

Why do we have the Hazardous Site Response Act?

- Before HSRA, insufficient state authority and funds to clean up sites not on federal clean up list
- Contamination at these sites polluted drinking water, threatened people's health and the environment, hurt property values, and kept land from productive use
- Governor Zell Miller signed HSRA into law in 1992 to find and clean up these sites

What does the Hazardous Site Response Act do?

- Sites discovered and put on Hazardous Site Inventory
- EPD requires private parties to clean up their sites
- Fees and fines fund the Hazardous Waste Trust Fund
- EPD uses Trust Fund to clean up orphan sites and help local governments
- Trust Fund funds pollution prevention activities

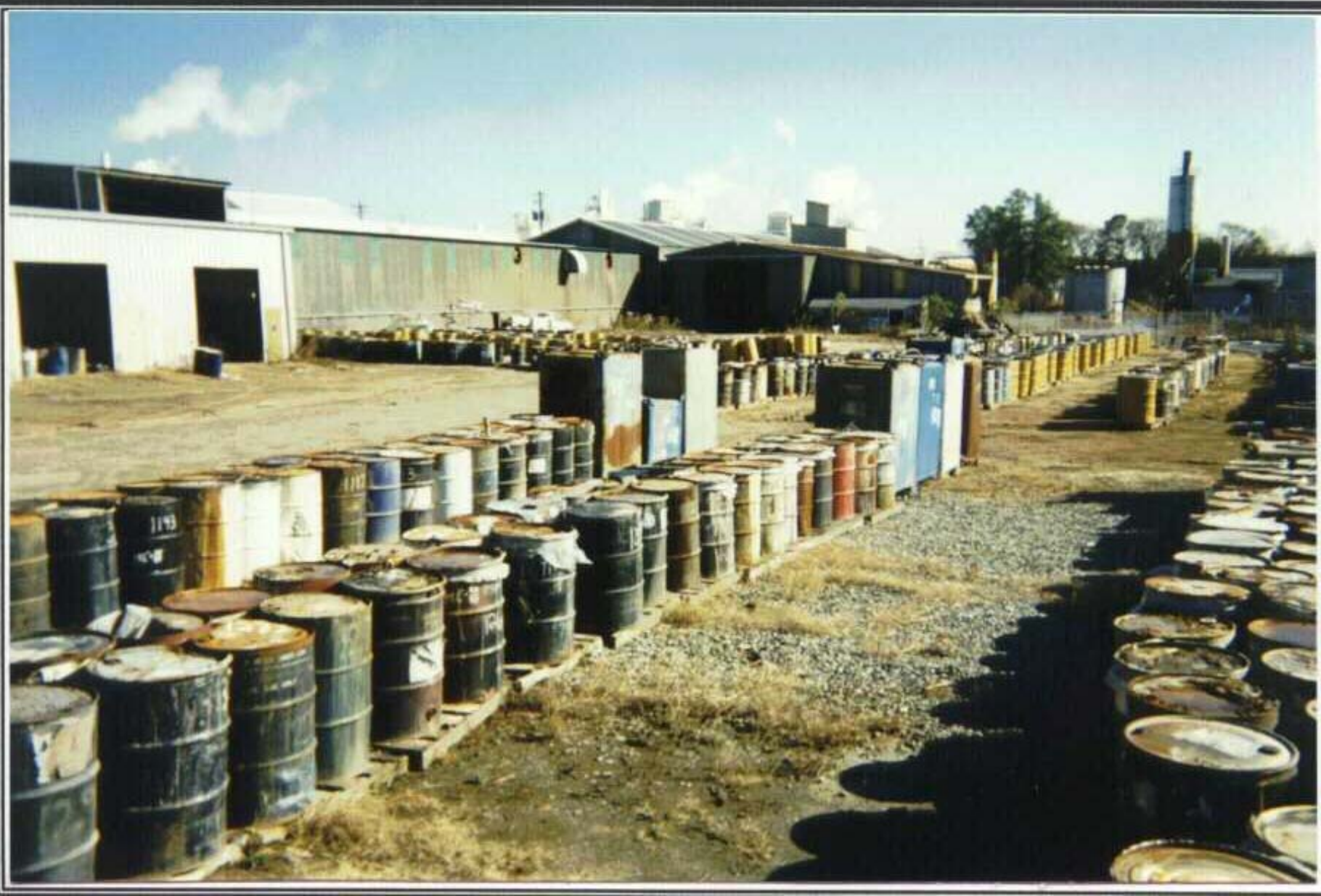
Problems caused by hazardous sites:

- Fire and explosion hazards
- Contaminated soil and drinking water
- Health threats to people living or working nearby
- Environmental damage
- Diminished property values
- Barriers to redevelopment

Some examples of hazardous sites in Georgia include:

- Old wood preserving plants
- Chemical manufacturing plants
- Leaking dry cleaners
- Old unlined solid waste landfills
- Defunct industrial waste handlers





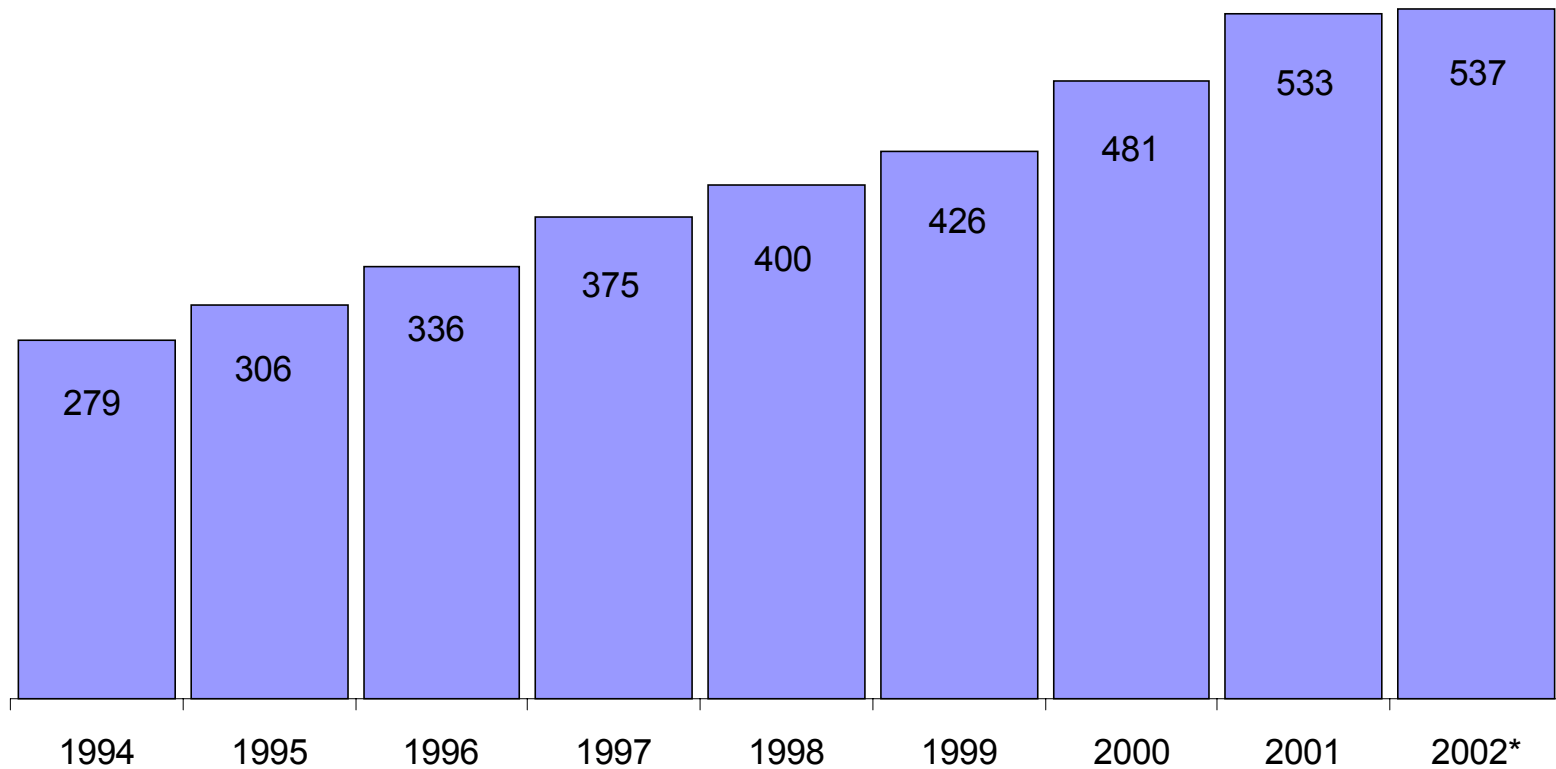






How do sites get on the HSI?

- Property owners notify of releases
- RQSM screens out low risk sites
- Sites with potential for exposure through direct contact or drinking water are listed
- Less than 30% of all sites that notify get listed
- Sites are removed if they meet state cleanup standards



Number of sites listed on each year's Hazardous Site Inventory

* Updated through May 15, 2002

State Superfund
(orphan sites)

46

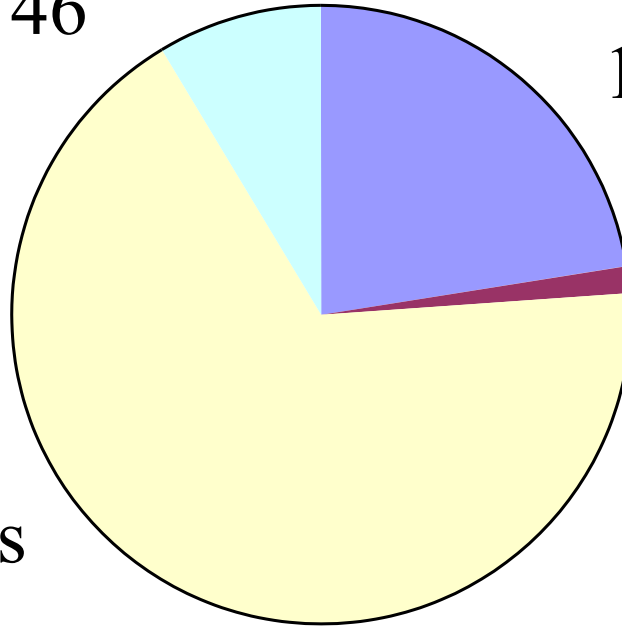
Local Governements

121

State Agencies

7

Private Parties
363



Who is cleaning up hazardous sites?

May 15, 2002

What role does the federal government play?

- EPA only handles the “worst of the worst” sites in the nation
- Hundreds of sites discovered; only 15 in Georgia on EPA’s cleanup list
- Without state program, sites continue to pollute, threaten people’s health

How are hazardous sites cleaned up?

- Sites cleaned up to state standards adopted by Board of Natural Resources
- Risk-based standards ensure resources are not wasted cleaning up sites that are not a problem
- Cleanups ensure
 - No significant risk to human health or environment
 - People have less than a 1 in 100,000 lifetime chance of developing cancer as a result of living or working near the site
 - No significant risk of other injury or diseases

How are hazardous sites cleaned up?

- Worst sites cleaned up first
 - Sites are prioritized
- Worst problems at prioritized sites cleaned up first
 - Source
 - Soil
 - Groundwater

How are hazardous sites cleaned up?

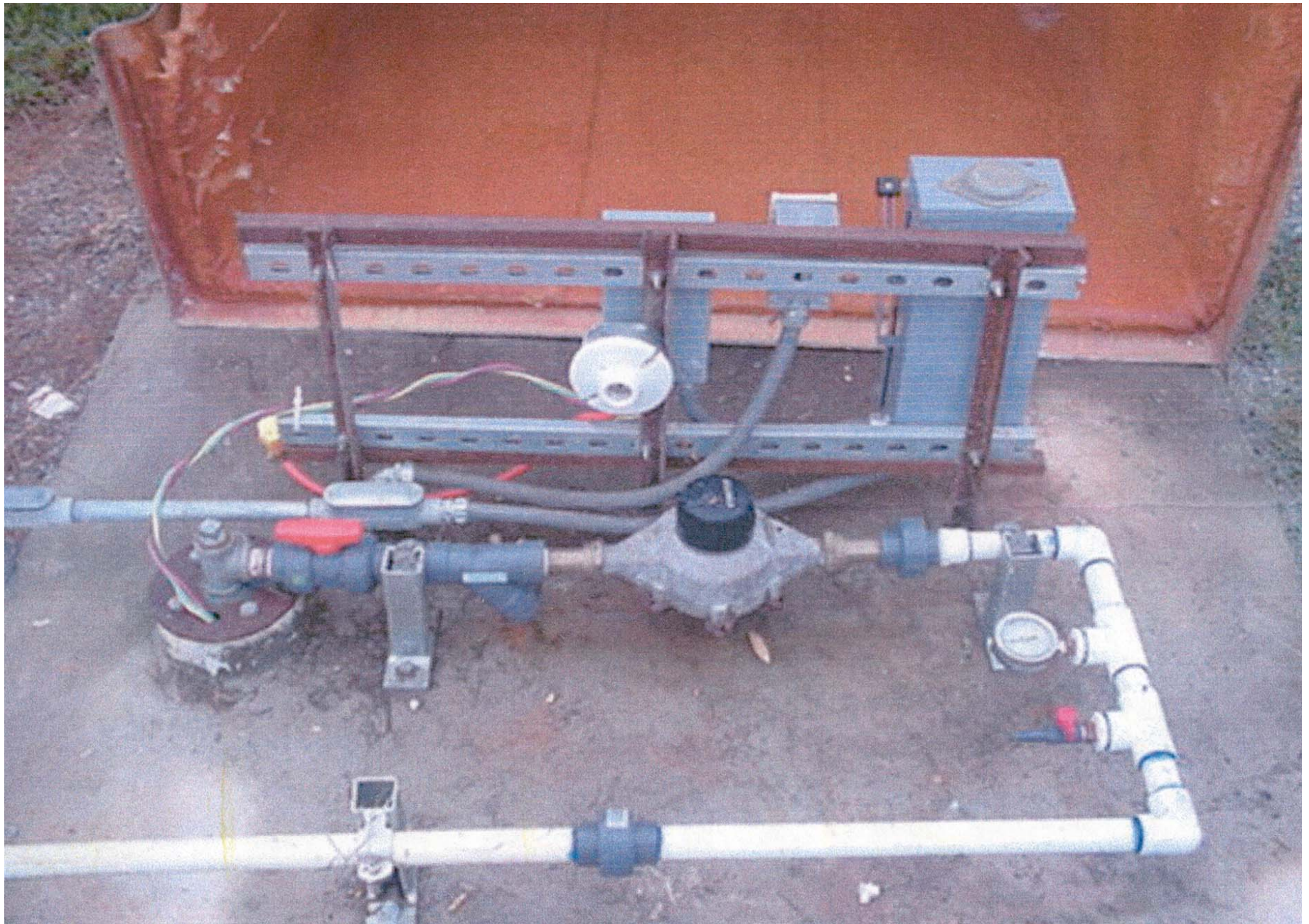
- Contamination delineated to background
- Contamination removed/treated to cleanup standards
- Innovative technologies being used at 37% of sites being cleaned up
- Sites that can't be cleaned up can use engineering and institutional controls to limit exposure



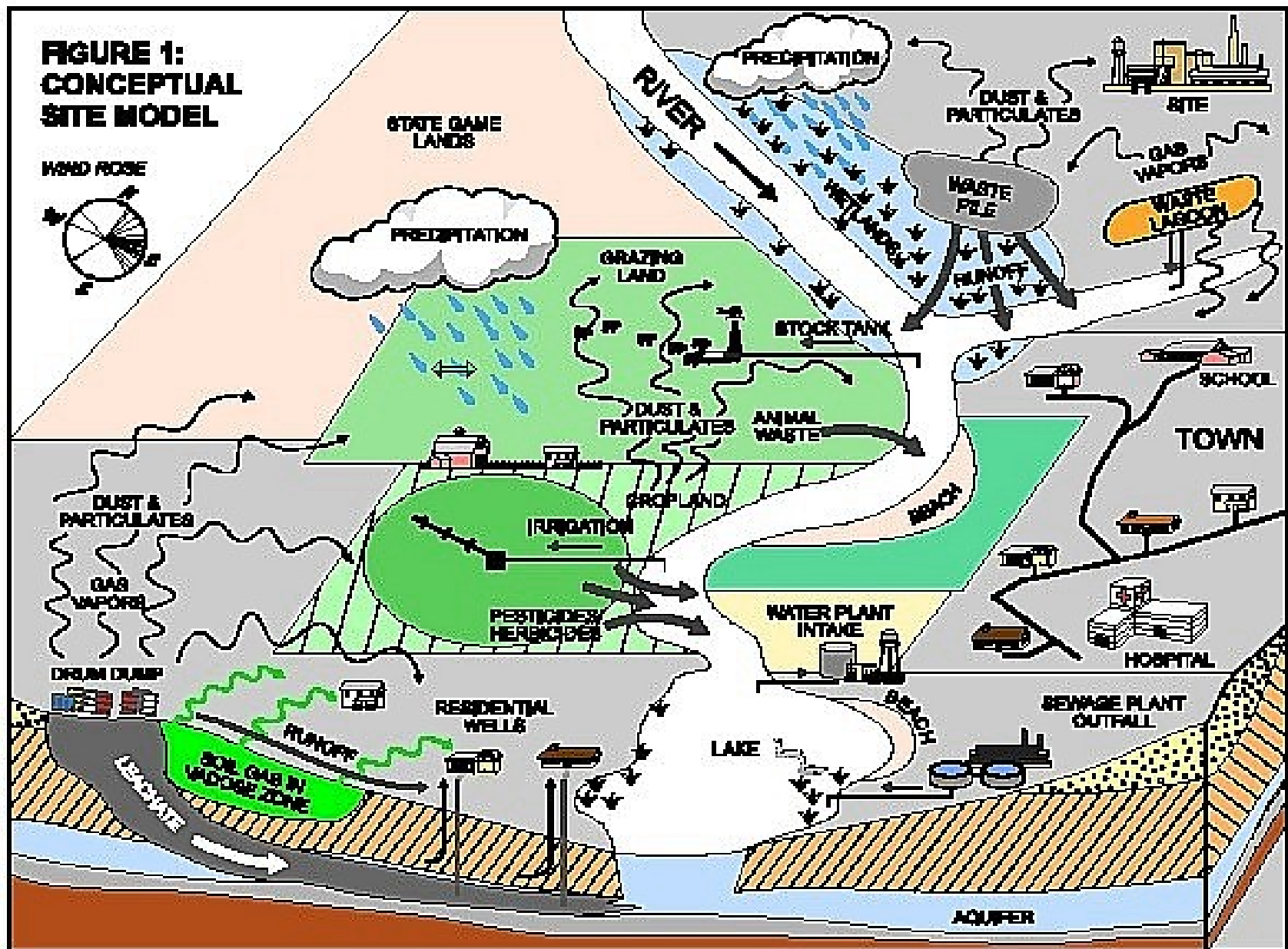








**FIGURE 1:
CONCEPTUAL
SITE MODEL**



Comparison of Risk Reduction Standards

What is Their Role in the HSRA Process?

Residential Property		Non-residential Property		Some Properties
Type 1	Type 2	Type 3	Type 4	Type 5
Soil and groundwater must meet appropriate risk reduction standard				
Site removed from HSI				Stays on HSI
No further action	Deed Notice Required			
	Monitor site to ensure it continues to meet cleanup standards and remains non-residential		Long-Term monitoring and maintenance Restrictive covenants Potential for future action	

Comparison of Risk Reduction Standards How Are They Derived?

Residential Property		Non-residential Property		Some Properties
Type 1	Type 2	Type 3	Type 4	Type 5
<p>Streamlined process with emphasis on:</p> <ul style="list-style-type: none"> •Background, or •Detection limit, or •Protection of environment & human health utilizing standardized exposure assumptions 	<p>Site-specific process with emphasis on modification of standardized exposure assumptions utilizing site-specific information</p>	<p>Streamlined process with emphasis on:</p> <ul style="list-style-type: none"> •Background, or •Detection limit, or •Protection of environment & human health utilizing standardized exposure assumptions 	<p>Site-specific process with emphasis on modification of standardized exposure assumptions utilizing site-specific information</p>	<p>Applicable when Types 1 – 4 are not appropriate. Utilizes engineering methods to control exposure</p>

How Are the RRS Implemented?

PCE Example in Groundwater

Residential Property		Non-residential Property	
Type 1	Type 2	Type 3	Type 4
Value based upon the MCL (Table 1, App. III) = 0.005 mg/L	Value based upon an adult ingestion and inhalation exposure scenario = 0.014 mg/L	Value based upon the MCL (Table 1, App. III) = 0.005 mg/L	Value based upon an industrial worker ingestion and inhalation exposure scenario = 0.04 mg/L

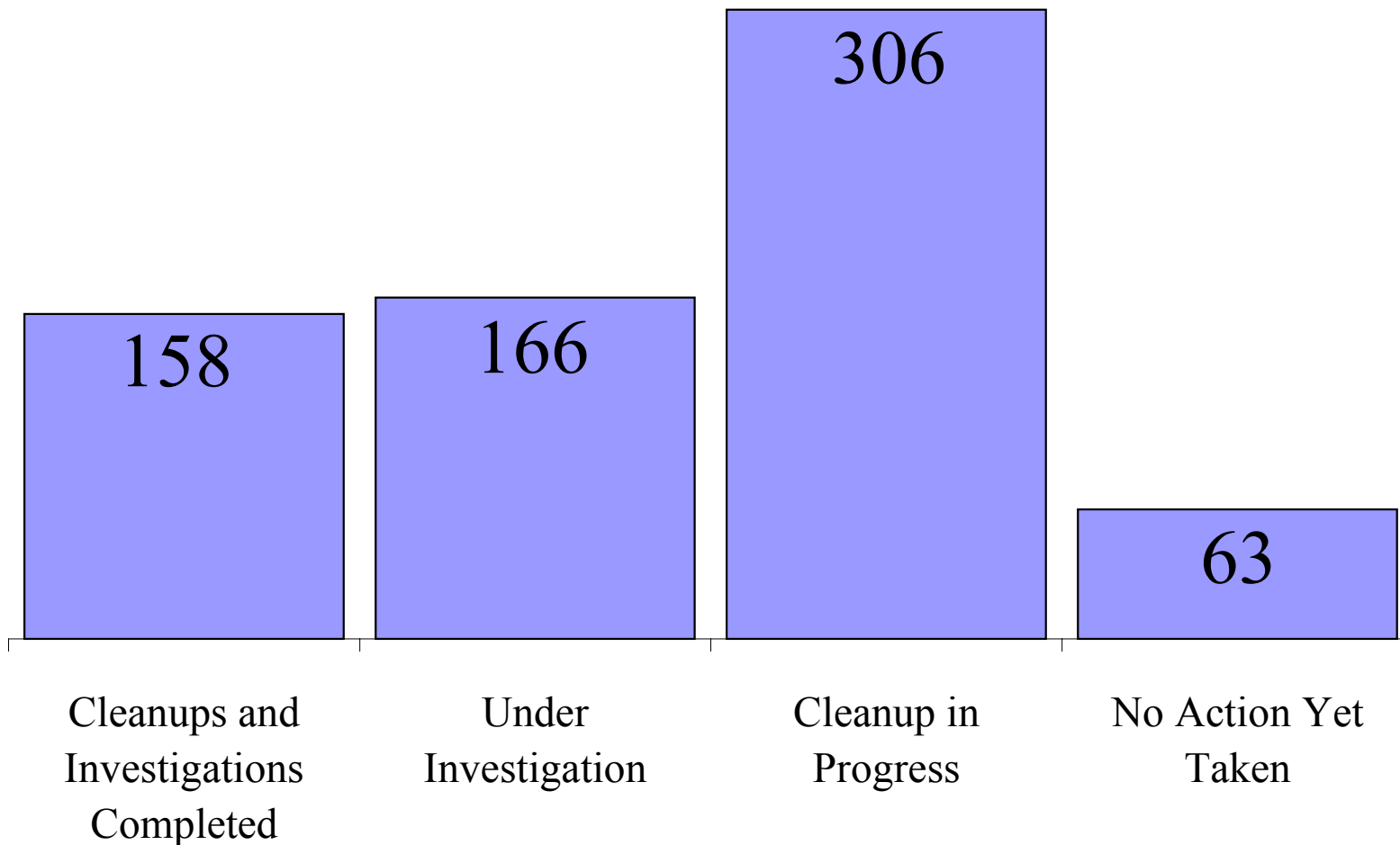
How Are the RRS Implemented?

Cr⁶⁺ Example in Soil

Residential Property		Non-residential Property	
Type 1	Type 2	Type 3	Type 4
Value based upon Soil Criteria (App. III, Table 2) = 100 mg/kg	Value based upon leachate concentration from a fate and transport model = 0.18 mg/kg	Value based upon the Notification Concentration = 1200 mg/kg	Value based upon leachate concentration from a fate and transport model = 117 mg/L

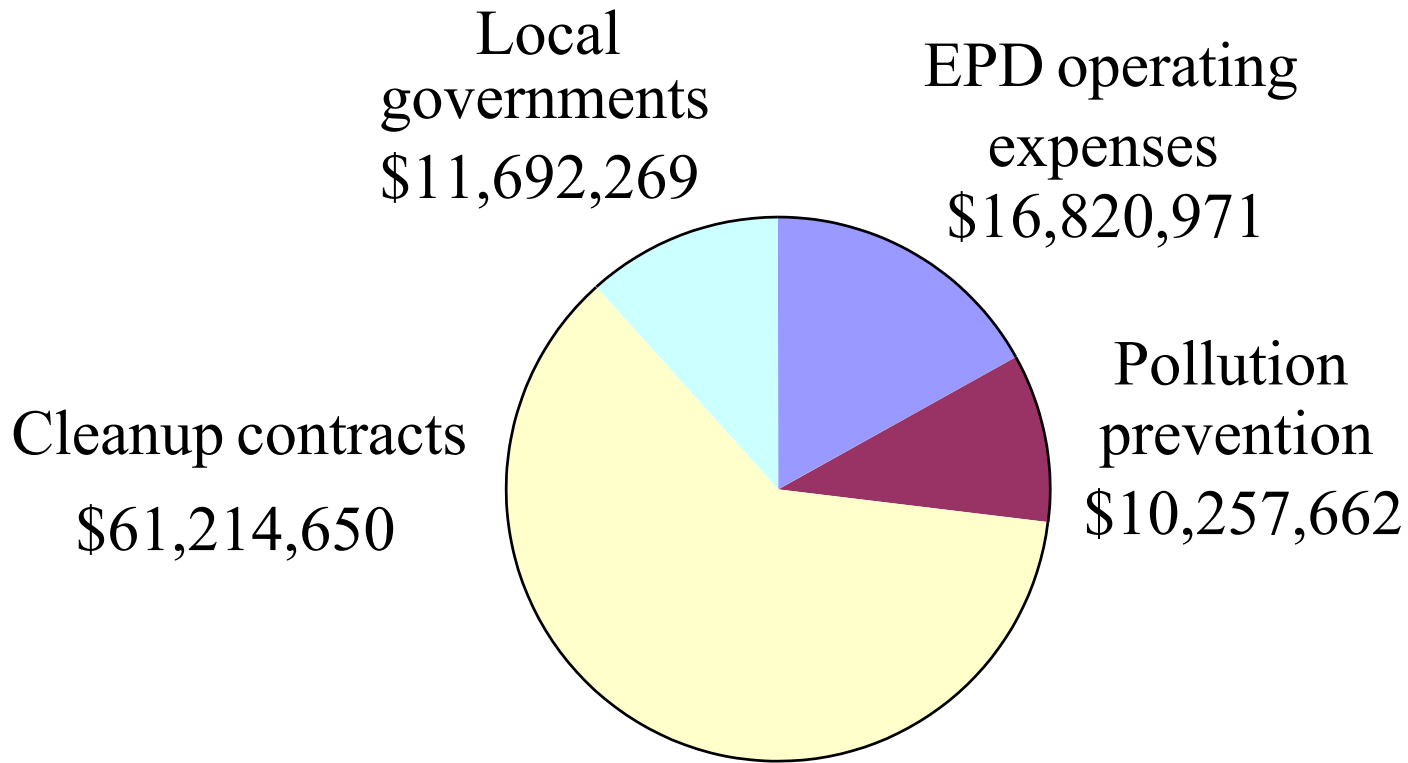
Type 5 RRS

- Applicable where types 1 – 4 risk reduction standards are not appropriate under present circumstances
- Allows for engineering controls
- May remove principal threats using the following measures:
 - Removal
 - Decontamination; And/or
 - Treatment
- Institutional controls should not be substituted for active remedial measures unless active measures are determined not to be practicable
- Requires the following:
 - Long-term monitoring
 - Restrictive covenant
 - Types 1, 2, 3, & 4 RRS be met beyond the boundary of the type 5 site



How much progress has EPD made in cleaning up hazardous sites?

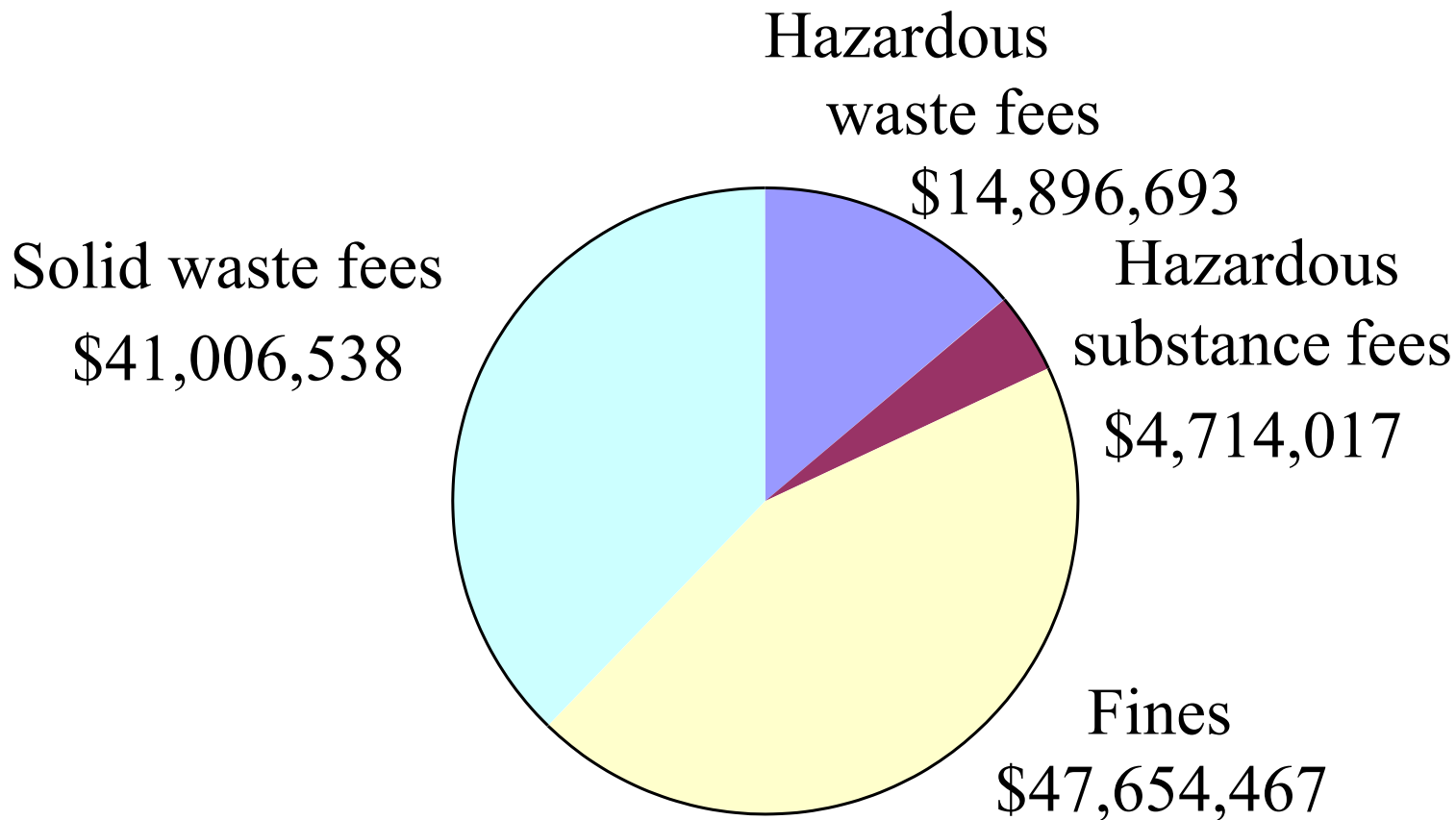
May 15, 2002



Hazardous Site Cleanup Obligations and Expenditures

Total \$99,985,552

July 1, 1992 through May 15, 2002



HWTF Revenue by Source Type

Total \$108,271,715

July 1, 1992 through June 30, 2001

What else needs to be done to clean up hazardous sites?

- Finish cleanups at 537 sites currently on list
- New private party sites will be discovered; some current private party sites will become orphan sites
- New orphan sites will be discovered and need cleanup
- More landfills not on the list now could begin to leak and need funds for investigation and cleanup

How much more will it cost to finish hazardous site clean ups and continue preventing pollution?

- \$269 Million for EPD to complete orphan site cleanups, help local governments, oversee private party cleanups, and help encourage pollution prevention
- Even with new fee increase adopted during 2002 legislative session, there will be a shortfall of \$98 million in 10 years
- Private parties will spend \$1.2 Billion