



Federal Contaminated Sites

Innovative Solutions for Federal Contaminated Sites Workshop Prairie and Northern Region

**Overview of the Federal Contaminated Sites
Program and Synopsis of Federal Contaminated
Sites Issues**

October 15, Banff, Alberta

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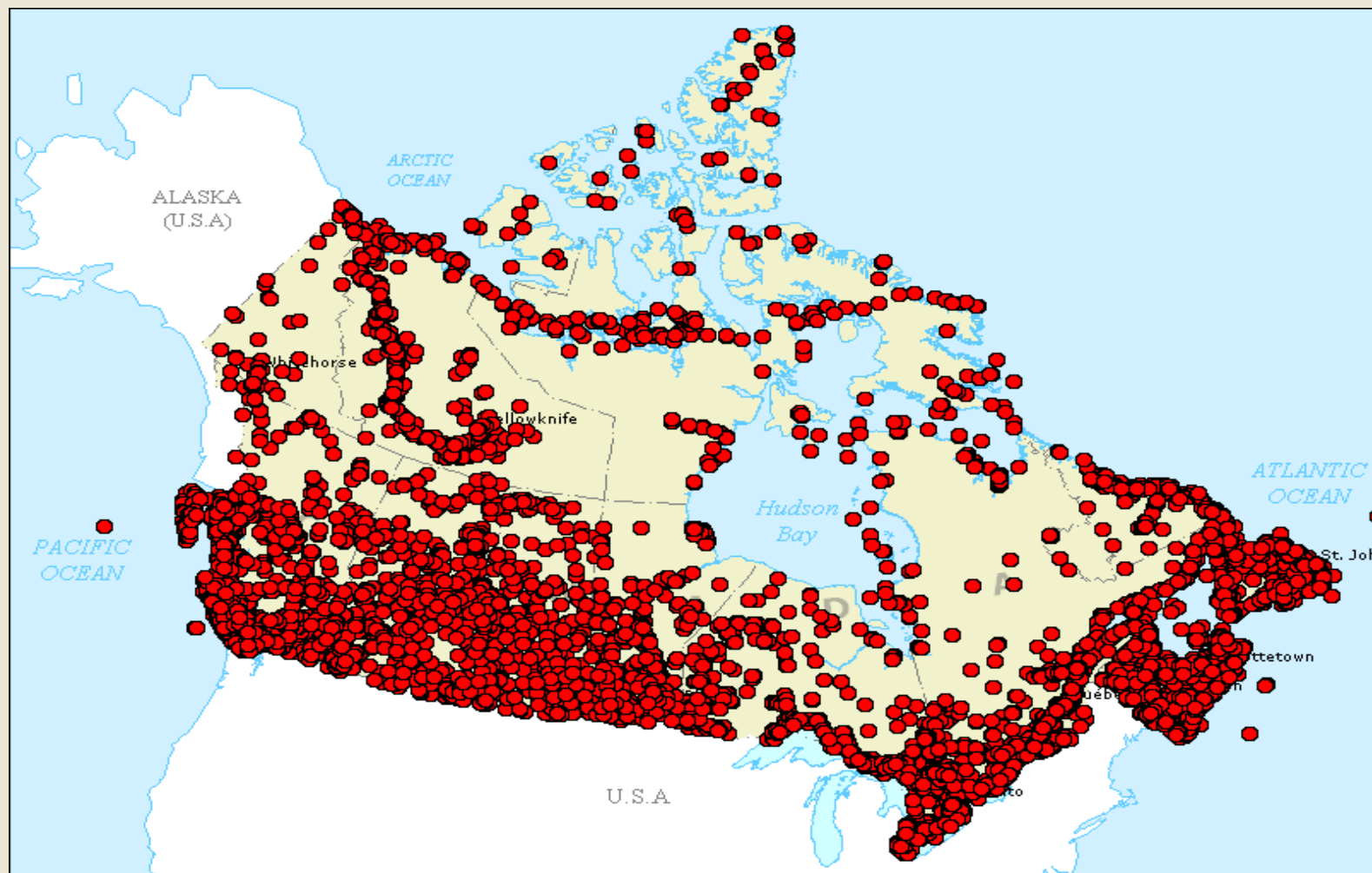


Presentation Summary

- Federal contaminated sites
- Federal Contaminated Sites Action Plan (FCSAP)
- Prairie and North Region
- Custodian Issues in the PNR
- FCSAP and innovative technologies



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Federal Contaminated Sites Action Plan (FCSAP)

- \$3.5 billion program over 15 years – established in 2005
- Main objectives of the program:
 - Reduce the risks to human health and the environment;
 - Reduce the federal government's financial liability associated with high priority federal sites
- Funding approved by Treasury Board on a cost shared basis between custodial departments and FCSAP program



FCSAP – Roles and Responsibilities

- EC and TB Ministers co-lead
- **EC Secretariat** – policy lead and program delivery coordination
- **Treasury Board Secretariat (TBS)** – oversees consistency with TB policies, manages TB inventory of federal sites, oversight on financial aspects of the program



FCSAP – Roles and Responsibilities

- **Custodians**: federal departments, agencies or consolidated crown corporations who own or manage contaminated sites
- **EC, DFO, HC**: provide scientific, technical and regulatory advice
- **PWGSC**: liaises with industry, and informs the public on use of innovative technologies
- **Industry Canada**: facilitates engagement of Canadian proven and innovative technology vendors and industry stakeholders



Federal Contaminated Sites in PNR

- Consists of Alberta, Saskatchewan, Manitoba, Northwest Territories and Nunavut





Federal Contaminated Sites

Regional breakdown of Federal Contaminated Sites Inventory (FCSI)

Region	Federal sites in the inventory	% of current financial responsibility
Atlantic	4,258	4%
Quebec	1,937	5%
Ontario	3,871	13%
Prairies	3,088	4%
BC	4,125	7%
Territories	1,421	66%





Federal Contaminated Sites

Province/Territory	FCSAP Sites:		Total Sites
	Assessment	Remediation	Identified
Alberta	245	13	856
Saskatchewan	209	16	785
Manitoba	153	19	1,447
Northwest Territories	120	16	721
Nunavut	198	41	564
Canada	2180	380	~18,000



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Federal Contaminated Sites

Breakdown of Federal Contaminated Sites in PNR

Organization	# of sites
Indian and Northern Affairs Canada	1,876
Fisheries and Oceans Canada	1,102
Environment Canada	316
Royal Canadian Mounted Police	290
Department of National Defence	257
Parks Canada Agency	171
Transport Canada	144
Agriculture and Agri-Food Canada	119
Public Works and Government Services Canada	30
Health Canada	24
Other departments	44



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Federal Contaminated Sites

Federal Contaminated Sites in PNR Include:

- DEW line sites
- Abandoned mines
- First Nation Lands
- Military bases
- Weather stations
- Historical dumps
- Fuel/Oil/Chemical spills and leaks
- Others



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Federal Contaminated Sites

DEW Line Sites



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Abandoned Mine Sites



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Abandoned Mine Sites



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Abandoned Mine Sites



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Former Weather Stations



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Federal Contaminated Sites

Former Dump Sites



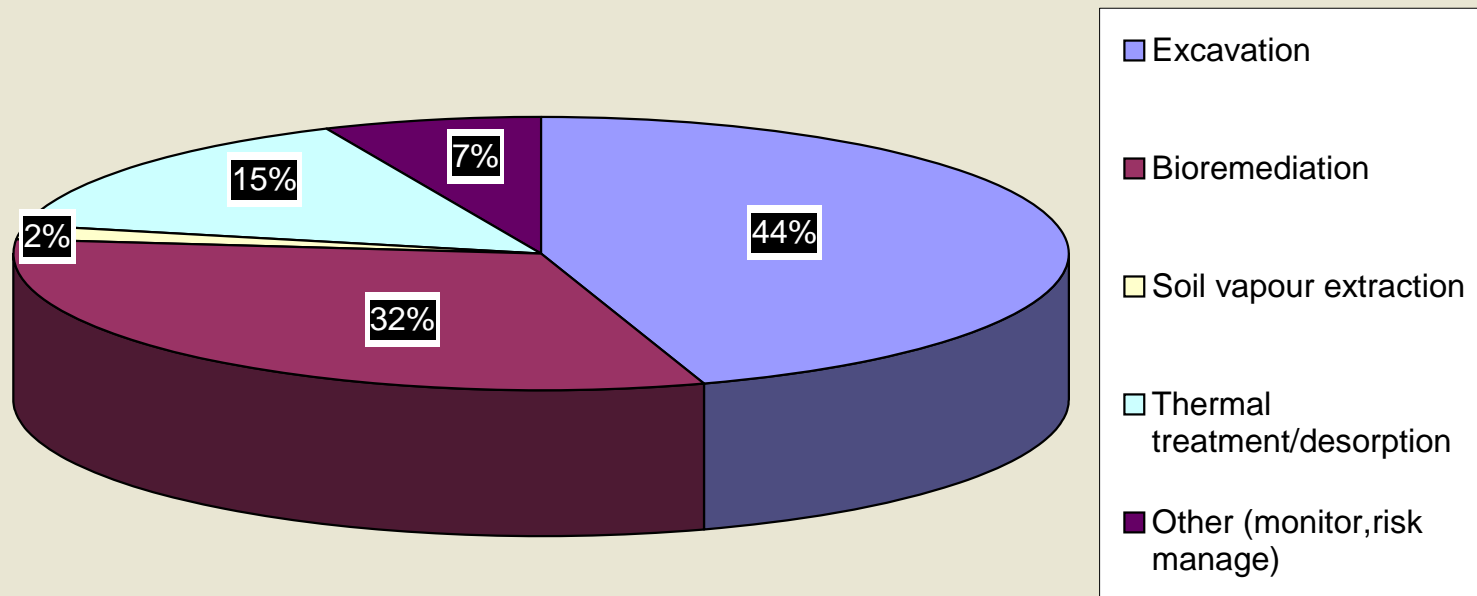
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Technologies used for R/RM Projects submitted to FCSAP





What are Examples of Problem Issues?

- Large volumes of waste PHC products
 - Multiple types of products required on-site (fuel oil, antifreeze, lubricants, etc.)
 - Remote locations
 - Aged products not useful for original purposes
 - Requires offsite removal or on-site treatment methods to deal with PHC products of a mixed nature with no or minimal environmental impact.
- Remediation of PHC contaminated soil
 - Impacted soil in permafrost areas has proven difficult and slow
 - In remote areas and/or areas with limited on-site space
- Soils and sediments co-contaminated with metals and mobile fractions of PHCs (F1 and F2)
- Heavy metal contamination at remote and/or northern locations.



What Site Issues do Custodians Have?

- Extensive bulky waste and debris scattered across site
 - Abandoned equipment and structures
 - Lead & PCB-based paint, lead acid batteries, asbestos
 - POL storage tanks, barrel caches (empty and some with contents)
 - Frozen dump sites
- Former dump site with diesel contamination in the local soils and groundwater
 - Unlined facility
 - Deep gravel and cobble substrate
 - Direct vertical flow of leachate into water table
 - Direct lateral flow to local waterways and fish habitat
- Terrestrial contaminant plume of perchlorethylene migrating into adjacent marsh.
 - Need to remediate surface water and sediment without impacting marsh viability



Innovative Technologies

- Promoted by FCSAP
- Technologies Advancement Working Group aims to
 - Identify ways to overcome barriers, increase awareness and promote the use of innovative and sustainable technologies at FCSAP sites
- What do we mean by Innovative Technology?
 - Limited full-scale application
 - Applied in other sectors such as manufacturing or pulp and paper, but recently adapted as a new application to the remediation sector,
 - Innovation may refer to how the technology is applied rather than the technology, itself



Innovative Solutions for Federal Contaminated Sites Workshop

- Initial attempt at showcasing and profiling innovative technologies and their applications
- Regionally bring the technology vendors and custodian staff together to interact and collaborate closer to the problem sites

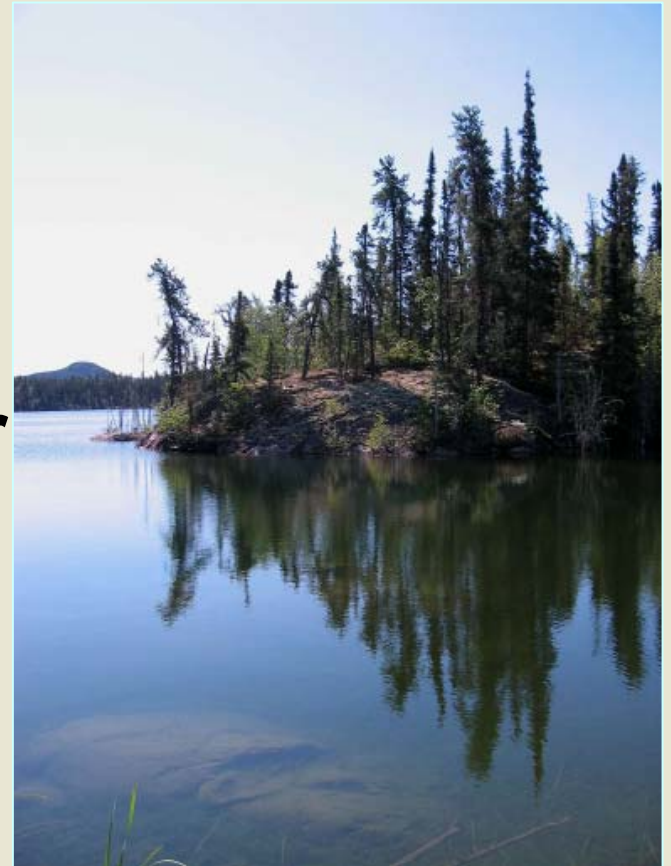




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**Thank you for attending
Questions?**

**Please see our booth for
additional information**



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