



Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici

Italy country presentation

F. Quercia

NATO/CCMS Pilot Study

*Prevention and Remediation in Selected
Industrial Sectors:*

Rehabilitation of Old Landfills

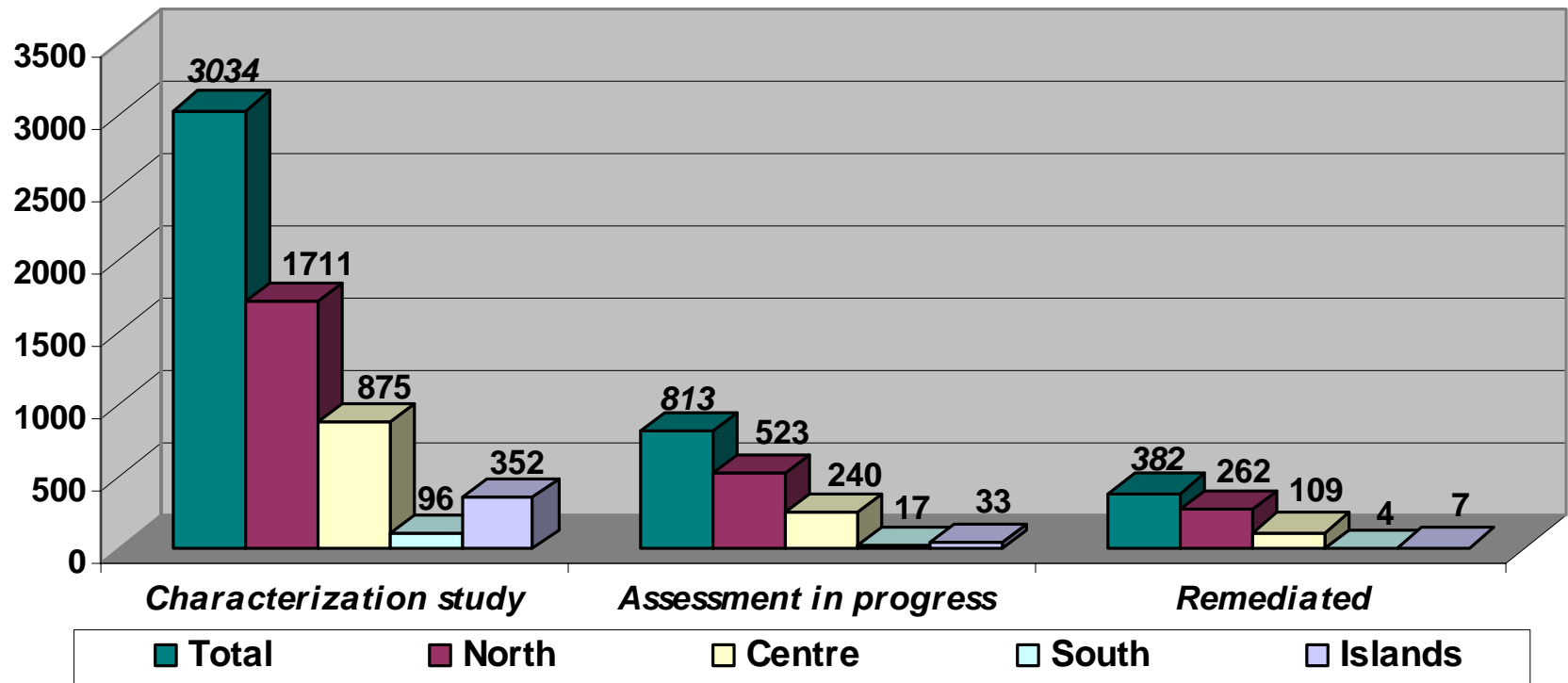
Legislative framework

- D.M. 185/89 - Regional Remediation Plans: inventory includes now over 12,000 potentially contaminated sites
- D.Lg.vo 22/97 - Waste Act (Decreto Ronchi)
- D.M. 471/99 - Technical regulation for cleanup of contaminated sites
- L. 426/98, L.388/00, L. 468/01, L. 179/02: the National Remediation Plan includes now 50 Sites of National Interest

Contaminated sites progress

Regional plans

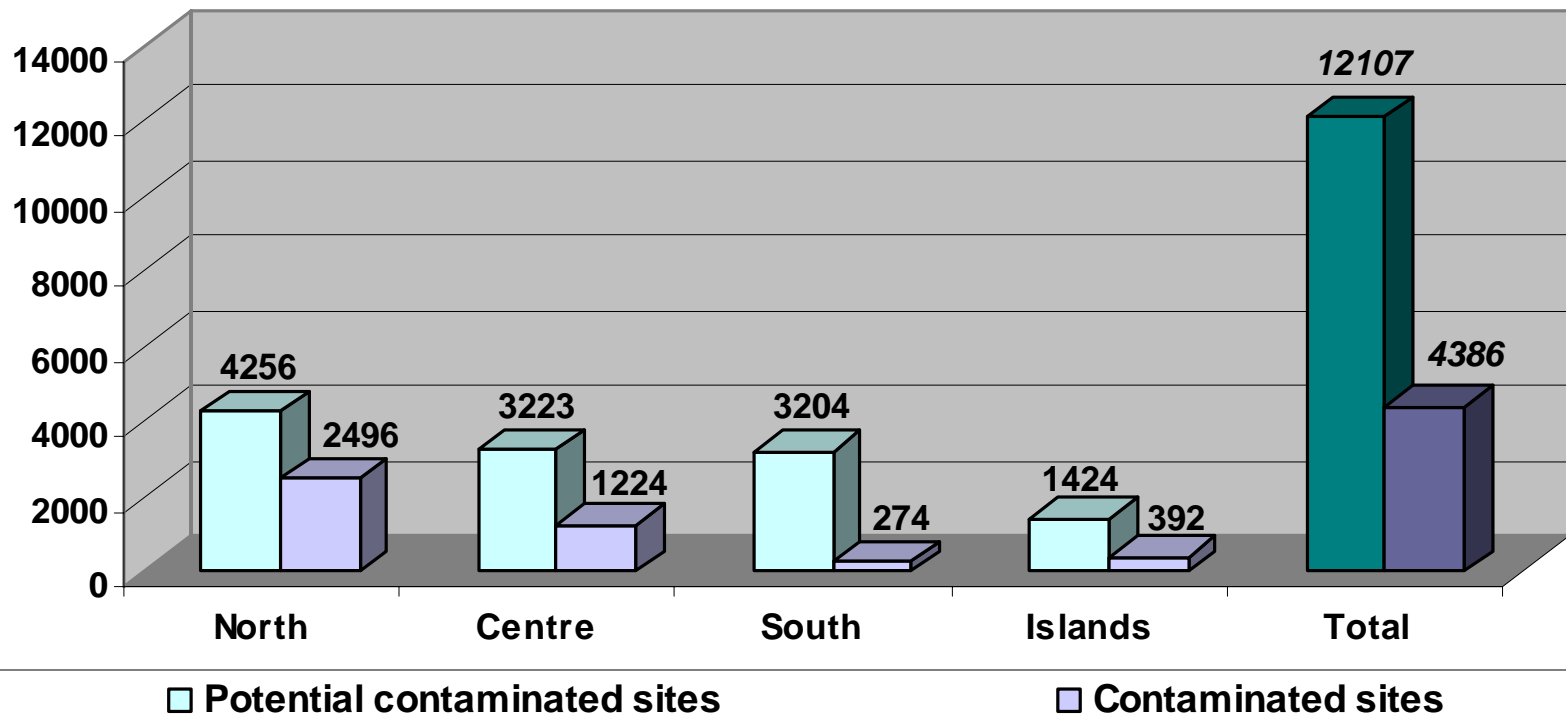
Remediation status of contaminated sites in Italy



Contaminated sites progress

Regional plans

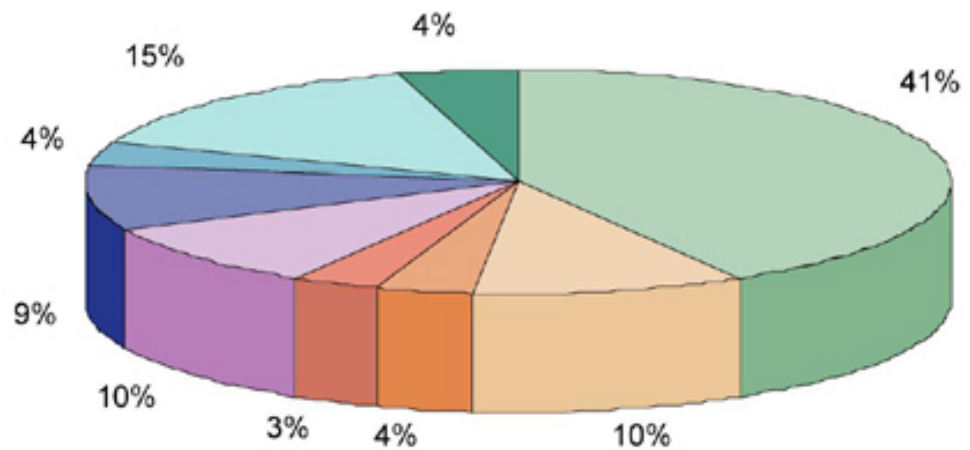
Contamination status in Italy



Regional sites - example: Piemonte

remediation progress

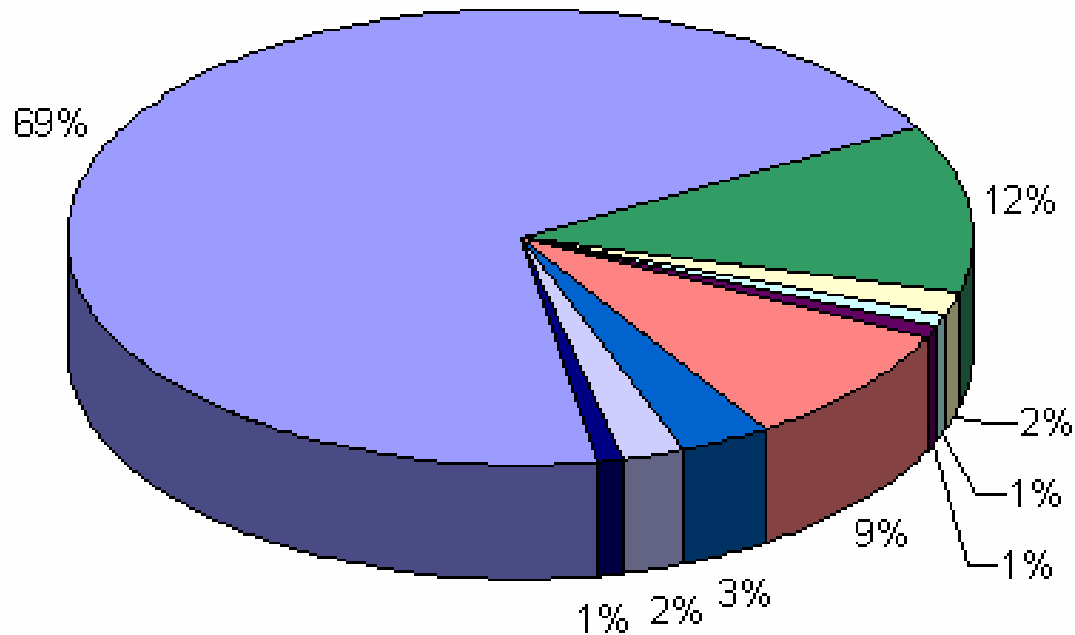
**Remediation progress
at 430 contaminated sites**



- Characterization in progress
- Characterization approved
- Preliminary cleanup project approved
- Final cleanup project approved
- Remediation in progress
- Remediated without certificate
- Remediated with certificate
- No further action needed
- Not known

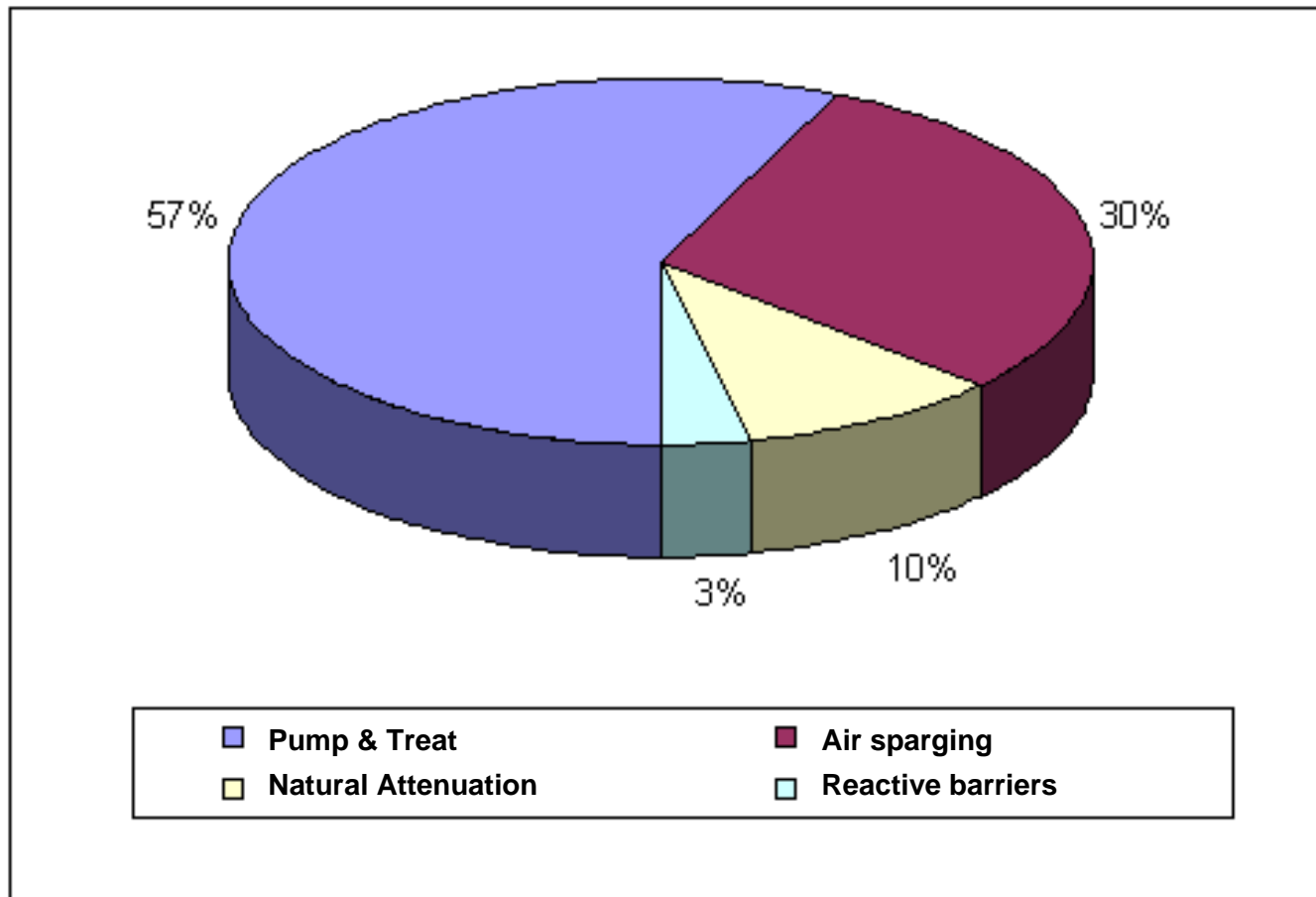
Regions - Piemonte

soil treatment technologies



Regions - Piemonte

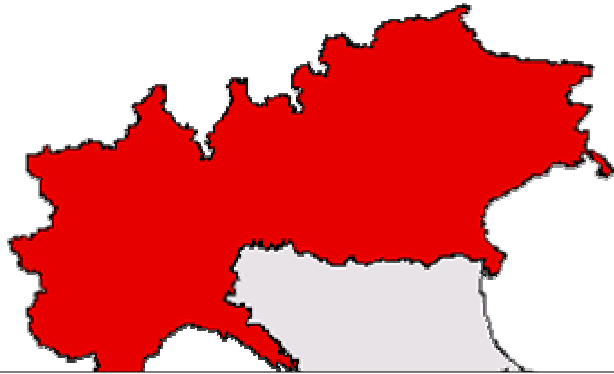
groundwater treatment technologies



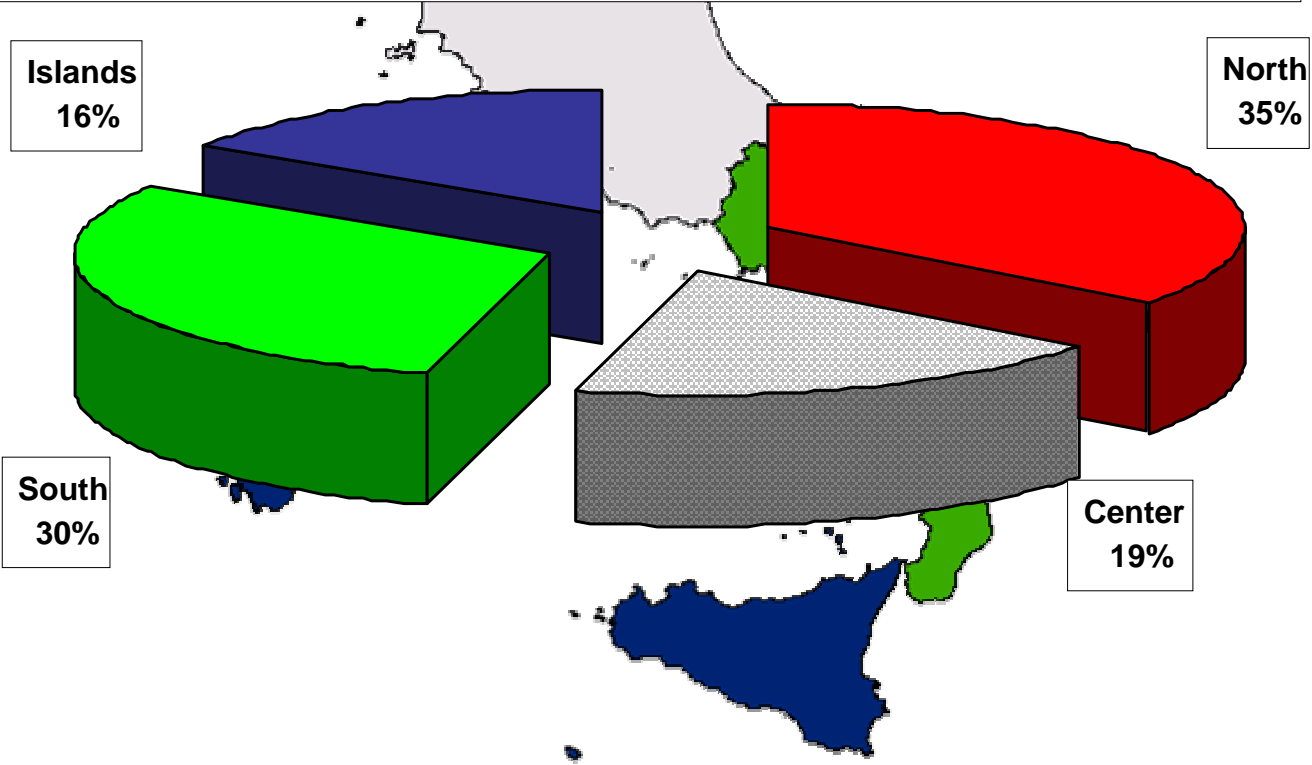
Sites of National Interest

care of Ministry for the Environment

- 50 sites identified so far
- Surface of 4 sites alone is 702,522 ha (land/sea/surface water) > 2 % area of national territory
- Costs estimated (over 41 sites): 3,149.30 M €
- Government Funds (over 41 sites): 547.34 M € (17,4% of estimated requirement)
- Several investigation and emergency safety actions projects have been authorized together with few remediation projects

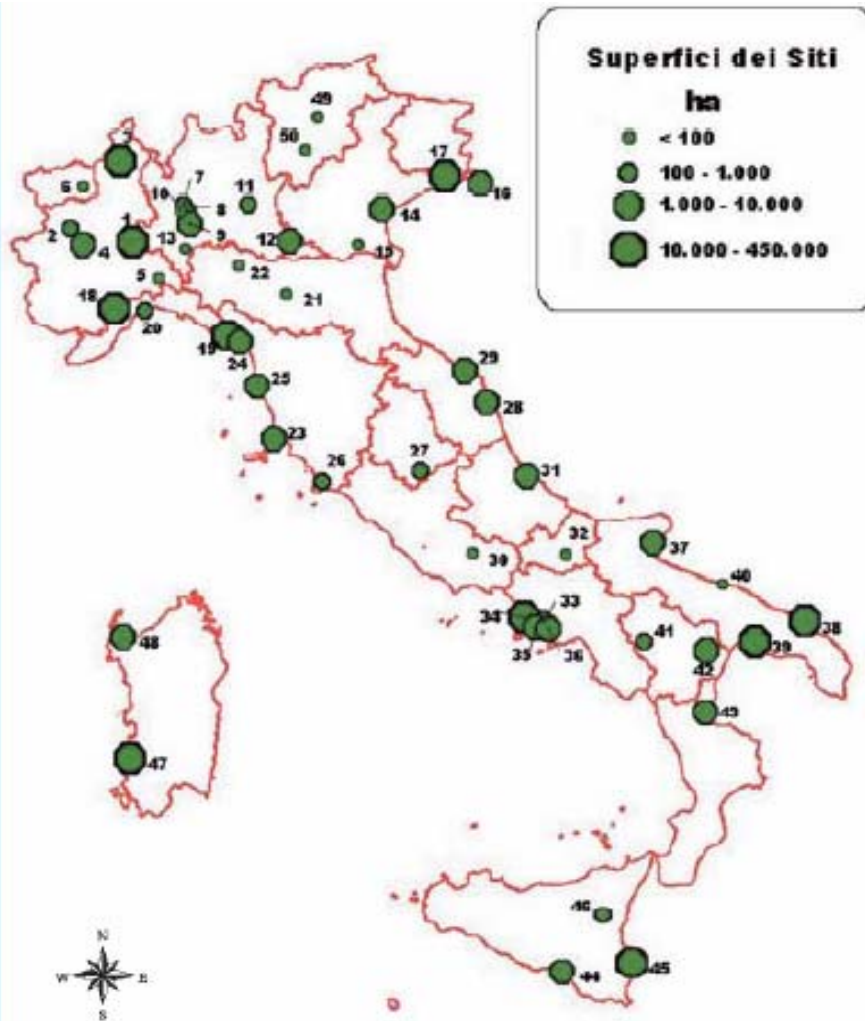


Geographical distribution - Sites of National Interest



Sites of National Interest

areas of sites



Largest sites

Sulcis Iglesiente Guspinese

442,573 ha

Lit. Domizio Flegreo

163,887 ha

Casal Monferrato

73,834 ha

Cengio e Saliceto

22,228 ha

Fonte: Elaborazione APAT/CTN_TES su dati MATT, Regioni e ARPA/APPA

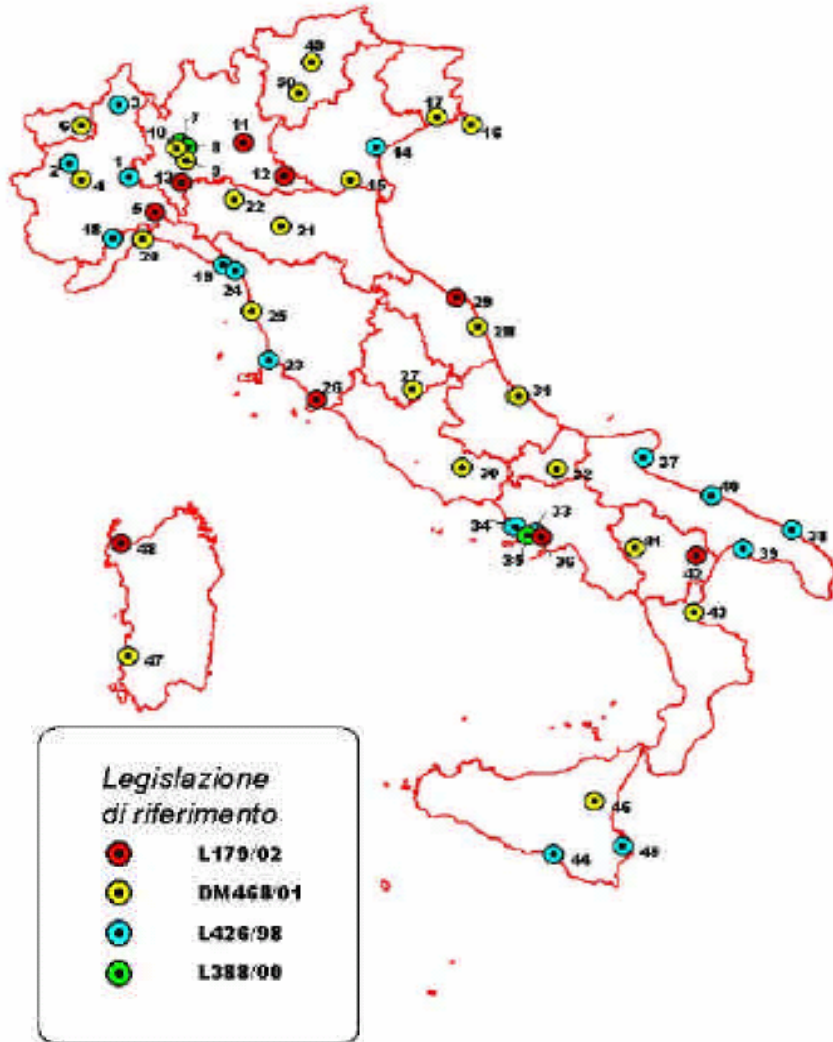
Sites of National Interest

sites of surface water interest

	<i>water area</i>	<i>% of total area</i>
Sulcis Igles. Guspinese	88,441 ha	(20%)
Pieve Vergonte	10,525 ha	(70%)
Priolo	10,085 ha	(75%)
Taranto	6,991 ha	(60%)
Grado e Marano	6,831 ha	(60%)
Brindisi	5,590 ha	(50%)
Porto Torres	2,741 ha	(60%)

Sites of National Interest

Government Funds



Largest subventions:

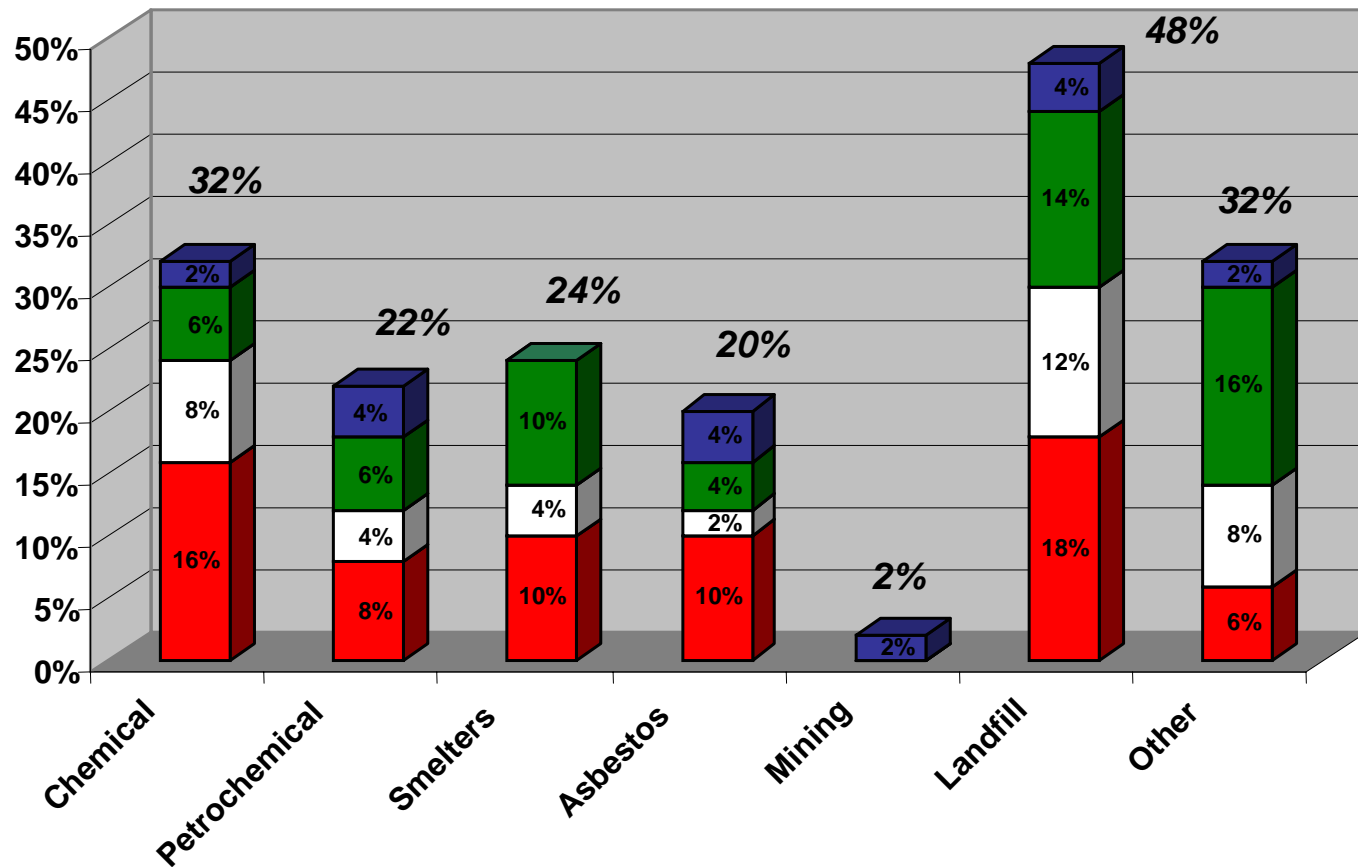
Porto Marghera	72.92 M €
Cengio e Saliceto	41.32 M €
Sulcis Iglesiente	32.85 M €
Napoli Orientale	27.68 M €
Priolo	23.65 M €

Total over 41 sites: 547.34 M €

Sites of National Interest

Activity type

Activity type



North

Center

South

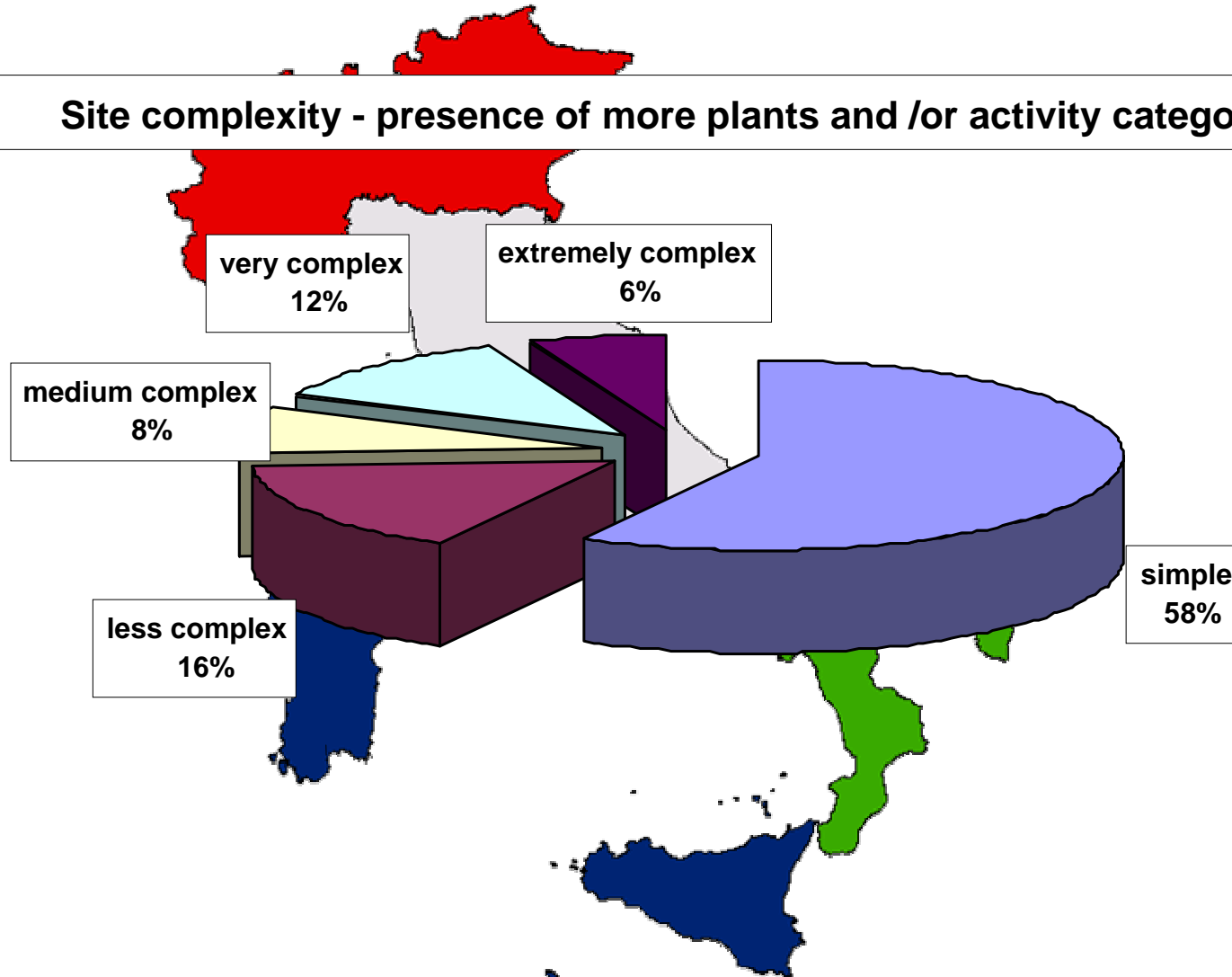
Islands

2004

Sites of National Interest

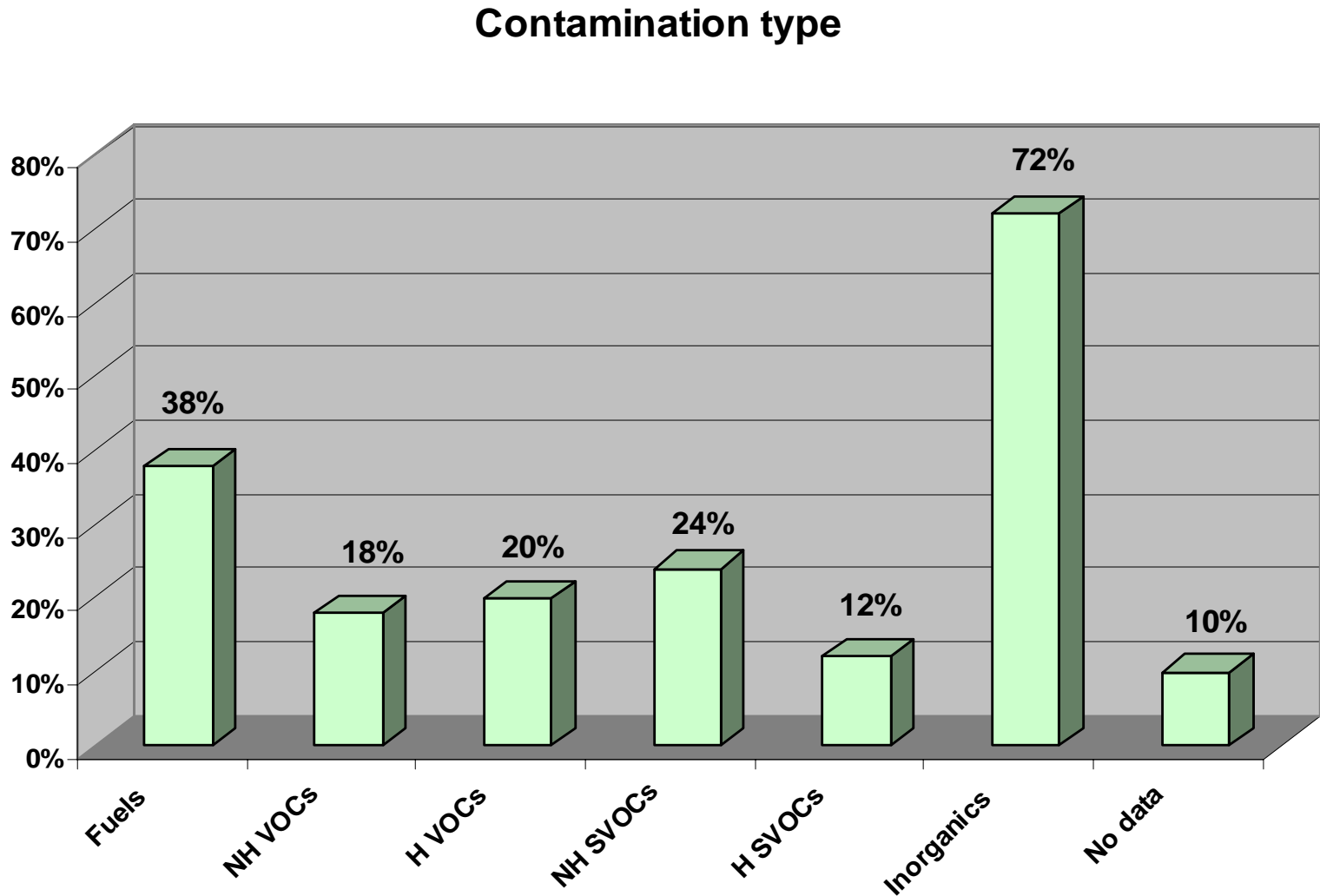
Activity type

Site complexity - presence of more plants and /or activity categories



Sites of National Interest

Contamination type

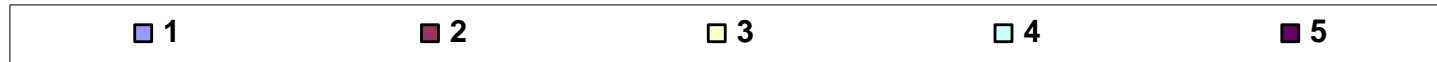
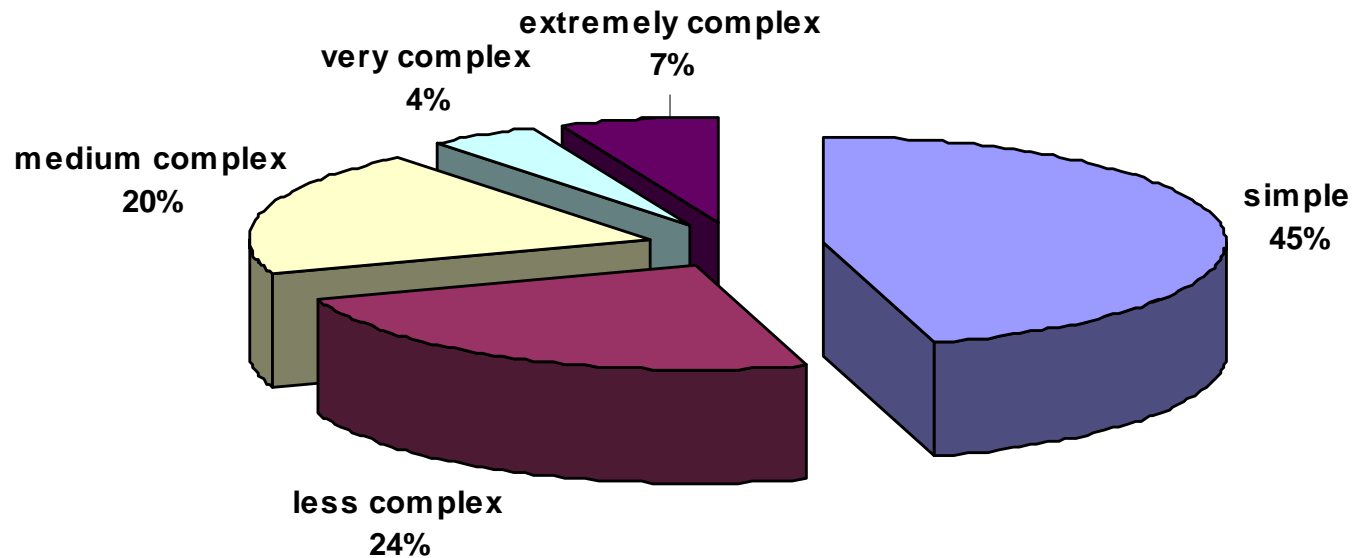


NATO/CCMS - Cardiff, 23-26 May
2004

Sites of National Interest

Contamination type

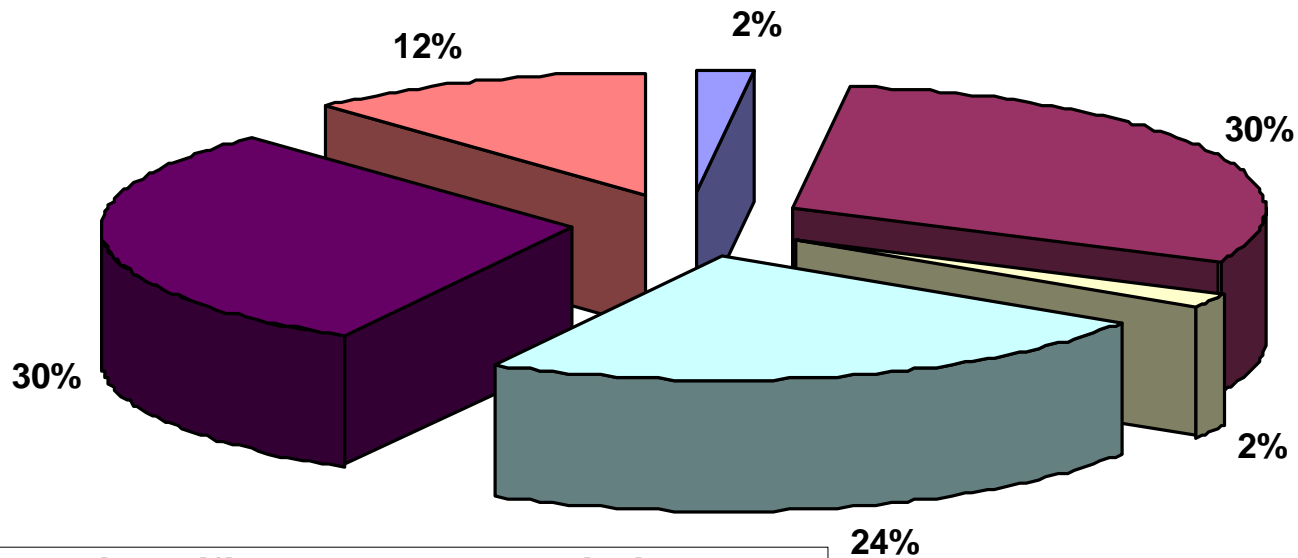
Complexity of contamination - presence of more contaminant categories









Sites of National Interest

Remediation progress

Sites of national interest remediation status

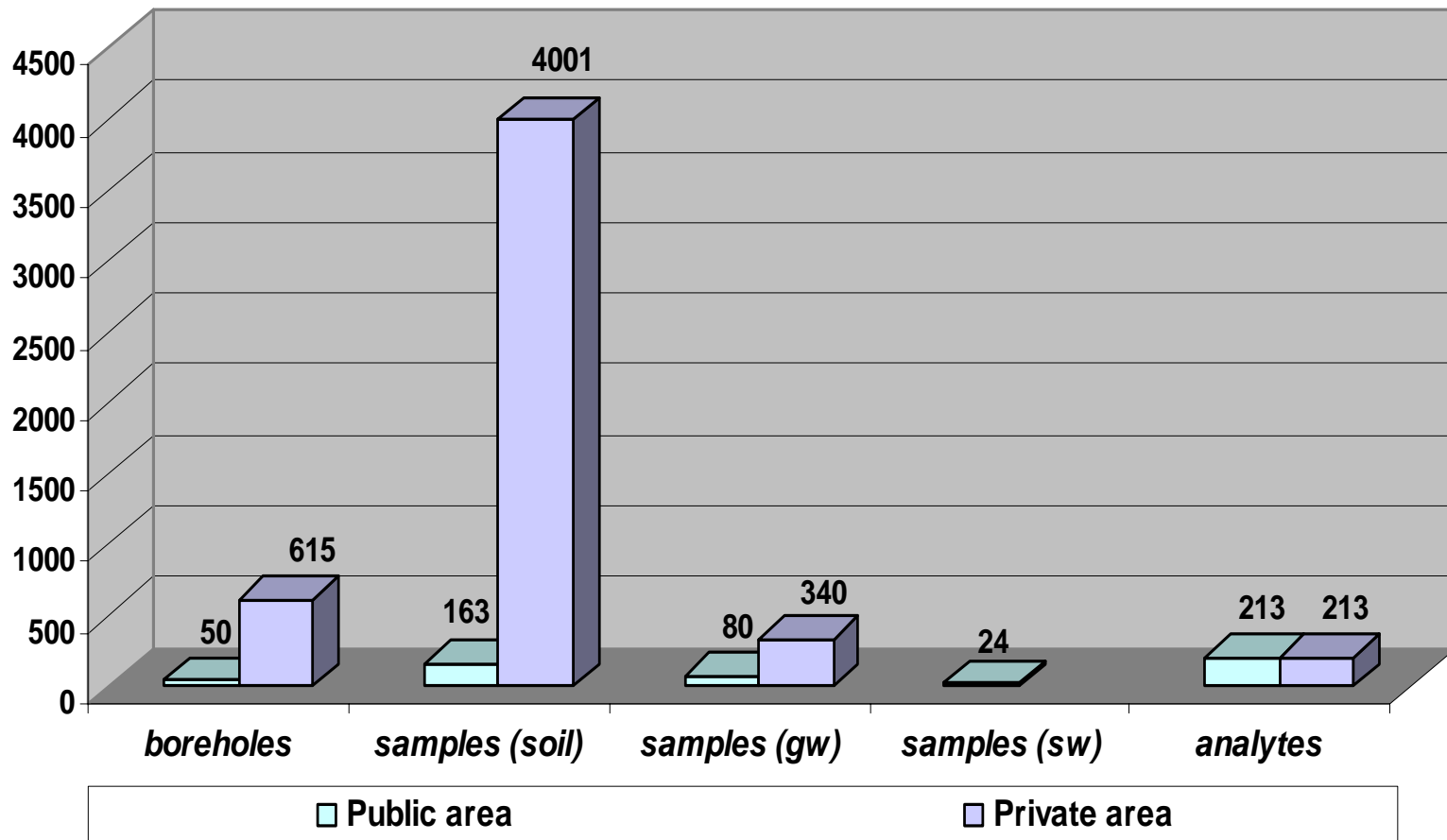


-  **Formally identified but not yet delimited**
-  **Delimitation of potential contaminated area**
-  **Safety actions taken**
-  **Characterization study**
-  **Assessment in progress**
-  **Remediation in progress**

Example of a National Interest Site

Acna di Cengio (chemical manufacture)

ACNA Cengio - indicators of the characterization study



Conclusions

- Much effort is dedicated to characterization and assessment of Sites of National Interest
- Remediation:
 - Few off-site soil treatment plants are available because present legislation limits off-site soil treatment and reuse
 - Excessive dig&dump/containment/no soil reuse are also a consequence of severe soil standards and legal restrictions and poor application of risk-based solutions
 - Groundwater remediation 60% is P&T; few PRB and NA cases
- Improving: participation in multinational research projects, education and professional expertise.