



reporting the evidence

Dealing with contaminated land in England and Wales

A review of progress from 2000-2007 with Part 2A of the
Environmental Protection Act

We are the Environment Agency. It's our job to look after your environment and make it **a better place** – for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

Published by:

Environment Agency
Rio House
Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD
Tel: 0870 8506506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

© Environment Agency

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
January 2009

Foreword

Dealing with contaminated land in England and Wales

We are pleased to publish this report *Dealing with contaminated land in England and Wales*. It summarises progress made in dealing with *contaminated land* under Part 2A of the Environmental Protection Act 1990 from the time it was first introduced until 31 March 2007.

Land affected by contamination can be a blight on communities and may present unacceptable risks to human health and the environment. Preventing our land becoming polluted is the best way of making sure that future generations do not inherit a legacy of contamination. However, today we all face the challenge of dealing with contamination caused by pollution in the past.

While some contaminated sites can be successfully remediated by redeveloping land for future use, others are neither suitable nor scheduled for redevelopment. These sites may be causing unacceptable risks that need to be dealt with through regulation. Part 2A of the Environmental Protection Act 1990 was introduced to provide a better way to identify and remediate *contaminated land*. This legislation came into force in 2000 in England and 2001 in Wales. This report shows what has been achieved up to March 2007.

We thank the local authorities of England and Wales that supplied information for this report and hope that readers find it a useful record of the activities and progress to date under Part 2A.



Aileen Kirmond
Head of Land Quality, Environment Agency

Contents

Summary	3
1 Introduction	4
2 Identifying <i>contaminated land</i>	5
3 Sites determined as <i>contaminated land</i>	8
4 Remediating <i>contaminated land</i>	14
5 The costs of Part 2A	19
6 Local authority views of Part 2A	22
7 Changes to the Contaminated Land Regime	25
8 Concluding comments	26
Appendix 1: Process for gathering information	27
Appendix 2: Overview of Part 2A	28
Glossary	35
References	37

Executive summary

This is our second statutory report on the state of *contaminated land* for England and our first report for Wales, which we have to produce under Part 2A of the Environmental Protection Act 1990. The report gives an overview of the progress made in identifying and remediating *contaminated land* since Part 2A was introduced in 2000 (England) and 2001 (Wales) until 31 March 2007. We have prepared the report using information we have collected from local authorities in England and Wales. We also used our own information on *special sites* which we regulate under Part 2A. A summary of the key findings follows:

- Land contamination in England and Wales is mainly dealt with through the planning system. Local authorities estimate that around 10 per cent of contaminated sites are dealt with under Part 2A.
- All local authorities have produced strategies for inspecting their areas for *contaminated land*.
- By the end of March 2007, most local authorities in England and Wales had inspected less than 10 per cent of their areas for *contaminated land*. The cost of inspecting sites in England and Wales, including sites determined as *contaminated land*, designated *special sites* and sites that did not need to be determined, is around £30 million.
- By the end of March 2007, 781 sites had been determined under Part 2A, including 35 designated *special sites*. Of the 746 *contaminated land* (non-special) sites, local authorities reported that 144 had been completely remediated.
- From the start of Part 2A until the end of March 2007, we were asked to inspect, or oversee the inspection of, 144 potential *special sites* in England and Wales at a cost of around £4 million. Inspections are ongoing for 59 sites, of those we inspected, 35 became designated *special sites*, five of which have been fully remediated. Up to the end of March 2007 remediating *special sites* has cost in the region of £7.3 million.
- Local authorities in England and Wales report that the remediation of most *contaminated land* sites starts more than one year after the site has been determined and that the time it takes to remediate sites can range considerably between a number of months to many years. Costs reported for remediating *contaminated land* and *special sites* until the end of March 2007 are around £20.5 million, with costs anticipated to rise to around £62 million for all sites currently determined under Part 2A.
- Where sites have been remediated, this has mainly been through excavation and off-site disposal of material. Local authorities report that this is also the most common way proposed for treating sites that have not yet been remediated.
- Local authorities in England and Wales ranked the definition and identification of *contaminated land* and risk assessment as the most helpful aspects of Part 2A. They also ranked risk assessment, funding associated with implementing Part 2A and apportioning liability as the least helpful aspects of the Contaminated Land Regime.

Section 1

Introduction

Aim of this report

The aim of this report is to present current information on the progress made under Part 2A (the Contaminated Land Regime) in managing contaminated sites in England and Wales. We want this report to inform people about how Part 2A is used and viewed.

There are many situations where land is contaminated but where it does not meet the legal definitions of Part 2A. These sites are not subject to regulation under Part 2A. To make it clearer, when we refer in this report to contaminated areas that are subject to legal definitions under Part 2A, we will use italics (for example, *contaminated land* and *special site*).

Who this report is for

This report is for anyone interested in Part 2A in England and Wales and the progress made under it. In particular, this report presents the facts, figures and opinions we have collected. For readers who also want to know more about Part 2A and how it works, we have provided information in the appendices.

We have produced this report as part of our statutory duty under Part 2A of the Environmental Protection Act 1990 to publish 'from time to time... a report on the state of Contaminated Land in England and Wales'.

For more information about how we gathered information, go to Appendix 1.

What this report covers

In 2002, we published a report called *Dealing with contaminated land in England*. The current report is the first to also cover Wales. It presents information obtained from local authorities across England and Wales (see Appendix 1) and also information we have gathered ourselves on the sites we are responsible for under Part 2A. We invited all local authorities to give their views on the Contaminated Land Regime and how land contamination is managed in their areas. We also asked those local authorities with sites determined as *contaminated land* under Part 2A to provide data on the inspection, determination and remediation of those sites.

The report presents information starting from April 2000 in England and September 2001 in Wales when the respective Contaminated Land Regulations came into force. We asked local authorities to include information up to March 2007. We gathered equivalent information on *special sites* under Part 2A, which are those we regulate.

We have not included in this report any information after 31 March 2007, the cut-off date for data collection.

Gathering information and response rate

We invited all 375 local authorities in England (353) and Wales (22) to provide us with information. Overall, we had a 91 per cent response rate, comprising a 90 per cent response in England (318 responses) and a 100 per cent response in Wales (22 responses).

Identifying *contaminated land*

Summary

- Local authorities in both England and Wales estimate that around 10 per cent of identified contaminated sites are dealt with through Part 2A.
- Around half of local authorities reported that they have made at least ‘good progress’, with their inspection strategies. By the end of March 2007, the majority of local authorities in England and Wales had inspected less than 10 per cent of their areas for land contamination.
- Around half of local authorities in England and Wales estimate that less than 10 per cent of their areas might be contaminated.
- By the end of March 2007, we had been asked to inspect 144 potential *special sites* in England (139) and Wales (five).

To find out more about Part 2A, how it works and the definition of *contaminated land*, go to Appendix 2.

Identifying and dealing with contaminated sites

There are a number of ways to manage land contamination to reduce the risks to human health and the environment. Preventing releases and controlling activities that cause pollution are the most effective ways to prevent land from becoming contaminated. There are regulatory regimes aimed at achieving this, for example the Environmental Permitting (England and Wales) Regulations 2007.

In 2005 we estimated that there might be around 300,000 hectares of land affected by industrial activity in England and Wales which may be contaminated. This is approximately two per cent of the land area of England and Wales. Contamination can be identified and dealt with in a number of ways, which include:

- 1 site owners, those responsible for the site or polluters voluntarily dealing with existing land contamination;
- 2 using the planning system to remediate existing contamination by developing contaminated sites (Town and Country Planning Act, 1990);
- 3 using regulation, including Part 2A of the Environmental Protection Act (1990).

Voluntary action by those people responsible for contaminating the land can be a good way to make sure that the polluter pays for remediation. Furthermore, development of land through the planning system can be a very cost-effective way to manage land contamination as those who will benefit from the development usually pay to remediate it. Using regulation often means the taxpayer has to bear some of the cost.

Local authorities provided estimates of the proportion of sites that have been dealt with using these different methods since Part 2A was introduced (see **Figure 1**). On average, almost 90 per cent of contaminated sites in England and almost 80 per cent of contaminated sites in Wales that have been managed were dealt with through the planning system. Around 10 per cent of sites have been dealt with using Part 2A.

Local authority inspection strategies

In our 2002 report *Dealing with contaminated land in England*, we reported that 94 per cent of local authorities in England had produced their inspection strategies as required under Part 2A (Environment Agency 2002). All 375 local authorities in England and Wales have now produced an inspection strategy for their areas.

For this report we asked them to estimate how much progress they had made in achieving their objectives up to 31 March 2007. The questionnaire provided a number of possible answers, including 'no progress; little progress; good progress; and surpassed targets'.

Figure 2 shows most local authorities (48 per cent in England and 55 per cent in Wales) reported that they had made 'good progress' in implementing their inspection strategies.

Local authorities also gave an estimate of how much of their area they had looked at for contamination and how much land they suspected to be *contaminated land* (see **Table 1** on page 7). In both England and Wales, the majority of local authorities estimated that they had looked at less than 10 per cent of their area since 2000. Around half the local authorities in both England and Wales estimate that less than 10 per cent of their area is potentially *contaminated land* (see **Table 1** on page 7).

Local authorities in England reported that they had carried out over 25,000 inspections since the legislation was introduced, while those in Wales reported around 6,500 inspections.

To find out more about local authority inspection strategies and what is involved in site inspections, go to Appendix 2.

Figure 1: Contaminated sites managed through different activities in England and Wales.

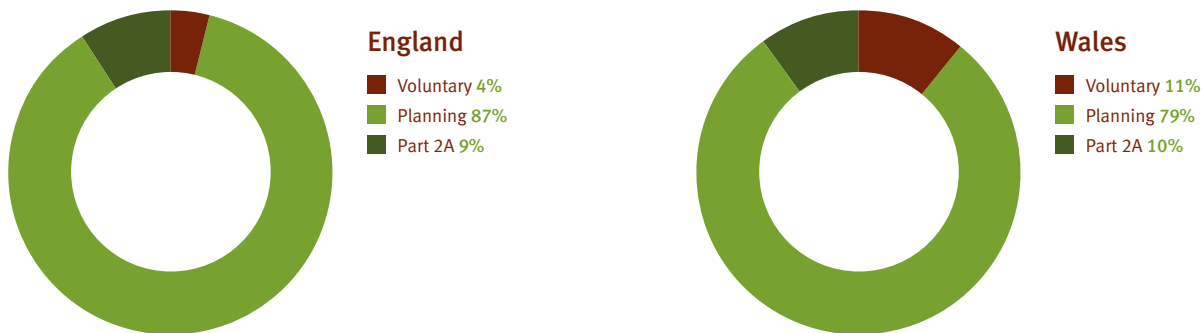
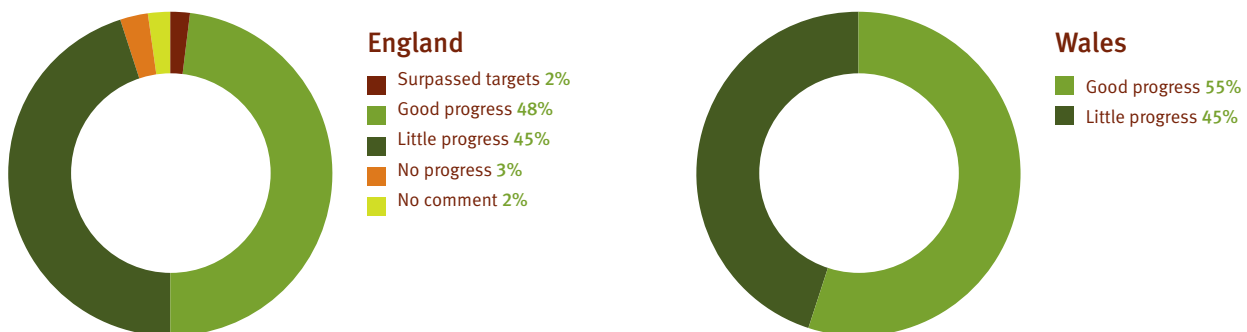


Figure 2: Local authorities' progress with inspection strategies*.



*shown as a percentage of local authorities in England and Wales that responded.

Inspecting potential *special sites*

Information from our own records show that we were asked to investigate, or to oversee the investigation of, 139 potential *special sites* in England and five in Wales between the start of Part 2A and March 2007. This amounts to approximately 5,200 hectares of land in England and 10 hectares of land in Wales. In England, 59 inspections of potential *special sites* were still ongoing at the end of March 2007; six had been withdrawn from Part 2A as remediation was being managed through planning; and a further three sites had been withdrawn for other reasons. In Wales, one of the five potential *special sites* had an ongoing inspection.

The remainder of potential *special sites* in England (71) and Wales (four) have been inspected and we have already made our recommendations to local authorities (see **Table 2**). Some potential *special sites* were inspected by local authorities or voluntarily by third parties, so we do not necessarily hold information on all inspections of potential *special sites*.

For more information on the definition of *special sites* and potential *special sites*, go to Appendix 2.

Table 1: Percentage area inspected for contamination and area suspected to be *contaminated land**.

% of land inspected or estimated as <i>contaminated land</i>	Land inspected (% of local authorities)		Estimated <i>contaminated land</i> (% of local authorities)	
	England	Wales	England	Wales
No comment	1%	0%	2%	0%
0%	4%	0%	3%	9%
<10%	67%	72%	55%	46%
10-70%	19%	14%	39%	45%
70-100%	9%	14%	1%	0%

* given as a percentage of local authorities in England (318) and Wales (22) that responded.

Table 2: Recommendations made to local authorities regarding the investigation of potential *special sites* carried out by the Environment Agency*.

	England	Wales
The site is no longer potential <i>special site</i> . Local authority to continue inspection	20	0
The site is not <i>contaminated land</i>	27	0
The site should be determined as <i>contaminated land</i> but is not a <i>special site</i>	8	2
The site should be determined <i>contaminated land</i> and is a <i>special site</i>	26	2
Other recommendation	1	0

*more than one recommendation was made for some land inspected relating to different areas of land.

Sites determined as *contaminated land*

Summary

- A total of 781 sites had been determined as *contaminated land* under Part 2A in England (659) and Wales (122) by the end of March 2007. Of these, 35 were designated *special sites* (33 for England and two for Wales).
- Over 90 per cent of *contaminated land* sites in England (91 per cent) and Wales (98 per cent) had housing on it when the site was inspected.
- Controlled waters were most commonly identified in the designation of *special sites*.
- Metal and metalloids plus organic compounds were the most common pollutants identified in the significant pollutant linkages of *contaminated land* sites.
- The energy and waste industries were the biggest sources of pollution associated with *contaminated land* sites in England. The deposit of ash was reported as the most common cause of *contaminated land* in Wales.

For more information about determining *contaminated land* and designating *special sites*, go to Appendix 2.

How many sites have been determined under Part 2A?

Following inspection, 781 sites had been determined as *contaminated land* under Part 2A up to the end of March 2007. Out of the 319 local authorities in England that provided information for this report, 74 told us they had determined 659 *contaminated land* sites (33 of which were designated as *special sites*). In Wales, eight of the 22 local authorities told us they had determined a total of 122 *contaminated land* sites (two of which were designated as *special sites*).

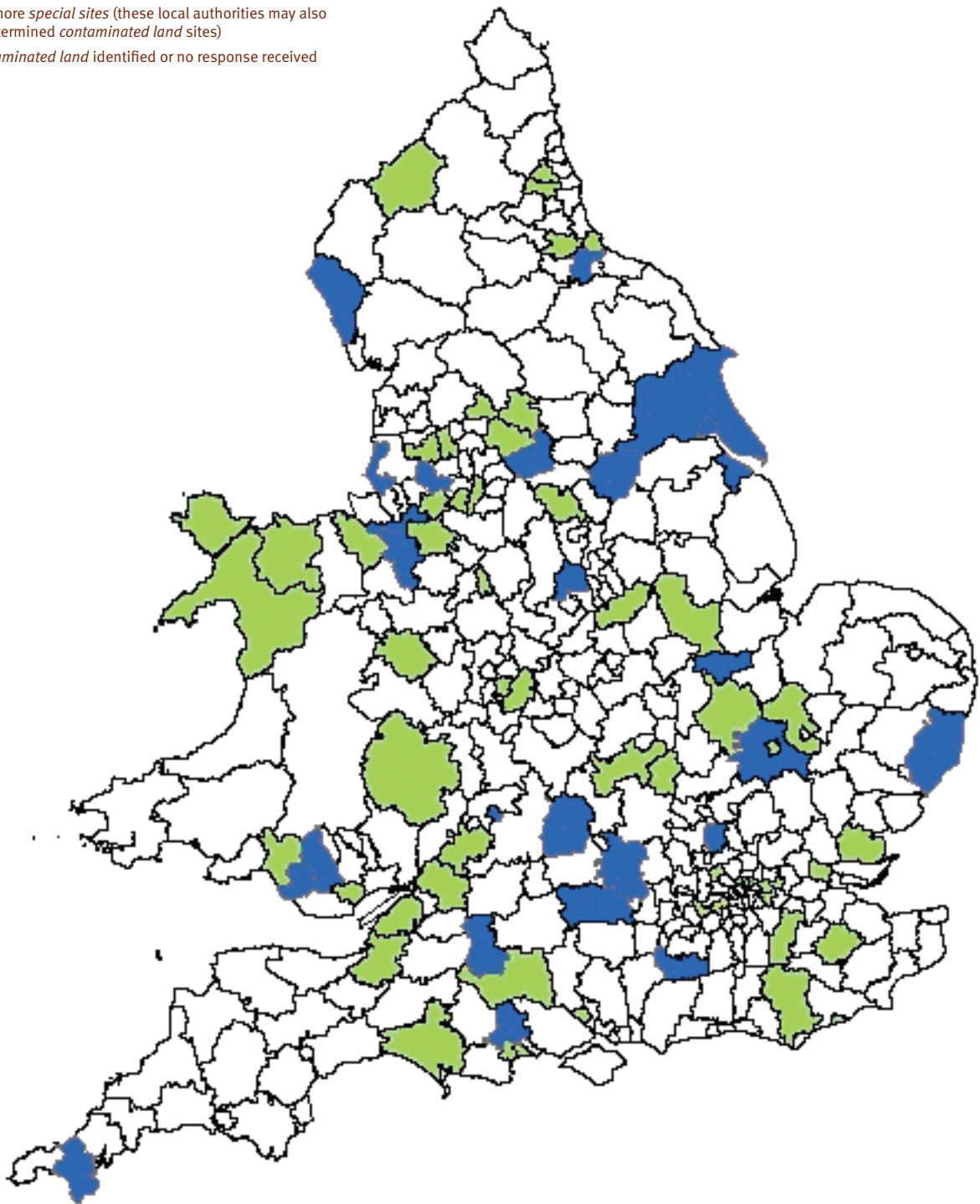
Many *contaminated land* sites are identified as single properties that form part of a larger group. These are likely to be managed together. An example of this would be individual houses determined separately on a housing estate. This means there may only be about 100-150 locations being dealt with under this legislation.

The information in this report is shown for individual sites as supplied to us by local authorities. Furthermore, for the purposes of this report, we have separated out information on determined *contaminated land* sites regulated by local authorities from designated *special sites* that we regulate.

Figure 3 shows which local authorities have determined *contaminated land* in their areas and those with designated *special sites*.

Figure 3: Map of determined *contaminated land* and designated *special sites* in England and Wales as reported by local authorities and us.

- One or more *contaminated land* sites
- One or more *special sites* (these local authorities may also have determined *contaminated land* sites)
- No *contaminated land* identified or no response received



This map is reproduced from the OS map by 03177G0006 with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown Copyright. All rights reserved. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number: 100026380.

Characteristics of determined sites

Uses of *contaminated land* and *special sites*

The vast majority of sites in England and Wales inspected and later determined as *contaminated land* under Part 2A were occupied by housing (Table 3). There are far more land uses for *special sites*.

Categories of *special sites*

Figure 4 shows the categories of *special site* that have been designated. Most *special sites* (29 in England and one in Wales) were designated under one of the water pollution descriptions (Regulation 3) but more than one category of *special site* can apply to any single site. As yet, no radioactively contaminated sites have been determined.

When sites were determined as *contaminated land* and designated as *special sites*

In England, most written notifications of determination were issued between 2004 and 2005 and in Wales the vast majority (92 per cent) were issued in 2005 as part of a multiple determination at one location (Figure 5). *Special sites* in England were designated at a steady rate and, in Wales, both *special sites* were designated in 2004 (Figure 6).

Table 3: Land use of determined sites shown as percentage of total number of sites reported*.

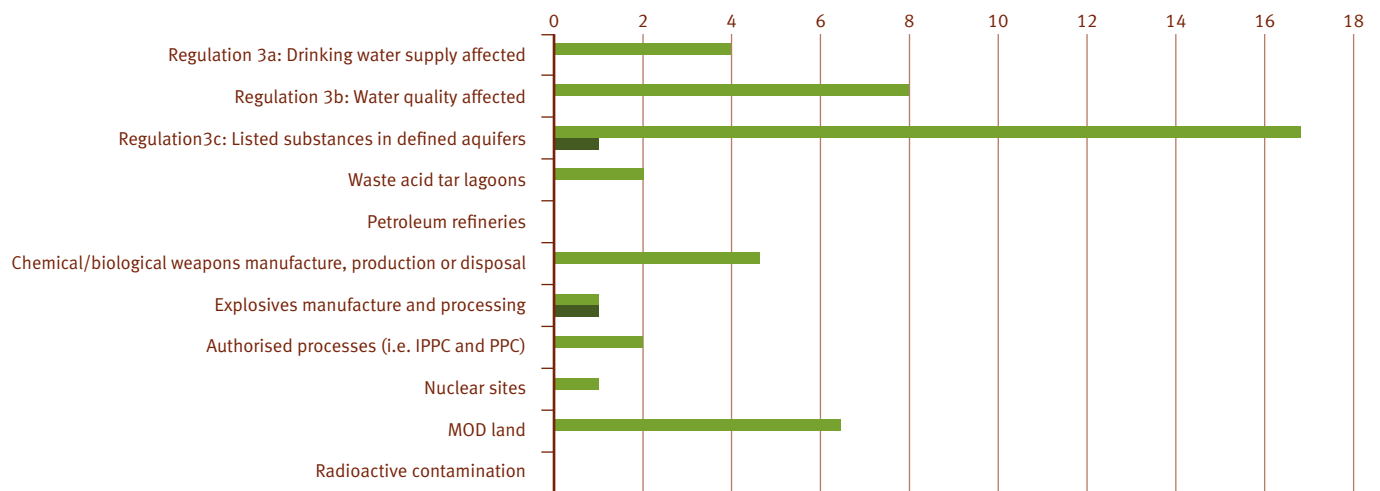
Land use at time of inspection	England		Wales	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
Derelict land	2%	7%	0%	50%
Housing	91%	5%	98%	0%
Commercial premises	3%	3%	2%	50%
Industrial premises	2%	15%	0%	0%
Agriculture	1%	15%	2%	0%
Park and recreation	3%	12%	0%	50%
Other	3%	30%	0%	50%
No information	<1%	21%	0%	0%
Total no. of sites reported	626**	33	120	2

*Some sites have more than one land use category.

** In England some local authorities reported on amalgamated inspection sites that were then determined as smaller sites (for example, housing estates that were then determined on an individual property basis).

For more information about designating *special sites*, go to Appendix 2.

Figure 4: Categories of *special sites* designated in both England and Wales* (more than one category can apply).



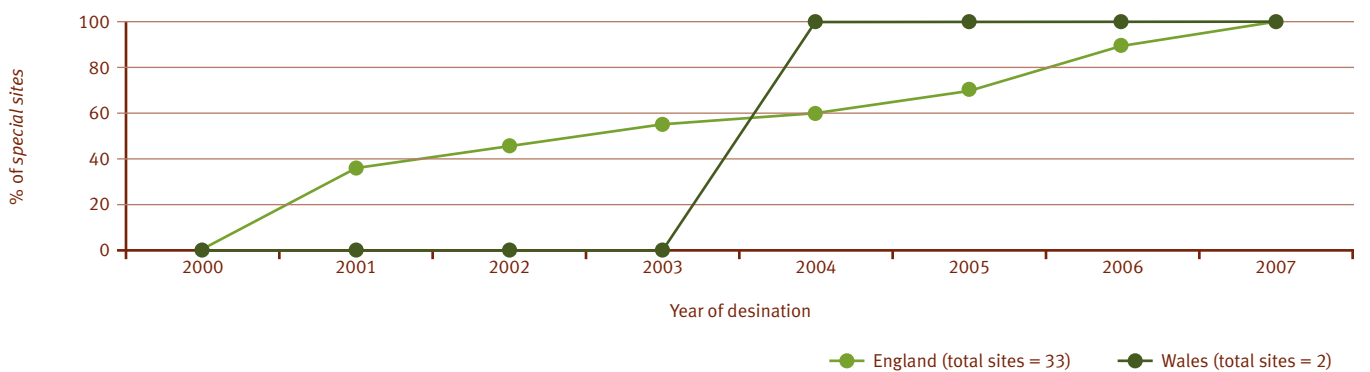
* as described in the Contaminated Land (England) Regulations (2000 and 2006) and the Contaminated Land (Wales) Regulations (2000 and 2006).

■ England
■ Wales

Figure 5: Year of issue of determination notices for *contaminated land* shown as a cumulative percentage of sites determined.



Figure 6: Year of designation of *special sites* shown as a cumulative percentage of *special sites*.



Contaminant types, receptors and polluting activities on *contaminated land* sites

It is rare for contaminated sites to be polluted by just one contaminant. This can mean that the assessment of risks from *contaminated land* can be complicated by the number and type of contaminants and significant pollutant linkages present. In both England and Wales, metals and metalloids plus organic compounds (Figure 7) are the major types of contaminants upon which determinations were based. Organic compounds featured as the most common type of contaminant for *special sites* (Figure 8).

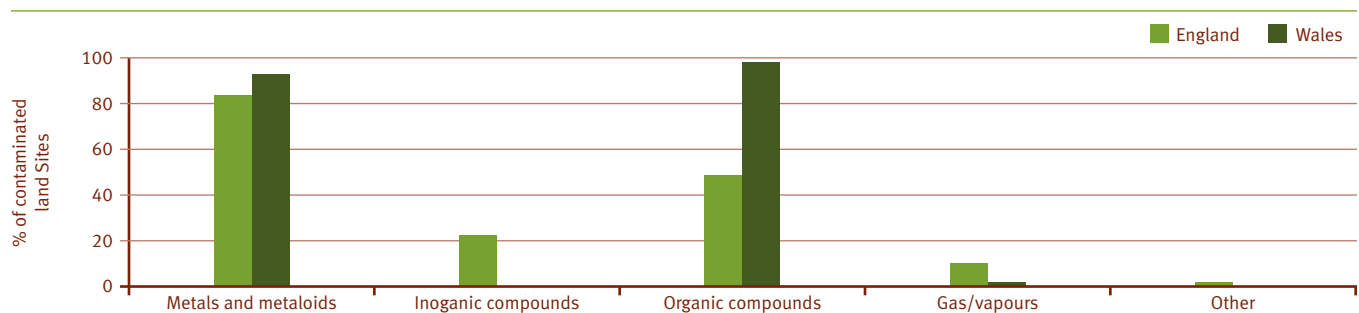
The waste management and energy industries were often reported as causing *contaminated land* sites in England (Table 4). In Wales, other types of activities

(for example the deposit of ash) was reported to cause contamination at the majority of *contaminated land* sites. For *special sites*, chemical and waste management industries are associated with causing contamination.

Almost all determinations for *contaminated land* sites in both England and Wales concerned risks to human health from contamination on the sites (Figure 9). Controlled waters were most at risk for designated *special sites* (Figure 10).

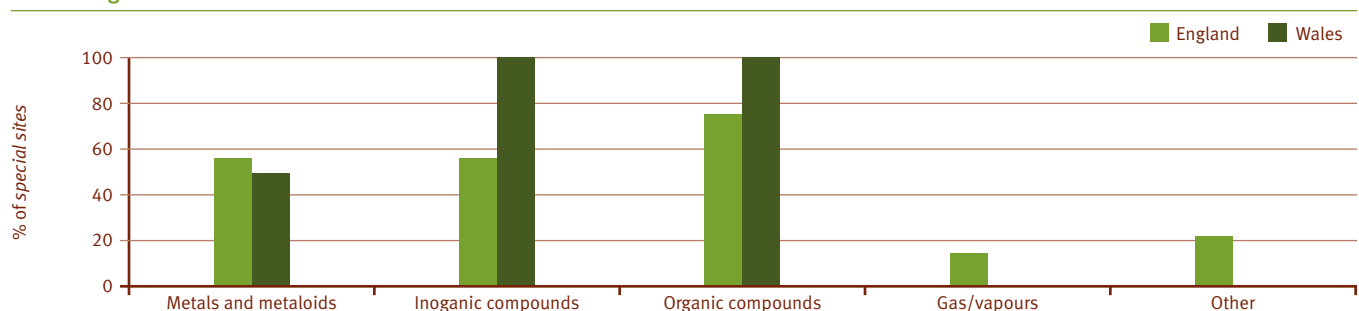
To find out more about receptors and significant pollutant linkages, go to Appendix 2.

Figure 7: Contaminant categories on which the determinations of *contaminated land* sites were based, shown as a percentage of sites determined.



* Determinations may be based on more than one contaminant.

Figure 8: Contaminant categories on which the designation of *special sites* were based, shown as a percentage of *special sites* designated.



* Determinations may be based on more than one contaminant.

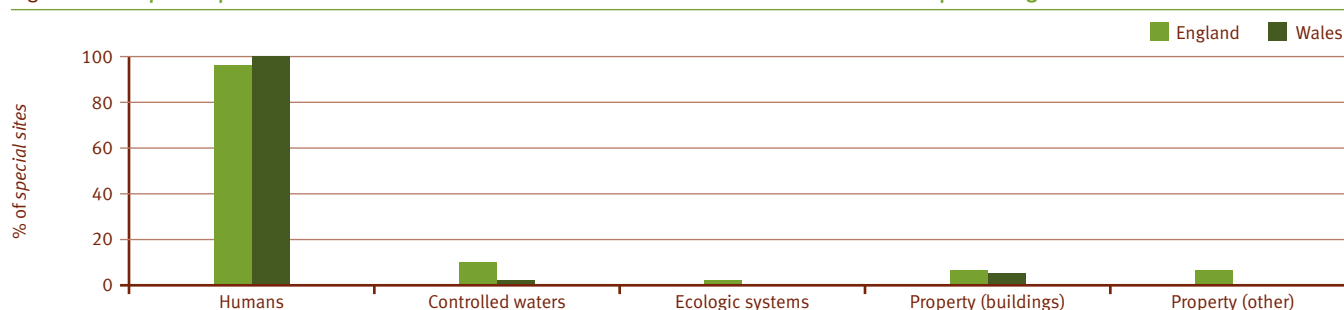
Table 4: Type of activity causing contamination on *contaminated land* and *special sites* (shown as the percentage of total number of sites)*.

	England		Wales	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
Energy industry	24%	15%	1%	0%
Metal industry	13%	3%	0%	0%
Mineral industry	1%	0%	0%	0%
Chemical industry	1%	24%	0%	50%
Textiles, printing and coating industries	1%	0%	0%	0%
Waste management industry	31%	33%	0%	50%
Timber processing industry	16%	0%	0%	0%
Other+	30%	33%	99%	100%
Total no. of sites reported	626	33	120	2

*More than one type of activity may have caused contamination.

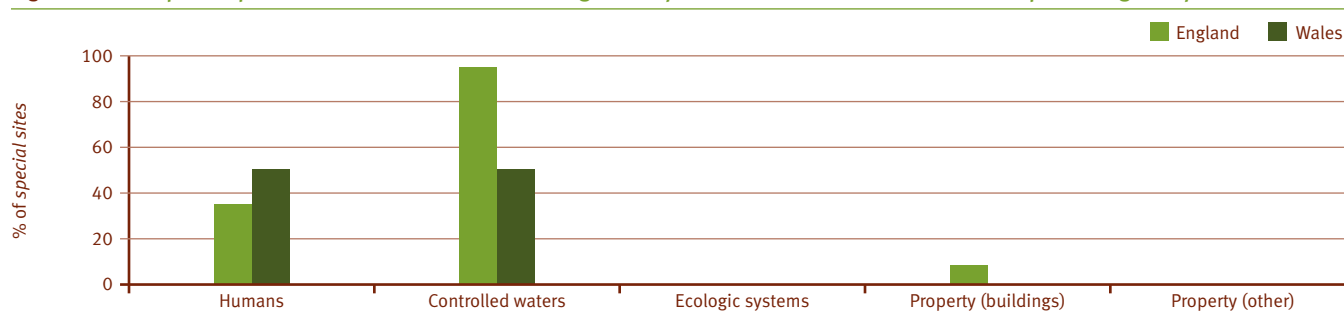
+The deposit of ash was a major cause of contamination (91 per cent in Wales).

Figure 9: Receptors upon which determinations were based for *contaminated land* shown as a percentage of *contaminated land* sites*.



* More than one type of receptor may be present at a site.

Figure 10: Receptors upon which determinations of designated *special sites* were based shown as a percentage of *special sites**.



*More than one type of receptor may be present at a site.

Remediating *contaminated land*

Summary

- 149 sites had been remediated by the end of March 2007 in England (145) and Wales (four). 102 of the completed sites had verification reports (100 in England, two in Wales) that provide evidence that the remediation was successfully completed.
- 12 remediation notices had been served in England (10) and Wales (two) and five had been appealed (all in England).
- In England, 277 remediation statements were published, with nine published in Wales.
- Local authorities reported that the remediation of most sites was expected to start at least one year after determination. They also said that remediation was expected to take less than one year in England and between one to two years in Wales. We anticipate that most *special sites* will take more than two years to remediate.
- Excavation and disposing of material off-site was the most common way of remediating sites. This is also the most common solution proposed for sites that have not yet been remediated.

Introduction

To remediate a *contaminated land* site, the significant pollutant linkages must be broken, so that no unacceptable risks remain. Remediation can, therefore, be achieved by:

- removing or reducing the source of contamination
- blocking the pathway (route) between the contamination and the receptor (person or thing affected)
- reducing exposure to the contamination
- removing the receptor altogether.

Under Part 2A, remediating a site does not necessarily mean the source of contamination has to be removed (for example, capping an old landfill).

Remediation under Part 2A in England and Wales

Number of sites that have been remediated

In England local authorities have provided information on remediation for 361 of the 626 *contaminated land* sites. In Wales, 120 *contaminated land* sites have been determined and local authorities have provided remediation information on 119 of them.

To find out more about the remediation process and significant pollutant linkages, go to Appendix 2.

For more information about verification reports, go to Appendix 2.

Of all the sites that have been determined since 2000, 149 have been reported as having been fully remediated (Table 5). This comprises 145 sites in England (four are *special sites*) and four in Wales (including one *special site*).

Table 5 shows that verification reports were provided for around two-thirds of the *contaminated land* sites reported as remediated (96 sites in England and two sites in Wales). Verification reports were produced for all remediated *special sites* in England. Wales has one *special site* that had been remediated by the end of March 2007 but the verification report was not available at that time.

Remediation notices, statements and declarations

Up to the end of March 2007, 12 remediation notices have been served since the legislation was introduced (10 in England, including one for a *special site*, and two in Wales, Table 6). Of those in England, there have been appeals against five (including one for a *special site*).

Table 5: Number of sites that have been remediated and number of verification reports produced*.

	Number of sites where remediation has been completed		Number of verification reports produced for completed sites	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
England	141	4	96	4
Wales	3	1	2	0

*This table includes data where no completion date was specified.

Table 6: Remediation notices, statements and declarations published in England and Wales for *contaminated land* (CL) sites and *special sites* (SS).

	Remediation notices				Remediation statements				Remediation declarations			
	England		Wales		England		Wales		England		Wales	
	CL	SS	CL	SS	CL	SS	CL	SS	CL	SS	CL	SS
2000	2	0	0	0	1	0	0	0	0	0	0	0
2001	1	0	0	0	40	0	0	0	0	0	0	0
2002	2	0	0	0	5	4	0	0	0	0	0	0
2003	0	0	0	0	6	5	3	0	1	0	0	0
2004	3	0	2	0	15	8	1	0	1	0	0	0
2005	1	1	0	0	7	5	1	1	0	0	0	0
2006	0	0	0	0	162	11	2	0	0	0	0	0
2007	0	0	0	0	3	2	0	1	0	0	0	0
No comment	0	0	0	0	4	0	0	0	0	0	0	0
Total	9	1	2	0	239*	35	7	2	2	0	0	0
Appeals	4	1	0	0	0	0	0	0	0	0	0	0

*Date not provided for three statements.

To find out more about remediation actions, go to Appendix 2.

A total of 249 remediation statements have been published for *contaminated land* sites up until the end of March 2007, the majority of which were for sites in England and were published in 2006. For *special sites*, 35 remediation statements were published in England and two in Wales before March 2007. Two remediation declarations have been published, all for sites in England. No remediation declarations for *special sites* have been published.

Remediation actions

The remediation notice, statement or declaration must specify what has been done, is being done or will be done about remediation. In certain circumstances, the enforcing authority may decide that the remediation

measures needed are not reasonable. In this case, instead of producing a remediation notice, they must publish a remediation declaration. This declaration states the measures they would have proposed and why they are not being implemented.

Around a quarter of remediation statements published in England include only assessment actions. About half contained only remedial treatment actions (**Table 7**). The small number of remediation notices and statements published in Wales do not show clear trends.

Table 7: Remediation actions contained in remediation notices, statements and declarations published for *contaminated land* (CL) and *special sites* (SS).

	Remediation notices				Remediation statements				Remediation declarations			
	England		Wales		England		Wales		England		Wales	
	CL	SS	CL	SS	CL	SS	CL	SS	CL	SS	CL	SS
Assessment actions only	2	1	0	0	65	9	2	1	0	0	0	0
Monitoring actions only	0	0	0	0	1	0	0	0	0	0	0	0
Remedial treatment actions only	2	0	0	0	115	0	2	0	1	0	0	0
Assessment and monitoring actions	0	0	0	0	0	14	0	0	0	0	0	0
Assessment and remedial treatment actions	0	0	0	0	5	1	1	0	1	0	0	0
Assessment, monitoring and remedial treatment actions	1	0	0	0	46	11	0	1	0	0	0	0
Monitoring and remedial treatment actions	1	0	1	0	9	0	1	0	0	0	0	0
No comment	3	0	1	0	1	0	1	0	0	0	0	0
Total	9	1	2	0	242	35	7	2	2	0	0	0

Timing of remediation

Of the 361 *contaminated land* sites in England and 119 sites in Wales where local authorities have provided information about remediation, 65 per cent and four per cent of sites respectively have started the remediation process. Of those where remediation had not started by the end of March 2007, local authorities provided an estimate of when the remediation of sites was expected to start (Table 8). In England, most sites are expected to start being remediated around three years or less after they have been determined. For the vast majority of sites in Wales, remediation is expected to start within one to three years after they have been determined, but many of these separate sites are part of a main housing area and may well be managed together.

For *special sites*, 45 per cent in England and 50 per cent in Wales had started the remediation process by March 2007. For around half of those *special sites* in England still to be remediated at the end of March 2007, remediation is expected to start within one to three years of determination (Table 8). For the one *special site* in Wales, remediation had not started by end of March 2007, which was more than three years after the site had been determined.

Local authority estimates of time to complete remediation, where this has not yet started, show that in England most *contaminated land* sites are expected

to take less than a year to remediate (Table 9). In Wales most sites are expected to be remediated within one to two years. For most *special sites* it is estimated that remediation will take more than two years.

Remedial treatments proposed for and used on contaminated sites

Local authorities reported on the remedial treatments used on sites completed under Part 2A and also on the solutions proposed for sites that were still ongoing.

For *contaminated land* sites in England, excavation and off-site disposal of material was used or proposed (Figure 11). There is limited information on the recommended schemes for sites in Wales which are yet to be completed (Figure 11).

Excavation and off-site disposal of material was used for all *special sites* where remediation had been completed in England and Wales, (Figure 12). However, the proposed solutions for *special sites* yet to be completed also included on and off-site treatment options.

Table 8: Expected time after determination that remediation is expected to start*.

Remediation start times	England		Wales	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
<1 year post determination	37%	33%	1%	0%
1-3 yrs post determination	31%	50%	98%	0%
>3 yrs post determination	23%	11%	1%	100%
No comment	9%	6%	0%	0%
Total number of sites where remediation had not started	125	18	114	1

*Given as percentage of sites where remediation had not started by the end of March 2007.

Table 9: Length of time remediation is expected to take for *contaminated land* (CL) and *special sites* (SS) that had not been completed*.

	<1 year		1-2 yrs		>2 yrs		No comment	
	CL	SS	CL	SS	CL	SS	CL	SS
England	63%	3%	26%	21%	4%	62%	7%	14%
Wales	3%	0%	97%	0%	0%	0%	0%	100%

*Given as a percentage of sites reported where remediation had not been completed by the end of March 2007.

Figure 11: Remedial solutions proposed to be used on *contaminated land* sites where remediation had and had not finished.

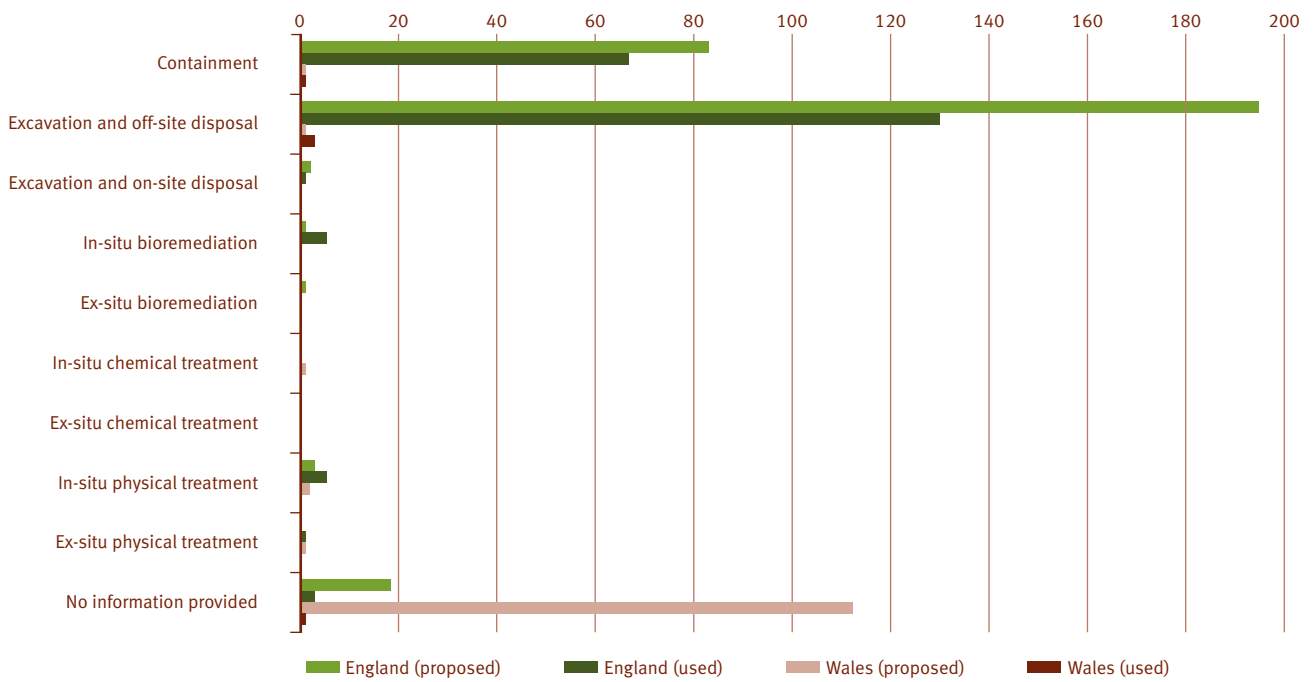
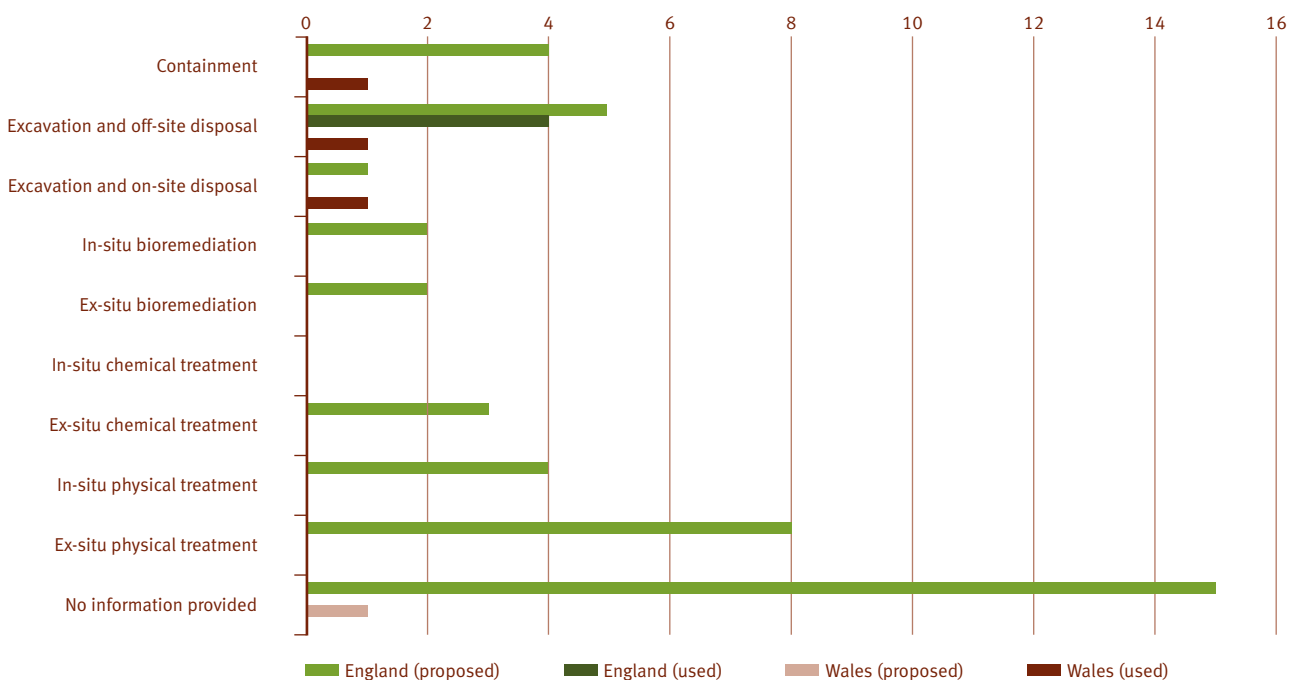


Figure 12 : Remedial solutions proposed to be used on *special sites* where remediation had and had not finished



The costs of Part 2A

Summary

- Reported costs for local authority investigations under their inspection strategies up to the end of March 2007 are in the region of £26 million: £23 million for England and £3.1 million for Wales.
- Reported costs of inspections for determined *contaminated land* sites are around £4 million: £3.6 million in England and £0.1 million in Wales.
- We spent approximately £4 million up to the end of March 2007 inspecting potential *special sites*: £3 million in England and £0.7 million in Wales.
- Reported remediation costs to the end of March 2007 were about £20.5 million: £13 million in England and £0.25 million in Wales for about one third of *contaminated land sites* and in the region of £7.3 million for *special sites* (£6.9 million in England and £0.4 million in Wales). A further £62 million is expected to be required to complete remediation.
- Local authorities reported it was possible to recover the costs of remediating 69 sites but that cost recovery had only started for 17 sites. All these sites were in England; no cost recovery opportunities were reported for Wales. Cost recovery had been completed for only five sites at the end of March 2007.
- Although appropriate persons have been identified for 350 sites – 230 in England and 120 in Wales – they are only likely to pay to remediate 86 sites (78 in England and eight in Wales).

Costs associated with inspecting sites

Some local authorities provided information about the costs of investigating sites (**Table 10**). These figures include costs for inspecting sites as part of inspection strategies that: 1) **were not** taken forward to be determined as *contaminated land* and 2) **were** taken forward and determined as *contaminated land* before the end of March 2007 (not including *special sites*). **Table 10** also shows the amount we spent investigating potential *special sites* (line 3 in the table).

Around half the local authorities in England and around 60 per cent in Wales reported that collectively approximately £22 million was spent inspecting sites that were not managed under the Part 2A regime. These sites may have been remediated under different legislation or may not have been defined as *contaminated land* under Part 2A. We received information on the cost of inspecting *contaminated land* under Part 2A for around 75 per cent of sites in England and 95 per cent in Wales. Approximately £4 million was spent in England and Wales on inspecting *contaminated land* sites. The costs reported by local authorities included both local authority budgets and funding from government, including the respective Welsh Assembly Government (WAG) and Department for the Environment, Food and Rural Affairs (Defra) Contaminated Land Capital Project Funds.

For more information on the funding of inspections, go to Appendix 2.

For more information on the funding of remediation, go to Appendix 2.

We spent a total of approximately £3 million inspecting potential *special sites* in England and in the region of £0.7 million in Wales up to the end of March 2007. These inspections were funded by a combination of our own reallocated budget, grant in aid from Defra and WAG and also their respective Contaminated Land Capital Project Funds. Some inspections may have been carried out voluntarily by third parties and the costs are not shown here.

Remediation costs

Costs for remediation have been given by local authorities and ourselves (Table 11). Third party remediation costs are not included as, under the current regime, they are not required to submit to the regulator the costs incurred. Local authorities in England reported costs for approximately one-third of *contaminated land* sites as around £13 million. In Wales, a total of around £0.25 million has been spent on remediating around four per cent of sites. For *special sites* in England and Wales we reported our remediation

costs up to the end of March 2007 were £6.9 million and £0.4 million respectively.

We also collected information on the anticipated remediation costs post March 2007 for existing *contaminated land* and *special sites* (Table 11). Unlike the reported remediation costs, this estimate does not differentiate between regulator and third-party spend. It is also a highly uncertain figure since in some cases the final remediation scheme has not yet been identified and not all data was reported or available for every site (for example, where it is undergoing voluntary remediation). Local authorities reported that 91 *contaminated land* sites in England and Wales were undergoing voluntary remediation. Likewise, remediation is being/has been carried out voluntarily at 24 *special sites* in England and one in Wales.

Table 10: Total high-level costs for the inspection of sites. Figures for rows 1 and 2 were provided by local authorities. Figures for row 3 are ours.

	England	Wales
1 Sites investigated under local authorities inspection strategies but not later determined under Part 2A	£19 million	£3 million
2 Sites that were investigated and determined as <i>contaminated land</i> * under Part 2A before the end of March 2007	£4 million	£0.1 million
3 Investigation of potential <i>special sites</i>	£3 million	£0.7 million

*(not including *special sites*).

Table 11: Reported local authority and Environment Agency remediation costs up to March 2007 and anticipated future costs for *contaminated land* and *special sites*.

	England		Wales	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
Remediation costs to March 2007	£13 million	£6.9 million ¹	£0.25 million	£0.4 million ¹
Anticipated remediation costs post March 2007	£37 million	£24 million ²	£0.44 million	£0.7 million ²

¹ Based on data from 12 *special sites* in England and one in Wales.

² Based on data from 7 *special sites* in England and one in Wales.

For more information about remediation liability and appropriate persons, go to Appendix 2.

Remediation liability

Local authorities reported liability information for 250 *contaminated land* sites in England and 120 sites in Wales. **Table 13** shows that for many sites the appropriate persons have been identified and that they mainly comprise those from Class B (that is, an owner or occupier of the land). Local authorities in England report that most sites are likely to be remediated using public funds. This is also the case in Wales as local authorities have been identified as Class B appropriate persons for the majority of *contaminated land* sites.

33 sites from Class B appropriate persons. However, the cost recovery process has only been started for 17 sites to date and completed for just five sites in England.

Appropriate persons for six sites in England and for one site in Wales were reported to have claimed 'hardship'. No cost recovery opportunities were reported by Welsh local authorities.

Remediation cost recovery

There is a mechanism for recovering costs from appropriate persons for remediation that was carried out using public funds. Local authorities in England reported that, where public funds were used to pay for remediation, there was the potential to recover costs for 36 sites from Class A appropriate persons and for

For *special sites* in England where remediation is being paid for by public funds, one was reported to have the potential for cost recovery from Class B appropriate persons. The cost recovery process has been started for this site. The outstanding *special site* in Wales is not yet at a stage where potential cost recovery has been considered.

Table 13: Remediation liability for determined sites in England and Wales given as numbers of sites (up to the end of March 2007). Sites may have more than one appropriate person.

	England		Wales	
	<i>contaminated land</i>	<i>special sites</i>	<i>contaminated land</i>	<i>special sites</i>
Total number of sites reported	250	33	120	2
Total sites with reported appropriate persons (APs) identified	201	29	119	1
APs: Class A	120	28	7	1
APs: Class B	125	2	119	0
Number of sites where local authorities reported they are an AP (subset of total APs)	34	6	112	0
APs: Class A	21	6	1	0
APs: Class B	13	0	111	0
Reported source liable to pay for remediation (shown in number of sites)				
APs: Class A	31	19	5	1
APs: Class B	26	1	2	0
APs: Both Class A and B	1	0	0	0
Government funding	207	15	3	0
Other public funding	75	0	111	0

Local authority views of Part 2A

Summary

- Local authorities in England and Wales ranked the definition and identification of *contaminated land*, plus risk assessment, as the most helpful aspects of Part 2A.
- The funding for implementing Part 2A, risk assessment and apportionment of liability were ranked the least helpful aspects by local authorities.

Introduction

As part of the review of progress with the Contaminated Land Regime, we wanted to give local authorities, as the primary regulators, the opportunity to provide a subjective view of Part 2A. We asked them to rank what they think are the most and least helpful aspects of the regime from their experience to date. We asked all local authorities to offer their views irrespective of whether they currently have any determined *contaminated land* or not.

To make opinions easier to analyse, we supplied local authorities with a list of broad headings of most and least helpful aspects for them to rank first, second and third. The most helpful aspects of Part 2A are presented in **Figures 13** and **14** for England and Wales respectively. The least helpful aspects are presented in **Figures 15** and **16**.

Most helpful aspects of Part 2A

The trends in the opinions of local authorities in both England and Wales on the most helpful aspects of Part 2A are very similar (**Figures 13** and **14**). The definition of *contaminated land* was seen to be the most helpful aspect, with risk assessment and the identification of *contaminated land* being ranked second and third respectively.

Least helpful aspects of Part 2A

The least helpful aspects of Part 2A were similarly ranked by local authorities in England and Wales (**Figures 15** and **16**). The funding for implementing Part 2A, risk assessment and apportionment of liabilities were ranked as the least helpful aspects.

Figure 13: Three most helpful aspects of Part 2A as ranked by local authorities in England.

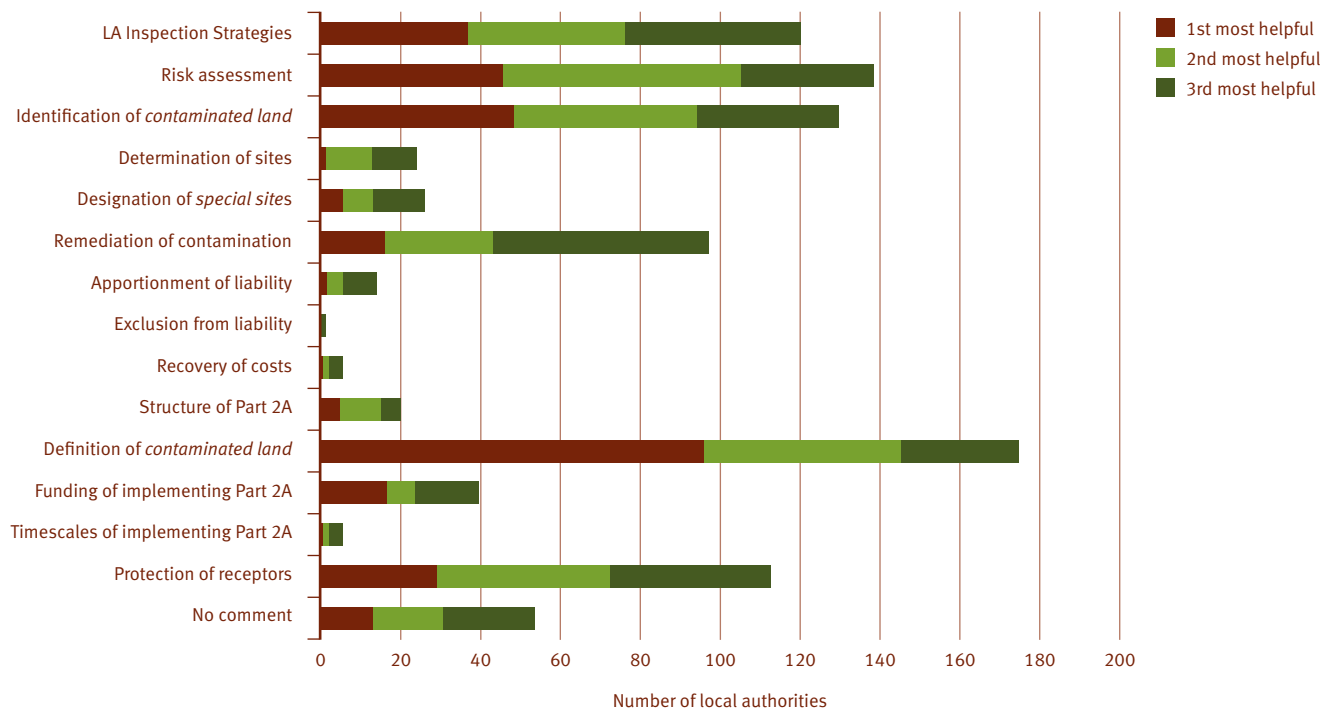


Figure 14: Three most helpful aspects of Part 2A as ranked by local authorities in Wales.

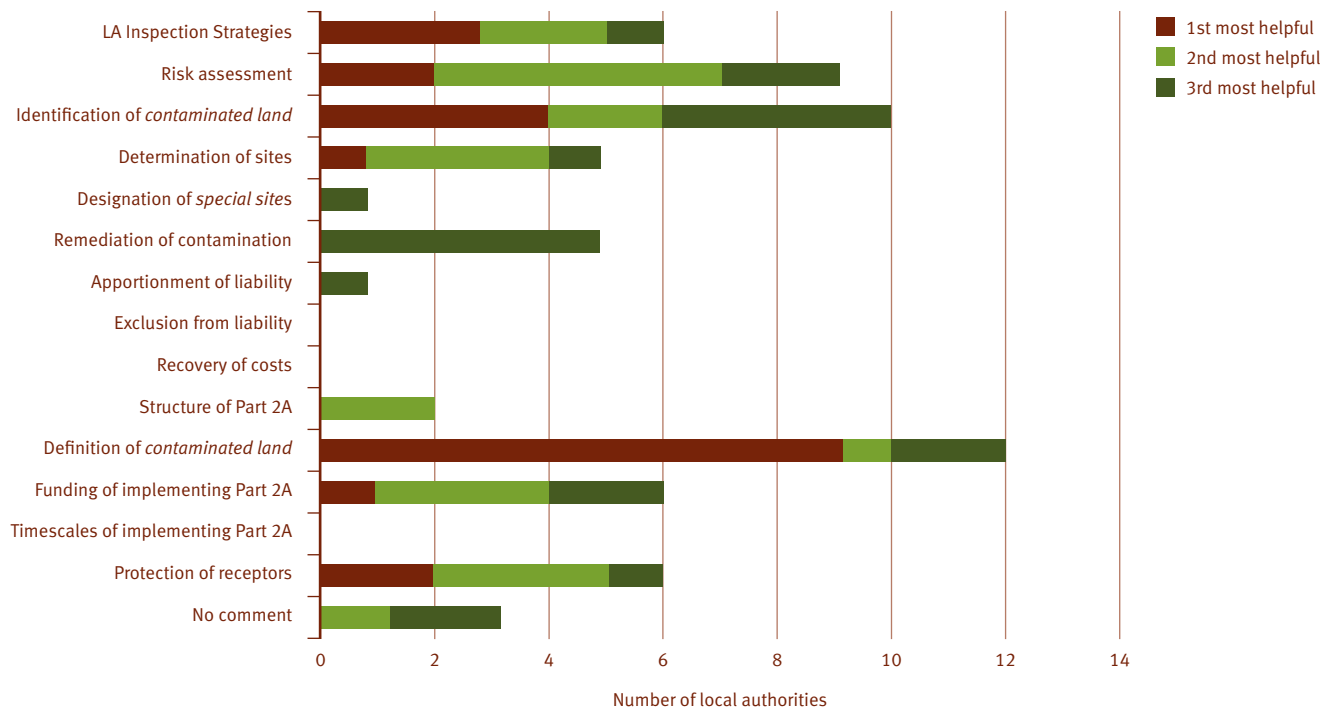


Figure 15: Three least helpful aspects of Part 2A as ranked by local authorities in England.

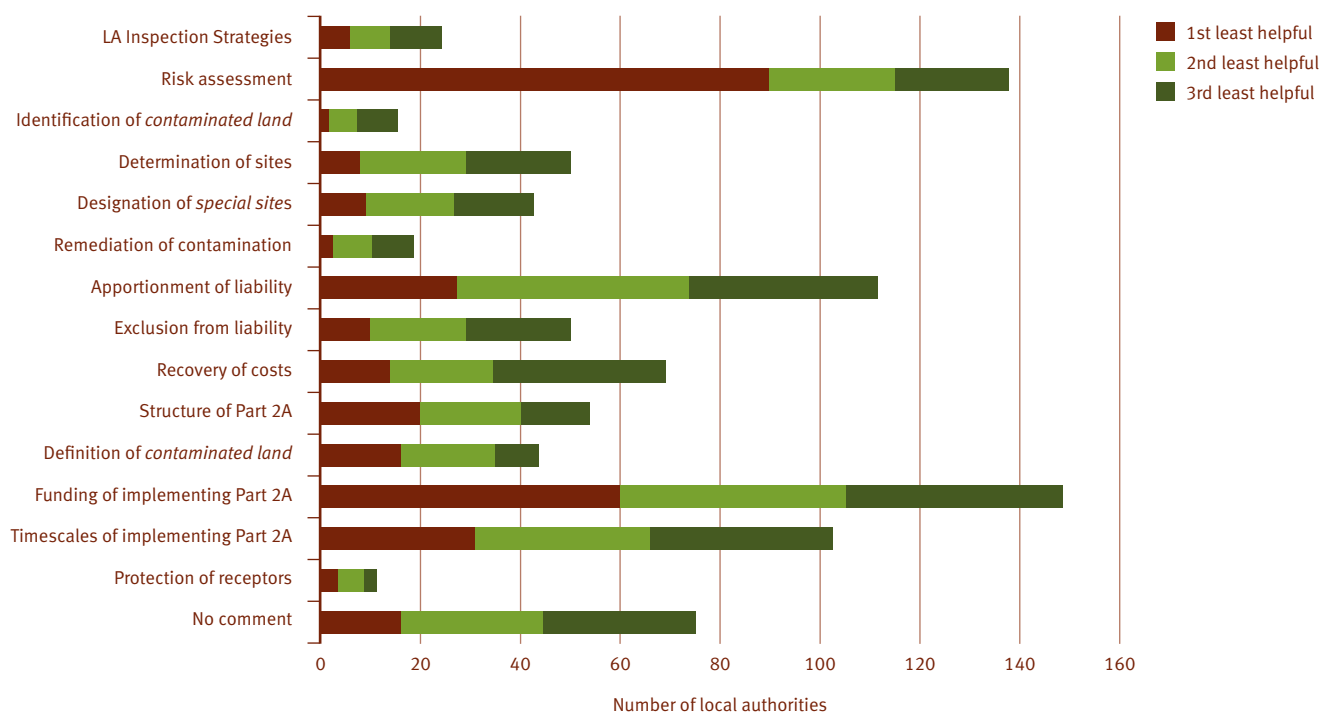
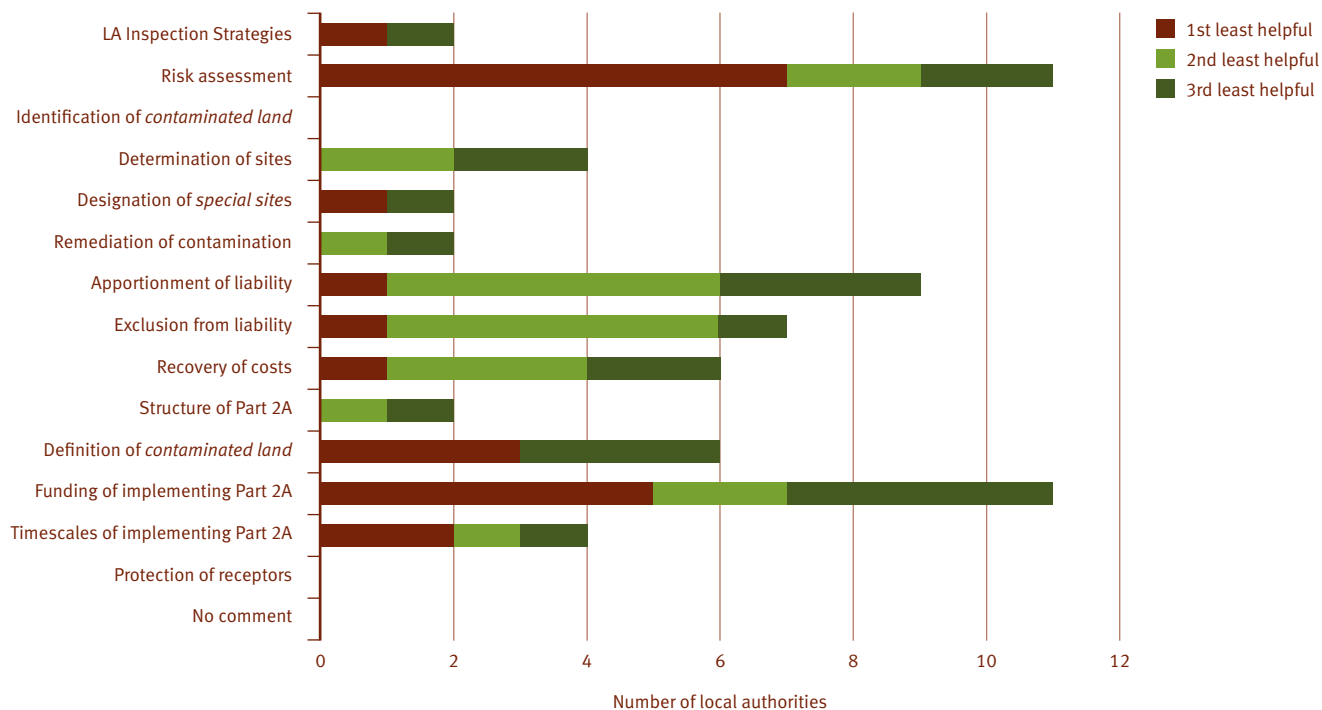


Figure 15: Three least helpful aspects of Part 2A as ranked by local authorities in Wales.



Section 7

Changes to the Contaminated Land Regime

How has Part 2A changed since it first started?

Introduction

There have been some changes to the legislation since it started in 2000 (England) and 2001 (Wales). These mainly included the introduction of radioactively *contaminated land* through new regulations and statutory guidance issued by government (Defra 2006 and WAG 2006). Also, a revised Defra Circular (01/2006) was issued in England describing the updated regime in 2006.

The introduction of other legislation has also led to some changes to Part 2A. These are shown below.

Definition of groundwater

Section 86 of the Water Act (2003) sets out a number of changes to Part 2A. From October 2004 the definition of controlled waters for Part 2A changed, so that groundwater in underground strata above the saturation zone was excluded. This means that only groundwater beneath the water table is now considered to be controlled waters for Part 2A.

Radioactive *contaminated land*

The Contaminated Land Regime was extended to cover radioactivity from 4 August 2006 in England and from 10 December 2006 in Wales. This extension introduced a system for identifying and remediating contamination that is exposing people to radiation in the long term. While broadly similar to conventional Part 2A, there are a number of specific differences for radioactivity. To date, no site has been determined as *contaminated land* due to radioactivity.

Appeals

On 4 August 2006 for England and 10 December 2006 for Wales, changes were made to how appeals are heard against local authorities under Part 2A. For all remediation notices served on or after these dates, appeals would be to the Secretary of State. Previously, appeals against notices served by local authorities were heard in a magistrates' court.

Radioactive *contaminated land* – nuclear sites

From 10 December 2007 another minor extension to Part 2A came into force in England and Wales. Radioactivity resulting from certain activities, practices or emergencies associated with nuclear sites was also included in Part 2A from this date. A number of other changes were made to the regime that only apply to nuclear site situations.

Potential future changes to the Contaminated Land Regime

There are a number of European directives that are either currently being implemented or are under discussion that may influence the way in which land contamination is managed in the future. These include the Environmental Liabilities Directive, the Soil Framework Directive (*draft*), the Water Framework Directive, the Groundwater Daughter Directive and the Waste Framework Directive. The implementation of these regimes into UK legislation is likely to interact and may affect how *contaminated land* is dealt with under Part 2A.

Section 8

Concluding comments

Estimates of industrial land use indicate there could be in the region of 325,000 (300,000 hectares) potentially contaminated sites across England and Wales (Environment Agency, 2005). Many contaminated sites may have been dealt with through the planning system and local authorities estimated that the majority of sites are managed in this way. Many local authorities reported that they suspect less than 10 per cent of their areas were contaminated and that they had not carried out a widespread investigation of their land since Part 2A started.

By the end of March 2007 a total of 781 sites had been identified as *contaminated land* (including *special sites*) in England and Wales. The majority of these sites were housing areas, many of which form part of a larger group of properties. This may mean that the number of 'contaminated locations' identified under Part 2A could be in the region of 100-150 locations.

A total of 149 sites have been reported to be remediated and a verification report had been produced for around two-thirds of them. Verification reports do not have to be produced as part of the remediation process but it is accepted good practice to provide evidence that a remediation has been successful (Environment Agency, 2004). Most of the sites that had been remediated included excavation and off-site disposal of contaminated material within the remediation process.

There has been significant public cost associated with inspecting sites as part of Part 2A. There is no mechanism for recovering these costs from any private individuals or organisations who are found to be responsible for causing or knowingly permitting land to be contaminated. However, cost recovery can be used to reimburse public funds for remediation costs from appropriate persons, but this has had very limited use. Cost recovery had been completed for five sites between the start of Part 2A and the end of March 2007.

Some local authorities reported that Part 2A has raised the profile of *contaminated land* issues and has offered a framework within which such land can be identified and managed. However, managing land contamination in the future is likely to be influenced by both national and European legislation.

The planning system continues to be seen as the major route for dealing with land contamination.

Appendix 1

Process for gathering information

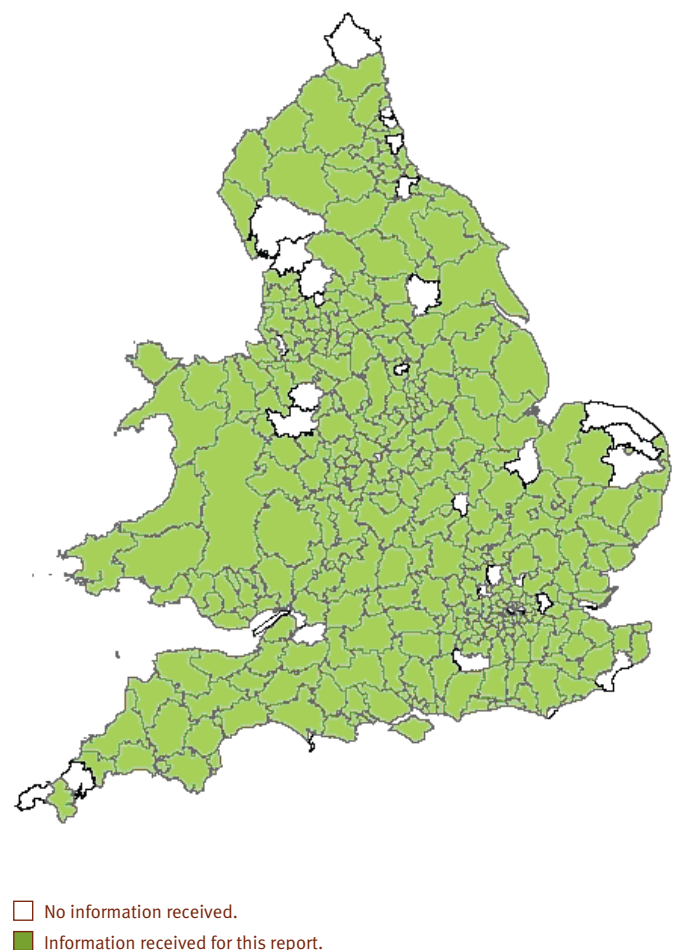
We contacted all 375 local authorities across England (353) and Wales (22) and asked them to complete a questionnaire over a three-month period (July to September) in 2007. The questionnaire had two sections:

- 1 Strategic overview. This section allowed local authorities to comment on their strategic approach to managing land contamination and also express their views on Part 2A. We asked all local authorities to complete the strategic overview section.
- 2 Determined sites. Those local authorities which had determined sites under Part 2A were asked to complete this section and update any information they had previously supplied to us.

We asked local authorities to supply information from when the legislation was introduced until the end of March 2007. We also collated our data for *special sites* over the same time period.

Overall, we had a 91 per cent response rate from local authorities, comprising a 90 per cent response in England and a 100 per cent response in Wales. We gathered information on *special sites* from our own records. **Figure A1** shows those local authorities that responded to our request for information.

Figure A1: Map of local authorities in England and Wales that provided information for this report by 28 September 2007.



This map is reproduced from the OS map by 03177G0006 with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown Copyright. All rights reserved. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number: 100026380.

Overview of Part 2A

This annex provides a summary of Part 2A of the Environmental Protection Act 1990, and does not cover all aspects of it. Full details can be obtained from the Environmental Protection Act 1990, the Defra Circular 01/2006 (Defra 2006) and the statutory guidance (Defra 2006 and Welsh Assembly Government (WAG) 2006).

What is Part 2A?

Part 2A of the Environmental Protection Act 1990 is a piece of primary legislation which was introduced to provide a better way to identify and remediate *contaminated land*. It was inserted into the Environmental Protection Act (1990) by section 57 of the Environment Act (1995), and came into force on 1 April 2000 in England and on 15 September 2001 in Wales. It was introduced to identify and regulate the remediation of land where contamination has resulted in significant harm to human health or the environment

or where there is a significant possibility of this happening. It also applies where controlled waters are, or could be, polluted. Defra published a ‘Statement of Government Policy’ regarding Part 2A in their Circular, which includes an outline of the objectives for the Contaminated Land Regime (**Box 1**) and statutory guidance at Annex 3. Both Defra and WAG published statutory guidance to support the regime. This was replaced in 2006 by revised statutory guidance, which also addressed harm due to radioactivity (Defra, 2006 and WAG, 2006).

For full details about Part 2A, go to the statutory guidance (Defra, 2006 and WAG, 2006) and the Environmental Protection Act 1990.

Box 1 Objectives for Part 2A

“The main objective underlying the introduction of Part 2A Contaminated Land Regime was to provide an improved system for identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment, assessed in the context of the current use and circumstances of the land.”

“The government’s primary objectives for introducing the regime were:

- a) to improve the focus and transparency of the controls, ensuring authorities take a strategic approach to problems of land contamination;
- b) to enable all problems resulting from contamination to be handled as part of the same process; previously separate regulatory action was needed to protect human health and to protect the water environment;
- c) to increase the consistency of approach taken by different authorities; and
- d) to provide a more tailored regulatory mechanism, including liability rules, better able to reflect the complexity and range of circumstances found on individual sites.”

Defra Circular 01/2006 (Annex 1 paragraphs 24 and 25).

How does Part 2A work?

What is *contaminated land*?

Part 2A provides a legal definition of *contaminated land* (Box 2) and the statutory guidance provides information on the significant pollutant linkages (Box 3) that must be present in order to define land as *contaminated land*. Where all of these conditions are met, a local authority can then determine the site as *contaminated*

land under Part 2A. However, there is a wide range of situations where land is contaminated in some way but does not meet the legal requirements. These sites are not subject to regulation under Part 2A. To make it clearer, when we refer in this report to contaminated areas that are subject to legal definitions under Part 2A, we write them in italics (for example *contaminated land*).

Box 2 Definition of *contaminated land*

Under section 78A (2) of Part 2A of the Environmental Protection Act (1990), *contaminated land* is defined as:

“any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

- a) significant harm is being caused or there is a significant possibility of such harm being caused; or
- b) pollution of controlled waters is being, or is likely to be, caused”.

This definition was modified to include harm attributable to radioactivity possessed by any substance. The modified definition now also includes *contaminated land* defined as:

“any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

- a) harm is being caused; or
- a) there is a significant possibility of harm being caused...”

These modifications were made by the Radioactive *contaminated land* (Modification of Enactments) (England) Regulations 2006 for England, and the Radioactive *contaminated land* (Modification of Enactments) (Wales) Regulations 2006 for Wales.

Further guidance on the definition of *contaminated land* is given in Defra’s publication ‘Guidance on the Legal Definition of Contaminated Land’ (www.defra.gov.uk)

Box 3 Significant pollutant linkages

A pollutant linkage comprises:

- a contaminant;
- a receptor;
- a pathway (capable of exposing a receptor to a contaminant).

All these elements need to be present to identify a pollutant linkage. However, in order for the land to be described as *contaminated land* the pollutant linkage needs to be shown to be ‘significant’.

This means that:

- significant harm is being caused; or
- harm is being caused (due to radioactivity); or
- pollution of controlled waters is occurring.

A significant pollutant linkage also applies if there is a significant possibility of significant harm (or harm from radioactivity) or it is likely that pollution of controlled waters will occur.

Harm and receptors

The statutory guidance for Part 2A describes the meaning of harm and significant harm in the context of *contaminated land* and also specifies the types of receptor that Part 2A sets out to protect. If a significant pollutant linkage is based upon a receptor that is not listed in the statutory guidance, then the land cannot be formally determined as contaminated under Part 2A. The receptors covered by Part 2A include people, controlled waters, specific ecological systems and specific types of property (Defra, 2006 and WAG, 2006). Further information can be found in Defra's publication *Guidance on the Legal Definition of Contaminated Land* (www.defra.gov.uk)

Local authority inspection strategies

Under Part 2A local authorities were required to set out and publish their written strategy for inspecting their areas for *contaminated land* by July 2001 in England and by February 2003 in Wales. Inspections involve local authorities looking at land in their areas to find previous uses and activities that may have caused contamination and assessing the potential risks from these to human health and the environment.

The purpose of the written inspection strategies was to identify how local authorities planned to approach the inspection of their areas. In 2002, we reported that 94 per cent of all local authorities in England had published their final inspection strategies (Environment Agency, 2002). All local authorities in England and Wales have now published an inspection strategy and have adopted a number of approaches, setting their own objectives and targets.

Identifying *contaminated land* in England and Wales

Local authorities use available information to consider whether a site meets the definition of *contaminated land* under Part 2A. Some local authorities may have already gathered information on a number of sites so they can make decisions about them. Alternatively, other sites may need a detailed inspection to gather the information needed to determine a site as *contaminated land*. The statutory guidance states that a "detailed inspection may include any or all of the following:

- a) the collation and assessment of documentary information, or other information from other bodies.....
- b) a visit to the particular area for the purposes of visual inspection and, in some cases, limited sampling (for example of surface deposits).....
- c) intrusive investigation of the land (for example by exploratory excavations)..."

An investigation of a particular site may include one or more elements of a detailed inspection listed above. This helps a local authority to gather enough information, in a systematic and cost effective manner, to be satisfied that the site should or should not be determined as *contaminated land*. Formal determination usually requires a risk assessment to be carried out in a structured way to find out whether there are unacceptable risks at a site that will require remediation. Good practice guidance, such as the Model Procedures for the Management of Land Contamination (CLR 11) can be used to make sure that suitable assessments are carried out (see **Box 4**).

Determining sites as *contaminated land*

Local authorities have sole responsibility for determining land that meets the definition of *contaminated land* under Part 2A. They make decisions to determine sites based on appropriate, scientific and technical assessments of the land using all relevant and available evidence. Local authorities keep records of determinations, including the exact area of land determined, the significant pollutant linkages on which the determination is based, and a summary of evidence and assessments used to make determinations. They identify interested persons, including us, and notify them that the site has been determined as *contaminated land*. Interested persons include the owner of the land, anyone who occupies all, or part, of the land and anyone who appears to be the 'appropriate person' (see **Box 5**) who may be responsible for remediating the site. It may not, however, be possible for a local authority to identify appropriate persons when determining a site.

Box 4 Model Procedures for the Management of Land Contamination (CLR 11)

The Model Procedures for the Management of Land Contamination (Contaminated Land Report 11) have been developed to provide the technical framework for applying a risk management process when dealing with land affected by contamination. The process involves identifying, making decisions on, and taking appropriate action to deal with land contamination in a way that is consistent with government policies and legislation within the UK. The document comprises three main parts:

- 1 **Risk assessment** – Is the contamination a problem, or could it become one?
- 2 **Options appraisal** – What to do and how to do it when a problem is identified on a site.
- 3 **Implementation of a remediation strategy** – Dealing with it and proving that you have done so.

The Model Procedures for the Management of Land Contamination can be found on the Environment Agency website and is referenced in Annex 1 of the Defra Circular 01/2006 on Part 2A (Defra, 2006).

Box 5 Who is an ‘appropriate person’?

An appropriate person is someone who is responsible for carrying out the remediation of one or more significant pollutant linkages at a determined *contaminated land* site. There may be more than one appropriate person for any significant pollutant linkages present and there may be a number of linkages on any determined site. If this is the case, a number of individual or a group of appropriate persons may share liability for remediation.

There are two classes of appropriate person:

Class A: those persons who caused or knowingly permitted the pollutant in the significant pollutant linkage to be in, on or under the land.

Class B: a site owner or occupier – but would only be liable if a Class A appropriate person cannot be found for a particular significant pollutant linkage.

Designating *special sites*

While only local authorities are responsible for formally identifying *contaminated land*, in some specific circumstances, the Environment Agency will become responsible for making sure sites are remediated. These are known as *special sites*, defined as *contaminated land* determined under Part 2A that also meet one or more conditions set out in the Contaminated Land Regulations 2006. *Contaminated land* within certain land use categories or resulting in certain types of pollution to controlled waters can be designated as a

special site (Box 6). In England and Wales, the Environment Agency becomes the regulator for *special sites* once they are designated by a local authority. Local authorities can ask us to take part in the inspection of a potential *special site*. This could involve supplying information about the site, through to carrying out an intrusive investigation into the specific significant pollutant linkage(s) of concern.

Box 6 What is a *special site*?

Special sites comprise *contaminated land* as defined under Part 2A that meet certain cases listed in the Contaminated Land (England) Regulations 2006 and the Contaminated Land (Wales) Regulations 2006. Local authorities can designate *contaminated land* as a *special site* if one or more of the cases apply. There are four main categories of *special site* and these are summarised below:

1 Water pollution – sites where:

- drinking water supplies are affected
- water quality criteria are affected
- listed substances are affecting defined aquifers.

2 Industrial land use – sites with:

- waste acid tar lagoons
- petroleum refineries
- explosives manufacture or processing
- authorised processes (for example Integrated Pollution Control sites, Pollution Prevention and Control sites and Environmental Permitting Regime sites)
- nuclear sites.

3 Defence

- land currently owned or occupied by the Ministry of Defence, etc.
- chemical weapons or biological agents manufacture, processing or disposal.

4 Radioactivity

- land affected by radioactivity from any substances.

How is inspection and remediation of contaminated sites funded in England and Wales?

The provisions regarding liability under Part 2A were set up to ensure that, where feasible, land remediation is paid for by an ‘appropriate person’ responsible for contaminating it as part of the ‘polluter pays’ principle. However, it is not always possible to find an appropriate person who may be liable for sites and, in these cases, the taxpayer may ultimately pay for remediating them. Recovery of remediation costs by the enforcing authority is an option under certain circumstances, but the regime does not allow the costs of an inspection to be recovered from an appropriate person. At present, the taxpayer has to pay the costs.

The local authority is responsible for inspecting sites for *contaminated land* under Part 2A. Appropriate persons

or interested parties can voluntarily inspect sites and present the information to local authorities for determination purposes, but under Part 2A they do not have to do this. Therefore, it is mainly local authorities (or the Environment Agency for potential *special sites*) that inspect sites.

The government supports the revenue costs of dealing with *contaminated land* through its revenue support grant to local authorities. Local authorities and the Environment Agency can also access additional funds and, in some cases, be awarded money by government for the capital costs of inspection and remediation under Part 2A (**Box 7**). In certain circumstances these funds are also used to support local authorities and the Environment Agency for the capital costs of remediation under Part 2A.

Box 7 Capital funding for *contaminated land*

Both Defra and WAG have Contaminated Land Capital Project Funds that support local authorities and the Environment Agency in their work on Part 2A. Funds are available to inspect potentially *contaminated land* sites and to remediate determined sites in certain circumstances (for example where appropriate persons cannot be found or where the local authority is the appropriate person itself).

In England, Defra provides the Environment Agency with Grant in Aid to support an annual programme of work on *special sites*. English local authorities can also apply for capital grants from the Defra Contaminated Land Capital Programme by submitting bids to support their inspection and remediation work under Part 2A. The Defra fund has been in operation since before the Contaminated Land Regime began in 2000.

WAG manages a separate funding programme for the investigation and remediation of *contaminated land* in Wales. Under this programme, Welsh local authorities and Environment Agency Wales apply to them for funding. The WAG fund came into operation in April 2005 after the Contaminated Land Regime began.

What is remediation?

Contaminated land can be considered to be remediated when the significant pollutant linkages that identified in the written record of any determination are broken. This can be achieved by removing or reducing the source of contamination, blocking the pathway between the contamination and the receptor, reducing the exposure of the receptor to the contamination or removing the receptor all together.

What is the process for remediation?

When sites have been determined as *contaminated land* under Part 2A, one of three documents is prepared and published to outline the way in which the land has been, or will be, managed and remediated. This can be issued either for a phase of remediation or for the complete remediation scheme. Furthermore, any combination of these documents can be issued and also more than one of each for each site or significant pollutant linkage. These are:

- 1 **Remediation notice:** a notice served by the enforcing authority (the local authority or the Environment Agency for *special sites*) on the person(s) responsible for remediating the site (named in Part 2A as the ‘appropriate person’). The enforcing authority will specify what the appropriate person(s) has to do to remediate the land and by when (see **Box 8** on remediation actions). The appropriate person(s) is required by law to do each of the things specified in the notice.
- 2 **Remediation statement:** a statement is usually prepared and published by the person(s) responsible for the remediation of the land, or in some cases the regulator. This statement details the remediation actions which have been or are expected to be done to secure the remediation of the *contaminated land*.
- 3 **Remediation declaration:** a declaration prepared and published by the enforcing authority that records the remediation actions that would have been specified in a remediation notice should one have been served. A remediation declaration is published when the remediation actions required are not considered reasonable on the grounds of cost or the seriousness of harm or pollution of controlled waters.

Box 8 Remediation actions

The remediation actions set out in remediation notices, statements and declarations comprise three types:

- 1 **Assessment action:** an action that assesses the condition of the *contaminated land* or any water or land affected by it. Assessment actions can be used to gather information to choose or design the most effective remedial treatment action (see below).
- 2 **Remedial treatment action:** an action that will manage the significant harm or pollution of controlled waters caused by the *contaminated land*. Remedial treatment actions provide the solutions to prevent, minimise, remedy or mitigate the risks from contamination on the land.
- 3 **Monitoring action:** an action where the condition of land or water is monitored. Monitoring actions can be used to provide evidence that a remedial treatment action has been successful or is working.

Remediation notices, statements and declarations can contain any combination of these actions and will depend on the requirements and stage of the remediation of the site.

Remediation good practice

It is good practice to carry out an options appraisal of remediation actions to know how to proceed with managing the risks from contamination. This allows the most appropriate remediation strategy to be compiled for the significant pollutant linkages identified in the written record of any determination.

It is also considered good practice to demonstrate that the remediation objectives have been met for a site (Environment Agency, 2004). This might include following a verification plan during remediation and producing a verification report on completion. A verification report does not have to be produced by law, but provides a complete record of all remediation activities and data collected to support compliance with the remediation objectives. If a verification report is produced, those responsible for remediation may be better able to demonstrate that the risks from contamination have been appropriately and actually managed.

What goes on the public register?

Enforcing authorities have a duty to maintain a register under 78R of Part 2A. This register acts as a record of all regulatory action taken by the enforcing authority regarding the remediation of *contaminated land*.

The register includes details of:

- remediation notices served
- appeals against remediation notices
- remediation statements and declarations
- designation of *special sites*
- any convictions on appropriate persons failing to comply with a remediation notice
- notifications by others regarding what they claim to have done concerning remediation.

Information can be excluded from the public register on the grounds of national security or commercial confidentiality. Local authorities keep their registers at their main offices. We keep registers for *special sites* at our relevant local office.

Glossary

Apportionment

Any division of the costs of carrying out remediation between two or more appropriate persons.

Appropriate person

Someone who is responsible for carrying out the remediation of one or more of the significant pollutant linkages at a determined *contaminated land* site.

There are two classes of appropriate person:

- **Class A** – those persons who caused or knowingly permitted the pollutant in the significant pollutant linkage to be in, on or under the land.
 - **Class B** – a site owner or occupier – but would only be liable if a Class A appropriate person cannot be found for a particular significant pollutant linkage.
-

Blight

The depressing effect on an area or property caused by known or perceived undesirable features such as development proposals or suggestions that land is contaminated.

Contaminant

A substance that is in, on or under the land and that has the potential to cause harm to human health or the environment or to cause pollution of controlled waters.

Contaminated land

Defined for non-radioactively *contaminated land* in section 78A(2) of the Environmental Protection Act 1990 as “any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that (a) significant harm is being caused or there is a significant possibility of such harm being caused, or (b) pollution of controlled waters is being, or is likely to be caused.”

Controlled waters

Defined by the Water Resources Act 1991, Part III, section 104, which includes all surface waters such as ditches, streams, rivers, ponds, lakes and lochs, groundwater contained in underground strata, wells or boreholes, estuaries and coastal waters. Updated by Section 86 of the Water Act 2003 to exclude groundwater in underground strata above the saturation zone.

Intrusive investigation

An investigation of land (for example by exploratory excavations) that involves actions going beyond simple visual inspection of the land, limited sampling or assessment of documentary information.

Part 2A regime

Part 2A of the Environmental Protection Act 1990 is a piece of primary legislation which was introduced to provide a better way of identifying and remediating *contaminated land*.

Pathway

Routes or means by which a receptor may be exposed to and potentially harmed by a contaminant.

Pollutant

A contaminant which forms part of a pollutant linkage.

Pollutant linkage

The relationship between a contaminant, a pathway and a receptor. This can be ‘significant’ if it forms the basis for concluding that a piece of land is *contaminated land*.

Receptor

Somebody or something that may be harmed by exposure to a contaminant. For the purposes of Part 2A, types of receptors are listed in Tables A and B of the statutory guidance (Defra, WAG 2006).

Remediation

Actions to reduce risk from *contaminated land*.

Remediation declaration

A remediation declaration is published when one or more remediation actions that are otherwise required are not considered reasonable. It is a document prepared and published by the enforcing authority recording remediation actions which it would have specified in a remediation notice.

Remediation notice

A notice served by the enforcing authority (the local authority or the Environment Agency for *special sites*) on the person(s) responsible for remediating the site. The notice specifies what an appropriate person must do regarding remediation and the periods within which they must do each of the things specified.

Remediation statement

A statement is usually prepared and published by the person(s) responsible for the remediation of the land, or in some cases the regulator. The statement details the remediation actions which have been, are being, or are expected to be done, as well as the periods within which these things are being done.

Remediation strategy

A plan that involves one or more remediation options to reduce or control the risks from all the relevant pollution linkages associated with the site.

Risk assessment

The formal process of identifying, assessing and evaluating the health and environmental risks that may be associated with a hazard.

Special sites

Contaminated land for which the Environment Agency, rather than the local authority, becomes the enforcing authority. These categories of land are set out in the Contaminated Land (England) Regulations 2006 with similar provisions in Wales.

Statutory guidance

Guidance issued by the government on the regulation of the Contaminated Land Regime.

Verification

The process of demonstrating that the risk has been reduced to meet remediation criteria and objectives based on a quantitative assessment of remediation performance.

Verification report

Provides a complete record of all remediation activities on site and the data collected as identified in the verification plan to support compliance with agreed remediation objectives and criteria.

Voluntary remediation

Primarily this means remediation of land affected by contamination by the polluter, land owner or other interested party which is not enforced under the Environmental Protection Act 1990, the Water Resources Act 1991 or through a breach of an environmental permit. However, under the Contaminated Land Regime, the appropriate persons may also agree to voluntarily remediate *contaminated land* without the enforcing authority publishing a remediation notice.

References

<http://www.defra.gov.uk/environment/land/contaminated/pdf/circular01-2006.pdf>

Defra, 2006, Circular 01/2006 'Contaminated Land' (including statutory guidance)

http://www.opsi.gov.uk/acts/acts1995/ukpga_19950025_en_1

Environment Act, 1995 (section 57)

http://www.environment-agency.gov.uk/commondata/acrobat/dealing_with_contaminated_land_i

Environment Agency, 2002. Dealing with *contaminated land* in England.

<http://publications.environment-agency.gov.uk/pdf/SCHO0804BIBR-e-e.pdf>

Environment Agency, 2004, Model Procedures for the Management of Land Contamination

<http://publications.environment-agency.gov.uk/pdf/SCHO0805BJMD-e-e.pdf>

Environment Agency, 2005, Indicators for Land Contamination

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:143:0056:0075:EN:PDF>

Environmental Liabilities Directive, 2004

http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900043_en_1.htm

Environmental Protection Act, 1990

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:372:0019:0031:EN:PDF>

Groundwater Daughter Directive, 2006

<http://www.opsi.gov.uk/SI/si2006/20061380.htm>

The Contaminated Land (England) Regulations, 2006

http://www.opsi.gov.uk/legislation/wales/wsi2006/wsi_20062989_mi.pdf

The Contaminated Land (Wales) Regulations, 2006

http://www.opsi.gov.uk/si/si2007/uksi_20073538_en_1

The Environmental Permitting (England and Wales) Regulations, 2007

<http://www.opsi.gov.uk/si/si2006/20061379.htm>

The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations, 2006

<http://www.opsi.gov.uk/legislation/wales/wsi2006/20062988e.htm>

The Radioactive Contaminated Land (Modification of Enactments) (Wales) Regulations, 2006

http://www.opsi.gov.uk/si/si2007/uksi_20073245_en_1

The Radioactive Contaminated Land (Modification of Enactments) (England)(Amendment) Regulations, 2007

http://www.opsi.gov.uk/si/si2007/uksi_20073250_en_1

The Radioactive Contaminated Land (Modification of Enactments) (Wales)(Amendment) Regulations, 2007

http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900008_en_1

Town and Country Planning Act, 1990

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:114:0009:0021:EN:PDF>

Waste Framework Directive, 2006

http://www.opsi.gov.uk/acts/acts2003/ukpga_20030037_en_1

Water Act, 2003 (section 86)

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF>

Water Framework Directive, 2000

http://new.wales.gov.uk/docrepos/40371/403823112/4038216/4038215/Statutory_Guidance_07?lang=en

Welsh Assembly Government, 2006, Part 2A Statutory Guidance on Contaminated Land

**Would you like to find out more about us,
or about your environment?**

Then call us on

08708 506 506 (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)

floodline 0845 988 1188



Environment first: This publication is printed on paper made from 100 per cent previously used waste. By-products from making the pulp and paper are used for composting and fertiliser, for making cement and for generating energy.