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**Stockholm Convention  
Draft guidance on BAT and BEP  
for the management of sites contaminated with persistent  
organic pollutants**

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# Content presentation

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**Phase 1 Preliminary Site Assessment**

**Phase 2 Site Assessment**

**Phase 3 Site Remediation Assessment**

**Phase 4 Site Remediation Management**

**Phase 5 Site Monitoring & Aftercare**

# Objectives presentation

- **Introduce**

- ✓ Stockholm Convention BAT & BEP guidance on the sustainable management of POPs contaminated sites

- **Explain**

- ✓ Five phases of the sustainable management of contaminated sites
- ✓ Use of a conceptual site model (CSM) when managing contaminated sites

# Objectives guidance on BAT & BEP

**Parties and others seeking to implement sustainable and environmentally sound management of POPs contaminated sites**

- **Protect human from contact with contaminants**
  - ✓ Direct: dermal contact, swallowing, inhalation
  - ✓ Indirect: through food & water
- **Protect ecosystem**
  - ✓ Soil and groundwater from getting contaminated
  - ✓ Drinking water resources from getting contaminated
  - ✓ Surface water from getting contaminated
- **Prevent migration of contaminants**
  - ✓ Contaminants to become airborne
  - ✓ Contaminants to run-off
  - ✓ Contaminants to leach into soil & groundwater

# Content guidance

<http://chm.pops.int/?tabid=8779>

Module	Guidance on BAT & BEP for management of POP contaminates sites	Phase
	Executive Summary	All
	Introduction	
1	Background to POPs contaminated sites	
2	Site investigation, Assessment and Conceptual Site Model	1 & 2
3	Environmental Risk Assessment	1 & 2
4	Principles and Approaches for Contaminated site Management and Remediation	3, 4 & 5
5	Remediation technologies and techniques	3, 4 & 5
6	Technology selection tool for remedial options	3
7	Safety, Health and Public Engagement	All
8	Getting started: Legislation, Policy and Inventory Development	
9	Case Studies	

# Conceptual site model

## Definition

- A model of a contaminated site that describes the distribution, release mechanisms, exposure pathways and migration routes and potential receptors of the contaminants of concern
- ‘Visually oriented, comprehensible representation of what is already known about a site’

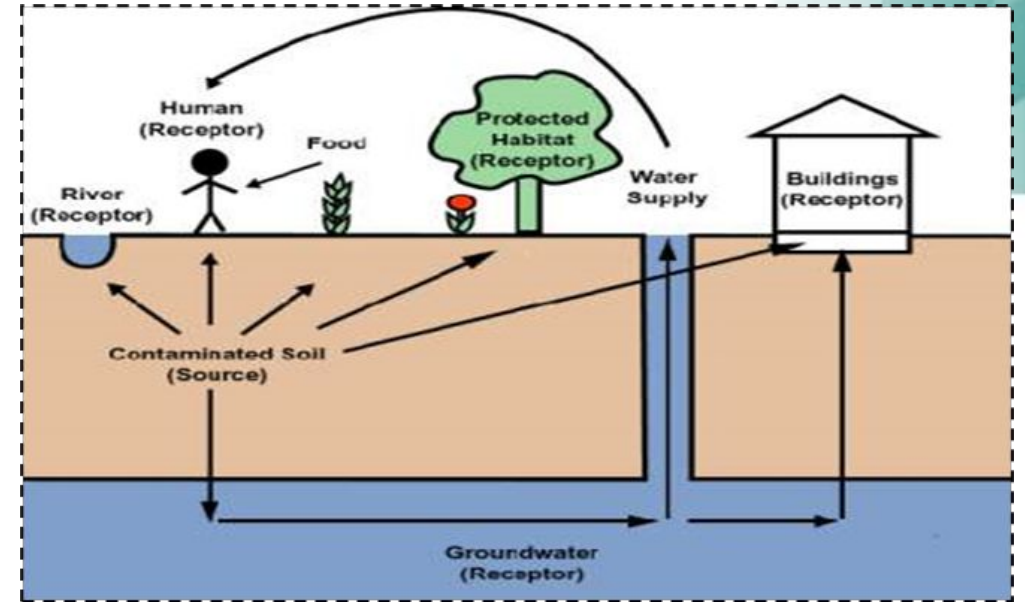
## Goal/aim

- CSM organizes all available historical and current information and facilitates the identification of information gaps
- Tool to support decision making process by reducing and managing contaminated site-related uncertainties
- Basis for optimized site-related decisions

# Types of CSM

## Initial CSM

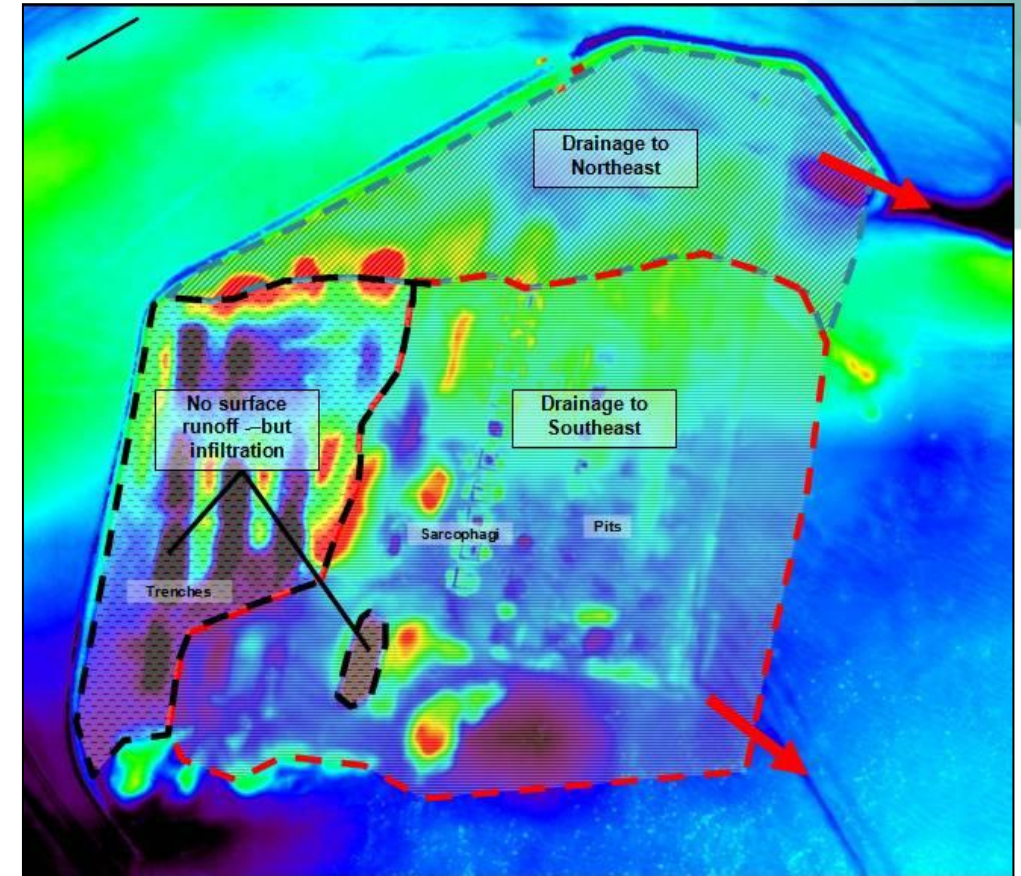
- Is made with available data
- Is made by experienced expert
- Expert judgement is crucial
- Is made after a site visit
- Should not be costly and time consuming to make
- Is one of the deliverable of Phase 1



# Types of CSM

## Improved CSM

- Initial CSM is the input
- Is improved with field and sample analyses data
- Is made by a multidisciplinary team
- Is made in an iterative way
- Is costly and time consuming to make
- Is one of the deliverable of Phase 2



# Improved Conceptual Site Module



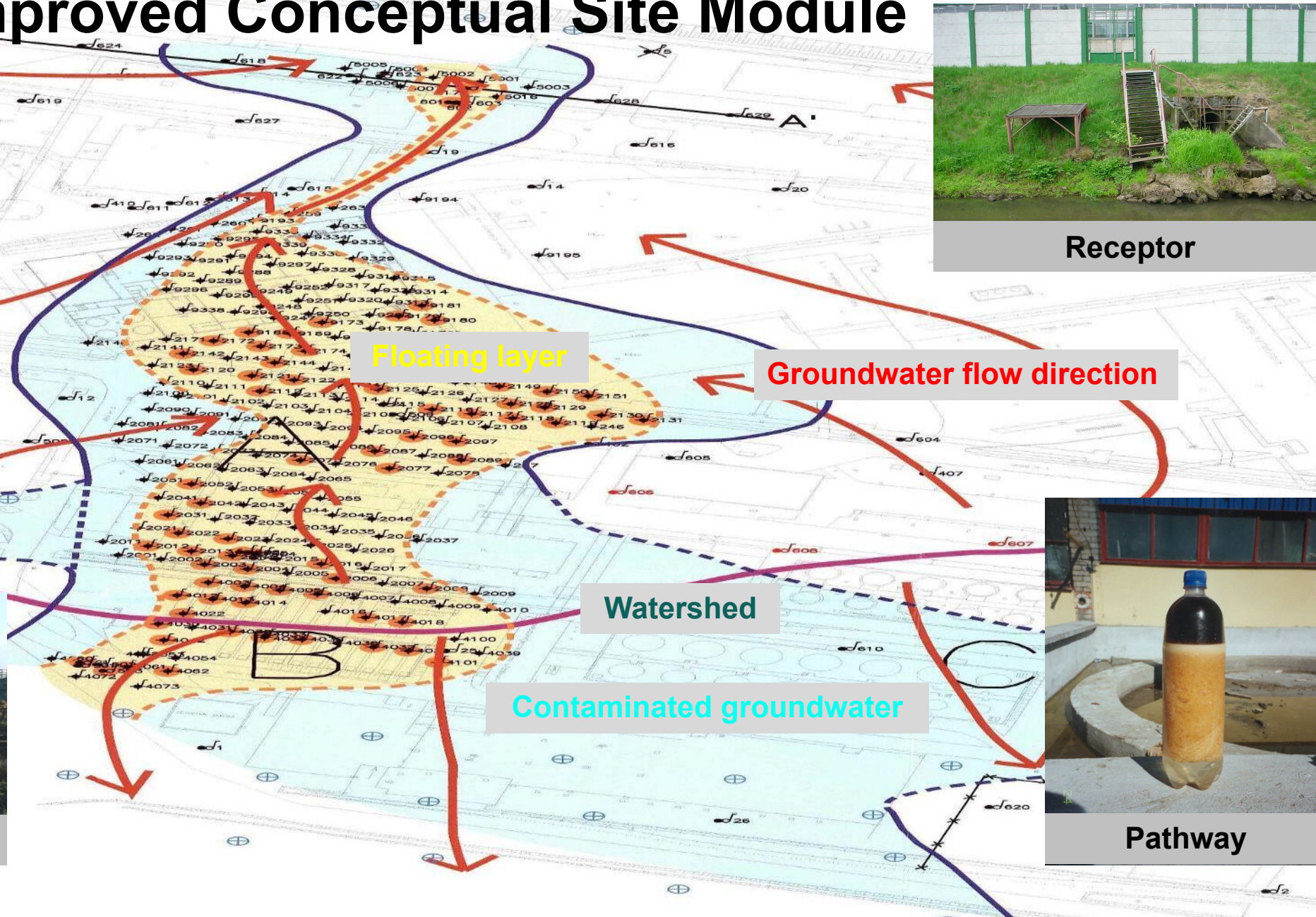
Secondary Source



Receptor

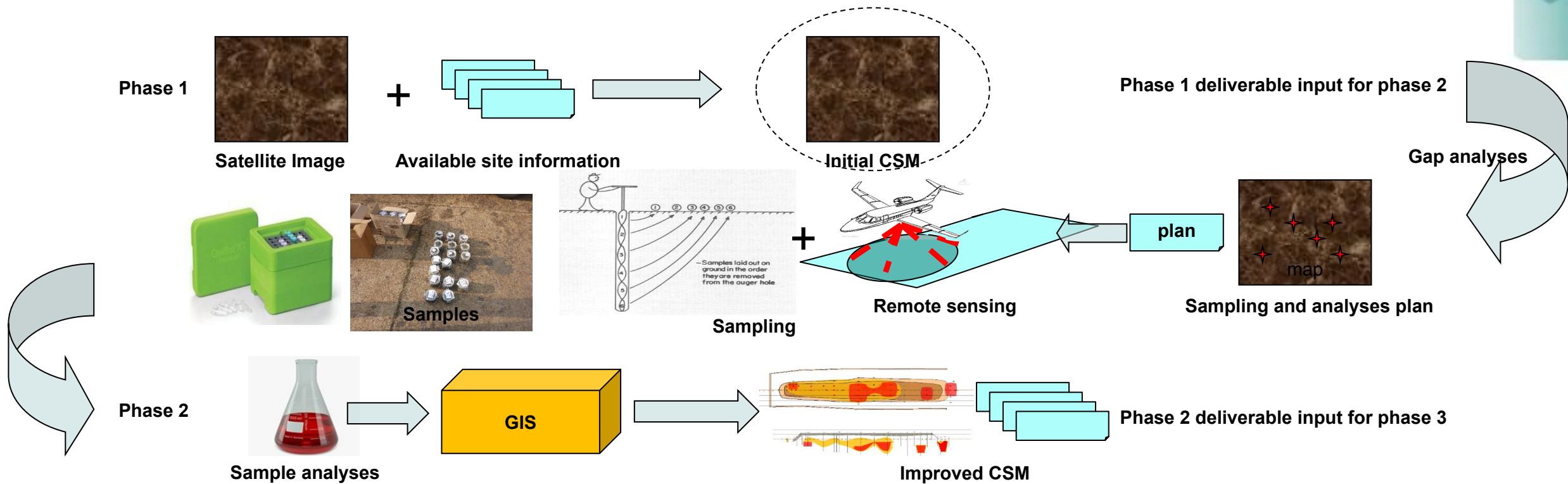


Primary Source

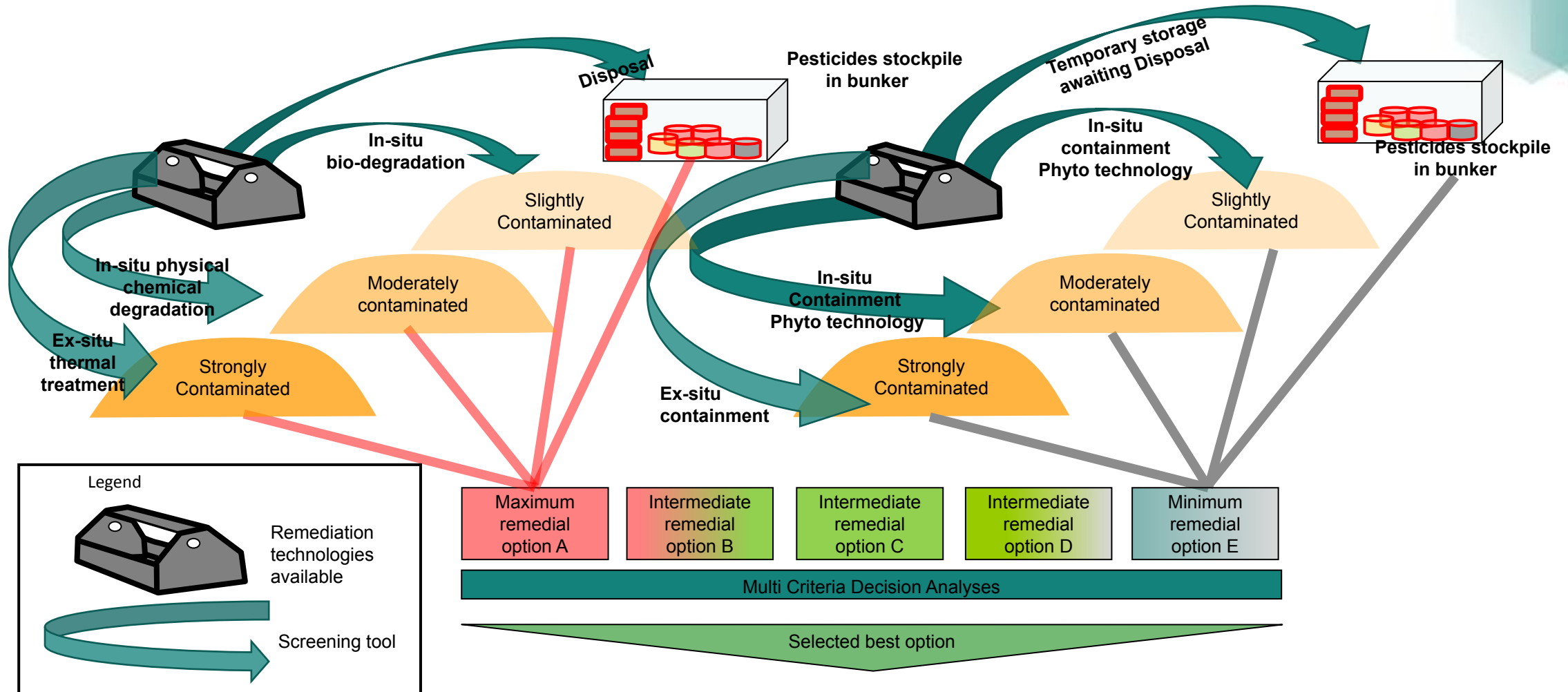


Pathway

# Phase 1 and 2 – Site assessment strategy



# Phase 3 - Remediation assessment approach



# Phase 4 - Site remediation management strategy

## Remediation strategy

- Risk based approach
- Phased implementation
- Dynamic work plan

## Elimination of direct risks

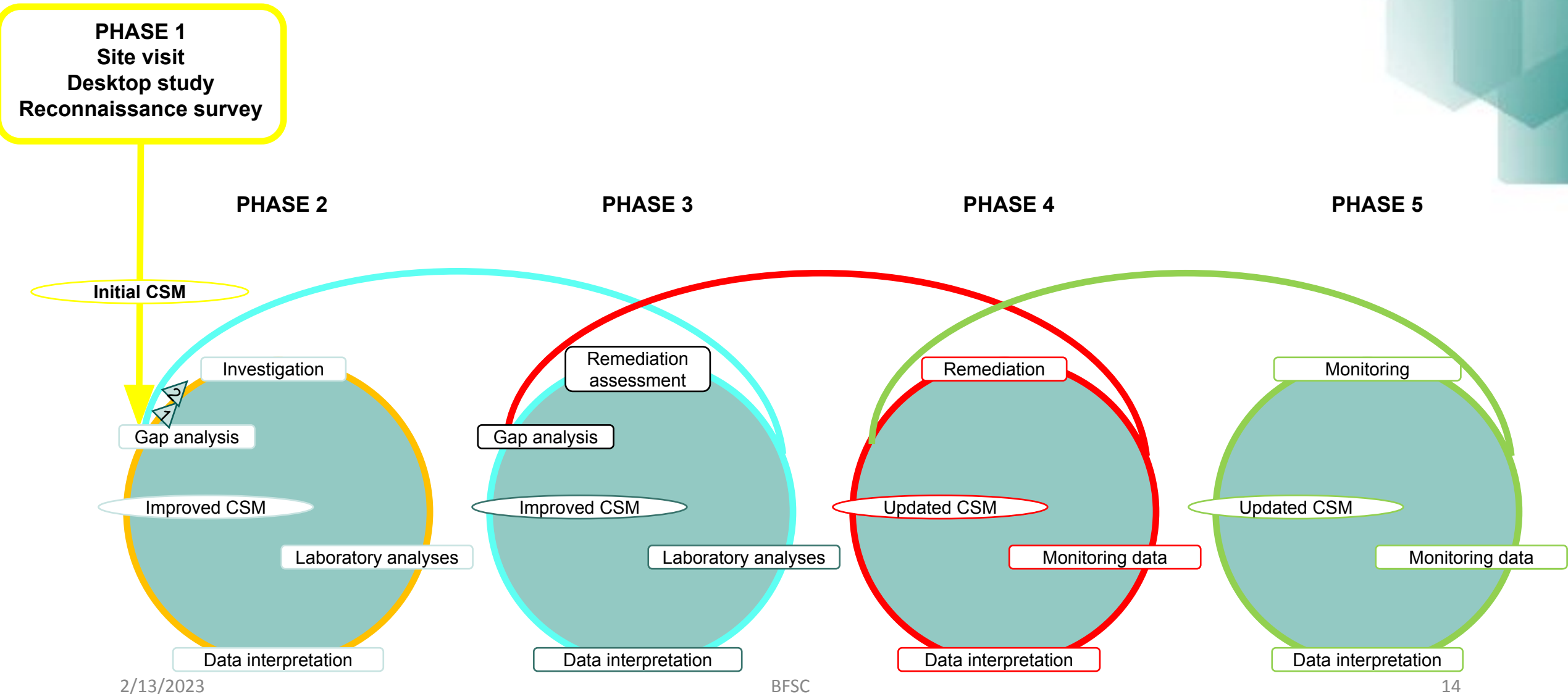
- Remove the source(s)
- Excavate, repack and destruct source areas
- Cut of the receptor's pathways
- Control erosion
- Protect the receptors
- Fence source areas
- Restrict land-use

# Phase 5 - Site monitoring and aftercare

## Containing potential risks

- Maintain fencing
- Maintain restricted land-use
- Maintain erosion control measures
- Maintain vegetation cover
- Pump & treat contaminated groundwater

# Summary





# THANK YOU FOR YOUR ATTENTION

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