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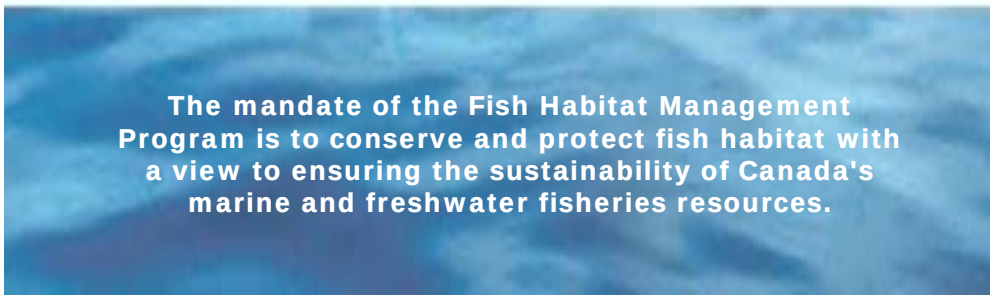
Federal Contaminated Sites Accelerated Action Plan

DFO Expert Support
Annual Progress Report

2004-2005




Canada



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EXECUTIVE SUMMARY

This report provides information for the Fiscal Year 2004-05 on the Department of Fisheries and Ocean's (DFO) Expert Support activities and progress made during the second year of the Federal Contaminated Sites Accelerated Action Plan (FCSAAP). Annual reporting to the FCSAAP Contaminated Sites Steering Committee (through the Secretariat), is a program requirement, but also serves as a means for DFO Expert Support to gauge its own progress, adjust future work planning and to better deliver its specialist advice.

FCSAAP was established by the Government of Canada in April 2003 to address the federal financial liability for federal contaminated sites estimated at about $3 billion. In addition, these sites pose risks to human health and the environment. DFO provides advice targeted at identifying, assessing, preventing, mitigating and remediating harm to fish and fish habitat associated with federal contaminated sites.

Building on progress in 2003-04, DFO's science-based and technical advice and guidance was provided to custodial federal departments, the FCSAAP Secretariat and others on sites undergoing FCSAAP work started in 2003-04 and sites added in 2004-05 as a result of new proposals. FCSAAP now is active at 58 priority sites, up from 19 sites in 2003-04.

Through a variety of mechanisms and fora (like the Contaminated Sites Management Working Group – CSMWG), and day to day communications, DFO further developed relationships with major custodial departments, such as DND, and INAC, and with partner advisory departments, like HC and EC . These relationships are the underpinning of an effective program, as multi-disciplinary teams can best address the specific challenges created by contaminated sites. Each site is unique, but approaches and plans have a common structure. However, different issues, one such being the presence of fish and fish habitat, directly or indirectly affects the way contaminants are managed. Flexibility and development of a common tool box are key to successful prevention and site remediation. Our relationship-building focus throughout 2004-05 resulted in better internal communications and a greater awareness and reliance on DFO expert support by those custodians seeking our advice.

To illustrate progress, the report includes some representative case studies. These are:

- The Parks Canada-Maintenance Compound-Glacier National Park, BC;
- The Giant Mine, near Yellowknife, NWT;
- Saglek, on the north coast of Labrador, NL; and
- The Canadian Forces Base Greenwood, Greenwood, NS.

The DFO Expert Support annual workshop took place in March, 2005 in Vancouver, and brought together DFO FCSAPP personnel for orientation and provided a forum for FCSAAP training.

Accountability is a major requirement of the FCSAAP program. This can only be achieved through good information management and reporting practices. DFO Expert Support utilized, in part, the capabilities of the HRTS System (Habitat Referral tracking System) for these purposes, with a look forward to the development of a data

management system in the near-future dedicated more exclusively to DFO's FCSAAP Expert Support role.

In 2004-05, DFO received $2 million and 12 Full Time Employees to deliver its role under FCSAAP Expert Support.

1. INTRODUCTION

This 2004-05 Report builds on the accounting of FCSAAP performance described in the previous Annual Report. DFO provided diverse expert support on an increasing number of contaminated sites to federal departments that are custodians of contaminated sites, federal agencies that provide program administration, and on occasion to outside agencies or groups. DFO peer reviewed site risk assessments relative to fish habitat and fish and conducted site reconnaissance where it was felt information was lacking. DFO advised on best practices and remedial measures for reclamation of small (light stations) to larger (abandoned mines) sites to risk managing some of the more extensively contaminated high risk sites in more remote locations. DFO began to develop and to apply tools to monitor its own Expert Advice progress. DFO also continued to build relationships with custodians (including Departments, such as Transport Canada and National Defense, Agencies, Crown Corporations and other federal organizations responsible for federal lands), and to develop expert networks within and outside of DFO, specifically with partner departments, EC, HC and TBS through the Contaminated Sites Working Group, day to day communications, and by staging opportunities such as the March, 2005 Vancouver Workshop.

For example, in 2004-05, DFO used its FCSAAP resources to:

- Further develop the national DFO Expert Support program housed in the Habitat Management Program in conjunction with the Departmental vision, policy and objectives;
- Focus on the development, improvement and application of science-based risk assessment tools within the Department and in conjunction with expert support sister agencies housed in HC and EC;
- Develop the network of expertise within the Department, through training, ongoing communication among regions, and workshops/meetings;
- Implement and refine long-term work plans from the action plan developed in 2003-04;
- Create and refine accountability structures;
- Deliver specialist expert advice to custodial departments on 58 (55 fully funded, one funded part way through the year and two unfunded) priority sites, up from 19 sites in 2003-04;

- Provide peer reviews on custodial department's funding proposals and when required, on reclamation plans, site assessments, stewardship initiatives and regulatory compliance to custodial departments and the program Secretariat; and

- Review and report on our accomplishments.

The fiscal year 2004-05 represents DFO's Expert Support sophomore year. The program funding presented opportunities to FCSAAP, as additional sites received funding under the program. The six DFO regions and NHQ worked together to make inroads into ensuring that the full array of expertise within DFO, available to custodians was delivered effectively. Relying on a short FCSAAP history but considerable past DFO experience with contaminated sites and by reviewing available national and international risk assessment guidance, DFO increased its range of options and tools to apply to the identification, assessment, remediation and monitoring of federal contaminated sites. The case studies provided herein illustrate the application of the DFO Expert Support role and how DFO effectively provides expert advice regarding a variety of unique situations and conditions. Given the geographic and ecological diversity of Canada, one solution does not suit all. This year, the Annual Report includes case studies, as useful examples, demonstrating the practical application of DFO expert support advice to specific contaminated sites undergoing cleanup or risk management activities by federal custodians.

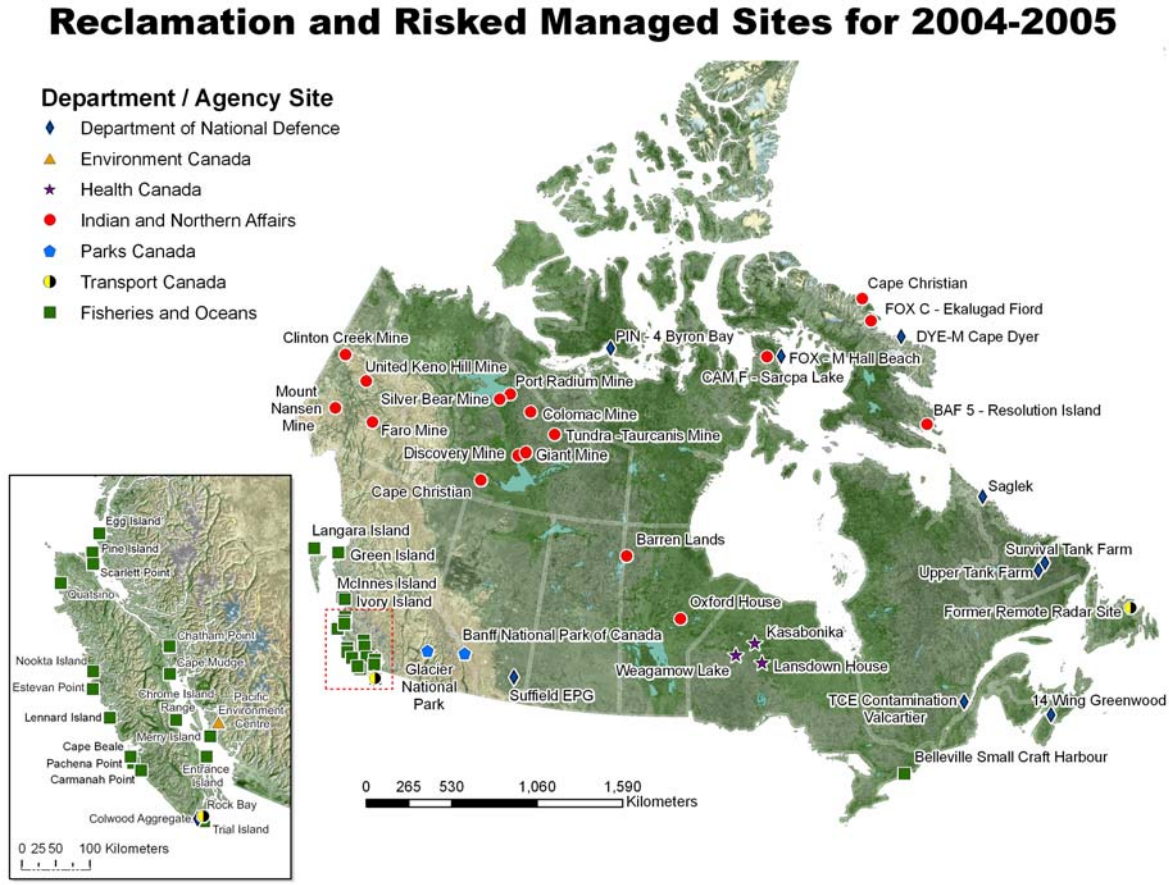
DFO, when requested by custodians, provided advice on such issues as risk assessments, site classification, regulations, remedial plans and technical requirements. Peer reviews were performed for a variety of technical submissions such as EREs (Environmental Risk Evaluations), screening level risk assessments, risk scoring, and progress reports.

In addition, DFO provided science-based and policy advice (Memoranda to Cabinet and Treasury Board submissions) and technical expertise to the FCSAAP Secretariat, and the Program as a whole, on such matters as ecological risk assessment, priority ranking tools, the preparation of guidance and policy documents and program reporting and evaluation.

Also, as the FCSAAP program unfolded and owners of non-federal contaminated sites explored shared funding, DFO was called upon to provide both technical and process advice related to agencies or sites peripheral to the FCSAAP program, for example Sydney Tar Ponds, Lachine Canal, and Saskatchewan uranium mines.

Treasury Board FCSAAP funding in 2004-05 provided DFO with salary and operational resources to further develop and expand expert support within the Habitat Management Program, as demonstrated by the "ramped-up" implementation of a multi-year work plan for delivering expert support. DFO focused, this year, on establishing and improving communications and advice delivery, which included, for example, increased attention to data management requirements, planning, training, and developing relationships with custodians and partner science-based departments. FCSAAP, in its second year, made rapid progress in identifying, prioritizing sites of interest to DFO (vis-à-vis ecological risks) and contributing to custodian site management plans for triple the number of year one sites.

Figure 1 - Reclamation and Risk Managed Sites for 2004-2005



2. BACKGROUND

Fish Habitat Management

The Department of Fisheries and Oceans has the mandate for the management and conservation of Canadian marine and freshwater aquatic resources and their habitat. Although the Department's main focus under the *Fisheries Act* is regulatory, in order to achieve its goals in protecting fish and fish habitat, DFO employs stewardship, enters into partnerships and provides strategic and technical advice to resource users. DFO's success in nationally managing fish and fish habitat may therefore be largely attributed to an effective intra-departmental information exchange and the specialist guidance provided to key external stakeholders. The Habitat Management Program at DFO, with its proactive stewardship programs and regulatory compliance initiatives is therefore well poised to house DFO's contribution to the FCSAAP Expert Support program.

The Habitat Management Program in part based on DFO's *Policy for the Management of Fish Habitat* (*Habitat Policy, 1986*), establishes the goals and strategies for fish habitat protection and conservation and whenever possible the restoration and improvement of degraded fish habitat. The objective and goals of the Habitat Policy can be achieved

through eight implementation strategies that include Protection and Compliance; Integrated Resource Planning; Scientific Research; Public Consultation; Public Information and Education; Cooperative Action; and Habitat Improvement and Habitat Monitoring.

A key element of the Habitat Policy is the guiding principle of "no net loss of the productive capacity of fish habitat". DFO applies a "no net loss" guiding principle, so that habitat losses as a result of development projects (and in this case restoration projects) are balanced by an addition of newly-created or restored fish habitat.

The Policy provides guidance and information on how DFO manages fish habitat in terms of the demands placed on it by legitimate water resource users. DFO's objectives are to prevent, as much as possible, habitat losses and balance out unavoidable habitat damage or loss through equivalent or better habitat replacement (compensation) leading ultimately to a "net gain" of habitat. DFO seeks and encourages habitat improvement as part of the habitat management process.

DFO's legislation and Habitat Policy are probably even more relevant to sites where contaminants (or the risk of contaminants) impact fish and fish habitat. Canada has benefited as a highly industrialized nation but now has a legacy of contaminated federal sites, many of which affect or have the potential to affect fish habitat. At many sites, fish may be absent or too contaminated thus affecting those dependent on fish resources. Some sites already exhibit severe reduced habitat capacity from the contamination present and would be incapable of sustaining healthy fisheries if fish were to be re-introduced. Other DFO concerns encompass the proposed clean-up of these sites since the reclamation or risk management activities themselves may have the potential to further affect already damaged fish habitat or reduce the productive capacity of still unaffected habitat.

DFO through the Habitat Policy has an overall objective to "increase the natural productive capacity of habitat for the nation's fisheries resources" through the Policy's three goals of conservation, restoration, and development of fish habitat. These objectives are best applied to, and well-suited to contaminated sites.

The Federal Contaminated Sites Accelerated Action Plan

Today's federal contaminated sites are a legacy of past practices and inconsistent clean-up attempts which have left some federal lands and aquatic systems at significant human health and ecological risk. Consistent with Treasury Board Policy, the 2003 federal Budget announced $175 million, between 2003 and 2005 to fund accelerated action on a 25 year long-term program to clean up federal contaminated sites. A further $100 million was identified for future years (2005 to 2008).

The Federal Contaminated Sites Accelerated Action Plan (FCSAAP) is a comprehensive, 25-year long-term program to reduce human health and ecological risks and financial liabilities of federal high-risk contaminated sites. High risk sites are defined based on the basis of the Canadian Council of Ministers of the Environment (CCME) National Classification System. Ninety percent of the annual FCSAAP funding, on 70:30 cost-shared basis, can be accessed by federal departments for eligible contaminated sites they wish to reclaim or risk manage. Up to 5 percent of these FCSAAP Funds may be

directed to assessing suspected contaminated sites. Ten percent of the FCSAAP funding is directed towards management and administration of the program.

The process works by having custodian departments identify federal contaminated sites and place them on the TB Federal Contaminated Sites Inventory (FCSI). Sites must also have associated federal liability identified and be risk assessed. A management plan is then developed by custodians, and it is updated annually. Custodians are required to implement remediation or risk management activities and any needed monitoring.

The FCSAAP Program was initiated to facilitate national co-ordination in cleaning up contaminated sites. Custodians, like the Parks Canada Agency, federal departments such as National Defence and Transport Canada, and other federal organizations responsible for managing federal lands, and therefore, responsible, under the TBS Contaminated Sites Policy, for contaminated sites that may have potential or real risks to fish and fish habitat, may request expert advice from DFO to aid in addressing their obligations under FCSAAP. The Program recognized the need for support to custodians from specialist departments in areas of health and ecological risk assessment, and specialized technical and science based support in their areas of expertise.

DFO Corporate Services (Real Property) is also a custodian under FCSAAP, with hundreds of lighthouses, small craft harbours and Coast Guard stations. DFO Corporate Services is working closely with experts within DFO, as well as the other Expert Support departments, to manage DFO's contaminated sites.

High-risk federal sites are categorized by custodians and their level of risk assessed through screening level risk assessments (SLRAs). Then sites are ranked according to a risk scoring system exclusive to FCSAAP. Although custodians frequently employ consultant services to develop SLRAs, the specialized nature of human health and ecological (including fish and fish habitat) risks requires consultation with departments housing this kind of expertise. Under the FCSAAP program EC, DFO and HC are considered Expert Support departments that provide specialist advice to custodial departments.

After custodians complete SLRAs and prepare level 1 risk scores for their highest risk sites, Expert Support departments conduct their own level 2 human health and ecological risk ranking. The resulting highest risk scored sites for which proposals are submitted to FCSAAP receive priority for funding consideration.

The TB Secretariat:

- Ensures consistency with TB policies on the management of federal real property, including federal contaminated sites;
- Reviews financial aspects of proposals;
- Assesses department’s reallocation capacity; and
- Administers the FCSAAP funds.

Jointly, the TBS and EC comprise the FCSAAP Secretariat, responsible for program administration.

Environment Canada and the TB Secretariat also co-chair an Assistant Deputy Minister (ADM) level Federal Contaminated Sites Steering Committee representing all

departments with federal contaminated sites and the three member science-based Expert Support departments.

The Steering Committee:

- Oversees the umbrella Federal Contaminated Sites Management Framework;
- Implements the FCSAAP program; and
- Approves project funding and process changes based on recommendations from the Contaminated Sites Management Working Group (CSMWG).

The CSMWG (co-chaired by DND and EC), provides a consistent approach to FCSAAP and a forum in which to discuss and address technical and process issues. The group is compromised of 15 plus federal departments and agencies. A sub-committee meets 6 to 10 times annually and deals mainly with the program's risk assessment process and recommending appropriate revisions to streamline and bring a level playing field to the process. DFO Expert Support at NHQ participates on both the committee and its sub-committee.

The FCSAAP Program objectives are:

> *To accelerate the remediation or risk management of federal contaminated sites exhibiting the highest human health and ecological risks and thereby reducing the federal financial liability associated with these sites.*

The program delivery to accomplish this has three aspects: (1) the federal custodial departments responsible for identifying, procuring funding and managing their contaminated sites; (2) while receiving specialist advice from Expert Support Departments; (3) under the auspices of the FCSAAP program administered jointly by EC and the TB Secretariat.

For more information on FCSAAP, see the Treasury Board Web Site for Contaminated Sites.

http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/realproperty/fcsmp-gscf_e.asp

FCSAAP Expert Support

Expert support provided to custodial departments by HC, EC and DFO and to the FCSAAP Secretariat (via CSMWG sub-committees or directly) is coordinated at NHQ. Specialist advice regarding specific sites and ranking of the highest risk sites is delivered at the regional level and is primarily coordinated through Interdepartmental Working Groups (IRWGs) with regional custodial and Expert Support department representation.

An Expert Support department's key role is advisory. Staff is responsible for working closely with the IRWGs, developing standardized tools and approaches, providing intra and interdepartmental guidance and training, promoting regulatory compliance and assisting in public outreach and communications activities. The expert support role also includes reviewing screening-level risk assessments, the scoring of high risk sites, supporting the project submission process and passing along advice on site management. Expert Support staff is expected to deliver science-based nationally consistent advice and guidance to the FCSAAP Secretariat, custodial departments and

the CSMWG. The advice is expected to be consistent with FCSAAP objectives, policies and plans established as part of the 2003 program framework.

Delivery of DFO Expert Support

DFO Expert Support under the FCSAAP program involves Habitat Management, as the DFO partner, playing a key role, along with HC and EC in reducing human health and environmental risks associated with the clean-up or risk management of sites funded under the program. Each Expert Support department provides specialist advice subject to its mandate, legislation and policy base. DFO's Expert Support advisory function includes assessing custodial department's screening level risk assessments, project submissions and developing criteria, methodology and best practices for reducing or avoiding impacts from contaminants to fish and their habitat.

DFO Expert Support is tasked with advising federal custodial departments and liaising with provincial and federal counterparts, in providing specialist expertise and ensuring that prior, post and current site remediation or risk management activities do not further compromise any of Canada's fish and fish habitat resources. Whenever possible, with respect to contaminated sites, DFO expert support promotes the appropriate remediation action on affected fish habitat or whenever possible enhancement of fish habitat pursuant to DFO's Habitat Policy.

In addition to Treasury Board's and wider Government of Canada policies and directives, DFO delivers it's FCSAAP role under it's own policies and legislative mandate under the *Fisheries Act* (particularly Section 35 (habitat)), the *Canadian Environmental Assessment Act, Species at Risk Act,* and others. Section 36 of the *Fisheries Act*, prohibiting the deposit of deleterious substances into waters frequented by fish, is administered by Environment Canada.

> "Fish" includes all life stages of finfish, shellfish, crustaceans and marine mammals. "Fish Habitat" means all areas frequented by fish or on which fish depend directly or indirectly for spawning, rearing, feeding or migration.

DFO's Expert Support staff, although housed in the Habitat Management and Major Projects Directorate of the Oceans and Habitat Sector, acts as the conduit for advice from various Departmental areas of expertise, including scientific research and fisheries management. They cooperate with DFO communications and corporate administration in carrying out their FCSAAP role. Advice, although mainly focused on fish habitat protection, improvement and monitoring, also has regulatory compliance promotion, research, planning, public information, education and consultation aspects.

The FCSAAP program's Expert Support role provided by DFO is defined in the Department's FCSAAP Expert Support Results-based Management Accountability Framework (RMAF).

DFO's direct input to the FCSAAP program is perhaps best illustrated in Table 1. To address the need for a consistent approach in the clean-up of federal contaminated sites, the CSMWG developed a 10 Step site management framework consistent with related Canadian Council of Ministers of the Environment (CCME) and Canadian

Standards Association (CSA) guidance materials. The framework acts as a tool for custodial departments to aid in the long-term planning for the management of high-risk federal contaminated sites and to reduce their associated liabilities. The provision of Expert Support fits into various steps of the 10-step framework (Table 1).

Table 1 - 10–Step Process for Addressing Federal Contaminated Sites under FCSAAP

10–Step Process for Addressing Federal Contaminated Sites under FCSAAP		
Process	**Custodial Organization**	**DFO Expert Support**
Step 1: Identify Suspect Sites	Identify federal site with objective of placing on FCSI and future reclamation.	
Step 2: Historical Review	Assemble and review historical and background information pertaining to the site.	Provide baseline fish and fish habitat information and on past regulatory events, if available.
Step 3: Initial Testing	Preliminary characterization of contamination and site conditions.	
Step 4: Site Classification (CCME)	Prioritize site for future investigations and/or remediation/risk activities.	Baseline information on fish and fish habitat if available or suggest investigative approach.
Step 5: Detailed Testing Program	Focus on specific areas of concern (from Step 3) for in-depth investigation & analyses.	Discussions between custodial risk assessor/manager and DFO Expert Support specialist.
Step 6: Reapply CCME (National Classification System)	Update ranking based on detailed investigations.	
Step 7: Develop Remediation/Risk Management Strategy	Problem formulation. Site-specific planning to address contaminants of high risk. Conceptual model.	DFO science & DFO-related public concern. DFO's important stressors & endpoints are identified.
Step 8: Implementation of Remediation/Risk Management Strategy	Implement site-specific plan that uses best practices. Minimize or eliminate magnitude of stressor-response action.	Advice on habitat requirements, potential fish & habitat responses. Advise best practices for fish and fish habitat management.
Step 9: Confirm Sampling and Final Reporting	Document outcomes of remediation, risk management activities.	Interpretation on outcomes regarding effects to fish & fish habitat.
Step 10: Long-Term Monitoring	Analysis of recovery. Verification of success.	Peer review for fish and fish habitat requirements.

FCSAAP budgeting, decision-making and site management activities follow an annual (based on the Fiscal Year) business cycle (Table 2.) The Expert Support process has specific associated time sensitive activities and deliverables, including work planning, site visits, peer reviews of risk evaluations and annual reporting. For example, sites have a narrow accessibility window in remote locations. Expert Support's primary function is to advise and work with custodial federal departments. Staff consults with

custodians on remediation plans consistent with DFO policy objectives. Consultation is also undertaken to identify opportunities to improve environmental quality by promoting risk management and remediation approaches that include environmental quality indicators. Priority is given to providing advice to projects funded under FCSAAP. However, if requested, expert support advice is available for all federal contaminated sites, and, on occasion, for other sites of federal interest. DFO regional staff follow FCSAAP projects through their life cycle, including provision of advice on project planning and on remediation and risk management as plans are implemented and later on site closure. This necessitates continual training and development to ensure that staff is familiar with risks to the environment, which the various sites represent, and with the interpretation of these risks in reference to DFO objectives.

Table 2 - DFO FCSAAP Expert Support Annual Work Cycle

<table>
<tr><th>MONTH</th><th>NCR MAJOR ACTIVITIES</th><th>REGIONAL MAJOR ACTIVITIES</th></tr>
<tr><td>APRIL</td><td>• Completion of FY work planning for DFO Expert Support program and consultation with other Expert Support departments on plans.
• Begin process to resource regions to implement work plans.
• Annual report to FCSAAP Secretariat.</td><td>Regional DFO Expert Support managers complete and submit work plans to NHQ; specialist advisors review information on new sites and upcoming site assessments.</td></tr>
<tr><td>MAY</td><td>Program administration (information mgt & program coordination with DFO regions and FCSAAP Secretariat.*</td><td>Specialist advisors review material on new sites being submitted for project funding.</td></tr>
<tr><td rowspan="2">JUNE</td><td>Meet/teleconference with regional habitat managers to discuss FCSAAP mgmt & accountability plans and progress. **</td><td rowspan="3">• Site visits for currently funded sites and for sites that may be submitted for project funding in the next FY.
• Consultation with custodial organizations on their screening level risk assessment of sites and other documentation supporting their funding applications
• Training</td></tr>
<tr><td>New training development & upgrades.</td></tr>
<tr><td>JULY</td><td></td></tr>
<tr><td>AUG</td><td></td><td></td></tr>
<tr><td rowspan="2">SEPT - OCT</td><td colspan="2">DFO Expert Support NHQ & regions gear up for ERE reviews to validate risk scoring and adequacy of background information.</td></tr>
<tr><td colspan="2">Regions provide mid-year reporting to NHQ</td></tr>
</table>

NOV	FCSAP Secretariat call for proposals for funding	ERE scoring for newly submitted sites
DEC	CSMWG and ADMs Steering Committee meet on funding & reallocations.	
JAN	Co-ordinate DFO role in risk scoring (EREs) of federal custodian organizations' project submissions. Input as required to next FY TB submission.	DFO Expert Support ERE risk scoring results for new sites submitted to FCSAAP Secretariat.
FEB	Annual reporting process begins.	Regions provide year-end reporting to NHQ
MAR	• ADM Steering Committee approves project funding. • Financial year-end forecasting • FY work planning begins	Regional site visit planning for newly funded sites begins. Regions submit resourcing requests to NHQ & begin work planning for next FY.
	DFO Expert Support Workshop	DFO Expert Support Workshop

* The DFO NHQ's Expert Support program administrative role is described in detail in the RMAF; it is a continuing activity the entire FY although shown here in only one section of the table.

** Regional manager and technical meetings with NHQ occur on a regular basis but are identified here only once.

Equally important to the above activities, Expert Support activities also include administrative responsibilities such as co-ordinating day to day (regional) and long-term (NHQ) work planning, budgeting, teaching, information management, ensuring adequate resources, program reporting and accountability, program direction, and program delivery.

Although DFO as a department has always provided technical and science-based advice to all clients, the FCSAAP program allows DFO to focus and better concentrate, over the long-term, its resources towards providing nationally consistent advice on a consultative partnership basis to custodians, on the protection and renewal of fish and fish habitat associated with federal contaminated sites.

Training

Fisheries and Oceans Canada roles and responsibilities under the FCSAP program include a training component. DFO regional and NHQ specialist staff continually upgrade their understanding of FCSAAP program and process changes and refinements and utilize opportunities for technical and science-based training in order to better carry out their specialist advisory functions. Training is provided by various means through the Department or via outside agencies or from other sources. Training can vary from hands on familiarization with the unique nature and regulatory issues associated with contaminants on federal lands and adjacent aquatic areas (site visits) to the provision of

technical documentation and the use of self administered teaching modules and national or international workshops.

Site visits

DFO FCSAAP specialists consult with federal custodians and site managers, arranging visits to contaminated federal properties, in order to witness problems first hand and to assess existing environmental risks to fish and fish habitat. This knowledge is essential in peer reviewing risk assessments and developing pertinent advice on regulatory requirements or best practices to protect fish populations or enhance fish habitat on or near contaminated sites. For example in May 2004 central federal agencies, custodians and representatives from the three expert support departments, including DFO, paid site visits to three Yukon abandoned mines; Keno Hill Mines, Mt. Nansen and Faro Mines.

Common to these abandoned mine properties are mine waste containment problems where seepage or outright containment failure could result in severe environmental impacts. Migrating chinook salmon spawners found in the vicinity of these contaminated sites could be at future risk.

The main Nansen Mine pit must be pumped out and treated to keep it from entering Pony Creek

Individual regional DFO practitioners under the program make use of site visits to garner additional information about sites, better co-ordinate their activities and meet with Expert Support colleagues and custodians on site to discuss potential situations. Risk evaluations and DFO's input and recommendations to custodians on their site remediation plans benefit from such site visits.

Habitat Management Training – compulsory training program

DFO's Expert Support FCSAP specialists are closely allied with habitat biologists since both are housed in Habitat Management and Expert Support is the conduit through which specialist habitat advice flows to custodians. In 2004, DFO ventured into a new era of strengthening the Habitat Management Program under the Department's comprehensive Environmental Process Modernization Plan. A major initiative under the revitalized program was the introduction in January 2005 of compulsory training. DFO Expert Support specialists are required to undertake the mandatory Habitat Management training, a web-based training module that covers pertinent federal legislation and DFO policy and operational statements.

DFO Expert Support is devising a framework to deliver future contaminated sites training (risk evaluation training, reclamation of contaminated sites) which would both complement and will be part of the Habitat Management Program training course.

Environment Canada / Health Canada Initiatives

Health Canada has been instrumental in delivering national seminars at various locations on human health risk assessment and peer review training on health risk. DFO specialists frequently attended these national training courses, for example, NHQ staff and DFO FCSAAP specialists from several regions undertook HC's Human Health Risk Assessment training, with emphasis on the Probabilistic Method for Contaminated Sites, between October 27-29, 2004 in Toronto.

Similar HC training sessions in Edmonton, Vancouver, Halifax and other major centres were well attended by the DFO FCSAAP staff. Environment Canada (primarily the FCSAAP Secretariat) through their consultants provided training on ecological risk assessment relative to the FCSAAP program. DFO regional and NHQ staff attended and contributed to such fora as EC's November 19, 2004 workshop dedicated to developing a risk-based scoring tool for federal contaminated sites.

DFO and other Expert Support Workshops

DFO NHQ Expert Support organized a national workshop on March 21-24, 2005 in Vancouver, supported by the sponsorship of the DFO Pacific & Yukon region; the workshop functioned both as an orientation exercise for DFO specialist staff from all regions and as a planning tool to establish where DFO emphasis would be required to better deliver 2005-06 FCSAAP Expert Support activities.

The three day event dealt with a review of current practices, guidance development (for EREs and broader program applications), training needs and the further development of the Expert Support role within DFO's Habitat Management framework. The workshop also included presentations by EC and HC staff, a teleconferencing session, and a visit to view the historical Versatile Shipyard Redevelopment site. Although not a FCSAAP site, DFO's advisory relationship with the site and its characteristic marine contaminants and need for shoreline stabilization suggested it an ideal example of the Department working with private industry towards complementary goals. Approximately 30 individuals participated in the workshop.

DFO's FCSAAP Orientation
Vancouver Workshop – March 21-23, 2005

In October and November 2004 HC's 2 ½ day, nationally available (various major centres), risk assessment computer training courses were well attended by DFO Expert Support staff.

Also, in November 2004 DFO Expert Support staff participated in EC's Scoping Workshop held in Montreal to Identify Ecological Risk Priorities and Guidance Needs. The workshop objective was to explore the need to update tools and training on contaminated site assessment, risk communications in order to ensure that FCSAAP specialist guidance is current and accurate.

The Historical Versatile Shipyard Redevelopment site; reclaiming inshore habitat

Handbooks and other Guidance Documentation

DFO Expert Support staff at NHQ, in consultation with regional DFO FCSAAP specialists, Habitat Management and staff from other DFO sectors is developing a handbook and other Expert Support documentation to assist Departmental practitioners. These aids are intended to provide basic guidance to FCSAAP specialists in the course of their tasks by describing the DFO Expert Support framework, expected roles, methodology for completion of risk evaluations and the nature of and means to provide outreach to

custodial FCSAAP departments. In particular, guidance materials will capture the manner in which DFO Expert Support can most effectively assist these departments. A preliminary draft document was developed in 2004-05.

In addition to the handbook, DFO Expert Support is concentrating on developing specific guidance documentation for custodial departments to help them with the integration of fisheries concerns into the management of contaminated sites. Such documents are still in the planning stage.

3. DFO EXPERT SUPPORT ACHIEVEMENTS

In 2004-05, Fisheries and Oceans Canada concluded its first full FCSAAP year.

Key achievements included:

- In early 2005, contributed to the Long Term Management of Federal and Shared Responsibility Contaminated Sites Memorandum to Cabinet and the TB Submission for the 2005-06 FCSAAP program;
- Development of a Discussion Paper on rationale for integrating science research for FCSAAP and opportunities for DFO Science to support needed FCSAAP research;
- National Manager, Expert Support Federal Contaminated Sites conducted an INAC-arranged visit to three Yukon locations with regional staff on behalf of the FCSAAP Secretariat: The Mount Nansen mine, Keno Hills and Faro mine sites;
- Continuing development, refinement and implementation of DFO's Results based Management Accountability Framework (RMAF) for DFO's Expert Support function and complementary to the FCSAAP Secretariat's RMAF and conforming with DFO policy;
- Development of the draft "A Framework for the DFO Expert Support Role" (March 2004) to guide program activities;
- Exploring and defining the Expert Support role within DFO's existing Habitat Management Framework revitalization; training and guidance to staff on DFO legislated mandates (the *Species at Risk Act,* the *Canadian Environmental Assessment Act* etc.);
- Initiation of the staffing of 2 Expert Support positions (Term) for the National Headquarters (NHQ) region;
- Provision, discussion of and development of guidance and guidance materials through regular conference calls with regions for training purposes, particularly relevant to conducting EREs;
- The roll out and application of a detailed National Work Plan to continually prioritize program activities and establish milestones and objectives;
- Coordinating the DFO FCSAAP review processes for 58 priority sites;

- Further development of a NHQ led DFO Regional Expert Support network tied in to the Interdepartmental Regional Working Groups in each of EC's regions;

- Financial and HR administration;

- NHQ FCSAAP staff worked with DFO and EC Communications Staff to develop a partnership to ensure recognition of FCSAAP-DFO Expert Support achievements (e.g. Ministerial announcement of funding of Belleville Small Craft Harbour Project);

- Supporting the FCSAAP Secretariat in the creation of environmental risk-ranking process and in policy development and communications; DFO Expert Support contributed to press lines and related question and answer materials for Ministers;

- Integrating DFO Expert Support RMAF with the Department's Habitat Management program and communications with regions to foster these and implementation of the DFO Expert Support program;

- Planned and implemented a DFO Expert Support National Workshop, March 21-23, 2005 in Vancouver (see training);

- Distribution of the FCSAAP Secretariat's Guidance Handbook and the application of the FCSAAP Site Classification process;

- Completed environmental site investigations on environmental risk assessments, including peer reviews; a review of remediation options and associated costs; field investigations of remediation techniques; and assisting in the development of a preliminary risk management plan; and

- In 2004-05 Atomic Energy of Canada Limited (AECL) began planning a strategy for addressing health, safety and environmental issues associated with the decommissioning of infrastructure and land, (in particular the Whiteshell Laboratories) while continuing care and maintenance activities. Through the CSMWG and assisted by NRCan, projects were identified that might be eligible for funding under FCSAAP. DFO along with EC and HC provided feedback on site conditions, proposed activities and conducted and commented on related EREs for these properties.

National Headquarters

Managed, directed, budgeted and coordinated the FCSAAP program by:

- Providing input, reviewing and cooperating with the FCSAAP Secretariat during their preparation of the third TB submission (approved 2005). The TB submission addressed project funding, performance and reporting requirements and program streamlining and enhancement changes;

- Participating on the interdepartmental *Contaminated Sites Management Working Group*–(CSMWG) and its subgroups in establishing and recommending FCSAAP policy, work criteria and tools;

- Participating on the CSMWG FCSAAP subcommittee in refining risk-ranking tools;

- Interacting and transacting on a daily basis with program stakeholders from DFO Regions, NHQ, custodial departments and partner departments;

- Developing closer working ties with the DFO Office of Environmental Coordination (Real Property). For example DFO is one of the federal departments with the highest number of sites (mostly light stations, wharves etc.);

- Delivering the Vancouver 2005 Workshop, including a site visit to the Pacific Environmental Centre (Versatile Ship yards) and contributing to EC's Montreal Environment Canada-DFO ERE workshop;

- Developing a DFO Annual Work Cycle – integrate and compliant with Secretariat and the overall FCSAAP process, DFO NHQ delivered on all elements of the cycle including the RMAF, Reporting, updates, (for a complete breakdown of the cycle, see Table 2;

- Guiding regions towards opening up communications with First Nations;

- Contributing improvements in FCSAAP ERE1 and ERE2 processes;

- Traveling to regions (B.C. and Pacific, Central and Arctic) and contaminated site visits – to understand challenges of Expert Support program and to communicate basic information regarding the FCSAAP process and its implementation to regional staff;

- Operating and coordinating an internal DFO Expert Support network of regional staff tasked to deliver FCSAAP advice;

- Producing a 2004-05 workplan and an annual DFO Expert Support progress report;

- Establishing DFO regional and NHQ FSAAP Expert Support Managers national working group and conducting regular meetings; drafting terms of reference and roles and responsibilities to improve communications among regions and with NHQ;
- Jointly participating in Expert Support (EC, DFO, HC) meetings and consultations on project submission reviews, ranking, expert support funding and reporting;

- Staffing, budgeting, planning DFO's Expert Support contributions with central agencies (e.g. RMAF) and managing program information and coordinating communication requirements. See also the Annual Business; and
- Contributing DFO Expert Support at NHQ and in the regions to Secretariat projects managed by outside consultants (i.e. Franz Environmental Inc., Cantox, Stratos and others) to assess existing (CCME) tools and develop new ones for environmental risk evaluation.

Table 3 - DFO Expert Support Activities and Outputs under FCSAAP

DFO EXPERT SUPPORT FCSAAP ACTIVITIES
Scientific and Technical support to Custodians
▪ Participate in regional interdepartmental working groups ▪ Provision of training in risk assessment and risk communication ▪ Provide expert peer review of risk assessments ▪ Provide expert advice to departments about best practices and options for risk management/remediation and monitoring of sites ▪ Provide advice in public outreach and risk communications ▪ Provide specialist advice for environmental screenings and assessments ▪ Promote regulatory and policy compliance at sites ▪ Liaison between federal departments, provincial and territorial Ministries and aboriginal peoples ▪ Review project proposals to provide expert department input as required under CEAA or comparable EA processes in the north Provide custodial departments with advice, as requested in developing terms of reference and reviewing proposals for risk assessments
Scientific and Technical support to the FCSAAP Program
▪ Participate in regional interdepartmental working groups ▪ Provide Secretariat with expert advice regarding scientifically defensible, nationally-consistent relative ranking system ▪ Develop standardized approaches, guidance materials and training in assessing risk to fish, fish habitat and safe waters at federal contaminated sites ▪ Provide expert advice regarding screening level risk assessments and risk scoring at high risk sites ▪ Promote regulatory and policy compliance at sites ▪ Provide advice in public outreach and risk communications for the program ▪ Liaison between federal departments, provincial and territorial Ministries and aboriginal peoples ▪ Review project proposals to provide expert department input as required under CEAA or comparable EA processes in the north
DFO EXPERT SUPPORT FCSAAP OUTPUTS
▪ Assessment protocols/ranking tools for human health and ecological risk ▪ Ecological risk assessment and ranking of federal sites ▪ Guidance, training materials, and training workshops ▪ Risk communication and public outreach materials ▪ Reports on expert review of health and environmental risk assessments ▪ Reports on progress of site remediation/risk management ▪ Reports on expert review and concurrence with site closure/completion reports

Regions

DFO Expert Support staff provided advisory services across six DFO regions. Advice was provided for all phases of the Program, consistent with DFO's roles and responsibilities under the Program (see Figure 1 which maps 58 Priority List Sites for FY 2004-2005) to all custodians with federal sites where fish or fish habitat concerns were identified.

In several instances, DFO staff provided Expert Support prior to the FCSAAP start-up, to custodians and continued to do so during the program whether these sites were FCSAAP funded or not (see the "Regional" reporting section). The Giant Mine (see Case Study

Table 12), is an example of a contaminated sites for which DFO now continues to provide specialist advice as part of FCSAAP.

FCSAAP sites in 2004-05 were located in all six regions with the majority located in 3 regions (Newfoundland and Labrador, Central and Arctic, Pacific and Yukon). In some regions, expert support was also provided for federal contaminated sites that remained unfunded and sites that continue to be of interest to DFO (e.g. Sydney Tar Ponds, Lachine Canal).

For example, in 2004-05 the Government of Saskatchewan in cooperation with the federal Department of Natural Resources explored options for a clean-up of the defunct northern Saskatchewan Gunnar and Lorado uranium mine sites, a legacy of Canada's Cold War effort, as shared responsibility sites under FCSAAP. The sites are classified as NCS Class 1 sites based on impacts from radionuclides and heavy metals, acid-generating tailings and other waste contaminating nearby lakes, including Lake Athabasca, and impacting water quality, fish and fish habitat. DFO continues to work with federal and provincial agencies on the matter, providing advice through Expert Support and reviewing preliminary submission materials.

Key regional achievements included:

- FCSAAP Expert Advice illustrated by four case studies: the Giant Mine; Glacier National Park; Saglek Bay; and CFB Greenwood;
- Participation in IRWGs;
- The review and provision of expert technical and scientific advice on the 2004-05 TB submission;
- Risk-scoring of federal sites; and
- Ongoing provision of advice on 56 sites funded in 2004-05 as well as for those sites not funded under FCSAAP including:
    - Peer review of site plans with respect to fish and fish habitat;
    - Review of projects under CEAA; and
    - Promotion of regulatory compliance.

Table 4 - Federal Sites by Region Receiving DFO Expert Support in 2004-05

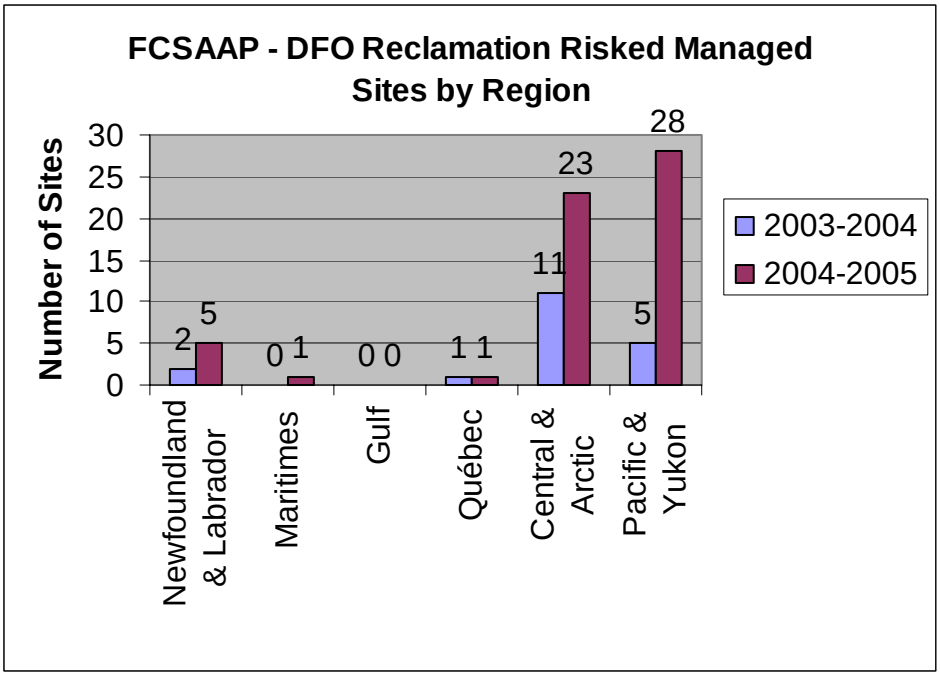
Region	Sites Risk-Ranked for Priority List	Sites with 2004-2005 FCSAAP project funding	Total Number of Sites
Newfoundland & Labrador	6	5	11
Maritimes	3	1	4
Gulf	0	0	0
Québec	7	1	8
Central and Arctic	37	23	60
Pacific and Yukon	41	28	69
Totals	94	58*	152

* DFO advised on 58 sites to be funded for reclamation of risk management in FY 2004-2005. However, work on two of the sites, Cape Christian and Axe Point was not initiated that year, but work on the Glacier National Park site was added in mid-year, resulting in 56 FCSAAP managed sites for the year.

The funded sites noted above, along with 94 additional sites, identified by custodial departments as highest risk, were ranked to create a *Priority List of Highest Risk Federal Contaminated Sites*, based on risk to human health and the environment. Several regions reported delivering expert support for 3 federal contaminated sites beyond those identified for action under the FCSAAP program.

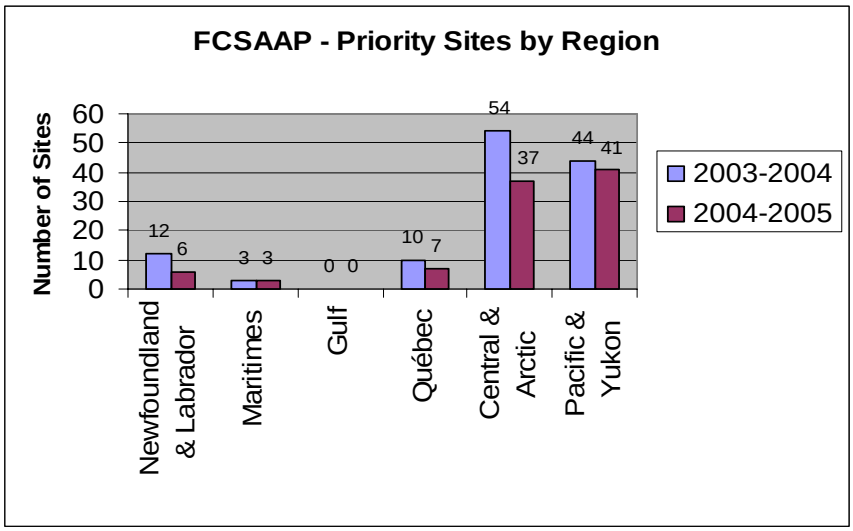
In 2004-05, DFO Expert Support provided advice to custodial departments on the 58 highest risk federal sites (56 under the program in the FY 2004-2005 sites were eventually funded) eligible for remediation or risk management. Figure 2 shows the distribution of these sites across DFO's regions.

Figure 2 - Regional Distribution of Risk Managed Sites – Comparison of 2003-2004 and 2004-2005



Expert Support was also provided for the risk scoring of projects submitted for 2004-05 funding through the creation of a *Priority List of Highest Risk Federal Contaminated Sites*. **Figure 3** shows the regional distribution of the 94 federal contaminated sites that were ranked for risks to human health and to the environment.

Figure 3 - FCSAAP Priority Sites by Region



4. REPORTING BY REGION

Newfoundland and Labrador Region

In fiscal year 2004-05, the Newfoundland and Labrador Region provided FCSAAP related advice within DFO (i.e., Corporate Services), and to other government Departments (DND, TC, RCMP and PWGSC). The types of contaminated sites addressed this fiscal year continued to be mainly associated with marine docks and dockyards, lighthouses, RCMP quarters, military installations and bases, and several underwater sites.

Table 5 - Federal Contaminated Sites in Newfoundland and Labrador Region

Federal Contaminated Sites in Newfoundland & Labrador	
Sites	**Department**
Reclamation and Risked Managed Sites for 2004-05	
Saglek PCB	National Defence
Upper Tank Farm	National Defence
Survival Tank Farm	National Defence
Former Remote Radar Site 59	Transport Canada
Newfoundland Dockyard	Transport Canada
Total Sites with Project Funding: 5	
Priority List Sites	
Saglek PCB	National Defence
Upper Tank Farm	National Defence
Survival Tank Farm	National Defence
Former Remote Radar Site 59	Transport Canada

Newfoundland Dockyard	Transport Canada
Shea Heights/Southside	National Defence
Total Sites risk-ranked for Priority List: 6	

In Newfoundland and Labrador, federal contaminated sites under the FCSAAP program, represent a broad range of contaminants normally associated with docks, aviation, military installations and housing. Contaminants included, PCBs, heavy metals, PAHs and TPH or a combination of these and reclamation activities were sometimes complicated by the presence of unexploded ordinance.

Argentia

Although not directly funded under the FCSAAP program, remediation projects and contaminated sites on the former military base at Argentia continued to involve DFO and required continuing specialist advice. The $81M Argentia Environmental Remediation Project began in the fall of 1996 and includes the removal of 16 underground fuel tanks, remediation of several contaminated ponds, and construction of a secure landfill to house hazardous materials and installation of a seawall to address potential leachate concerns. Due to the project's proximity to both freshwater and marine water bodies, DFO has provided expert advice. This project is in its final stages of completion. DFO continued to participate in the Argentia Remediation Working Group which reviewed ongoing remediation activities. A site visit was conducted to assess project completion and the elimination of ecological and health risks.

Saglek Remediation Project (See Table 6 Case Study).

DND Goose Bay

DND Goose Bay is a major remediation project in the initial stages. The Goose Bay property includes over 26 suspected contaminated sites. Preliminary data suggests that there are between 500,000 to 3,200,000 liters of free-phase hydrocarbons, 200,000 cubic meters of contaminated soil and 1,000,000 liters of hydrocarbon-impacted groundwater. In addition, there are 2 underground tanks at a former dry cleaning plant contain 20,000 liters of tetrachloroethylene, dichloroethylene, and water contaminated with vinyl chloride. The proximity of these projects to both fresh and marine bodies of water necessitated that DFO provide expert advice. Two site visits and two working group meetings were conducted in 2004-05 as well as participation in public hearings in Goose Bay.

DFO also provided advice to Transport Canada on the Environmental Site Assessment and RBCA Risk Assessment of a former helicopter site in St. Alban's, NL. A site visit was also conducted.

ERE II Scores were determined for St. John's Airport, – Fire Training Area and Marine Fire Training Area, St. Alban's Helicopter site, Mouse Island Radio Beacon site and Saglek Bay Sediments.

DFO provided expert advice to the RCMP on the assessment of numerous RCMP facilities located throughout Newfoundland and Labrador.

The provision of advice regarding federal remediation projects, along with the site monitoring done by DFO, is an ongoing activity. In 2004-05, the Newfoundland and Labrador Region had 51 sites under review. Based upon the revised funding criteria, 5 sites were under risk assessment or remediation valued at $250k or greater, 17 sites valued less than $250k, 26 sites under assessment for classification and 3 sites from previous years.

Saglek Beach: Erosion contributed to PCBs entering the marine environment

Table 6 - Saglek Bay Case Study

Saglek Bay Case Study

Saglek is located on the north coast of Labrador in lands being claimed by the Labrador Inuit Association (LIA). Saglek is adjacent to the proposed Torngat Mountains National Park Reserve. The site's only human occupation is military, from 1951-1986, as a United States Air Force Polevault communications station, and since 1986 as a DND North Warning System radar site.

An environmental site investigation in 1996 revealed significant amounts of PCB-contaminated soils, along with other contaminants. Once in the marine environment, storm driven waves, current sand tidal forces distribute contaminated sediments throughout the deeper portions of the bay. This puts resident, migratory and spawning marine species at risk to breeding success and disease. During the summers of 1997-1999, a land-based clean up was conducted by DND and the contaminated soil was placed in a temporary staging area. The shipment and off-site destruction of the stockpiled, contaminated s oil was completed in the Fall of 2004.

A stakeholder group chaired by DND and consisting of Environment Canada, DFO, the Province of Newfoundland and Labrador, and Labrador Inuit Association (LIA) has been active since 1996 in addressing the PCB contamination issue. Investigations between 1996 and 1999 revealed that PCB contamination had migrated from the terrestrial ecosystem into the marine sediments of Saglek Bay. Research studies have been conducted to assess the temporal and spatial extent of the contamination, to evaluate recovery options for the remediation of the PCB-contaminated marine sediments, as well as to conduct an Ecological Risk Assessment and a Human Health Risk Assessment. To avoid human health risks, traditional harvesting of species in the Bay is minimized, except for Char who's migratory patterns result in a low exposure to local contaminants.

DND is using a consultation approach, including seeking specialist advice from DFO, to determine the best option for Saglek Bay sediments (e.g., various recovery options, capping, no further action with long-term monitoring. Two concerns remain: remedial options for the marine environment and the need for long-term monitoring. The eventual option must, at the very least, be technically possible and environmental and human health neutral, without adding an exorbitant cost. To date, the most feasible option is to dredge the sand patches which would remove 2/3 of the PCB mass. So far, no dredging has occurred and DFO will have a significant role to play with regards to appropriate mitigation and an Environmental Protection Plan. Since the land-based source of contaminated soil has been removed, it appears that the ecosystem is beginning to undergo natural recovery. PCB in sediments appear to have decreased in the shallow near shore areas but remain unchanged in the deeper areas although PCB-contaminated sediments remain above levels associated with ecological risk in the risk zone. Consequently, a long term monitoring plan has to be developed to assess ecological and human health risk as long as PCB levels remain above levels associated with risk.

DFO, as an expert support department under FCSAAP, is involved in continuing meetings to review on-land, remediation progress; to advise on marine environment mitigation; and monitoring to track improvement, now that the underlying source of contamination has been removed.

Maritimes Region

In the 2004-05 fiscal year, DND and PCA were the two custodial departments in the Maritimes Region requesting specialist advice under the FCSAAP program. Advisory assistance was provided for contaminated sites associated with military installations and bases, and some freshwater sites.

Table 7 - Federal Contaminated Sites in Maritimes Region

Federal Contaminated Sites in Maritimes		
Sites	**Department**	**Prov / Terr**
Reclamation and Risked Managed Sites for 2004-05		
14 Wing Greenwood	National Defence	NS
Total Sites with Project Funding: 1		
Priority List Sites		
14 Wing Greenwood	National Defence	NS
CFAD Dredge Disposal Facility	National Defence	NS
French Cable Wharf	National Defence	NS
Total Sites risk-ranked for Priority List: 3		

The operation of Dads Greenwood and Gagetown bases over several decades, has resulted in the accumulation of contaminants which have affected local fish habitat. DFO provided guidance and advice to prevent further habitat degradation and in support of DND's remediation efforts.

DFO continued to fulfill its Expert Support role for the Gagetown Military Base by providing guidance on an applied management approach to prevent habitat degradation and by making recommendations to DND on various fish habitat improvements. The experience and capacity building in this case will serve well for similar sites when FCSAAP funds are made available.

DFO participated in the review of the Greenwood Military Base's Remediation/Risk Management Strategy. DFO also provided detailed specialist advice in relation to the remediation work proposed for the area in and around Lower Zeke Brook. The remediation work involved the excavation of contaminated soil on the slope next to the brook. Application of the advice by the custodian minimized the effects of the remediation work on fish and fish habitat. The impacts related to lowering of the water level in the brook, and the release of sediments and contaminants into the brook.

The Marrach Landfill Site was used as a disposal site at the Cape Breton Highlands National Park for park operations, the golf course, and park campgrounds between the 1950s and the early 1980s. The landfill site was also a repository for residual ash from several domestic waste incinerators operated by the park.

In the 2004-05 fiscal year, PCA conducted activities related to the assessment of the site and investigation of remediation options. DFO completed a Level 2 Ecological Risk Evaluation (Part 2) for the landfill site.

Marrach Brook is located next to the landfill site and is the main off-site transport mechanism for contaminants. Clean up of the site may involve removal of some

material, re-grading, and installation of an impermeable cap at the site to prevent transport of materials. Once final details of the remediation work are known, DFO can provide specialist advice in relation to fish and fish habitat.

The provision of advice regarding federal remediation projects, along with the site monitoring done by DFO, is an ongoing activity. Although the FCSAAP program is accelerating work on federal sites, it should be noted that the Maritimes region has been providing ongoing expertise and advice over the last 15 years for several federal high risk sites which, it is anticipated, will receive future FCSAAP funding.

Other Site-Specific Expert Support Activities 2004-05

Sydney Tar Ponds

Chemical waste products relating to the Sydney Tar Ponds site include polychlorinated biphenyls (PCBs) and heavy metals such as lead and arsenic which are a result of processing and refining coal, turning it into coke, benzene, kerosene, napthalene, and other coal-based products. The wastes found their way into a local estuary and creek, which leads to Sydney Harbour. Since 1999, DFO has provided advisory assistance on Sydney's inner harbour and out to South Bar on the effects of metals like cadmium, mercury, copper, lead, silver and zinc and other toxics on marine life and fish habitat. The contaminated area however is not considered a federal site and was not directly funded under the FCSAAP program.

For the fiscal year 2004-2005 the work associated with the Sydney Tar Ponds file included meetings, multiple site visits, review of lengthy reports and multiple correspondences, as outlined below.

Meetings – Meetings with consultants, other government departments and the proponents to discuss DFO Habitat Management concerns and comments about the clean-up project.
Site Visits – Five site visits were conducted to review realignment of Coke Ovens Brook and to discuss future options for Tar Ponds clean-up.
Review of Reports – Extensive external reports were generated on this project. DFO reviewed and commented on a number of these reports.
Response to FCRs – DFO responded to two Federal Coordination Regulation requests under *CEAA* associated with two components of the overall Sydney Tar Ponds project.

The provision of advice regarding federal remediation projects, along with the site monitoring done by DFO, is an ongoing activity. Although the FCSAAP program is accelerating work on federal sites, it should be noted that the Maritimes region has been providing ongoing expertise and advice over the last 15 years for several federal high risk sites which, it is anticipated, will receive future FCSAAP funding. DFO conducted an ERE 11 for the Marrach Landfill Site, Cape Breton Highlands National Park.

The Region attended an IRWG meeting in St John's, NL on September 22 and 23, 2004. An assessment was conducted for the Marrach Landfill Site.

Table 8 - CFB Greenwood, NS Case Study

CFB Greenwood, NS Case Study

14 Wing Greenwood, is a Canadian Forces Base located near the community of Greenwood, Nova Scotia.

DFO became involved with this site at Step #7 (see chart of the ten step process), i.e., Develop Remediation/Risk Management Strategy. Two DFO personnel attended a meeting and site visit on April 14, 2004. They were briefed about the site, including the location and type of contaminants found on the Base, the risk evaluations, and options for remediation\risk management. DFO had concerns related to the effects of the contaminants, and possible remediation work, on Lower Zeke Brook.

DFO was asked to provide comments on a draft document entitled “North Side Lower Zeke Brook Environmental Management Strategy”. Following the April 2004 meeting, DFO provided comments on the proposed strategy to the Department of National Defense. DND’s reclamation strategy was revised based on the combined feedback from DFO and other reviewers. DFO followed up with additional feedback on the revised “Strategy”, in July 2004.

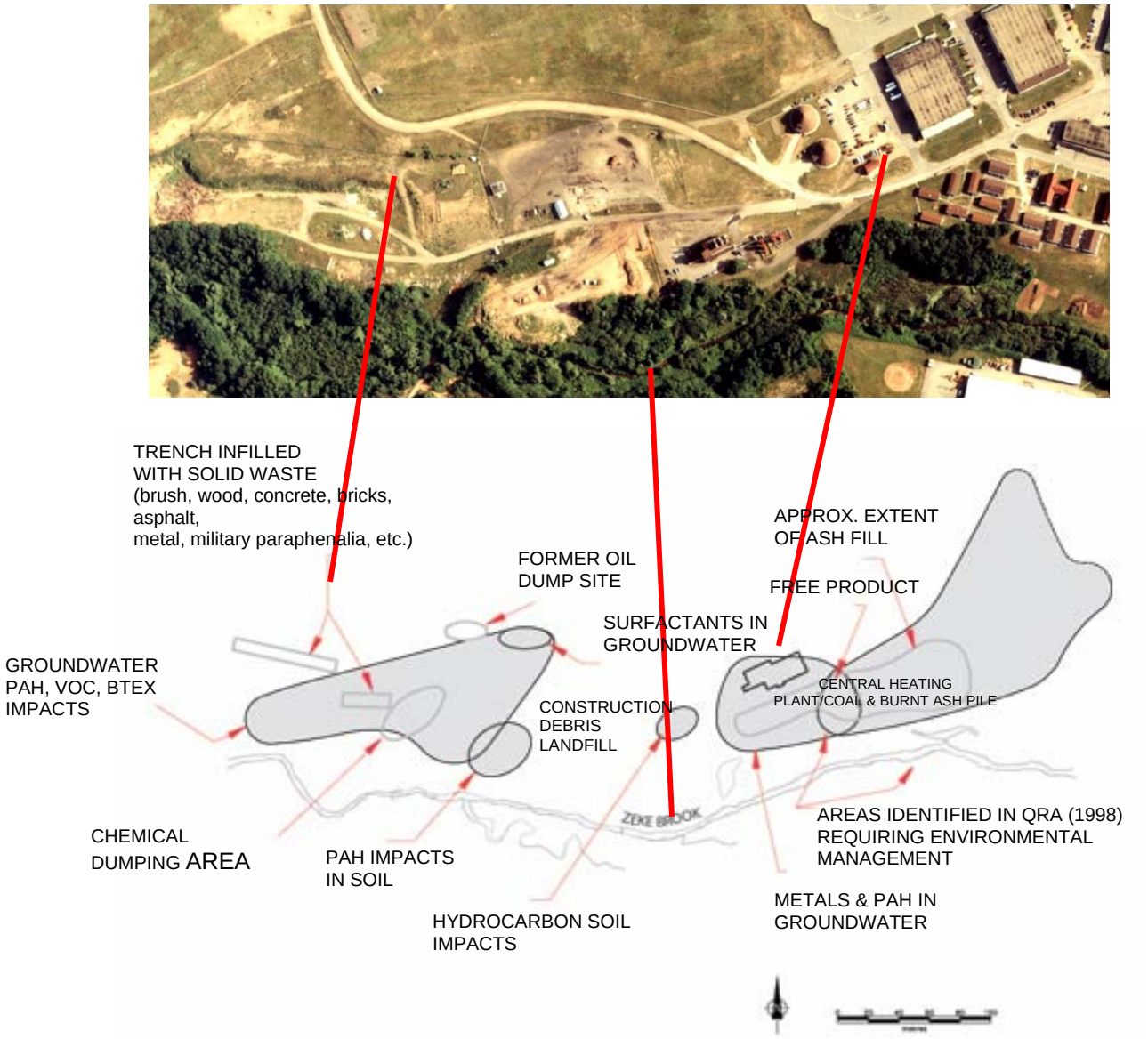
DFO also participated in Step #8, i.e., Implementation of Remediation/Risk Management Strategy. Part of the remediation work involved removal of contaminated soil next to Lower Zeke Brook. The brook substrate is composed of coarse sand with a few cobble size rocks interspersed. Water depth varied from 5 to 180 cm. The brook width varied from 1 to 4 m. Brook trout is the most important species and the associated habitat relates to the spawning, rearing, feeding and migration success of local populations.

DFO provided advice under the *Fisheries Act* and the *Canadian Environmental Assessment Act*, in relation to the work which was proposed for the area in and around Lower Zeke Brook. The advice minimized effects on fish (e.g., brook trout, banded killifish, three spine stickleback, and creek chub) and fish habitat (e.g., salmonid spawning, rearing, feeding and migration habitat) related to lowering of the water level in the brook, and the release of sediments and contaminants into the brook. Brook trout provide ecological benefits for the brook and add to its biodiversity and a locally import recreational sports fishery. DFO participation in this remediation project included review and approval of portions of Phases I, II and III of the Strategy. This participation involved meetings, site visits, design draft reviews, approval letters, post-construction visits and consultations.

CFB GREENWOOD - Contaminated Soil Excavation Work

Gagetown

DFO continued to fulfill its Expert Support role by providing guidance on an applied management approach to prevent habitat degradation and by making recommendations to DND on various fish habitat improvements. The experience and capacity building in this case will serve well for similar sites when FCSAAP funds are made available.



Lower Zeak Brook – CFB Greenwood

Gulf Region

No FCSAAP funded remediation or risk managed sites are presently located in DFO's Gulf region. Expert Support staff, however, actively contributed advice on projects requiring further assessment and with the potential for future funding under the federal program.

In total, 32 sites are on the assessment list and 18 have been identified as possible "remediation or risk management" sites.

Additionally Gulf region specialists assisted NHQ in preparing guidance documentation, identifying training needs and rolling out the DFO Expert Support program.

Six DFO sites require action within this Region.

PEI:

East Point
Souris East
Wood Islands Light
Cape Bear

New Brunswick:

Dixon Point Light
Miscou Lighthouse

In January 2005, Correctional Service Canada (CSC) submitted a proposal for a fuel spill remediation project at the Renous penitentiary, in Renous, New Brunswick. DFO (Gulf region) and Environment Canada (Atlantic region) officials met in Moncton, N.B. to discuss the specifics of the project proposal and subsequently held a conference call with the consultant for CSC. Project details were discussed and DFO determined that there was no fish habitat issue if the cleanup proceeded as proposed.

Québec Region

During 2004-05, 1 staff specialist was involved in this area's FCSAAP activities. Staff participated in the DFO experts' workshop, Vancouver, March 21-23, 2005. Staff contributed to the revision of the ERE-2 templates and sent comments to Environment Canada. Quebec Region Expert Support also provided administrative and management support to FCSAAP, including reports and communications as required. Advice to custodians was provided as requested during the year.

Table 9 - Reclamation and Risk Managed Sites in Quebec Region - 2004-2005

Federal Contaminated Sites in Quebec	
Sites	**Department**
Reclamation and Risked Managed Sites for 2004-05	
TCE Contamination Valcartier	DND
Total Sites with Project Funding: 1	
Priority List Sites	
TCE Contamination Valcartier	DND
Cap de la Tête-de-Chien	DFO
Rocher aux Oiseaux	DFO
Île Brion	DFO
Cap au Saumon	DFO

Pointe Heath	DFO
Pointe de l'Ouest	DFO
Total Sites risk-ranked for Priority List: 7	

The Nitchequon Weather Station is one site of interest to Québec DFO Expert Support. During this year, an opinion was sent to Transport Canada indicating which mitigation measures were to be added to the restoration of the Nitchequon weather station. The site is classified as Category 3 land under the James Bay and Northern Quebec Agreement (JBNQA). The soil is contaminated with hydrocarbons (C10-C50), the groundwater is contaminated with metals (Ag, Pb, Cu, Zn), ethylbenzene and xylene, and the surface water is contaminated with Pb, Ni and Ag. This is a Class 1 site. Only one federal site, Valcartier, received funding under the FCSAAP program in 2004-2005. The following summarizes the issue at Valcartier:

In the 1950s, the Canadian military began extensive use of trichloroethylene (TCE), a toxic solvent used to remove grease, in Valcartier. Following the detection in 1997 of TCE in the groundwater and the drinking water at the Valcartier Garrison, DND conducted several hydro geological studies to identify the source areas of contamination and the extent of the contaminated groundwater plume. For the most part, the contamination plume is moving toward the Jacques Cartier River in the west and the Nelson River in the east. A contamination problem was also discovered in a test area at a residual hazardous materials site. The TCE present in the groundwater is susceptible to transformation to produce degradation by-products. These by-products include vinyl chloride, trans-1,2-dichloroethylene (trans-DCE), and cis-1,2-dichloroethylene (cis-DCE), which have been detected in the groundwater, in some cases at concentrations of several tens of µg/L (vinyl chloride and cis-DCE). TCE is classified as “Probably Carcinogenic to Humans,” and vinyl chloride is considered “Carcinogenic to Humans.” Since DFO has determined that no significant fish habitat concerns exist, further advice was not required.

Central and Arctic Region

Table 10 - Federal Contaminated Sites in the Central and Arctic Region

Federal Contaminated Sites in the Central & Arctic Region		
Sites	**Department**	**Prov/Terr**
Reclamation and Risked Managed Sites for 2004-05		
Harvey Barracks	National Defence	AB
Suffield EPG	National Defence	AB
Banff National Park	Parks Canada	AB
Oxford House	INAC (On-reserve)	MB
Barren Lands (Brochet)	INAC (On-reserve)	MB
Giant Mine	INAC (Northern)	NT
Colomac Mine	INAC (Northern)	NT
Silver Bear Mines	INAC (Northern)	NT
Tundra-Taurcanis Mine	INAC (Northern)	NT
Discovery Mine	INAC (Northern)	NT

Axe Point*	INAC (Northern)	NT
Port Radium Mine	INAC (Northern)	NT
BAF 5 - Resolution Island	INAC (Northern)	NU
FOX C - Ekalugad Fiord	INAC (Northern)	NU
CAM F - Sarcpa Lake	INAC (Northern)	NU
Cape Christian*	INAC (Northern)	NU
FOX-M Hall Beach	National Defence	NU
PIN-4 Byron Bay	National Defence	NU
DYE-M Cape Dyer	National Defence	NU
Weagamow Lake	Health Canada	ON
Kasabonika	Health Canada	ON
Lansdowne House	Health Canada	ON
Belleville Small Craft Harbour	Fisheries and Oceans Canada	ON
Total Sites with Project Funding: 23		
Priority List Sites		
Harvey Barracks	National Defence	AB
Suffield EPG	National Defence	AB
Banff National Park	Parks Canada	AB
Oxford House	INAC (On-reserve)	MB
Barren Lands (Brochet)	INAC (On-reserve)	MB
Giant Mine	INAC (Northern)	NT
Colomac Mine	INAC (Northern)	NT
Silver Bear Mines	INAC (Northern)	NT
Tundra-Taurcanis Mine	INAC (Northern)	NT
Discovery Mine	INAC (Northern)	NT
Axe Point*	INAC (Northern)	NT
Port Radium Mine	INAC (Northern)	NT
BAR D - Atkinson Point	INAC NAP	NT
BAF 5 - Resolution Island	INAC (Northern)	NU
FOX C - Ekalugad Fiord	INAC (Northern)	NU
CAM F - Sarcpa Lake	INAC (Northern)	NU
Cape Christian*	INAC (Northern)	NU
FOX-M Hall Beach	National Defence	NU
PIN-4 Byron Bay	National Defence	NU
DYE-M Cape Dyer	National Defence	NU
PIN-3 Lady Franklin Point	National Defence	NU
CAM-4 Pelly Bay	National Defence	NU
FOX - 5 Broughton Island	National Defence	NU
Gladman Point	National Defence	NU
CAM-5 Mackar Inlet	National Defence	NU
CAM-1 Jenny Lind Island	National Defence	NU
FOX A - Bray Island	INAC NAP	NU
Radio Island	INAC NAP	NU
Padloping Island	INAC NAP	NU
CAM D - Simpson Lake	INAC NAP	NU
Bear Island	INAC NAP	NU

CAM-3 Shepherd Bay	National Defence	NU
PIN B - Clifton Point	INAC NAP	NU
Weagamow Lake	Health Canada	ON
Kasabonika	Health Canada	ON
Lansdowne House	Health Canada	ON
Belleville Small Craft Harbour	Fisheries and Oceans Canada	ON
Total Sites risk-ranked for Priority List: 37		

Western Arctic Area

In fiscal year 2004-05, advice under FCSAAP was provided to INAC for three abandoned mines receiving FCSAAP funding. Expert advice was also provided to Parks Canada for a contaminated site that was identified for Assessment.

During 2004-05, 1 DFO specialist advisor was involved in this area's FCSAAP activity. Staff attended one IRWG meeting (with EC, INAC, and Health Canada) in Yellowknife, where INAC provided as overview of funded mine reclamation projects.

Remediation plans for Colomac Mine, Giant Mine, and Discovery Mine were reviewed. The information provided was of good quality. Since the involvement of DFO, it is expected that there will be more information and planning regarding risk to fish and fish habitat and specific potential remedial actions. Specific regional risk management and remediation activity included:

- Giant Mine, Colomac Mine, Discovery Mine: Advice provided to INAC regarding: (1) restoration of Baker Creek at Giant Mine. (2) restoration of borrow areas at Discovery Mine; (3) remediation of fish bearing water bodies at Colomac Mine; and
- Implementation by COs of site remediation/risk management activities at Giant Mine, Colomac Mine, Discovery Mine, Sheep Creek Warden Station: LOAs and regulatory advice provided to the Mackenzie Valley Land and Water Board regarding: (1) remedial work at Giant Mine (2 LOAs); (2) remedial work at Colomac Mine (advice provided to MVLWB regarding risk to fish and fish habitat and appropriate mitigation, and advice regarding conditions of the Land Use Permit and Water License issued for the Colomac remediation Plan; (3) advice provided to the MVLWB for remedial work at the Discovery Mine; (4) advice (LOA) provided to the Parks Canada regarding activities involved in the remediation of hydrocarbon-contaminated soils at the Sheep Creek Warden Station.

Site visits were conducted at all FCSAAP remediation funded sites Colomac Mine, Giant Mine, Discovery Mine, Port Radium Mine, Silver Bear Mines, Tundra-Taucanis Mine. Identified potential issues and provided on-site advice regarding risk to fish and fish habitat and options for remediation.

Table 11 - Federal Contaminated Sites in the Western Arctic

Federal Contaminated Sites in the Western Arctic Sector		
Sites	**Department**	**Prov/Terr**
Reclamation and Risked Managed Sites for 2004-05		
Giant Mine	INAC (Northern)	NT
Colomac Mine	INAC (Northern)	NT
Silver Bear Mines	INAC (Northern)	NT
Tundra-Taurcanis Mine	INAC (Northern)	NT
Discovery Mine	INAC (Northern)	NT
Axe Point*	INAC (Northern)	NT
Port Radium Mine	INAC (Northern)	NT
Total Sites with Project Funding: 7		
Priority List Sites		
Giant Mine	INAC (Northern)	NT
Colomac Mine	INAC (Northern)	NT
Silver Bear Mines	INAC (Northern)	NT
Tundra-Taurcanis Mine	INAC (Northern)	NT
Discovery Mine	INAC (Northern)	NT
Axe Point*	INAC (Northern)	NT
Port Radium Mine	INAC (Northern)	NT
BAR D - Atkinson Point	INAC NAP	NT
Total Sites risk-ranked for Priority List: 8		

In the Western Arctic Area, Class 1 federal contaminated sites demonstrate a broad range of fish habitat degradation and contamination scenarios as is usually the case at abandoned mines sites. DFO conducted visits to all the sites which received FCSAAP funding in 2003-04 (see table 11).

No Class 2 sites in this area were funded under FCSAAP in 2003-04, however, expert advice was provided for a Parks Canada site which received FCSAAP funding for site assessment (Sheep Creek Warden Station, Ivvavik National Park, Yukon).

Site-Specific FCSAAP Expert Support Activities 2004-05 in the Western Arctic:

INAC site at Giant Mine, NWT: The Giant Mine, located just north of Yellowknife, Northwest Territories, produced gold from 1948 until 1999, and gold ore for offsite processing from 2000 until 2004. Gold in the Giant Mine ore is associated with an arsenic-bearing mineral known as arsenopyrite. The roasting process used to liberate the gold from the arsenopyrite led to production of arsenic-rich gases, which were captured in the form of arsenic trioxide dust. Approximately 237,000 tonnes of the dust is currently stored underground. The dust is approximately 60% soluble arsenic, which is hazardous to both people and the environment. Baker Creek flows through the mine site in a channel that has been heavily altered to accommodate mining, ore processing, and highway construction, and both its water and sediments are contaminated with arsenic. DFO twice provided expert advice for Giant Mine remediation and risk management works related to preventing the infiltration of water from Baker Creek into the mine workings. In addition, DFO provided expert

advice during the development of a conceptual plan which will restore the portions of Baker Creek impacted by mining activities to a natural channel.

INAC site at Colomac Mine, NWT: Colomac, located 220 km north of Yellowknife, Northwest Territories, was an open pit gold mine that operated between 1990 and 1997. There are numerous chemical and physical concerns at the site, including management of contaminated water, spills, tailings, hazardous wastes, open pits, quarries, buildings, and waste materials. Numerous fish-bearing water bodies had been impacted by past mining activities. DFO provided expert advice to the Mackenzie Land and Water Board during the review of the Colomac Remediation Plan Water License and Land Use Permit applications. This included identifying remedial activities which posed risk to fish and fish habitat, recommending measures to minimize those risks, and providing recommendations for the restoration and enhancement of fish habitat at the site.

INAC site at Discovery Mine, NWT: The Discovery Mine is an abandoned underground gold mine and townsite approximately 85 km north of Yellowknife, Northwest Territories. During its operation in the 1950's and 1960's it was one of the country's most profitable gold mines. INAC has conducted numerous environmental studies and a substantial amount of remedial work has been completed. DFO expert advice to INAC and the Mackenzie Land and Water Board regarding remediation and risk management works related to quarrying and restoration of a borrow area.

Parks Canada site at Ivvavik National Park, Yukon: The Sheep Creek Warden Station is located in Ivvavik National Park, Yukon. Hydrocarbon contaminated soil resulting from spill of heating oil from an aboveground storage tank was discovered at the site. DFO provided expert advice for remediation and risk management works related to downsizing the amount of contaminated soil at the site.

C-1 Pit - Giant Mine

Table 12 – The Giant Mine Case Study

The Giant Mine Case Study

The Giant Mine, located just north of Yellowknife, Northwest Territories, produced gold from 1948 until 1999, and gold ore for offsite processing from 2000 until 2004. The mine went into receivership and the Department of Indian and Northern Affairs (INAC) is federally responsible for the site.

Baker Creek flows through the site in a channel that has been heavily altered to accommodate mining, ore processing, and highway construction. Water and sediments are contaminated with arsenic.

Gold in the Giant Mine ore is associated with an arsenic-bearing mineral known as arsenopyrite. The roasting process used to liberate the gold from the arsenopyrite led to production of arsenic-rich gases. During the period 1951 to 1999, operators of the Giant Mine captured the arsenic-rich gases in the form of arsenic trioxide dust. Approximately 237,000 tonnes of the dust, which is approximately 60% arsenic, is currently stored underground at the mine site. Arsenic is hazardous to both people and the environment. Since the form of arsenic present in the dust is soluble, it could dissolve in water and then be transported to Baker Creek or Great Slave Lake.

C1 pit, one of eight open pits on the property, has several sinkholes where the pit bottom intersects several backfilled stopes. These sinkholes are thought to be a result of water infiltrating from Baker Creek into the pit during high water periods. In 2004 INAC decided that efforts should be made to stop this inflow.

Based on discussions, and two on-site meetings, DFO and INAC identified options to conduct work aimed at preventing the inflow of water into the mine underground without harmfully altering, disrupting or destroying Baker Creek fish habitat. DFO issued two Letters of Advice for the project: one for in-water investigative work and one for the remedial work. INAC has developed a conceptual plan which will restore affected portions of Baker Creek to a natural channel based on / incorporating DFO Expert Advice.

Eastern Arctic Area

Table 13 – Federal contaminated Sites in the Eastern Arctic

Federal Contaminated Sites in the Eastern Arctic Sector		
Sites	**Department**	**Prov / Terr**
Reclamation and Risked Managed Sites for 2004-05		
BAF 5 - Resolution Island	INAC (Northern)	NU
FOX C - Ekalugad Fiord	INAC (Northern)	NU
CAM F - Sarcpa Lake	INAC (Northern)	NU
Cape Christian*	INAC (Northern)	NU
FOX-M Hall Beach	National Defence	NU
PIN-4 Byron Bay	National Defence	NU
DYE-M Cape Dyer	National Defence	NU
Total Sites with Project Funding: 7		
Priority List Sites		
BAF 5 - Resolution Island	INAC (Northern)	NU
FOX C - Ekalugad Fiord	INAC (Northern)	NU
CAM F - Sarcpa Lake	INAC (Northern)	NU
Cape Christian*	INAC (Northern)	NU
FOX-M Hall Beach	National Defence	NU
PIN-4 Byron Bay	National Defence	NU
DYE-M Cape Dyer	National Defence	NU
PIN-3 Lady Franklin Point	National Defence	NU
CAM-4 Pelly Bay	National Defence	NU
FOX - 5 Broughton Island	National Defence	NU
Gladman Point	National Defence	NU
CAM-5 Mackar Inlet	National Defence	NU
CAM-1 Jenny Lind Island	National Defence	NU
FOX A - Bray Island	INAC NAP	NU
Radio Island	INAC NAP	NU
Padloping Island	INAC NAP	NU
CAM D - Simpson Lake	INAC NAP	NU
Bear Island	INAC NAP	NU
CAM-3 Shepherd Bay	National Defence	NU
PIN B - Clifton Point	INAC NAP	NU
Total Sites risk-ranked for Priority List: 20		

In addition to the above noted sites, expert support advice was also provided on a number of other unfunded DEW line site remediation projects the same year. The advice provided regarding these unfunded sites mirrored closely the advice for DEW line sites elsewhere, already confirmed eligible for FCSAAP funding.

In the start-up year of 2003-04, provision of advice under FCSAAP was limited to custodial departments and other stakeholders (such as the Nunavut Impact Review Board and Nunavut Water Board), as well as attendance at meetings related to clean-up activities for FCSAAP sites noted in **Table 13.**

Colomac Mine; spraying exposed Tailings
Lake tailings with water to prevent uptake by wind

Site-Specific FCSAAP Expert Support Activities 2004-05 in the Eastern Arctic:

INAC site at Ekalugad Fiord, NU:

The Ekalugad Fiord Distance Early Warning (DEW) station, located approximately 195 km south of the community of Clyde River, Nunavut. It was constructed in 1957 and closed and abandoned in 1963. This site is located at the site is a 40 ha glacial fed lake which over-winters Arctic char which migrate up a 1 km stream from the ocean to reach. Site investigations and data collection were undertaken in 2004. Equipment has been sea lifted to the site in late summer/fall 2005. Site construction will occur in the summer of 2006 and completion of the cleanup will occur in 2007. All existing site infrastructure will be demolished, non-hazardous wastes will be landfilled on site, and contaminated wastes (mainly lead-based paint materials) will be shipped south for proper disposal. It is estimated that 10, 000 abandoned oil drums on site will be removed from along a stream and landfilled. DFO provided expert advice for the Ekalugad Fiord remediation and risk management works related to culvert installation and stream cleanup.

INAC site at Sarcpa Lake, NU:

The former CAM-F DEW Line site was constructed in 1957 and subsequently closed and abandoned in 1963. The site was converted to a scientific research station in 1977 under the auspices of the Science Institute of the Northwest Territories and INAC. In 1985, a hazardous materials removal program was implemented in which visible hazardous wastes and liquids from abandoned equipment were removed. Assessments completed in 1987/88 and 1994 confirmed the presence of contaminated soil and additional hazardous materials. In 1989, a partial clean up of the walls and floors, containing PCB amended paints, was carried out to limit the exposure of workers to PCBs. An asbestos abatement program was carried out in 1997 by INAC. INAC augmented work carried out in previous years with a detailed site investigation in the summer of 2004. A site specific human health and ecological risk assessment was also completed to assist in determining suitable remediation criteria for the site. Previously containerized PCB soil wastes were also removed from the site and transported south for disposal. DFO provided expert advice for the Ekalugad Fiord remediation and risk management works related to cleanup activities near fish habitat.

A view of the beach area at the Terra Mine

DND site at Hall Beach, NU:

The Hall Beach Distance Early Warning (DEW) station, located beside the community of Hall Beach on the East shore of the Melville Peninsula in the Foxe Basin south of Igloolik, Nunavut. It is currently operated year-round as part of the NWS as a Long Range Radar Site and Logistics Support site. Detailed data collection took place from 1999-2002 in order to complete the design and development of construction drawings for the environmental cleanup. Cleanup commenced in July 2003 and is to be completed by October 2007. A site visit was conducted by DFO, DND, EC and HC in August 2004.

Prairies Area

Habitat staff in Prairies Area completed ERE assessments, and site specific reviews. Three part-time staff were assigned to FCSAAP in this Area.

One Interdepartmental Regional Working Group (IRWG) meeting took place in Winnipeg in 2004-05. The FCSAAP Expert Departments (EC, Health Canada and DFO) attended. Attendees discussed risk assessment, roles and responsibilities under FCSAAP.

Staff reviewed remediation plans for 6 sites: Banff National Park (Parks Canada), Harvey Barracks, Suffield EPG (DND) Barren Lands and Oxford (INAC) and Bushell Port Facility. Over the year staff reviewed plans, provided advice to mitigate impact to fish habitat. In some cases, DFO specialist staff must acquire the necessary information to assess potential impact to fish habitat, since custodians haven't done so. In other cases, plans themselves, provide some fish and fish habitat information.

At Bushell Port Facility, Lorado mine, Gunner Mine, Barren Lands (Brochet), Oxford House, Suffield EPG and Harvey Barracks, Letters of Advice and regulatory advice was provided to federal custodians to advise when the projects could have effects on fish habitat during the restoration/reclamation processes. DFO staff in the Prairies Area provided expert advice to other contaminated site reviews not yet identified for funding under FCSAAP.

During 2004-05, Prairies Area provided Ecological Risk Evaluation (ERE) II scores to the FCSAAP Secretariat as part of the creation of a *Priority List of Highest Risk Federal Contaminated Sites*. Contaminated sites were scored for Gunner Mine, Laredo Mine, Bushell Port Facility, Lac Brochet, Berens River, and God's Lake within the Prairies Area.

Five sites in the Prairies Area received funding in 2004-05: Banff National Park, Harvey Barracks, Suffield EPG, Barren Lands (Brochet), and Oxford House. Advice and support was provided to the Department of National Defense (DND), Indian and Northern Affairs (INAC). Contaminants include munitions, PCBs, heavy metals, PAHs or a combination of the foregoing.

Table 14 – Federal Contaminated Sites in the Prairies

Federal Contaminated Sites in the Prairies Sector		
Sites	**Department**	**Prov / Terr**
Reclamation and Risked Managed Sites for 2004-05		
Harvey Barracks	National Defence	AB
Suffield EPG	National Defence	AB
Banff National Park	Parks Canada	AB
Oxford House	INAC (On-reserve)	MB
Barren Lands (Brochet)	INAC (On-reserve)	MB
Total Sites with Project Funding: 5		
Priority List Sites		
Harvey Barracks	National Defence	AB
Suffield EPG	National Defence	AB
Banff National Park	Parks Canada	AB
Oxford House	INAC (On-reserve)	MB
Barren Lands (Brochet)	INAC (On-reserve)	MB
Total Sites risk-ranked for Priority List: 4		

Site-Specific FCSAAP Expert Support Activities 2004-05:

PARKS CANADA site at Banff National Park – Alberta: DFO staff were not involved in this project or associated remediation since it was determined that no fish habitat concerns existed.

DND site, Harvey Barracks – Alberta: This is a two-stage project which began in 2003-04, with completion scheduled for 2004-05. Contaminants at Harvey Barracks include instream munitions and affected riparian areas to fish bearing waters. DFO habitat staff provided advice regarding potential impacts to the fish resource during recovery of munitions and use of explosives during site remediation for contaminants.

DND site, Suffield (EPG) – Alberta: DFO staff were not involved in this project or the associated remediation.

INAC site at Barren Lands (Brochet) – Manitoba: DFO Habitat staff reviewed the remediation work proposed for this site and provided advice to mitigate harmful effects of the project to fish habitat.

INAC site at Oxford House – Manitoba: DFO Habitat staff reviewed the remediation work proposed for this site and provided advice to mitigate harmful effects of the project to fish habitat.

Ontario- Great Lakes Area

During 2004-05, OGLA Expert Support staff provided Ecological Risk Evaluation (ERE) II scores to the FCSAAP Secretariat as part of the creation of a *Priority List of Highest Risk Federal Contaminated Sites*. Two contaminated sites were scored in Ontario: Kingfisher Lake and Moose Factory Hospital, which includes 11 Areas of Concern. Both of these sites represented potential risk to fish habitat during reclamation/restoration activities. Neither of these sites had previously been funded under FCSAAP. These sites represent contamination associated with First Nations community nursing stations. The range of contaminants included petroleum hydrocarbons, metals and BTEX.

Four sites in Ontario received funding in 2004-05: Belleville Small Craft Harbour, Weagamow Lake, Kasabonika and Landsdown House. ERE II scores were prepared by DFO for these sites in 2003-04. Both the Belleville and Weagamow sites received additional funding in 2003-04. These sites represent disparate contaminants normally associated with harbours and First Nations community nursing stations. The range of contaminants includes petroleum hydrocarbons, heavy metals and PAHs.

Ontario FCSAAP specialist staff supported DFO's responsibilities related to contaminated sites within Ontario through:

- Attending one meeting at the Environment Canada office in Downsview, Ontario at which all the FCSAAP Expert Departments (EC, Health Canada and DFO) participated. The purpose of the meeting was to discuss FCSAAP roles and responsibilities and contaminated sites in Ontario. Also discussed was the need for and proposed membership for a regional Ontario IRWG;
- Completion of 2 EREs completed at Kingfisher Lake and Moose Factory Hospital. The ERE scores were submitted to Environment Canada;
- Participating in the clean-up planning of various contaminated sites across Ontario. Some of these are federally owned, but have not yet been identified for funding under FCSAAP; and
- Contributing to the Announcement by the Minister, in May 2005, of the Belleville Harbour Environmental Remediation Plan in partnership with City of Belleville. The Harbour is of local economic importance. The plan will result in implementation of remediation and environmental risk management measures anticipated to cost several million dollars.

Table 15 – Federal Contaminated Sites in the Great Lakes Area

Federal Contaminated Sites in the Great Lakes Area		
Sites	**Department**	**Prov / Terr**
Reclamation and Risked Managed Sites for 2004-05		
Weagamow Lake	Health Canada	ON
Kasabonika	Health Canada	ON
Lansdowne House	Health Canada	ON
Belleville Small Craft Harbour	DFO	ON
Total Sites with Project Funding: 4		
Priority List Sites		
Weagamow Lake	Health Canada	ON
Kasabonika	Health Canada	ON
Lansdowne House	Health Canada	ON
Belleville Small Craft Harbour	DFO	ON
Total Sites risk-ranked for Priority List: 4		

Seven Ontario sites were identified for assessment and received funding in 2004-05. An additional two Ontario sites were identified for assessment but did not receive funding in 2004-05.

During February 2005, OGLA Expert Support staff participated in a meeting convened by Environment Canada. DFO, EC and Health Canada participated in the meeting and discussed the FCSAAP program, roles and responsibilities of expert and custodial departments and contaminated site activities in Ontario. The need for an Interdepartmental Regional Working Group to facilitate the FCSAAP program was discussed. Following the meeting, information and recommendations were shared.

In March 2005, Expert Support specialists attended the DFO National Expert Support Workshop in Vancouver. OGLA Expert Support also provided input to NHQ regarding the RMAF and the Handbook for DFO Practitioners. Comments were also provided to NHQ regarding the DFO portion of the ERE II worksheets.

In addition to activities funded or assessed under the FCSAAP program, Ontario Expert Support staff continued to participate in the clean-up planning of various contaminated sites, including some with federal ownership but not presently identified for funding under FCSAAP. DFO has also been engaged in discussions regarding federal involvement in other contaminated sites issues in Ontario, such as the remediation of decommissioned radar sites in northern Ontario (mid Canada line).

Pacific and Yukon Region

In 2004-05, the P&Y Region provided input into DFO National Program Administration, including input/advice on (a) revisions to the DFO ERE 2 Rating form, (b) RMAF and (c) terms of reference for a proposed national coordinating group for DFO expert advice; and ad hoc advice to other regions regarding DFOs role. DFO Expert Support staff met with INAC & Government of the Yukon representatives to brief them on DFO's specialist FCSAAP role. The Region also undertook multiple meetings with EC.

The Carmanah Light Station on the Historic West Coast Lifesaving Trail

Regional staff attended two (and hosted one) national DFO ES workshops, and participated fully. On the management side, staff co-ordinated Regional budget planning and implementation and reporting; and regional staffing.

RHQ hosted workshop and attendance, participation by both RHQ and 5 Areas (NCA/LFA/BCI/SCA/YTRA). Provided overview of regional activities and issues; and coordinated a site visit to a local contaminated site remediation project (Versatile Shipyards). The site visit provided an opportunity for all participants from across the country to learn as a group about approaches, roles and responsibilities of expert support in the context of an existing contaminated site. The Versatile site is not a federal contaminated site.

Table 16 – Glacier National Park – BC Case Study

Parks Canada-Maintenance Compound- Glacier National Park, BC Case Study

DFO-ES (Expert Support) first became aware of the Parks Canada-Glacier National Park (PCGNP) maintenance compound contaminant issue during the 04-05 funding proposal process in late 2003. At that time, DFO had neither visited the site nor were directly involved. DFO provided the site custodian department with full information regarding fish species associated with the site. Some rare habitat and species of concern (e.g. Bull Trout, a BC provincial blue-listed species), were known to be present in the immediate vicinity of the site. These resources [the habitat and the fish] could be at risk due to encroachment of the maintenance yard activities into the riparian zone.

The Glacier National Park is within The Sewepemc (Shuswap) 1st Nation's traditional territory. The Secwepemc Fisheries Commission (SFC) had been working with PCA to prepare a report outlining: (a) harm to the creek; (b) restoration and mitigation to remediate the current damage and to prevent further impact. DFO supported SFC concerns and developed an arrangement whereby SFC would continue to work with PCA on DFO's behalf.

In October 2004, FCSAAP Expert Support Departments (EC/DFO/HC) conducted a site visit resulting in identification of a number of contaminant and physical fish habitat concerns. Subsequently, recommended actions were identified (EC letter to PCA, Nov. 2004). These concerns included: leakage of contaminants from fuel and chemical handling and storage areas; encroachment of sand into the creek adjacent to the maintenance yard; ongoing erosion in the sand and salt storage area.

During FY 04-05, DFO continued to work with PCA and EC-ES(Expert Support) in reviewing project reports and providing advice to the CO regarding further site assessment, contaminated soil remediation and creek restoration. This included review of the detailed site assessment report "Delineation of subsurface contamination, Rogers' Pass Maintenance Compound, Glacier National Park, BC" by Golder Associates.

Anticipated works at the site for 2005-06 include removal of contaminated soil and restoration of Rogers Pass Creek. DFO-ES will continue to provide guidance and advice on contaminant assessment and excavation priorities, remediation, restoration, and monitoring of restored habitat.

In the Pacific and Yukon Region, overall regional administration of FCSAAP is provided through regional headquarters (RHQ) in Vancouver, however, technical reviews and expert support on specific projects and to custodial departments is provided through both the Whitehorse (Yukon and Transboundary Area sites) and RHQ-Vancouver (BC sites) offices. Accordingly, FCSAAP activities in the two areas are discussed separately, below.

Table 17 - Federal Contaminated Sites in Pacific & Yukon Region

Federal Contaminated Sites in the Pacific and Yukon Region		
Sites	**Department**	**Prov / Terr**
Reclamation and Risked Managed Sites for 2004-05		
Colwood Aggregate	National Defence	BC
Rock Bay	Transport Canada	BC
BC-01	Environment Canada	BC
Cape Mudge	Fisheries and Oceans Canada	BC
Estevan Point	Fisheries and Oceans Canada	BC
Egg Island	Fisheries and Oceans Canada	BC
Chatham Point	Fisheries and Oceans Canada	BC
Cape Beale	Fisheries and Oceans Canada	BC
Carmanah Point	Fisheries and Oceans Canada	BC
Pachena Point	Fisheries and Oceans Canada	BC
Quatsino (Kains Island)	Fisheries and Oceans Canada	BC
Scarlett Point	Fisheries and Oceans Canada	BC
Trial Islands	Fisheries and Oceans Canada	BC
Langara Island	Fisheries and Oceans Canada	BC
Lennard Island	Fisheries and Oceans Canada	BC
Entrance Island	Fisheries and Oceans Canada	BC
Merry Island	Fisheries and Oceans Canada	BC
Nootka Island	Fisheries and Oceans Canada	BC
Chrome Island Range	Fisheries and Oceans Canada	BC
Pine Island	Fisheries and Oceans Canada	BC
Green Island	Fisheries and Oceans Canada	BC
Ivory Island	Fisheries and Oceans Canada	BC
McInnes Island	Fisheries and Oceans Canada	BC
Glacier National Park	Parks Canada	BC
Faro Mine	INAC (Northern)	YT
Mount Nansen Mine	INAC (Northern)	YT
Clinton Creek Mine	INAC (Northern)	YT
United Keno Hill Mine	INAC (Northern)	YT
Total Sites with Project Funding: 28		
Priority List Sites		
Colwood Aggregate	National Defence	BC
Rock Bay	Transport Canada	BC
BC-01	Environment Canada	BC
Cape Mudge	Fisheries and Oceans Canada	BC
Estevan Point	Fisheries and Oceans Canada	BC
Egg Island	Fisheries and Oceans Canada	BC
Chatham Point	Fisheries and Oceans Canada	BC
Cape Beale	Fisheries and Oceans Canada	BC
Carmanah Point	Fisheries and Oceans Canada	BC
Pachena Point	Fisheries and Oceans Canada	BC

Quatsino (Kains Island)	Fisheries and Oceans Canada	BC
Scarlett Point	Fisheries and Oceans Canada	BC
Trial Islands	Fisheries and Oceans Canada	BC
Langara Island	Fisheries and Oceans Canada	BC
Lennard Island	Fisheries and Oceans Canada	BC
Entrance Island	Fisheries and Oceans Canada	BC
Merry Island	Fisheries and Oceans Canada	BC
Nootka Island	Fisheries and Oceans Canada	BC
Chrome Island Range	Fisheries and Oceans Canada	BC
Pine Island	Fisheries and Oceans Canada	BC
Green Island	Fisheries and Oceans Canada	BC
Ivory Island	Fisheries and Oceans Canada	BC
McInnes Island	Fisheries and Oceans Canada	BC
Glacier National Park	Parks Canada	BC
Bonilla Island Sector	Fisheries and Oceans Canada	BC
Cape Scott	Fisheries and Oceans Canada	BC
Addenbroke Island	Fisheries and Oceans Canada	BC
Boat Bluff	Fisheries and Oceans Canada	BC
Portlock Point	Fisheries and Oceans Canada	BC
Dryad Point	Fisheries and Oceans Canada	BC
Ballenas Island	Fisheries and Oceans Canada	BC
Discovery Island	Fisheries and Oceans Canada	BC
Pulteney Point	Fisheries and Oceans Canada	BC
Active Pass	Fisheries and Oceans Canada	BC
Saturna Island Sector	Fisheries and Oceans Canada	BC
Victoria Base	Fisheries and Oceans Canada	BC
Triple Islands	Fisheries and Oceans Canada	BC
Faro Mine	INAC (Northern)	YT
Mount Nansen Mine	INAC (Northern)	YT
Clinton Creek Mine	INAC (Northern)	YT
United Keno Hill Mine	INAC (Northern)	YT
Total Sites risk-ranked for Priority List: 41		

Yukon and Transboundary Area

In 2004-05, the types of sites addressed in the Yukon included four high-profile Northern insolvent mine sites with which DFO staff have been involved for a long period of time and were already familiar. At these abandoned mine sites, key concerns around fish and fish habitat include potential scenarios involving the loss of containment of tailings at dams and retention ponds. The resulting contamination of waters downstream could affect fish habitats and the international and local aboriginal, subsistence, commercial and sports fisheries that depend on the fish produced in those waters.

Fish and fish habitat concerns include the risk of short-term release of contaminants due to catastrophic failure of containment structures and the long term release of liquid effluents and seepage from the mine sites. Contaminants associated with these sites

include metals and, to a lesser extent, process chemicals and hydrocarbons. It is of prime importance that local and First Nation governments are satisfied that fisheries are not negatively affected by remediation or risk-management measures taken at the contaminated site.

Experience with the Yukon Land Claims Umbrella Final Agreement and Northern governance devolution is key to the effectiveness of FCSAAP Expert Support staff in the Yukon because these instruments and agreements define the administrative environment for the territory.

Longstanding working relationships with DFO's counterparts at EC and colleagues at INAC, positioned DFO to deliver the FCSAAP program and provide ongoing advice on funded and emerging high-risk sites or areas of concern. This existing capacity proved to be an asset when rolling out the Expert Support program in 2004-05 and is the foundation for the working relationships within the Interdepartmental Regional Working Group.

In 2004-05, work included the completion of ERE II scoring for 30 projects submitted for 2004-05 FCSAAP project funding.

A panorama of the more than 55 million tones of TAILINGS in the Rose Creek Valley at the Faro mine

BC Area

In the fiscal year 2004-05 DFO provided expert support and advice to custodial Departments with high risk federal contaminated sites, including PCA, DND, TC, INAC, EC and DFO. In addition to federal sites submitted for FCSAAP funding, DFO Pacific Region was involved in reviewing a number of federal contaminated sites not funded under the program, including an authorization for TC to relocate a stream as part of removing contaminated soils at the Tofino Airport (TC); the Black Bridge (INAC), Airport Creek (TC, DND) and Seal Cove (DFO).

The risk-ranking of sites to be considered for 2004-05 funding was completed by DFO staff and include ERE II scoring. As part of this peer review process, DFO met with custodians or their consultants. Sites evaluated for ecological risk included: Rock Bay (TC), Colwood Aggregates (DND), BC-01 (EC), Victoria Coast Guard Base (DFO-CCG); Glacier National Park Maintenance Compound (PCA). In addition, in conjunction with EC, DFO Pacific Region co-funded a contractor to complete the ERE II scoring for risks to fish and fish habitat at 32 manned West Coast light stations. In specific cases, DFO was

involved in reviewing certain light stations, for example Pt. Atkinson, in more depth than others.

During FY 2004-05, Pacific and Yukon Region were active in the development of the FCSAAP Regional Inter-departmental Working Group (RIWG) chaired regionally by EC Expert Support. The Region participated fully in meetings, outlining DFO's expert support role and the expertise available to custodial Departments, in the design and implementation of their site remediation and risk assessment strategies.

The provision of specialist advice regarding both federal and non-federal contaminated site remediation is an ongoing activity, which predates the FCSAAP program. Traditionally, the Habitat and Enhancement Branch in Pacific and Yukon Region has worked closely with EC to promote a coordinated federal approach to remediation at sites with potential impacts to fish and fish habitat. Over the last 15 years, workload associated with assessment and remediation of contaminated sites has steadily increased in the Pacific Region. In many cases, the Region has already had significant ongoing involvement with federal contaminated sites that were not initially funded under FCSAAP in 2004-05, such as the Esquimalt Harbour projects. At Esquimalt for example, site remediation was advanced by a *Fisheries Act* authorization to relocate a fueling jetty at the (CFB) Colwood site.

Both Victoria Harbour, managed by TC, and Esquimalt Harbour, managed by DND and PWGSC, are complex remediation challenges because they involve multiple properties and sites, and a variety of contaminants such as PCBs; metals, copper, zinc, tributyltin; PAHs and various petroleum hydrocarbons. The sources of contamination at these sites are also diverse, involving military operations (fuel handling, metal plating); municipal storm water discharges, gasification plants, municipal and industrial landfills. For example, the Rock Bay area in Victoria's Upper Harbour has historically been the site of commercial and industrial development, including coal gasification, tanning, saw mill operations, dumping and infilling. These operations resulted in contamination of soils and groundwater around Rock Bay, as well as sediment within the bay itself. The principal components of concern at the site include ammonia, cyanide, hydrocarbon fuels (e.g. mineral oil and grease, light and heavy extractable petroleum hydrocarbons), heavy metals, sulphate, polycyclic aromatic hydrocarbons (PAHs) and PCBs.

DFO, together with EC and the province of British Columbia have been involved in the Rock Bay site since the mid-1990's. Recent remediation activities include the removal and disposal of contaminated upland soils, and of coal tar impacted sediments at the head of the Bay. Following a review of a proposal to alter fish habitat, in April 2004, DFO granted a *Fisheries Act* authorization to TC Canada and BC Hydro and Power Authority to permit the harmful alteration, disruption and destruction of fish habitat related to remediation of inter-tidal and shallow sub-tidal substrates within Rock Bay. Further assessment and provision of expert advice by DFO will continue at this and other federal sites within both Victoria and Esquimalt harbours.

Mount Nansen Mine

5. FINANCIAL REPORT

Table 18 provides a financial summary comparison for fiscal years 2003-04 to 2004-05. In 2004-05, DFO received $2M in funding for 12 FTEs and program roll-out.

Table 18 - Planned vs. Actual Expenditures

	Planned		Actual	
	2003-04	2004-05	2003-04	2004-05
Salaries	560,000	840,000	271,016	662,119
EBP	112,000	168,000	54,203	132,424
O&M	577,200	882,800	279,891	469,715
Sub-total	1,249,200	1,890,800	605,110	1,264,258
PWGSC Accommodation	72,800	109,200	72,800	109,200
EBP Adjustment			57,797	35,576
Variance			36,504	110,966
Carry Forward*			549,789	370,000
NCR transfer to OEC**				110,000
Expert Support Total	**1,322,000**	**2,000,000**	**1,322,000**	**2,000,000**

*Carry forward of 40K for Salary and 330K for O&M
**Transfer to OEC 70K for salary and 30K for O&M

Surplus Funds Reallocated

As reported in the per 2003-04 annual report, $549,789 in DFO Expert Support funds were returned to the program Secretariat and later used for remediation work at the Harvey Barracks (DND) and at the BC#1 (EC) sites.

Human Resources Summary for 2004-05

The allocation of person year resources is shown in **Table 19**.

Table 19 - FCSAAP DFO Person-Year Allocations, 2004-05

FTEs	HQ	REGIONS	Totals
Funded	3	9.0	12
Staffed	1.46	7.7	9

The Vangorda Mine pit on the Vangorda plateau; part of the larger Faro Mine complex

DFO Expert Support Resources

During 2004-05, although adequate resources were provided for specialists through previous TB submissions, the Department was unable to staff to capacity since the actual transfer of funding to the Department was not completed until well into the FY.

Positions were staffed at NHQ, however, and regional staffing was conducted on an acting basis by means of short-term (sometimes rotational) assignments to HM staff with similar background working experience. In regions, where workloads were anticipated as requiring less than a full-time staff person, or because of the geographic nature of the region, individuals were assigned only partial responsibilities for FCSAAP activities and resourced accordingly. Contractors were hired (mainly at NHQ) to assist in implementing DFO's FCSAAP role.

The later allocation of resources also presented difficulties in conducting site visits, considering the short timing windows for these, given the many remote locations and also held up was the initiation of some planned activities resulting in an under-expenditure of funds in 2004-05. With the completion of the DFO Expert Support RMAF, work plans, an aggressive staffing process and solidifying the DFO Expert Support consultative process, the full complement of DFO support funding should be utilized next FY.

6. NEXT STEPS FOR FISCAL YEAR 2005-06

In the coming FY 2005-06 DFO Expert Support will concentrate on strengthening its current contribution to the program and coming to terms with the FCSAAP Secretariat's proposed enhanced program which would, among other changes, broaden project eligibility. In addition to requiring some adjustments to the FCSAAP and DFO Expert Support RMAFs, an enhanced program would most certainly increase the level of effort and scope of work required from DFO Expert Support staff in providing science-based and technical support to custodians and to the Program Secretariat.

An expanded project funding eligibility translates into additional sites to review and visit which leads to a greater work load. DFO regional staff will continue to work with custodial departments and agencies, by providing excellent specialist advice and staff will follow the remediation and risk management activities at sites to ensure the protection of fish and fish habitat resources and promote compliance with pertinent federal legislation.

DFO is currently addressing the challenges that it has faced to date in rolling out this program. DFO Expert Support will continue to develop its program management measures (A Framework for DFO Expert Support Role) and improving the quality of DFO Expert Support program delivery in concert with the Department's own long-term objectives. In 2005-06 DFO is prepared to implement a strong Expert Support program.

Preliminary work planning for the next fiscal year has identified the following key activities for 2005-06:

- Ramp up staffing capacity, especially north of 60^{o};
- Further improve and develop information management tools and systems as a basis for improved reporting and accounting;
- Continue to develop practitioner's guides and other guidance materials;
- Assess internal and external training needs;
- Work with the FCSAAP Secretariat in streamlining and improving environmental risk evaluation procedures and criteria (ERE level 2 guidance); and
- Conduct Site visits to remote sites.

7. CONCLUSIONS

The Department's FCSAAP Expert Support role has been described elsewhere in this report and adequately defined in the DFO program RMAF for Expert Support. In 2004-05 DFO used the resources provided by TB to manage staff and provide program services and program management accountability.

DFO Expert Support, during this fiscal year, continued to develop and improve internal program management tools, including resource work plans, allocation and staffing plans, improved information management, draft guidance documentation and a national workshop for DFO practitioners. Consideration was also given to the development of training opportunities for in-house and custodial department FCSAAP site staff.

DFO Expert Support assisted over 15 custodial departments in effectively risk assessing or peer reviewing ecological risk assessments involving 94 identified high risk sites, and visiting and reviewing and reporting on 58 sites receiving FCSAAP funding that custodial

departments are either reclaiming or risk managing. Additionally DFO Expert Support provided specialist advice on sites in Nova Scotia, Saskatchewan and elsewhere, technically outside the FCSAAP program, but of federal interest.

Requisite to advising the FCSAAP Secretariat, DFO Expert Support provided advice through the CSMWG and regionally through Interdepartmental Regional Working Groups. Assistance was provided to the Secretariat and EC in the application of ecological risk assessment techniques and risk ranking methods by assessing indicators and improving the delivery of the ERE process and FCSAAP information management.

While many of DFO's expert support activities were carried out prior to FCSAAP, the program provides a more nationally consistent and integrated opportunity for addressing the fish and fish habitat concerns associated with many of Canada's high risk federal contaminated sites.

The following key DFO Expert Support priorities were identified in the 2003-04 report and carried out in 2004-05:

- Develop a 2004-05 workplan and forward-looking multi-Year (2005-08) work planning for DFO Expert Support;
- Staffing opportunities;
- Guidance documentation for DFO practitioners;
- Finalizing the Results-based Management and Accountability Framework (RMAF) for DFO's contaminated sites expert support program;
- Establish a DFO National Federal Contaminated Sites Management Committee; and
- Deliver a DFO National Federal Contaminated Sites Workshop.

8. APPENDICES

Appendix A - Federal Contaminated Sites Identified for Assessment

Federal Contaminated Sites Identified for Assessment Funded Under FCSAAP 2004-05			
Site Name	Department	Region	Province
Pastures (60 in Manitoba and Sask.)	Agriculture and Agri-Food Canada	C&A	AB
PFRA Dauphin Warehouse	Agriculture and Agri-Food Canada	C&A	MB
Jerseyville	Agriculture and Agri-Food Canada	C&A	ON
Avondale	Agriculture and Agri-Food Canada	C&A	ON
Wild Horse Border Crossing	Canadian Border Services Agency	C&A	AB
Big Beaver Border Crossing	Canadian Border Services Agency	C&A	SK
Willow Creek Border Crossing	Canadian Border Services Agency	C&A	SK
Calgary Lab	Canadian Food and Inspection Agency	C&A	AB

North Portal Animal Quarantine Station	Canadian Food and Inspection Agency	C&A	AB
Nisku Animal Quarantine Station	Canadian Food and Inspection Agency	C&A	AB
Coutts Animal Inspection Station	Canadian Food and Inspection Agency	C&A	AB
Ottawa (Nepean) Lab	Canadian Food and Inspection Agency	C&A	ON
Bowden Institution Former Firing Range	Corrections Canada	C&A	AB
Frontenac Institution Quarry Road Landfill	Corrections Canada	C&A	ON
Wise Point Area	INAC (Northern)	C&A	NT
El Bonanza	INAC (Northern)	C&A	NT
Cape Young Area	INAC (Northern)	C&A	NU
Regan Lake	INAC (Northern)	C&A	NU
Global Positioning Observatory in Priddis	NRCAN	C&A	AB
Waterton Lakes UST Site	Parks Canada	C&A	AB
Waterton Lakes Barrel Storage	Parks Canada	C&A	AB
Jasper C1 JNP Maintenance Compound	Parks Canada	C&A	AB
Jasper C3 Townsite Block S Site	Parks Canada	C&A	AB
Waterton Lakes Waste Disposal Midden	Parks Canada	C&A	AB
Riding Mountain Boreal Island Construction Sites	Parks Canada	C&A	MB
Riding Mountain Former Small Landfills	Parks Canada	C&A	MB
Central Ontario Trenton Parking Lot	Parks Canada	C&A	ON
Northern Prairie Waskesiu Breakwater	Parks Canada	C&A	SK
Shamattawa - detachment	RCMP	C&A	MB
Ft. McPherson - detachment	RCMP	C&A	NT
Deline - detachment	RCMP	C&A	NT
Holman Island- detachment	RCMP	C&A	NT
Tulita - detachment	RCMP	C&A	NT
Windsor - detachment	RCMP	C&A	ON
Ottawa- college	RCMP	C&A	ON
Moose Lake - detachment	RCMP	C&A	SK
Iqaluit Airport	TRANSPORT	C&A	NU
Resolute Bay Airport	TRANSPORT	C&A	NU
Woodstock Animal Inspection Station	Canadian Food and Inspection Agency	MAR	NB
Dartmouth Lab	Canadian Food and Inspection Agency	MAR	NS
Baddeck - detachment	RCMP	MAR	NS
Ingonish Beach - detachment + 4 MQs	RCMP	MAR	NS
Sheet Harbour + 3 MQs	RCMP	MAR	NS

Port Aux Basques Vehicle Inspection Station	Canadian Food and Inspection Agency	NF	NF
LBD- Forteau - detachment plus 2 MQs	RCMP	NF	NF
Glovertown - detachment + 1MQ	RCMP	NF	NF
Anthony - detachment plus 3 MQs	RCMP	NF	NF
Harbour Breton - det.- + 4 MQs	RCMP	NF	NF
Port Saunders - det- plus 5 MQs	RCMP	NF	NF
Bay D'Espoir	TRANSPORT	NF	NF
Roosville Border Crossing	Canadian Border Services Agency	P&Y	BC
Cascade Border Crossing	Canadian Border Services Agency	P&Y	BC
Willingdon Green Lab	Canadian Food and Inspection Agency	P&Y	BC
Kingsgate Animal Inspection Station	Canadian Food and Inspection Agency	P&Y	BC
Matsqui Institution District Heating System	Corrections Canada	P&Y	BC
BC-01	EC	P&Y	BC
Western Arctic Sheep Creek	Parks Canada	P&Y	YK
Coquitlam Range	RCMP	P&Y	BC
Alexis Creek - detachment	RCMP	P&Y	BC
Telegraph Creek - detachment	RCMP	P&Y	BC
Wells - detachment	RCMP	P&Y	BC
Masset - detachment	RCMP	P&Y	BC
Sandspit Airport	TRANSPORT	P&Y	BC
Whitehorse International Airport	TRANSPORT	P&Y	YK
Mirabel Animal Quarantine Station	Canadian Food and Inspection Agency	QC	QC
Mining Research Facility in Val d'Or	NRCAN	QC	QC
Mingan Ancien phare de la petite Île-au-marteau	Parks Canada	QC	QC
Rimouski - detachment	RCMP	QC	QC
Lac Megantic - detachment	RCMP	QC	QC
Rivière-du-Loup- detachment	RCMP	QC	QC
Coaticook - detachment	RCMP	QC	QC
Joliette- detachment	RCMP	QC	QC
St-Hyacinthe - detachment	RCMP	QC	QC
Quai de Kégaska	TRANSPORT	QC	QC
Quai de La Tabatière	TRANSPORT	QC	QC
Quai de Natashquan	TRANSPORT	QC	QC
Quai de Harrington Harbour	TRANSPORT	QC	QC

Federal Contaminated Sites Identified for Assessment but not FCSAAP Funded in 2004-05			
Site Name	Department	Region	Province
CFB Suffield	DND	C&A	AB
4 Wing, Air Weapons Range Assessment	DND	C&A	AB
Waterton Lakes Prince of Wales Hotel	Parks Canada	C&A	AB
Waterton Lakes Trade Waste Pit	Parks Canada	C&A	AB
WATC Wainright	DND	C&A	AB
Putakawagan-detachment	RCMP	C&A	MB
Camlaren Mine	INAC (Northern)	C&A	NT
Bullmoose	INAC (Northern)	C&A	NT
Indin Lake	INAC (Northern)	C&A	NT
Reindeer Station	INAC (Northern)	C&A	NT
Nunavut Quttinirpaaq Fuel Caches	Parks Canada	C&A	NU
Unnamed Lake # 2	INAC (Northern)	C&A	NU
Coronation Gulf Area # 2	INAC (Northern)	C&A	NU
Rusty Lake	INAC (Northern)	C&A	NU
Pittsburgh Institution Marsh	Corrections Canada	C&A	ON
CFB Petawawa	DND	C&A	ON
Moose Jaw	Agriculture and Agri-Food Canada	C&A	SK
La Loche - detachment	RCMP	C&A	SK
Consolidated Beta Gama	INAC (Northern)	C&A	NU
Harrington	Agriculture and Agri-Food Canada	Gulf	PEI
Kentville	Agriculture and Agri-Food Canada	MAR	NS
Dorchester Penitentiary District Heating System	Corrections Canada	MAR	NB
St.-John's	Agriculture and Agri-Food Canada	NF	NF
Springdale - detachment-Att.MQ	RCMP	NF	NF
Port Aux Basques	TRANSPORT	NF	NF
Fortune Harbour	TRANSPORT	NF	NF
Port of Marystown	TRANSPORT	NF	NF
Coastal BC Long Beach Service Station	Parks Canada	P&Y	BC
Nelson - detachment	RCMP	P&Y	BC
Watson Lake Airport	TRANSPORT	P&Y	YK
Lac St-Pierre UXO	DND	QC	QC
Sept-Îles - detachment	RCMP	QC	QC

Trois-Rivières - detachment	RCMP	QC	QC
Quai de Rimouski	TRANSPORT	QC	QC
Quai de gros Cacouna	TRANSPORT	QC	QC

National Class Assessments	
Funded	**Department**
Specified Major Facilities Phase 3	Department of Fisheries and Oceans
Lightstations	Department of Fisheries and Oceans
Small Craft Harbours	Department of Fisheries and Oceans
Hydrometric Stations - Phase 3	Environment Canada
South Escarpment Landfills	Department of National Defence
Radio Repeaters Sites (62)	RCMP
Various location-Transient quarters	Royal Canadian Mounted Police
Hydraulics Lab	Agriculture and Agri-Food Canada
Island - MQs	RCMP
Not Funded	**Department**
Secteur essais	Department of National Defence

Appendix B - Abbreviations

ADM	Assistant Deputy Minister
BC	British Columbia
BCI	British Columbia Interior
CCME	Canadian Council of Ministers of the Environment
CFS	Canadian Forces Station
CSMWG	Contaminated Sites Management Working Group
DCE	Dichloroethylene
DEW Line	Distant Early Warning
DFO	Department of Fisheries and Oceans
DFO-CCG	Department of Fisheries and Oceans – Canadian Coast Guard
DFO-ES	Department of Fisheries and Oceans - Ecological Services
DND	Department of National Defense
EA	Environmental Assessment
EC	Environment Canada
EC-ES	Environment Canada – Environmental Stewardship
EPG	Environmental Proving Ground
ERE	Ecological Risk Evaluation
FCSAAP	Federal Contaminated Sites Accelerated Action Plan
FCSI	TB Federal Contaminated Sites Inventory
FY	Fiscal Year
HADD	Harmful alteration, disruption or destruction
HC	Health Canada
HPSB	Habitat Program Services Branch

IIAP	Indian and Inuit Affairs Program of Indian and Northern Affairs Canada
INAC	Indian and Northern Affairs Canada
IRWG	Interdepartmental Regional Working Group (Also referred to as RIWG = Regional Interdepartmental Working Group)
IUCN	International Union for the Conservation of Nature
LFA	Lower Fraser Area
LOA	Letter of Agreement
NAP	Northern Affairs Program (Indian Affairs and Northern Development)
NCA	North Coast Area
NCS	National Classification System (CCME)
NHQ	National Headquarters
OEC	Office of Environmental Coordination
OGLA	Ontario Great Lakes Area
PAH	polycyclic aromatic hydrocarbons
PATH	Program Activity Tracking for Habitat
PCA	Parks Canada Agency
PCBs	polychlorinated biphenyls
PWGSC	Public Works and Government Services Canada
RHQ	Regional Headquarters
RCMP	Royal Canadian Mounted Police
RMAF	Results based Management Accountability Framework
SLRA	Screening level risk assessments
SCA	South Coast Area
TBS	Treasury Board Secretariat
TC	Transport Canada
TCE	Trichloroethylene
TPH	Total petroleum hydrocarbons
YTRA	Yukon Transboundary Rivers Area