

# Strengthening Management of Contaminated Sites in Canada: *A Federal Perspective*



Environmental Stewardship Branch  
Environmental Protection Operations Directorate  
Contaminated Sites Division, EC  
and  
Office of Greening Government Operations (OGGO)  
Public Works and Government Services Canada

***Remediation Technologies  
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# Overview

- Federal Contaminated Sites – Policy and Program Framework
- Federal Contaminated Sites Action Plan (FCSAP)
- Federal Environmental Acts and Regulations
- FCSAP and Remediation Technologies



# The Management of Contaminated Sites in Canada

- Polluter pays principle
  - Polluter is responsible for the cost of repairing any damage (site clean up, off-site impacts)
  - CCME principles guide jurisdictions in allocating financial and legal liability
- Clean up costs can run from \$10K to \$300 M per site
- Provinces/territories have broad authorities to regulate (non-federal) contaminated sites
- Federal regulatory authorities may be triggered by substances or impacts of contamination
  - Fisheries Act, Migratory Birds Convention Act, Species at Risk Act, CEPA, etc.
  - No federal regulatory instrument applies to all contaminated sites

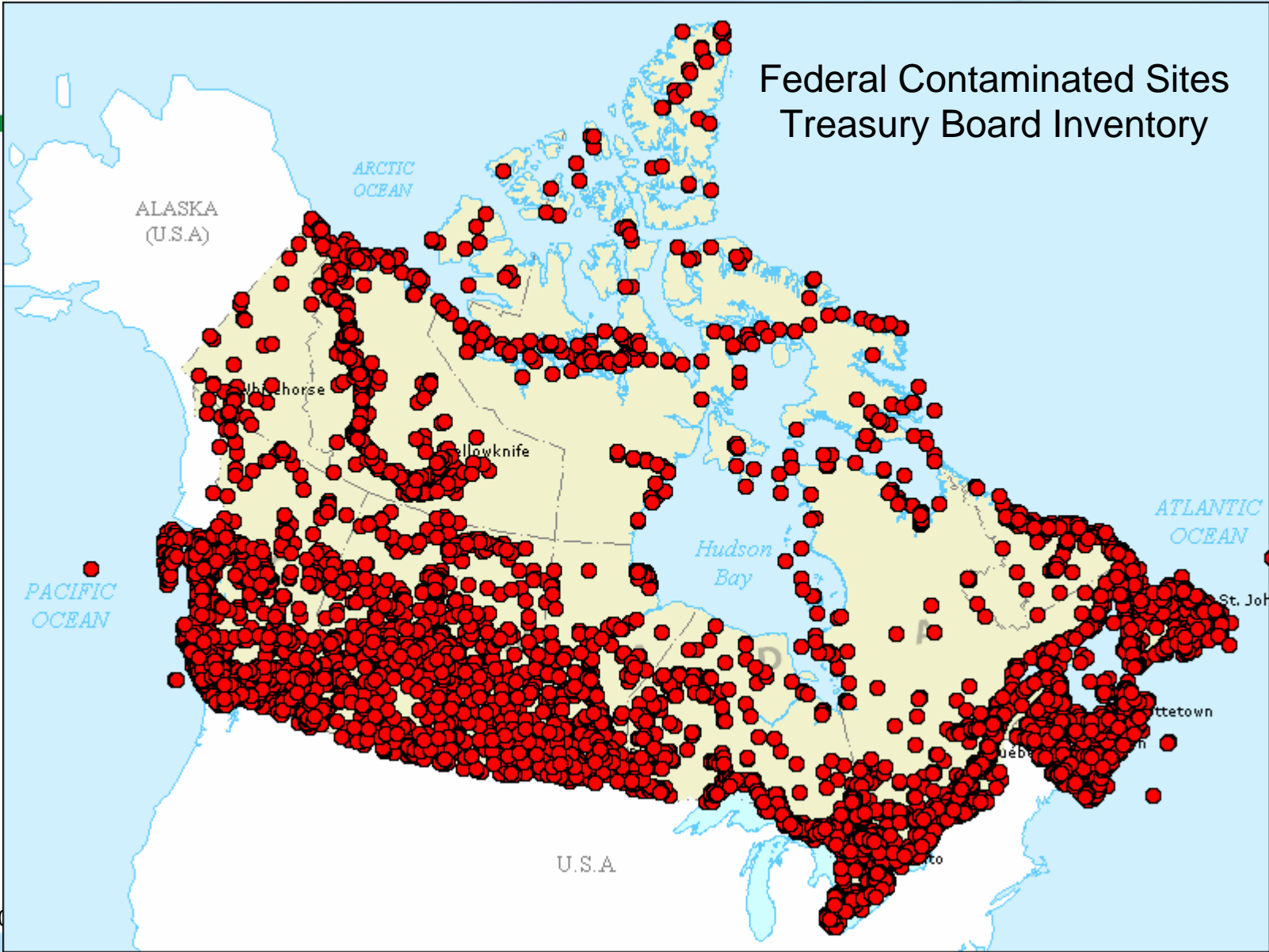
# Federal Contaminated Sites - Definition

- Sites on lands owned or leased by the GoC, or on non-federal lands where GoC has accepted full responsibility for the contamination
- Result of poor past practices in government operations
  - Leaking fuel storage tanks, PCB spills, heavy metal contamination, etc.
  - Typical locations: military bases, federal harbours, airports, lighthouses, firing ranges, FN lands
- Result of poor past management of 3<sup>rd</sup> party operations on federal Crown land
  - North of 60: e.g abandoned mines
- National Classification System (NCS) used to categorize sites
  - Classification based on risk to environment and human health

# Federal Contaminated Sites – Definition (2)

- Sites on properties belonging to departments, agencies and consolidated Crown corporations (custodians)
  - Over 17,000 federal contaminated sites on the Treasury Board inventory
  - Every region of Canada
  - Highest cost sites on federal Crown land in the north (abandoned mines, military sites etc.)
- Does not include sites belonging to
  - Enterprise Crown corporations (e.g. Canada Post)
  - Federal business enterprises (some Harbour Commissions)
  - Territorial governments (i.e. Commissioners lands)

# Federal Contaminated Sites Treasury Board Inventory



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# Federal Contaminated Sites - Policy and Program Framework

- Federal real property policies
  - Polluter pays – custodian is responsible
  - Treasury Board (TB) Federal Contaminated Site Framework
  - Contamination creates a financial liability (i.e. adds to federal debt)
    - Must be reported in Public Accounts
    - Applies to NCS Class 1 (Action Required) and Class 2 sites (Action likely Required)
  - All departments and agencies required to have Contaminated Sites Management Plans
- Policies and regulatory instruments encourage sound environmental practices
  - Fisheries Act, codes of practice etc.
  - Pending: Federal storage tank regulation under CEPA
- Federal Contaminated Sites Action Plan
  - Funding to federal custodians supports their A-base contribution

# Federal Contaminated Sites Action Plan (FCSAP)

- \$3.5 billion, 15 year program established in 2005
  - Budget 2004 announcement
  - Program funding tied to recorded financial liabilities
- Reduce and manage risks to human health and the environment
  - Priority to federal contaminated sites that pose a higher human health and/or ecological risk
- Manage federal financial liabilities
  - Action leads to reduced or eliminated reported financial liabilities for individual sites
  - Goal is to significantly reduce reported liabilities in Public Accounts over the life of the program
- TB real property and contaminated sites policies set the framework

# FCSAP – Key Program Elements

- Departments, agencies and some consolidated Crown corporations eligible for funding
  - Funding goes directly to custodians through TB Submission
- Eligible sites
  - NCS Class 1 (Action Required) and Class 2 (Action Likely Required)
  - Listed on TB inventory; recorded financial liability; reflected in custodian's CS Management Plan
- Science based assessments used to prioritize sites
- Custodians cost share 10-20% of the total project costs
  - projects over \$90M are eligible for 100% funding
- Eligible activities
  - Site assessments (up to \$25M annually in total)
  - Remediation, risk management and care & maintenance projects
  - Program management resources for custodians

# FCSAP – Roles and Responsibilities

- EC and Treasury Board Ministers co-lead
- EC roles:
  - Secretariat – policy lead and program delivery coordination
  - Expert Support – EC, DFO, HC, PWGSC provide expert advice to Secretariat and custodians
  - Custodian – responsible for proper management of EC's contaminated sites
- Treasury Board Secretariat (TBS) role
  - Oversees consistency with TB policies, manages TB inventory of federal sites, oversight on financial aspects of the program
- Custodians
  - responsible for managing/cleaning-up their contaminated sites

# Federal Environmental Acts and Regulations

- Environmental Acts
  - Canadian Environmental Protection Act (CEPA)
    - *New Substances Regulations* (CEPA Part 6)
    - *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* (proposed-Gazette II for December 2007)
  - Fisheries Act
  - Species at Risk Act (SARA)
  - Migratory Birds Convention Act (MBCA)
  - Canadian Environmental Assessment Act (CEAA)

# Canadian Environmental Protection Act (CEPA)

- Government of Canada's primary legislation for the control of harmful substances in the environment
- Primary purpose of the Act is to contribute to sustainable development through protection of the environment and human health and through pollution prevention

# New Substances Notification Regulations

- To ensure no new substances (chemicals, polymers or animate products of biotechnology) are introduced into the Canadian marketplace before completion of an assessment of potential toxicity and any appropriate or required control measures have been taken

# New Substances Notification Regulations

1. NEW SUBSTANCES NOTIFICATION REGULATIONS  
(CHEMICALS AND POLYMERS)
2. NEW SUBSTANCES NOTIFICATION REGULATIONS  
(ORGANISMS)

Includes:

- Micro-organisms (both natural and engineered)
- Biochemicals and biopolymers (e.g. surfactants, enzymes)

# New Substances Notification Regulations

- Definition of New Substance: substance that requires notification prior to import or manufacture and includes:
  - All substances that do not appear on the Domestic Substances List (DSL) (some exemptions exist)
  - Substances listed on the DSL with a "S" Flag-substances are proposed for a significant new activity
  - Polymers listed on the DSL with a "P" Flag-substance was assessed and added to the DSL on the basis that it met the Reduced Regulatory Requirements (RRR) polymer criteria and that there was no suspicion of toxicity with this form of the substance

# New Substances Notification Regulations

- Considerations: Production or import of new substances or new use of substance already assessed under CEPA
  - Requires a New Substances Notification Package (as prescribed by the Regulations) to be submitted to the New Substances Division (EC)
- Example for organisms:
  - Search for substance on [www.ec.gc.ca/substances/nsb/search/eng/o\\_search\\_e.cfm](http://www.ec.gc.ca/substances/nsb/search/eng/o_search_e.cfm)
  - Search engine identifies whether the substance is identified on any list and any use flag
  - If substance is not specified on the DSL or NDSL, it is subject to the *New Substances Notifications Regulations (Organisms)*

# Proposed Fuel Storage Tank Regulations

- Canada Gazette Part II-December 2007
- Why is EC repealing and replacing existing Regulations?
  - Existing regulations do not capture all systems not covered by provincial/territorial regulations
  - Existing scope does not include compulsory technical requirements
  - Existing scope allows leaking systems to stay in service

# Proposed Fuel Storage Tank Regulations

- Summary:
  - Withdraw leaking systems
  - Remove 'high risk' systems
  - Mandatory compliance with technical requirements for 'new' systems
  - Leak detection for components without secondary containment
  - Identification with EC
  - Containment of spills at product transfer areas
  - Transfer of product to ID'd systems only
  - Emergency plans
  - Licensed installers
  - Operation and maintenance requirements
  - Spill reporting
  - Record keeping

# Proposed Fuel Storage Tank Regulations

- Scope: Federal House (s.207(1) of the *CEPA*): federal departments, boards and agencies, crown corporations, airports, railways and ports, federal lands and aboriginal land, owners of tank systems on federal or Aboriginal lands
- Systems containing petroleum products or allied petroleum products
- Underground and aboveground storage tank systems
  - All underground systems
  - For aboveground systems:
    - outdoor storage tank systems
    - except systems <2500L if connected to a heating appliance or emergency generator
- Indoor systems not included in the regulations

# Fisheries Act

- Purpose – to protect Canada’s fishing industry, both coastal and inland
- Applies to all waters that may contain fish, permanently or seasonally
- Minister of Fisheries and Oceans is legally responsible for the Act
- EC administers and enforces the pollution prevention provisions, subsection 36(3)

# Fisheries Act

- General prohibition - Subsection 36(3) states that “No person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substances or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.”



# Fisheries Act

- Deleterious substance



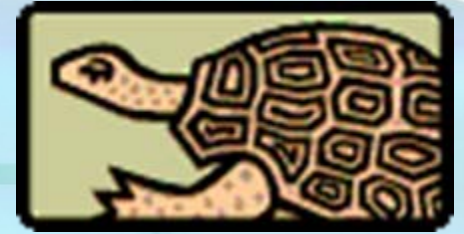
“...any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of the water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water...”

# Species at Risk Act

## Purpose:

- to prevent endangered or threatened wildlife from becoming extinct or extirpated (lost from the wild in Canada)
- to help in the recovery of these species
- to ensure species of special concern do not become endangered or threatened

# Species at Risk Act



Applies to endangered, threatened or extirpated species (and their habitat) as listed on Schedule 1 of the Act if they are:

- on federal land (e.g. national wildlife areas)
- aquatic species (anywhere)
- migratory birds listed in MBCA (anywhere)
- on private, provincial or territorial land **ONLY IF** cooperative stewardship and provincial/territorial legislation does not effectively protect the species

# Species at Risk Act

## SARA and contaminated sites:

- Any project requiring a federal environmental assessment must:
  - identify potential adverse effects on species at risk,
  - their residence and their critical habitat;
  - take steps to avoid or lessen impact; and
  - conduct monitoring

# Migratory Birds Convention Act



## Purpose

- To ensure the conservation and protection of migratory birds (protection from indiscriminate harvesting and destruction)
- *Migratory Bird Regulations* establishes prohibitions and defines activities that *may* be permitted and under which circumstances

# Migratory Birds Convention Act

- No person shall disturb or destroy the nests or eggs of migratory birds
- Permits are required for certain activities related to disturbance of migratory birds, eggs or nests
- EC may:
  - recommend that project activities be avoided during the nesting season
  - proponent confirm there are no active nests in vicinity of activities; and if so, halt activities until nesting is completed

# Legislative Summary



- Legislative authority over contaminated sites is primarily the jurisdiction of the provinces and territories
- Federal environmental legislation aims at preventing the creation of contaminated sites
- Where contaminated sites exist and there is an adverse impact to human health or fish or fish habitat, they must be properly addressed
- Proper management of a contaminated site through remediation needs to consider potential adverse affects:
  - of the remedial strategy
  - to migratory birds and species at risk

# Website Links for Further Information

- Federal environmental legislation
  - [www.ec.gc.ca/EnviroRegs/](http://www.ec.gc.ca/EnviroRegs/)
- New Substances Program
  - [www.ec.gc.ca/Substances/nsb](http://www.ec.gc.ca/Substances/nsb)
- Proposed Storage Tank Regulations
  - [www.ec.gc.ca/st-rs](http://www.ec.gc.ca/st-rs)
- Federal Guidance on Managing Contaminated Sites in Canada
  - [www.ccme.ca/publications/](http://www.ccme.ca/publications/)
- Roll-out of FCSAP Web Portal this fiscal year
  - *Taking action on federal contaminated sites: An environmental and economic priority*
  - *National Classification System for Contaminated Sites*

# FCSAP and Remediation Technologies

- PWGSC role as a FCSAP Expert Support Department:
  - Assist Custodians in choosing appropriate innovative technologies
  - Design of strategies/initiatives that will overcome barriers i.e. lack of awareness on the performance and cost of innovative technologies (IT)
  - Co-chair and creation of the Technology Advancement Working Group-to engage key federal stakeholders currently involved in FCSAP
  - Development of consistent process for collecting information about the use of innovative technologies at federal sites

# Innovative Technologies

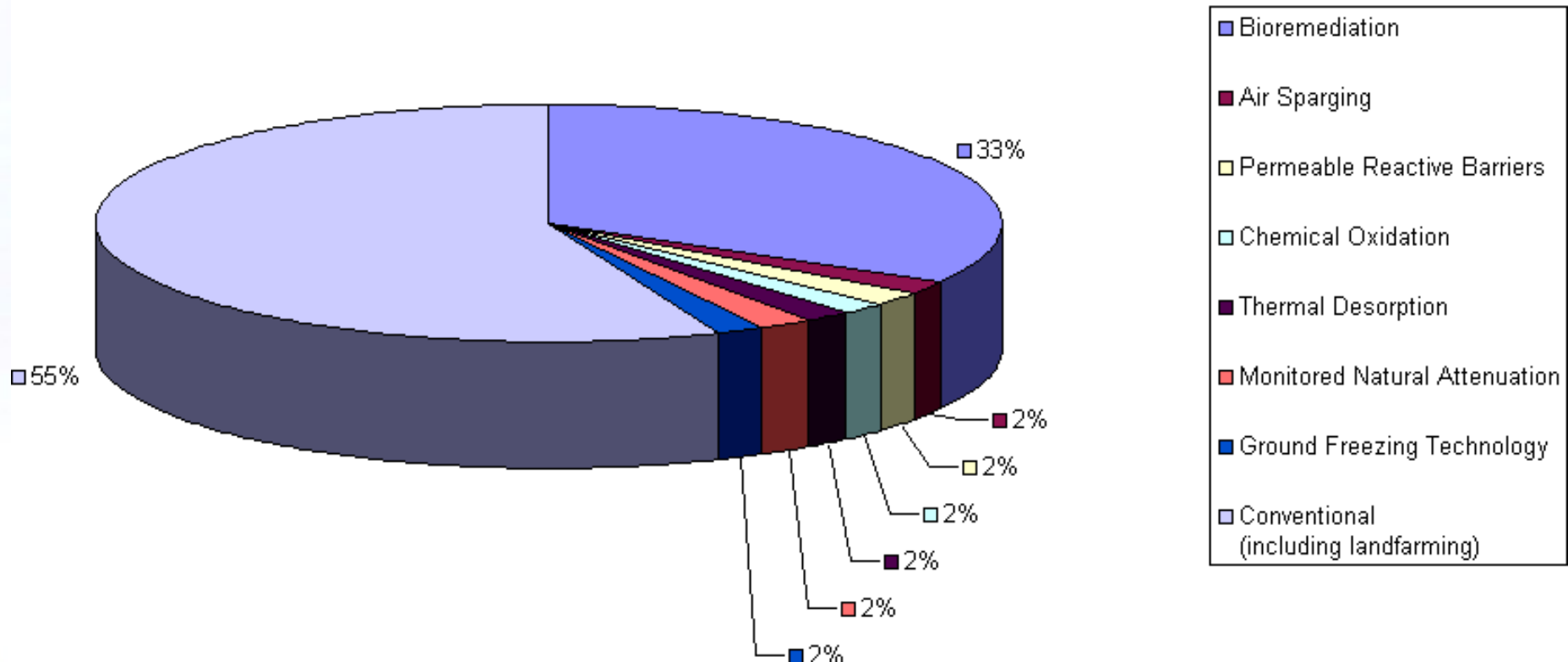
- Industry Canada (IC) involvement: focus on characterizing Canada's remediation industry sector, its capabilities and the opportunities presented by way of FCSAP
- IC Recommendation: use of standardized decision making process when developing a remediation plan to ensure that innovative remediation technologies are considered when appropriate-reinforces FCSAP objective to create database to be shared with internal and external stakeholders to promote the use of innovative technologies

# Innovative Technology Definition in FCSAP

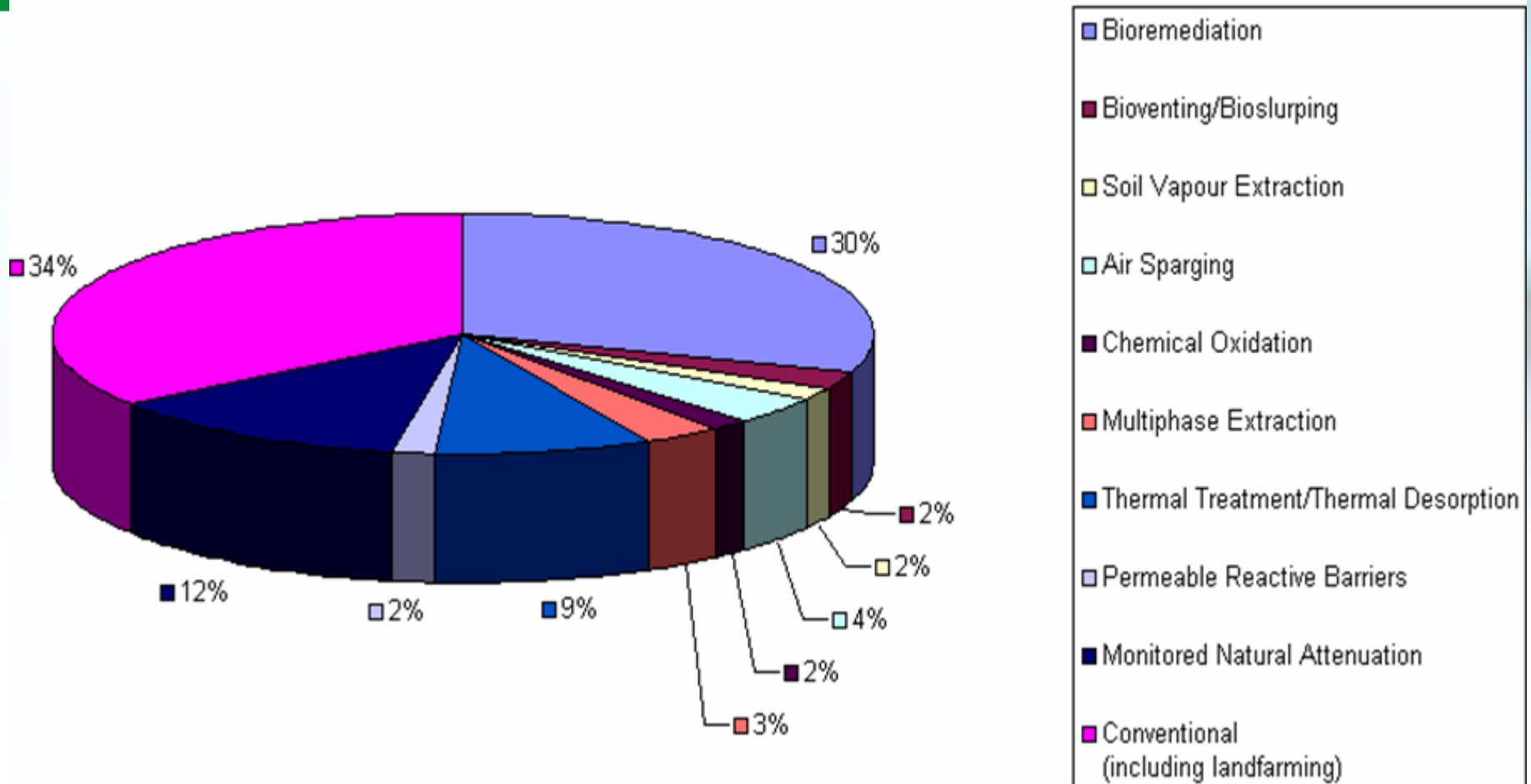
- Limited full-scale application (e.g. lack of data on cost and performance)
- New application to remediation sector
- Lack of a long history of full-scale use and information



# Remediation Technologies-05/06 Summary



# Remediation Technologies-06/07 Summary



# Thank-you

