planned, namely providing advice on funding eligibility and liability recording; and managing and improving FCSI, where required.

Expert Support departments have developed assessment protocols and ranking tools, and have assisted in developing risk scores for projects. They have also developed communications materials (HC); provided guidance, training materials, and workshops; and reviewed and approved risk scores. PWGSC has developed a number of project management tools and provides advice and services regarding the management of contaminated sites.

Custodians have produced outputs such as site assessments, risk assessments, liability estimates, annual reports, contaminated sites management plans, and reports in IDEA and FCSI. Despite the fact that some Custodians identified their planned site assessments in the contaminated sites management plans, evaluators could not determine whether site assessments are being conducted “as planned” because it is not apparent that targets at the program level were ever set.

Custodians made some suggestions for additional outputs, such as modifying the classification system and establishing guidelines for certain contaminants (e.g., zinc, nickel). A CSMWG sub-committee (Aquatic Sites Working Group) was created in 2007 to develop guidance for classifying, assessing and managing federal aquatic sites, and a Request for Proposal for the development of the classification system for aquatic sites is under way.

Expert Support representatives suggested that some additional outputs be targeted to



facilitate the achievement of horizontal outcomes, including stronger outputs in relation to site closure; a linking mechanism at a more senior level to ensure public involvement is in the assessment process; integrating precise engineering capabilities into the project assessment process; and, stronger focus on communication tools/public involvement.

3.2 Success

Q 11: To what extent has the FCSAP achieved immediate outcomes?

a) Increase in the number of Class 1 & 2 federal contaminated sites for which remediation/risk management plans are being developed or have been developed and/or implemented.

Finding: Remediation/risk management plans were developed for 59 projects in 2006–2007. The number of sites undergoing remediation or risk management increased from 126 sites in 2005–2006 to 424 sites in 2006–2007.

According to the IDEA database, remediation/risk management action plans were developed for 59 projects in 2006–2007 (similar data is not available for 2005–2006).

From the FCSAP Annual Reports (2005–2006 and 2006–2007), we can see that the number of projects undergoing remediation or risk management has increased. In 2005–2006, 89 projects representing 126 sites were funded, and by 2006–2007, the number of projects had increased to 210 (424 sites). Approximately one-third of these projects are DFO light stations.

Exhibit 3.3 – Number of Remediation/Risk Management Plans Developed and Projects Funded

	2005– 2006	2006– 2007
Number of Remediation/Risk Management Action Plans Developed	N/A	59
Number of Remediation/Risk Management Projects (Sites) Funded	89 (126)	210 (424)

Source: FCSAP Annual Reports, 2005–2006 and 2006–2007; and IDEA database

The 2007–2008 reporting data has not been finalized in IDEA at the moment.



b) Greater reliability of FCSI and financial liability estimates.

Finding: Custodians remain uncertain regarding the proper practice for estimating financial liability, and there has been a tendency to underestimate liability to date.

Custodians indicated some degree of uncertainty with the current practice for estimating financial liability. Some interviewees from Expert Support departments reported that the process for liability estimation is still being refined and suggest that the quality of estimation will improve as the refinement process proceeds.

Some respondents stated that it is difficult to really know what the remediation cost will be until remediation work is in progress, and the estimated value is likely to vary from the initial estimate. These statements were supported by a review of FCSI data that revealed that more than half of the sites that first received FCSAAP funding in 2003–2004 and 2004–2005 have since had their liability adjusted. The review also found that site liability has been adjusted up two to three times more often than it has been adjusted down, suggesting that there has been a tendency to underestimate liability to date.

A liability expert who was interviewed indicated that the federal government uses a different approach to estimate liability, compared to private industry and provincial and municipal clients. The FCSAP approach is to assess multiple sites as one project. Clients usually only include one property (which may be quite large). In addition, the method of ranking sites is particular to the federal government, and the process for moving from identifying a site that may be contaminated to liability estimation moves more quickly for non-federal properties.

Another liability expert suggested that other methods could be applied to limit the variability in liability estimation. Custodians use standard Environmental Site Assessment (ESA) to determine liability, which can increase variability. Other jurisdictions (e.g., the United States) use more structured methods. For example, a liability expert mentioned that the University of Tennessee uses an approach that combines risk assessment with sampling regimes, and geographic information systems (GIS).

Despite these challenges, it appears that estimates are gradually becoming more



reliable over time as the program matures and more site assessments are completed. There are at least two sources of evidence to support this finding. First, as sites continue through the assessment process, adjustments are made to liability, so, over time, the estimates become more reliable. Second, most interviewees stated that they believe that the estimates are becoming more reliable.

c) More accurate picture of federal contaminated sites, ranked according to human health and ecological risks.

Finding: The picture of federal contaminated sites is more accurate today than when FCSAP began.

Through the identification of potentially contaminated sites by custodians and the funding of projects by FCSAP, the picture of federal contaminated sites is becoming clearer with regard to the number of sites, the extent of contamination, and the estimated federal liability. . For example, in 2006–2007, FCSAP funded 500 projects, up from 281 projects in 2005–2006.

Exhibit 3.4 – Number of FCSAP Projects Funded¹³

Projects	2005– 2006	2006– 2007
Assessment	183	280
Care and Maintenance	9	10
Remediation/Risk Mgmt	89	210
TOTAL	281	500

Source: FCSAP Annual Reports (2005–2006 and 2006–2007)

Site assessment in particular is key to clarifying the picture of contaminated sites in Canada. According to the FCSAP Annual Report (2006–2007), 48% of sites assessed indicated the need for more investigation; 14% indicated that they require remediation or risk management activities; and 38% required no further action.

Custodian reporting in FCSI also revealed that more and more sites are reaching and completing remediation and/or undergoing monitoring, which also supports the

¹³ It should be noted that DFO projects often consist of several properties, which contain many sites. For example, for the assessment in 2006–2007, FCSAP funded 36 DFO projects which comprised 650 sites.

finding that the picture of federal contaminated sites is becoming clearer. As illustrated in Exhibit 3.5, the number of sites reported in FCSI to have completed Step 7 or higher continues to increase.

Exhibit 3.5 – Highest Step Completed

Step Completed	Number of Sites	
	Reporting at end of FY2005–2006	Reporting as of July 8, 2008
Step 7	95	105
Step 8	53	68
Step 9	18	26
Step 10	1	3

Source: FCSI

Because assessment and remediation can be a long and involved process, progression through the ten steps can take many years. A review of FCSI data revealed that most sites move less than one step per year, and many have to move backward to do more assessment. Despite the long and involved process of addressing contaminated sites, federal liability is gradually being reduced. A review of FCSI data¹⁴ reveals that remediation expenditures for FCSAP sites that directly reduced federal liability were \$78.1 million in 2005–2006, \$148.3 million in 2006–2007, and \$135.5 million in 2007–2008. The discovery of new sites and upward adjustments to liability work against the above liability reductions. The net result, according to the FCSAP Annual Report (2006–2007), is that federal liability for FCSAP funded sites decreased by \$69.4 million from March 2006 to March 2007.

d) Increased availability and awareness of nationally consistent management and communications tools to address highest risk sites.

Finding: A number of tools have been developed and made available to assist Custodians in managing projects and communicating with public stakeholders. Awareness and use of these tools is generally good, but could be higher.

¹⁴ The review of the FCSI database was conducted on July 8, 2008.

Evaluators discussed management's availability and awareness as well as communication tools with the FCSAP Secretariat, Expert Support, Custodians, and private sector consultants. From these discussions it became apparent that Health Canada's tools and guidance to assist Custodians to manage communications with community stakeholders are generally highly regarded.

PWGSC has developed many tools to assist Custodians in project management, such as Project Initiation, Procurement Planning, Risk Management, and Quality Planning. The evaluation found that not all Custodians use project management and communication tools. A number of projects take place a great distance from communities, so tools to communicate with the public are sometimes not used. A few Custodians are of the opinion that the effort associated with learning and using PWGSC project management tools is not justified if they only manage a few sites. At the other end of the spectrum, some Custodians with many and/or large sites developed their own project management tools before FCSAP began.

Q 12: What is the likelihood that FCSAP will be able to achieve the anticipated intermediate outcomes within the timeframe indicated? What will be the anticipated challenges/barriers to achieving and/or demonstrating these intermediate outcomes?

Q 13: At this stage, what external factors have contributed to, or detracted from, FCSAP's level of success?

Finding: The likelihood that the FCSAP objective of eliminating (or reducing as much as possible) the federal liability by 2020 is challenged by various factors, including the sheer number of sites that must be assessed; a lack of qualified consultants, lack of custodial and Expert Support staff; and the remote location of many sites.

The evaluation found that while some Custodians appear confident that they can remediate all their sites by 2020, others are not. Correspondingly, the program may need to be extended beyond 2020.

The evaluation identified factors that have contributed to the success of FCSAP to date. Key informants reported that external consultants contribute to FCSAP success

by coordinating workshops and providing training. Other positive forces include the work of the FCSAP Secretariat and other levels of government. For example, provincial governments reportedly support divestiture activities and establish provincial guidelines for environmental assessment.

A number of internal factors detract from the results that FCSAP can achieve. Expert Support representatives pointed out that a key barrier to progress is the insensitivity of the NCS site scoring approach. For instance, sites can be very different in terms of the severity of contamination and risk but receive the same NCS score. The concern of many Expert Support representatives is that the sites being remediated are not necessarily the most critical ones. These concerns are mitigated to some extent due to the fact that sites must meet basic eligibility criteria, and, to date, all sites determined to be NCS Class 1 or 2 have received funding.

A lack of human resources within the government is a key factor limiting the progress of the program, according to Custodians and Expert Support. It is reportedly challenging to fill staff positions even when the resources are available.

DFO Expert Support pointed to lack of communication and integration of information across custodial sites, the need for stronger relationships between regions and national headquarters, and the need for better buy-in/cooperation from Custodians, as internal factors limiting the progress that FCSAP can achieve. In their 2006–2007 Expert Support Activities Report, Health Canada noted that Custodians were experiencing difficulty with the completion of the Human Health Preliminary Quantitative Risk Assessment (PQRA), and required more training, as “there were still a few [that] were very poorly completed PQRAs that required considerable input and effort by HC to be able to score and rank the site.”

In the online consultation with industry, firms indicated there were a number of challenges in making substantial progress toward outcomes desired by FCSAP¹⁵. For instance, the discovery of new sites will work against decreasing the number of Class 1 and Class 2 sites. Other challenges mentioned by firms included: the perception that procurement processes are slow; involving multiple stakeholders tends to slow down progress; the age of initial site data can be quite old and require

¹⁵ It should be noted that the challenges described in this section are not unique to FCSAP and are faced by other entities attempting to address contaminated sites.

updating; some large sites may never be fully remediated and must undergo care and maintenance; and the cost of reassessing sites to keep up with the new and ever - changing Health Canada and Canadian Council of Ministers of the Environment guidelines.

A number of factors outside of the control of FCSAP detract from the results it can achieve. For example, the INAC Congress of Aboriginal Peoples Review 2002–2006 indicated that INAC “faces a number of challenges that will impact its ability to meet the objectives, including: 1) Climate changes are making the window of opportunity to put in winter roads very small; 2) An increase in commodity prices is resulting in higher demand for resources, both human and equipment, and in turn is reducing supply and increasing costs; and 3) Time and money must be consumed on agreement with local governments and the negotiation of land claims.”

Several case studies such as FOX-M DEW Line, demonstrated that northern site locations are challenging due to poor weather, long winters, and infrequent sea and plane lifts. In the case of Giant Mine, significant community pressure has stalled a remediation plan for the mine.

Other detracting factors beyond the control of the program include insufficient human resource capacity in firms that are qualified to conduct FCSAP work. A lack of qualified practitioners with the required expertise was reported to be a challenge for Custodians looking for assistance on contaminated sites projects.

Q 14: Have there been any unanticipated results, either positive or negative, that can be attributed to the program? If so, how were they addressed? If so, to what extent are these results related to the FCSAP being a horizontal initiative?

Finding: The discovery of contamination on sites in close proximity to FCSAP sites has been an unanticipated result. Progress has also been made toward achieving secondary objectives such as employment opportunities for residents in northern communities, and developing and adopting innovative approaches to remediation and risk management.

The evaluation found that one unanticipated program result has been the discovery of sources of contamination that Custodians did not intend to target. For example,



contaminants have been found on properties that are not Crown responsibility, which are in close proximity to FCSAP sites. This is positive because these sources might not have otherwise been discovered.

The evaluation identified a number of secondary FCSAP objectives. Some positive economic opportunities and capacity building were identified for Aboriginal communities in the North. The cleanup of the DEW Line sites in particular has been an excellent skills training ground for the Inuit community. It should be noted that the high level of aboriginal employment on FCSAP projects in certain regions is the result of requirements of various land claim agreements, and hence the benefits that flow from this employment are not solely attributable to FCSAP.

The skills that Aboriginal people have learned on DEW Line cleanup are transferable to other professions such as mining, according to Custodians and industry representatives who have worked on these contaminated sites. Furthermore, training programs have been developed for workers in northern communities (e.g., heavy equipment operators, etc.), which have created more qualified workers. Now that this benefit has been recognized, a few respondents suggested better planning and coordination to train local people in remote communities.

Other positive impacts include the sharing of information that occurred through bringing together different Custodian and Expert Support departments. Synergies and coordinated efforts have occurred through national workshops, as networking and information sharing occur between departments and regions. Stakeholders have also coordinated the sharing of equipment and human resources in remote regions, which is very effective in reducing costs. In addition, awareness has been raised to the point where Custodians have become proactive in preventing new site contamination, and an increase in ecological integrity is being recognized in departmental activities outside of FCSAP.

Another key impact of the FCSAP has been to encourage the provinces and municipal governments to become more active on the contaminated sites front. In some cases, these governments have implemented more stringent standards than the federal government.

Some innovative technologies and approaches to remediation have been developed



and implemented on FCSAP sites. For instance, a land farming approach is in place at FOX-M DEW Line where the soil covering the landfill is turned once per week to break down hydrocarbons faster. Bacteria are added to the soil to help break hydrocarbons into carbon dioxide and water. In addition, berms were constructed around the landfill to freeze contaminated soil in place.

According to some industry representatives, the program has served as a great training ground for consultants and engineers. This assertion was confirmed in program documentation which stated that the demand for skills and services generated by FCSAP has helped create new jobs in the environmental industry and projected that employment in this sector will at least double over the life of the program.



4.0 Conclusions and Recommendations

This section concludes on the findings of the evaluation and makes recommendations for management to consider.

4.1 Design and Delivery

Governance

The evaluation concluded that the governance structure of FCSAP is appropriate and the roles of the FCSAP Secretariat, Expert Support, Custodians, and CSMWG are clear and well understood. Two deviations from the original plan for FCSAP have occurred.

First, the bi-annual meetings of the FCS Steering Committee, which were intended to provide oversight and strategic direction for FCSAP, have become a venue where the operational issues of FCSAP are discussed by DGs and Directors who attend in place of ADMs. The meeting agendas, set by the FCSAP Secretariat, and the formal nature of the meetings are not conducive to raising and discussing strategic issues. Despite the low ADM attendance at Steering Committee meetings, the evaluation did not find any evidence that the program has suffered.

Second, a Third Party Expert Panel whose purpose was to provide the program with an external perspective and independent advice has not been implemented. The evaluation found that no key strategic issues have yet arisen for a panel to discuss. However, there might be merit in seeking expert external advice when planning the post-2010 period of FCSAP.

Recommendation 1: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider adjusting the FCS Steering Committee from an ADM level to a DG level committee. The discussion of strategic issues should be a regular agenda item for Steering Committee meetings.

Recommendation 2: The FCSAP Secretariat should consider seeking the advice of external experts when developing strategies for the post-2010 period of the



program.

Allocating Resources and Addressing Risk

The evaluation found that the program has well-documented procedures, standards for assessing risk, a risk ranking methodology, and other related guidance documents produced by experts in the field. In general, resources are allocated to the projects of highest priority. Factors such as external influence and risk assessments conducted by inexperienced consultants can cause resources to be misallocated, but these instances are rare.

The evaluation revealed that Custodians have tended to err on the side of caution and proceed with remediation when more cost effective risk management approaches could have been pursued. To assist Custodians in making these difficult decisions, the FCSAP Secretariat and a consultant are currently developing a Decision-Making Framework that is slated for release in March 2009.

Some FCSAP projects are particularly large and utilize a considerable share of resources. These projects pose considerable risk to the program. While the progress of a few projects has been peer reviewed (e.g., Faro Mine), most have not.

Recommendation 3: For very large projects, the FCSAP Secretariat should consider requiring peer review of remediation/risk management plans and progress. External experts or interdepartmental representatives could be drawn upon to undertake the peer review. Large projects could be considered those in excess of a certain dollar level of liability or ranking score.

There are other initiatives that FCSAP could pursue to ensure that resources are utilized effectively. A remediated site that was heavily contaminated or that used an engineered approach such as constructing landfills, dams, or dumps may continue to pose risks. For instance, climate change may compromise the functioning of a frozen landfill in future years. At present, FCSAP does not require these sites to be monitored.

Recommendation 4: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider making long term periodic monitoring mandatory for the most contaminated FCSAP sites.



To reduce risk, FCSAP should consider adopting a number of practices encouraged by certain provinces. Currently, the closure reports on provincial sites required by the provinces of British Columbia, Ontario, and Quebec provide useful summaries of the original problem, the solution pursued, and any remaining risks or concerns that should be noted. In addition, some provinces place a restrictive covenant or other instrument on land title identifying the risk-management requirements and/or areas. This mechanism ensures that any new property owner is aware of the contaminated area and his/her responsibilities for risk managing and monitoring.

Recommendation 5: The FCSAP Secretariat should consider making project closure reports mandatory for all FCSAP projects.

Recommendation 6: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider making restrictive covenants on land titles mandatory for FCSAP sites that are being risk managed or monitored.

Program Funding and Human Resources

The evaluation found that funding for projects is adequate in most cases. The exceptions are DND, whose demands for assessment funding often exceed the amount that the program can provide, and DFO, whose many sites make it difficult for them to meet their obligation of the 80/20 cost share with FCSAP. The cost sharing formula between FCSAP and custodians is generous, however. For projects over \$10 million, the cost share rises to 90/10, and in exceptional circumstances, projects can be entirely funded by FCSAP. Correspondingly, the financial challenges that a few custodians face in addressing contaminated sites are the result of competing priorities within departments, rather than insufficient FCSAP funding.

The evaluation found that the time of the year when Custodians receive FCSAP funding (October/November) creates project delays for most Custodians. Custodians can mitigate this problem somewhat by requesting multi-year funding. Unfortunately, the timing of the funding is a result of the Government of Canada business cycle and beyond the control of the FCSAP Secretariat.

Attracting and retaining staff who are qualified to address contaminated sites is another challenge that Custodians and Expert Support departments face. The FCSAP Secretariat has provided some program management funding to FCSAP participants;



however, it is ultimately the responsibility of Custodians and Expert Support departments to ensure that they have adequate staff to address their contaminated sites. In coming years, the relative priority that Custodians and Expert Support departments give to federal contaminated sites will determine the pace at which federal liability can be reduced.

Reporting

The structures of the FCSI and IDEA databases are appropriate and the range of information they capture is sufficient to measure the progress of the program. There are two pieces of information not currently captured in FCSI that would be helpful to the program. The first would be a field identifying a site as an FCSAP funded site, and the second would identify a site as requiring no further action.

Recommendation 7: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider adding the capability for FCSI to identify a site as an FCSAP funded site, and to identify a site requiring no further action.

Although most Custodians are meeting their contaminated sites reporting responsibilities, a few are not. A lack of timely and accurate reporting by six Custodians is making it difficult for the FCSAP Secretariat to fully measure, understand, and communicate the achievements of the FCSAP to date. Despite the efforts of the FCSAP Secretariat to provide guidelines and training on reporting, these Custodians are not meeting their reporting responsibilities. The six Custodians in question have errors in their FCSI data that have yet to be reconciled (some date as far back as the 2005–2006 fiscal year) and/or have liability data that differ from what was reported in Public Accounts. In an era when the federal government is placing increasing importance on accountability and results, it is important to ensure that Custodians' contaminated sites data in the FCSI is complete and up-to-date.

Recommendation 8: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider various processes that could be implemented to ensure that Custodians improve the quality and timeliness of both IDEA and FCSI data reporting.

Recommendation 9: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, should consider providing additional guidance, training and



costing model/templates to help Custodians provide more accurate and consistent liability estimates for projects.

4.2 Success

Progress Toward Immediate Outcomes

The evaluation found that FCSAP has demonstrated progress toward immediate outcomes. A number of tools have been developed and made available to assist Custodians in managing projects and communicating with public stakeholders. Health Canada tools for communicating with the public seem to be highly regarded by Custodians. Awareness and use of these tools is generally good, but could be somewhat higher.

The number of FCSAP projects funded has increased from 281 in 2005–2006 to 500 in 2006–2007. Many projects have completed assessment and are now undergoing remediation or risk management activities. The number of remediation or risk management projects funded by FCSAP has increased from 89 to 210, and the number of sites that have reached Step 7 or higher has increased from 167 to 202 over that same time frame.

Based on an analysis of FCSI data, the evaluation found that remediation activities reduced federal liability at FCSAP funded sites by \$361.9 million from 2005–2006 to 2007–2008, according to FCSI. Upward liability adjustments for existing sites and the discovery of new sites have combined to offset liability reductions associated with remediation activities somewhat. The net result has been a \$69.4 million reduction in federal liability associated with federal contaminated sites from March 2006 to March 2007.

The evaluation found that liability estimates are being adjusted over time as more is known about the extent of contamination of sites; however, there remains some degree of uncertainty by Custodians regarding the proper practice for estimating financial liability. Liability experts consulted during the evaluation revealed that other approaches exist that may reduce the variability and uncertainty surrounding the estimation of liability. At the moment, TBS is consulting with liability experts to determine if it would be advantageous for FCSAP to adopt certain elements of other approaches to contaminated site liability estimation.

Challenges to Achieving Outcomes

Although the work of consultants and the FCSAP Secretariat have contributed to FCSAP success, the sheer number of sites that must be assessed; a lack of qualified consultants, a lack of Custodial and Expert Support personnel; and the remote location of many sites limit the progress that FCSAP can achieve. The evaluation concluded that the FCSAP objective of eliminating (or reducing as much as possible) the federal liability by 2020 should be re-examined given the number and complexity of sites that need to be addressed. Currently, the program has not developed an estimate of the number of years required to address all sites.

Recommendation 10: The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider requesting that Custodians articulate in their contaminated sites management plans estimates of the number of sites they have remaining to assess, how many sites they anticipate assessing each year until all sites have been assessed, and their best estimates for when no further action will be required for these sites.

Recommendation 11: The FCSAP Secretariat, in cooperation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider undertaking a comprehensive horizontal program capacity/resource assessment; where gaps emerge, determine risks and develop strategies to address them.



5.0 Management Response

This section presents the management response to address the evaluation recommendations.

Recommendation 1

The Federal Contaminated Sites Action Plan (FCSAP) Secretariat, in co-operation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider adjusting the FCS Steering Committee from an ADM-level to a DG-level committee. The discussion of strategic issues should be a regular agenda item for Steering Committee meetings.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree in principle with the recommendation. Given that the existing ADM-level committee is a Cabinet- and Treasury Board-approved governance structure, changes to its mandate cannot be accomplished under the current program. A DG-level committee has been created to provide additional management support during the development and implementation of the renewed program. Proposed changes to the governance structure will be considered as part of the post-2010 FCSAP program renewal, including a continuing role for the DG-level committee.

Recommendation 2

The FCSAP Secretariat should consider seeking the advice of external experts in developing strategies for the post-2010 period of the program.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. As part of the FCSAP program renewal, the FCSAP Secretariat will establish an interdepartmental committee representative of key stakeholders in early 2009 to identify key program issues for the post-2010 period. External experts will then be consulted on significant strategic issues.

Recommendation 3

For very large projects, the FCSAP Secretariat should consider requiring peer review of remediation/risk management plans and progress. External experts or interdepartmental representatives could be drawn upon to undertake the peer review. Large projects could be defined as those in excess of a certain dollar level of liability or ranking score.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. In FY 2009-10, the FCSAP Secretariat will undertake a review and gap analysis of existing peer review practices for large FCSAP projects, defined as projects being 100% funded by the FCSAP or having total project expenditures of over \$10 million. Requirements for additional internal or external peer review of large FCSAP projects will be identified and considered as part of FCSAP program renewal.

Recommendation 4

The FCSAP Secretariat, in co-operation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider making long-term periodic monitoring mandatory for the most contaminated FCSAP sites.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the intent of the recommendation and support long-term periodic monitoring for the most contaminated FCSAP sites. However, the ability to make such monitoring mandatory is constrained by the Federal Real Property and Federal Immovables Act which gives Ministers responsibility for the administration of their department's real property:

18. (1) Any federal real property or federal immovable acquired or leased for the purposes of a Minister's department, including any such property acquired by way of a transfer of administration and control from Her Majesty in any right other than Canada, is under the administration of that Minister for the purposes of that department.

As a result of this Act, departments have an enduring responsibility for the management of their contaminated sites. The FCSAP program, on the other hand, has a fixed time horizon, so the inclusion of additional mandatory requirements would



not be sustainable beyond the life of the program. It is, therefore, not within the authority of the FCSAP Secretariat nor the Treasury Board Secretariat, Real Property and Materiel Policy Division, to make long-term monitoring mandatory for any federal contaminated site.

However, the FCSAP Secretariat is currently developing a decision-making framework that will, among other things, assist custodians in evaluating the possible need for long-term monitoring on federal contaminated sites receiving funding under FCSAP. This decision-making framework is expected to be approved by the FCS Steering Committee in 2009-10. The Treasury Board Secretariat, Real Property and Materiel Policy Division, in FY 2009-10 will also investigate the feasibility of tracking long-term monitoring on federal contaminated sites using the Federal Contaminated Sites Inventory (FCSI) .

Recommendation 5

The FCSAP Secretariat should consider making project closure reports mandatory for all FCSAP projects.

Management Response

The FCSAP Secretariat agrees with the recommendation. In 2009, the FCSAP Secretariat will ask that PWGSC Expert Support develop an appropriate FCSAP closure report template and guidance document for roll-out in the post-2010 period of FCSAP.

Recommendation 6

The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider requiring the mandatory application of restrictive covenants to land titles for FCSAP sites that are being risk-managed or monitored.

Management Response

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees in principle with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, recognizes the merit of introducing such a concept to ensure that future landowners are well informed of the environmental condition of federal real property as well as any monitoring or risk management requirements that may impact future land use.

The Treasury Board's Directive on the Sale or Transfer of Surplus Real Property already requires that, prior to seeking an indication of interest in a surplus property, custodians provide interested parties with sufficient information, including the property's environmental and physical condition (section 6.4). It is necessary to examine the feasibility of the application of restrictive covenants to federal real property. The Treasury Board Secretariat, Real Property and Materiel Policy Division, will undertake a more thorough examination of the opportunities and constraints of implementing such a mechanism in consultation with the Department of Justice Canada in the 2009–2010 fiscal year.

Recommendation 7

The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider allowing the FCSI to identify a site as a FCSAP-funded site, and to identify a site as requiring no further action.

Management Response

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, has established an interdepartmental working group to explore issues relating to the future improvement of the FCSI. The two issues identified in the recommendation have also been highlighted by the working group and solutions will be implemented in 2009.

Recommendation 8

The FCSAP Secretariat, in co-operation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider various processes that could be implemented to ensure that custodians improve the quality and timeliness of both the Interdepartmental Data Exchange Application (IDEA) database and FCSI data reporting.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, agree with the recommendation. Accurate and timely information supports the measurement and communication of the achievements of the FCSAP program.

Steps have already been undertaken to identify and address data quality issues in



IDEA and the FCSI. Some of these include enhanced training for reporting in IDEA, timely calls for FCSAP program reporting in IDEA, the creation of an FCSI interdepartmental working group, and the creation of conditional frozen allotments for future FCSAP funding for custodians with extensive and ongoing data quality issues in the FCSI. The FCSAP Secretariat is also planning to undertake a program data management survey and gap analysis in 2009 to identify areas for improvement in data management between the FCSI and IDEA, such as opportunities for potential system harmonization in order to ease the reporting burden on custodians.

Recommendation 9

The FCSAP Secretariat, in co-operation with the Treasury Board Secretariat, should consider providing additional guidance, training and costing models/templates to help custodians provide more accurate and consistent liability estimates for projects.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat agree with the recommendation. The FCSAP Secretariat is planning to carry out a scoping exercise in 2009 to define the issues and risks related to the reporting of environmental liability estimates in support of the FCSAP program. However, given that the policy responsibility for the accounting of environmental liability rests with the Office of the Comptroller General (OCG) at the Treasury Board Secretariat, the FCSAP Secretariat will work closely with the OCG to develop additional guidance, training, and costing models/templates, to ensure that they will be in line with the new Treasury Board Financial Management policy directions and accounting guidance.

Recommendation 10

The Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider requesting that custodians articulate, in their contaminated sites management plans, estimates of the number of sites they have remaining to assess, how many sites they anticipate assessing each year until all sites have been assessed, and their best estimates as to when no further action will be required for these sites.

Management Response

The Treasury Board Secretariat, Real Property and Materiel Policy Division, agrees with the recommendation. The Treasury Board Secretariat, Real Property and Materiel Policy Division, will undertake a review of the drafting guidance and revise as required for the next call for Contaminated Sites Management Plans (Spring 2009).



Recommendation 11

The FCSAP Secretariat, in co-operation with the Treasury Board Secretariat, Real Property and Materiel Policy Division, should consider undertaking a comprehensive horizontal program capacity/resource assessment and, where gaps emerge, determine risks and develop strategies to address them.

Management Response

The FCSAP Secretariat and the Treasury Board Secretariat, Real Property and Materiel Policy Division, partially agree with the recommendation. The scope of this recommendation involves undertaking activities that are well beyond the current roles and responsibilities of the FCSAP Secretariat or the Treasury Board Secretariat, Real Property and Materiel Policy Division.

However, as part of the post-2010 FCSAP program renewal, an assessment of the existing FCSAP program's human resource issues and gaps will be considered, particularly with respect to the future allocation of departmental program management, Expert Support and FCSAP Secretariat resources. Strategies will be examined to respond to any gaps or program-level risks identified through this analysis.

Appendix A: Participants in Key Informant Interview Programme

Key Informant Interviews



Department	Number of Regions Represented	Number of Individuals Interviewed
FCSAP Secretariat (n=7)		
Environment Canada	1	3
Treasury Board Secretariat	1	4
Expert Support (n=21)		
Environment Canada	5	7
Fisheries and Oceans Canada	4	6
Health Canada	4	5
Public Works and Government Services Canada	3	3
Custodians (n=25)		
Fisheries and Oceans Canada	6	14
National Defence	1	5
Transport Canada	6	6
External (n=22)		
External scientific experts	N/A	5
External liability estimations experts	N/A	3
Industry representatives	N/A	10
Community representatives	N/A	1
Other	N/A	3
Total:		75

Appendix B – List of Background and Supporting Documentation Cited in Findings

1. Communication of Information on the Use of Innovative Technologies at FCSAP Sites Opportunities for Innovative Technology Uptake (2006)
2. Department of Fisheries and Oceans, Expert Support Activities Report 2006–2007 (2007)
3. Department of Fisheries and Oceans Expert Support, Annual Progress Report 2005–2006 (2006)
4. Department of Fisheries and Oceans Contaminated Sites Management Plan 2006–2007 to 2009–2010 (2006)
5. Environment Canada Secretariat and Expert Support Activities, 2005–2006 Annual Report (2007)
6. FCSAP Treasury Board Submission (2005)
7. FCSAP Treasury Board Submission (2006)
8. Federal Contaminated Sites Action Plan Draft Annual Report 2005–2006 (2007)
9. Guidance Document on Accounting for Costs and Liabilities Related to Contaminated Sites (DFO, March 2006)
10. Guidance for Completing the FCSAP Reporting Forms for FY 2006-2007
11. Health Canada, Contaminated Sites Division, Annual Report 2005-2006 (2007)
12. Health Canada, Expert Support Activities Report 2006-2007
13. Indian and Northern Affairs Contaminated Sites Program Review 2002-2006 (2007)
14. Office of the Auditor General of Canada: Report of the Commissioner of the Environment and Sustainable Development to the House of Commons: Chapter 4 Sustainable Development Strategies, Action of Strategy Commitment (2006)
15. Office of the Auditor General of Canada: Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons: Chemicals Management Chapter 3: Federal Contaminated Sites (2008)
16. Memorandum to Cabinet: Long-Term Management of Federal and Shared Responsibility Contaminated Sites (March 15, 2005)
17. Project Submission Procedure guidance document
18. Results-based Management Accountability Framework (Annex B, Treasury Board Submission, 2006)



19. Risk Ranking Methodology guidance document
20. Taking Action on FCS: A Strategic Plan 2006-2010 (Annex C, Treasury Board Submission, 2006)
21. Transportation in Canada 2006, Annual Report (2006)
22. Walkthrough for 2006–2007 FCSAP annual reporting in IDEA





Appendix C: FCSAP Logic Model

