
New South Wales Auditor-General's Report

Performance Audit

Managing contaminated sites

Environment Protection Authority

Department of Trade and Investment, Regional Infrastructure
and Services



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In accordance with section 38E of the *Public Finance and Audit Act 1983*, I present a report titled **Managing contaminated sites: Environment Protection Authority, Department of Trade and Investment, Regional Infrastructure and Services.**

A handwritten signature in black ink, appearing to read 'G Hehir'.

Grant Hehir
Auditor-General
10 July 2014

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Executive summary

Background

Effective management of contaminated land makes an important contribution to the government's goal to 'Protect our natural environment'; Goal 22 of the State Government's 'NSW 2021: A plan to make NSW number one'.

The *Contaminated Land Management Act 1997* (CLM Act) establishes a framework for the regulation and management of land that becomes significantly contaminated. The Act gives the Environment Protection Authority (EPA) powers to require the investigation and management of sites where contamination is significant enough to warrant regulation.

This audit assessed how well the risks associated with contaminated sites are being managed. It examined the EPA's regulation of contaminated sites on both private and public land under the CLM Act. It also examined the management of contaminated sites by government agencies on their land.

It focused on the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS), which is the largest landholder by area and extensively involved in the management of a range of contaminated sites. This detailed examination was supplemented by a survey of over 30 large landholding government agencies in New South Wales and their management arrangements for dealing with contaminated sites.

This audit draws upon the December 2013 Auditor-General's Report to Parliament and previous reports that raised concerns regarding the management of contaminated sites.

Conclusion

How well do government agencies identify and manage the risk of potentially contaminated land they own, lease or intend to buy?

Procedures for managing contaminated sites vary widely across the major landholding government agencies surveyed. Most agencies could manage contaminated sites better.

Some agencies provide little or no guidance to their staff on their statutory obligation to notify the EPA of significantly contaminated sites, whereas others provide detailed procedures. Most have registers of contaminated sites, but some are incomplete and focus on specific risks, like building sites with asbestos, rather than including information on all contaminated sites. Around 90 per cent of surveyed agencies say they own known or suspected contaminated sites. Around half of the agencies have notified significantly contaminated sites to the EPA.

The largest public landholder, DTIRIS, has made recent efforts to identify and manage the risk of potentially contaminated sites on Crown lands. It has developed procedures for identifying contaminated sites, but these do not extend to dealing with contamination issues for Crown land transactions including land it leases, sells or transfers.

DTIRIS has conducted a desktop review that identified around 1,200 suspected or known contaminated sites and has ranked these as 38 high risk, 437 medium risk and around 700 low risk sites.

DTIRIS is developing a program to undertake detailed assessments of the sites ranked as high risk and has scheduled and commenced remediation work for a number of these sites. Of the high risk sites, seven large derelict mines on Crown land are potentially a high risk to the environment and public health, and may need to be notified to the EPA.

DTIRIS is yet to develop a long-term strategy for its other sites and is yet to recognise a liability for contamination in its financial report.

How effective are notification and assessment processes in determining the extent of contamination?

We do not have confidence that all landholders have fulfilled their obligations to formally report all notifiable sites to the EPA. When sites are reported, the EPA's prioritisation and assessment processes are inadequate for dealing with them.

The CLM Act contains a duty on landholders to notify the EPA of contaminated sites that meet certain criteria. The EPA provides guidelines and a notification form to assist with this. The EPA believes the largest and most contaminated sites in New South Wales have been identified. However, we have concerns regarding government agency procedures for reporting and about the EPA's process for dealing with sites brought to its attention without a notification form being completed.

The EPA has established procedures for assessing the extent of contamination when sites are notified but there are long delays in assessing the extent of contamination and no systematic process for prioritisation. There is a large backlog of sites awaiting assessment.

If the EPA believes that contamination is significant enough to warrant regulation, it will declare a site or take other reasonable steps to investigate and manage it. We identified a range of sites that the EPA could have declared as significantly contaminated and decided not to. The EPA has documented the reasons for each decision with appropriate sign off by management. However, these decisions are not supported by clear principles and this means there is a lack of transparency which could result in inconsistencies and poor regulation.

The EPA has established some key performance indicators but it requires better performance information and targets to enable it to demonstrate its approach is effective in the regulation of significantly contaminated sites.

How well does the Environment Protection Authority oversee the monitoring and management of significantly contaminated sites?

The EPA has overseen remediation on a range of significantly contaminated sites since the introduction of the CLM Act, from very large industrial sites to former service stations and workshops. Over the last decade, around 90 sites have been remediated to the EPA's satisfaction, with about 180 currently subject to active regulation.

Despite these achievements, the EPA lacks the management controls to ensure that all significantly contaminated sites are actively monitored and key milestones are met.

The EPA currently uses several databases that are not well integrated to fully support its monitoring and public reporting responsibilities. This makes it challenging for the EPA to track the history and progress of sites. It is developing a new integrated database, which it plans to complete by June 2015, to address this issue.

The EPA has a compliance policy that summarises its general approach to compliance and enforcement. However, the EPA's internal procedures do not provide specific guidance for contaminated land management activities on how to escalate its regulatory activities when its collaborative approach is not working. The EPA advises that its procedures manual, which provides advice on the application of regulatory tools, will be updated to include further information on escalating its regulatory approach at problem sites.

The EPA does not currently take steps to recover its costs for the preparation, monitoring and compliance action associated with an order or an approved voluntary management proposal. The CLM Act allows the EPA to recover costs on behalf of the government, although the regulation limits the rate it can charge.

Key recommendations

DTIRIS should (and other government agencies should consider):

1. by December 2014, ensure comprehensive, risk-based policies and procedures are in place to identify and manage their contaminated sites including the purchasing, selling, leasing or transferring of land
2. by December 2015, develop a comprehensive plan for assessing and managing their known and suspected contaminated sites including prioritisation processes, resources, timeframes, and notification of sites that meet the reporting requirements under s. 60 of the CLM Act
3. by December 2014, ensure that the impact of contamination is reliably measured and appropriately accounted for in the financial report as it is identified.

The EPA should:

4. by December 2014, implement a streamlined process for prioritising and assessing sites notified under the CLM Act
5. by March 2015, develop a program, including timeframes, to eliminate the backlog of notified sites that are yet to be assessed
6. by March 2015, implement a standardised approach to the declaration of contaminated sites
7. by June 2015, develop and implement a combined database to better manage the monitoring of progress on regulated sites, monitoring and reporting its performance, and improved public reporting
8. by December 2015, implement a clear escalation compliance policy that covers the issuing of warning letters, management orders and penalty notices
9. by December 2015, begin recovering costs for those sites requiring additional administrative work because of their complexity or the non-cooperation of owners/polluters.

Other recommendations specific to DTIRIS and the EPA are contained in the body of this report, and are also included, for reference purposes, in Appendix 2.

Response from the Environment Protection Authority



Our reference: DOC14/107194
Contact: Craig Lamberton (02) 99955593

Mr Grant Hehir
Auditor-General
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Dear Mr Hehir

Performance Audit - Managing Contaminated Sites

Thank you for providing the final report on Managing Contaminated Sites dated 20 June 2014.

NSW was the first Australian jurisdiction to have specific environmental legislation targeting land contamination with the *Contaminated Land Management Act* of 1997. This recent performance audit has been a useful exercise in identifying possible improvements in contaminated land management across government and ensuring that the EPA maintains its high standing amongst Australian regulators in this challenging and complex area.

NSW has an enviable record in resolving some of the largest and most complex contaminated sites in the Southern Hemisphere. These sites include the Homebush Olympic Precinct, the Rhodes Peninsula, the former Mortlake Gasworks (now Breakfast Point) and the former BHPB Steelworks in Newcastle. These five sites alone represent more than \$700 million of expenditure on remediation. In addition to the obvious environmental benefits the economic benefit to the community from the remediation of what were effectively quarantined areas, runs into the billions of dollars and has largely occurred because of effective legislation and implementation.

The EPA welcomes the recommendation to develop, in consultation with other key land holding agencies, a set of model guidelines for the identification and management of contaminated sites where a government agency is the responsible landowner. The EPA believes that this will result in greater protection of the community's interests in transactions associated with the sale, acquisition and leasing of State assets.

The EPA is supportive of the recommendations that relate to the EPA, as in large measure, these reflect activities in place or underway as part of an ongoing process to improve or adapt our contaminated land program to contemporary needs.

The EPA shares the Audit Office's observation that we cannot be confident that all responsible parties have complied with their legal obligation to report to the EPA on land that they know to be contaminated. It is not possible for the EPA to know of all historical contamination legacies that have resulted from 200 years of industrial, agricultural and mining activity in NSW. However the EPA believes that the sites with the greatest potential to harm human health or the environment have been identified and have or are being remediated under the Act.

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To improve compliance with the obligation to notify, since 2008 the EPA has strengthened legislation, increased penalties and provided more detailed guidance to business and the community on their duty to report. NSW now has the most robust reporting requirements in Australia and this has resulted in a massive spike in notifications over the last five years. The EPA acknowledges that this doubling of notifications has created a resourcing challenge as the EPA works through this backlog of notified sites.

Since it's re-establishment in 2012, the EPA has sought to improve the funding available for its regulatory programs by making the responsible polluter, not the community, shoulder more of the costs associated with ensuring regulatory compliance. The EPA is currently seeking approval to extend the mechanism for cost recovery under the *Protection of the Environment Operations Act* to the *Contaminated Land Management Act*. The EPA anticipates it will be able to meet the Audit Office recommendation to recover costs for those sites that require additional work because of their complexity or the non-cooperation of owners/polluters, by December 2015.

The Audit Office has flagged that the EPA could improve its current screening and risk prioritisation process. The EPA recognises this and currently every case that comes before the EPA is triaged using a screening protocol to identify sites requiring immediate intervention or more rapid assessment. The EPA will continue to prioritise and focus on the sites with the greatest potential for environmental harm and where the allocation of available EPA resources can achieve the best outcome for the community. Risk based assessment and apportionment of resources is the basis of the EPA's approach to regulating contaminated land and this is consistent with the National Environment Protection Measure (Assessment of Site Contamination) and best practice with regulators such as the UK Environment Agency and the USEPA.

The EPA has comprehensive information on contaminated land management and the regulatory status of sites available to the public on its website. The current EPA project to integrate existing contaminated site databases will provide the opportunity for improved management tracking of regulated sites and even greater transparency for the community on industry performance in meeting key milestones for site remediation. The EPA is committed to having this integrated system operational by June 2015.

In addition, the EPA is well advanced in developing and implementing a range of programs that will enable the Audit Office recommendations to be realised. These include new management systems, updated procedures and enhanced information on the EPA web site. This will include advice on reporting suspected contamination and geographic information on notified and regulated sites.

I appreciate that this has been an important and complex area of investigation and would like to thank the Audit Office and officers of the EPA who assisted with this audit

Yours sincerely



BARRY BUFFIER
Chair and CEO
Environment Protection Authority

- 7 JUL 2014

Response from Department of Trade and Investment, Regional Infrastructure and Services



**Trade &
Investment**

Office of the Secretary

SECO14/230

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A handwritten signature in blue ink that reads 'Grant'.

Dear Mr Hehir

Response to the Performance Audit Report on Managing Contaminated Sites

Thank you for the invitation to respond to your Performance Audit Report on Managing Contaminated Sites (Report). I am in agreement with the majority of the Report's findings. NSW Trade & Investment (the Department) supports and is well positioned to incorporate and implement the recommendations. I do however have several residual concerns in relation to the Report.

The size and complexity of the Crown land estate held by the Department and the sheer scale of the task of assessing and managing contaminated sites in this context is not adequately articulated in the Report. The Crown land estate held by the Department includes some 580,000 separate parcels of land. Crown Land is covered by a variety of management arrangements including approximately 60,000 different tenures (land held under lease or licence) and 34,000 Reserves managed by Councils, Reserve Trusts or directly by Crown Lands.

Likewise, our recent progress in developing policy and systems to identify and manage contaminated lands, given the scale and scope of the Crown estate, is not clearly presented or adequately recognised. It is important to recognise this context and the size, complexity and spatial distribution of the Crown land estate. The absence of appropriate recognition of this complexity in the Report and its recommendations, may exacerbate existing challenges facing the Department and result in additional cost in addressing potential and known contamination of land.

High risk sites, such as the Urunga Antimony site, present an example of the complex challenges facing any land management agency in terms of planning and implementation of remediation measures. The Department has invested considerable time and resources to engage relevant technical expertise, undertaken investigations and engaged multiple stakeholder and community groups in finalising an agreed program for the remediation. It should be noted that final approvals to commence remediation of the site are in progress and it is anticipated that works will commence mid 2014.

The Department has been very proactive in several matters that have not received due recognition in the Report. These include prompt reporting of the Coffs Harbour Slipway to the Environment Protection Authority (EPA), undertaking investigations and preparation of a

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Remedial Action Plan for this site. The Department has also allocated funding and commenced preliminary assessment of fourteen high risk sites on Crown land and the remediation of eight asbestos contaminated sites.

The Report inaccurately refers to the Department's possible failure in its duty to report a number of derelict mines as contaminated sites under s60 of the *Contaminated Land Management Act 1997* (CLM Act). As a minimum, the Report should acknowledge that the EPA is represented on the Department's Derelict Mines Program Steering Committee and that the EPA is well aware that these sites exist and that they may be contaminated. The Department's current work investigating potentially contaminated sites will determine which derelict mines on its land should be notified formally to the EPA.

I also wish to draw attention to the recently announced Crown Land Review. The Government, in recognition of the need to modernise and improve the efficiency of Crown land management is completing the first comprehensive review of Crown land in 25 years. The outcomes of the review will potentially result in changed management of Crown land with possible implications for the management of contaminated land. Submissions on the White Paper closed on 20 June 2014, and are currently being considered.

In relation to the three key recommendations of the Report made to the Department, I make the following comments:

Key Recommendation 1: By December 2014, ensure comprehensive, risk-based policies and procedures are in place to identify and manage their contaminated sites including the purchasing, selling, leasing or transferring of land.

Recommendation accepted. The Department has a majority of risk-based policies and procedures in place to identify and manage its contaminated sites and is working to finalise the remainder by December 2014.

Key Recommendation 2: By December 2015, develop a comprehensive plan for assessing and managing their known and suspected contaminated sites including prioritisation processes, resources, timeframes and notification of sites that meet the reporting requirements under s60 of the CLM Act.

Recommendation accepted: The Department has commenced development of a plan for assessing and managing its known and suspected contaminated sites including prioritisation processes, resources, timeframes and notification of sites that meet reporting requirements under s60 of the CLM Act. It is aiming for completion by December 2015.

Key Recommendation 3: By December 2014, ensure that the impact of contamination is reliably measured and appropriately accounted for in the financial report as it is identified.

Recommendation accepted with qualification: The impact of contamination can only be appropriately accounted for after it has been identified, assessed, measured and associated costs of remediation estimated on a case by case basis. Given the scale of the Crown estate, attempting to account for the impact of contamination without appropriate investigation will only lead to significant error in financial reporting. Pursuant to the Department's Accounting Policy, liabilities for contamination will continue to be recognised only where the EPA has declared the land to be significantly contaminated, warranting regulation and issued a management order under s14 of the CLM Act.

I also make the following comment in relation to the *Recommendation*: By September 2014, (NSW Trade & Investment) assess its sites ranked as high risk, as a matter of urgency, and notify those that meet the reporting requirements under s60 of the CLM Act.

Recommendation accepted with qualification: The Department will have commenced assessment of each site ranked as high risk by September 2014. Until this assessment stage has been completed, it may not be possible to determine which sites require reporting under s60 of the CLM Act by September 2014, as it is likely that some sites may require further investigation. A number of high risk sites, such as asbestos contaminated sites, will probably not require notification and may be treated simply by removal of contaminants or management by fencing and other means. The Department will endeavour to complete the recommended actions by September 2014, but considers 30 June 2015 may be a more realistic date for completion.

Yours sincerely



Mark I Paterson AO
Secretary

4714

Introduction

1. Contaminated sites in New South Wales

1.1 The extent of the problem

Over past decades, some industrial operational and waste management practices have resulted in land becoming contaminated with toxic chemicals and other hazardous materials.

Contamination of land can have significant environmental, social and economic consequences including: the degradation of soil, groundwater, surface waters and sediments; the uptake of contaminants by plants and animals; and the potential exposure of humans to contamination.

In June 2013, the EPA reported that there were 30,000 contaminated sites in New South Wales, although this is an estimate because there is no comprehensive database of sites. This estimate would include sites that are below the threshold for notification to the EPA.

Around 1,600 of these sites have been formally notified to the EPA as potentially significantly contaminated. Current or former petroleum industry sites make up around two-thirds of these, including over 800 service station sites. Other sites include former metal industries, gasworks, chemical industries, cattle dips and landfill sites.

In 2013, the EPA estimated the cost of assessing and remediating contaminated sites in New South Wales is \$100 million to \$200 million each year.¹ The total cost to remediate all sites is much larger and cannot be determined because both the number of sites and the scale of remediation are largely unknown.

The Treasurer's 2012-13 Report on State Finances included a land remediation and restoration provision² of \$605 million (\$583 million for 2011-12). This provision includes \$125 million for the remediation of the former Millers Point Gasworks site managed by the Barangaroo Delivery Authority and \$90 million for the remediation of the former BHP steel works site at Mayfield and Kooragang Island waste sites.

Contaminated sites that are remediated are more likely to have redevelopment approved by planning consent authorities and accepted by future buyers and the public, bringing the land back to productive use. In coastal and metropolitan areas, high land values encourage remediation and redevelopment of contaminated sites.

1.2 The challenges in managing the problem

The EPA faces significant challenges in fulfilling its role as the environmental regulator, including the large and uncertain number of sites; limited knowledge about the risks and costs of remediation at each site; plus identifying the responsible party to pay for remediation in some cases.

Public sector agencies with major landholdings face some of these challenges too. DTIRIS, in particular, has over 580,000 separate parcels of Crown land with over 87,000 tenures, many of which are historical. It has inherited many contaminated sites, including former mine sites, gasworks, waste depots, cattle dips and landfills.

¹ This is for sites under the CLM Act and the figure varies greatly from year to year.

² The total amount of this provision is not solely for remediation of contaminated sites. It would include other forms of restoration. For example, make good provision for leased premises.

1.3 Audit objective

This audit aimed to assess how well the risks associated with contaminated sites are being managed. Our report answers three questions:

- How well do government agencies identify and manage the risk of potentially contaminated land they own, lease or intend to buy?
- How effective are notification and assessment processes in determining the extent of contamination?
- How well does the Environment Protection Authority (EPA) oversee the monitoring and management of contaminated sites?

1.4 Regulatory framework

New South Wales contaminated sites are regulated by:

- the EPA under the *Contaminated Land Management Act 1997* (CLM Act) for land where the contamination is significant enough to warrant regulation
- Department of Planning and Environment and local government under the *Environmental Planning and Assessment Act 1979* and State Environmental Planning Policy No. 55 – Remediation of Land, generally for the less seriously contaminated sites where the land is proposed for rezoning or development.

This audit focuses on regulation under the CLM Act. The Audit Office does not have a mandate to examine issues in local government.

1.5 *Contaminated Land Management Act 1997*

The CLM Act establishes a framework to manage contaminated land the EPA considers significant enough to warrant regulation. It sets out obligations on landowners to report contaminated land, establishes an accreditation scheme for site auditors, outlines the role of the EPA and the rights and responsibilities of parties it directs to manage significantly contaminated land.

Exhibit 1: Section 3(2) – particular objectives of the CLM Act are:

- (a) to set out accountabilities for managing contamination if the EPA considers the contamination is significant enough to require regulation under Division 2 of Part 3, and
- (b) to set out the role of the EPA in the assessment of contamination and the supervision of the investigation and management of contaminated sites, and
- (c) to provide for the accreditation of site auditors of contaminated land to ensure appropriate standards of auditing in the management of contaminated land, and
- (d) to ensure that contaminated land is managed with regard to the principles of ecologically sustainable development.

1.6 Environment Protection Authority

The EPA, the primary environmental regulator for New South Wales, administers the CLM Act. The general function of the EPA is prescribed in the CLM Act.

Exhibit 2: General functions of the EPA under section 8 of the CLM Act

- (1) It is the duty of the EPA to do the following in a manner and to an extent reasonable in the circumstances:
 - (a) examine, and respond to, information that it receives of actual or possible contamination of land,
 - (b) address any contamination that the EPA considers to be significant enough to require regulation under Division 2 of Part 3,
 - (c) record what it has done under paragraphs (a) and (b) and the reasons for it.
- (2) It is the duty of the EPA to respond to a person (other than the EPA or an authorised officer) who has furnished information referred to in subsection (1). The response must:
 - (a) be made in a reasonable time, and
 - (b) state what the EPA has done in relation to the information and the reasons for doing it, and
 - (c) be in writing if the information was in writing.
- (3) In addition to any functions the EPA has under this or any other Act, the EPA may take such reasonable steps as it considers necessary in relation to investigating or managing contamination of land (including significantly contaminated land) or the threat of harm from any such contamination.

Contaminated sites and their regulation under the CLM Act are usually managed by the Contaminated Sites Section of the EPA. As at November 2013, the section consists of 24 staff members, including five staff involved in implementing the Protection of the Environment (Underground Petroleum Storage System) Regulation 2008 (UPSS regulation), designed to prevent or uncover contamination at petroleum industry sites (for example, service stations) and two staff for the site auditor scheme.

As reported in EPA's 2013 annual report, the EPA continues to regulate a number of significantly contaminated legacy sites in New South Wales, including the Barangaroo development site in Sydney and former chemical plants at Orica Botany.

Many sites are the legacy of poor historical waste management practices by industry. The EPA advises that over the 15 years of operation of the CLM Act, the overwhelming majority of the largest and most significant contaminated sites have been identified and subject to EPA regulation.

The EPA has ongoing involvement in some major complex rehabilitation projects, the most significant of which include the:

- former landfill sites in Sydney Olympic Park
- former Pasminco lead smelting operation site in Boolaroo
- former Lednez/Union Carbide site and former Allied Feeds site in Rhodes Peninsula and Homebush Bay
- contamination of sediments in Kendall Bay caused by operation of the former Mortlake gasworks
- former Millers Point gasworks located on part of the Barangaroo site and on part of Hickson Road
- former BHP site at Newcastle.

Exhibit 3: The value of remediating a large metropolitan site

Rhodes Peninsula was the site of industrial activity for over 100 years, including the Union Carbide plant, which produced herbicides and pesticides. Wastes from the industrial production on the Rhodes Peninsula were used for land reclamation and also drained into Homebush Bay. This resulted in the contamination of the peninsula and bay.

The EPA (and its predecessor entities) has been regulating the clean-up of this area for over 20 years. A number of other government agencies were involved in the clean-up including Department of Planning, NSW Health, NSW Maritime, and Canada Bay City Council.

The remediation of the site paved the way for new residential, retail and commercial development of the order of \$2-3 billion.

The work included:

- cleaning up 45 hectares of the Rhodes Peninsula at a cost to the private sector approaching \$170 million, and \$22 million from the NSW Government for clean-up of the most contaminated sediments in Homebush Bay.
- the successful approval and use of two very large world scale soil thermal treatment plants for removal and destruction of both organic and chlorinated organic contaminants in 270,000 tonnes of soil. A first for New South Wales and Australia
- on-site and bay remediation works, which has started to repair the damage done to Sydney Harbour that resulted from the contamination released from the industrial sites on the peninsula; in particular the uncontrolled release of chemicals loaded with a full site of dioxins into the bay and harbour.

Source: The EPA December 2010.

Exhibit 4: February 2011 aerial – Rhodes Peninsula



Source: www.rhodesremediation.com.au.

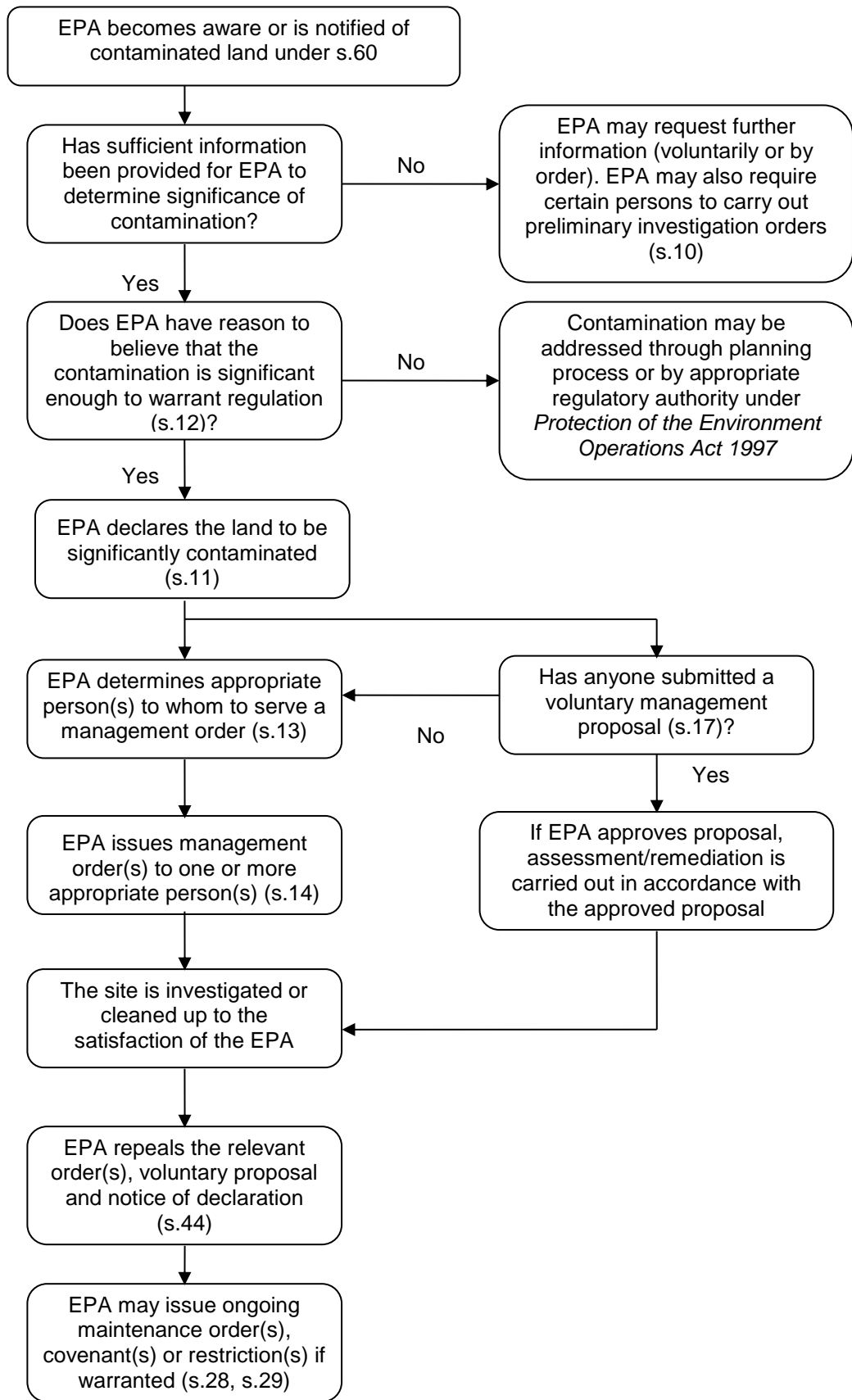
1.7 Site regulation process

The CLM Act defines a process for identifying, remediating and managing contaminated land. This process is illustrated in Exhibit 5. The main stages in this process include:

- site contamination is notified to the EPA (section 60 of the Act) or the EPA becomes aware of a need to regulate contamination
- power to issue preliminary investigation orders (s.10) where the EPA suspects the land is contaminated but does not have enough information about the site contamination
- determining if there are reasons to believe that contamination is significant enough to warrant regulation (s.12 assessment)
- determining appropriate persons (s.13)
- determining if a voluntary approach is acceptable to address the contamination (s.17)
- determining if a management order should be issued to address the contamination (s.14).

When the required actions on each site have been completed to the satisfaction of the EPA, the EPA determines whether a notice (s.44) should be issued to end a declaration, an order or a notice. Where ongoing works are required, ongoing maintenance orders (s.28) or restrictions and covenants (s.29) may be imposed.

Exhibit 5: Regulation of land as described in the EPA's internal procedures



Source: The EPA July 2013.

A glossary of terms is provided in Appendix 3.

Key findings

2. Government agencies' management of contaminated sites

How well do government agencies identify and manage the risk of potentially contaminated land they own, lease or intend to buy?

Findings: Most agencies surveyed have procedures for identifying and assessing contaminated sites, but the quality of these procedures varies widely. For example, some agencies provide little or no guidance to their staff on their statutory obligation to notify the EPA of significantly contaminated sites, whereas others provide detailed procedures. Most have registers of contaminated sites, but some are incomplete and focus on specific risks, like building sites with asbestos, rather than including information on all contaminated sites. Around 90 per cent of surveyed agencies say they own known or suspected contaminated sites. Around half of the agencies have notified significantly contaminated sites to the EPA.

The largest public landholder, DTIRIS has made recent efforts to identify and manage the risk of potentially contaminated sites on Crown lands. It has developed procedures for identifying contaminated sites, in consultation with the EPA and other key agencies. It has conducted a desktop review that identified around 1,200 suspected or known contaminated sites and has ranked these as 38 high risk, 437 medium risk and around 700 low risk sites. This list of contaminated sites is expected to grow; DTIRIS is also aware of submerged Crown land that may have significant contamination and more sites with asbestos.

With regard to the sites it ranked as high risk, DTIRIS is developing a program to undertake detailed assessments of these sites and has also scheduled and commenced remediation work for a number of them.

DTIRIS is yet to develop a long-term strategy for its other sites. It has only notified one site to the EPA and is yet to recognise a liability for contamination in its financial report. DTIRIS is aware that seven large scale derelict mines on Crown land are potentially high risk to the environment and public health, and may need to be notified to the EPA. As DTIRIS has known about these mine sites for a number of years, it could be failing its duty to report under the CLM Act as it should have reasonably been aware of the contamination.

DTIRIS's newly developed policy on contaminated land covers contamination issues for a range of Crown land transactions, including land it sells or buys (including land transferred to/from other government agencies), land it leases, or land it transfers to the Aboriginal Land Councils. However, DTIRIS does not yet have detailed procedures to address contamination issues for these transactions. It advises it is currently developing procedures as part of its overall strategy.

DTIRIS is also responsible for management of cattle tick dip sites and its program to remediate derelict mines. Both programs have processes in place for the ranking and remediation of higher risk sites, although these processes should be revisited, particularly for dip sites.

Contaminated sites can pose significant risks that require intervention to limit danger to human health or the environment. There are also significant financial and regulatory risks associated with the buying, selling, leasing and managing of contaminated sites.

In this section we examined whether government agencies, including DTIRIS, have processes in place to:

- identify potentially contaminated land they own, lease, or intend to buy
- manage the risk of contaminated land to their organisation.

The community expects government agencies to maintain high standards with regard to the management of contaminated sites. Effective management requires that:

- the risks be well understood
- agencies fulfil their legal obligations to comply with contaminated land legislation
- agencies demonstrate appropriate management of contaminated land during the administration, purchase, and sale of property.

2.1 Overview – survey results

We issued survey questionnaires to 35 of the largest landholding agencies on their management of contaminated sites. Most respondents say that they have procedures in place to identify and manage the risks associated with their sites. Refer to Appendix 4 for the list of survey respondents.

Exhibit 6: Survey results

| Proportion of major government landholders say that they: | | DTIRIS |
|--|-----|----------------|
| Have a policy for identifying contaminated sites on land it owns | 70% | Yes |
| Have a policy for identifying contaminated sites on land it leases or manages on behalf of another party | 49% | Yes** |
| Have a policy for identifying contaminated sites for land it intends to buy or sell | 70% | Yes** |
| Have procedures for assessing and managing the risks associated with known or suspected contaminated sites | 76% | Yes** |
| Own land with known or suspected contamination | 89% | Yes |
| Lease or manage land with known or suspected contamination | 59% | Yes |
| Maintain a list/database of known/suspected contaminated sites they own, lease or manage | 78% | Yes |
| Intend to buy land in the next 12 months | 51% | No |
| Have assessed and recorded the risks associated with each known/suspected contaminated site they own, lease, manage or intend to buy | 72% | Desktop review |
| Have access to enough useful information on the identification and assessment of contaminated sites from the EPA | 91% | Yes |
| Have triggers for notifying the EPA or relevant council | 83% | Yes |

Source: Audit Office Survey April 2014.

Key: ** DTIRIS recently adopted its policy.

Even though most government agencies surveyed said that they have procedures in place to identify and manage the risks, there was a substantial variation in the quality and completeness of documentation provided.

Some agencies procedures were comprehensive. For example, a large landholding agency with thousands of staff has detailed guidelines that include a series of flowcharts for buying land, selling land, leasing to or from a third party, and ongoing management of existing sites. The flowcharts direct users to relevant technical fact sheets and tools (such as templates), to guide and support their consideration and management of site contamination. Information on the use of environment consultants is also included.

Some agencies procedures were incomplete in that they:

- only covered hazardous building materials, such as asbestos, but not all contamination
- did not cover contamination issues when leasing, buying or selling land
- provided little or no guidance covering the statutory obligation for their staff to notify the EPA of significantly contaminated sites.

Some agencies procedures, including DTIRIS's, provide guidance (such as a detailed flowchart or decision support matrix) for staff to determine when a duty to report may exist under the CLM Act, while also making reference to the EPA's guidelines on the topic.

Eighty three per cent of respondents indicated that these processes are consistent with relevant the EPA, planning and technical guidelines. The other 17 per cent did not know.

Seventy eight per cent of respondents said they maintain a list of known or suspected sites but some registers are incomplete with the focus on specific risks, like building sites with asbestos, rather than information on all contaminated sites. Better practice agencies have standalone registers specifically designed for the management of contaminated sites. For example, one agency has a central register that manages all technical reports, contractual and financial information relating to the contaminated land assessments and remediation and could reproduce information for specific purposes.

Around 90 per cent of respondents indicated they have access to enough useful information on the identification and assessment of contaminated sites from the EPA. Eighty five per cent indicated they had enough useful information from other sources.

Fifty six per cent of respondents indicated they had not provided specialist training to staff dealing with contamination issues in the last five years. Fifty four per cent indicated that staff in their agency had attended workshops or conferences in relation to contamination issues in the last five years.

2.2 Crown Lands

The Crown Lands Division (CLD), within DTIRIS, is responsible for the sustainable and commercial management of Crown lands. It administers an area of approximately 36 million hectares of Crown land (this includes the 3 nautical mile zone and Western Crown land). It is responsible for the professional management of some 72,600 licences and permits state wide, along with 14,800 leases and 580,000 individual parcels of land.

DTIRIS also manages the development, marketing and sales of Crown lands not required for public purposes. Various land uses are authorised by DTIRIS including: waterfront occupations; commercial; grazing and agriculture; residential; sporting; community purposes; tourism; and industrial activities.

The wide scope of activities that have historically occurred on Crown lands, both lawful and unlawful, has created a potentially significant risk to human health and environment. Some examples include former gasworks sites, mine sites, waste depots, agricultural chemicals (such as cattle dips), landfills and illegal dump sites (such as asbestos). DTIRIS estimates that there are over 100 derelict mines located on Crown lands.

DTIRIS can also be made responsible for significantly contaminated sites where no appropriate person can be identified as being responsible for the site, known as orphan sites. An example is the former heavy metal ore (antimony) processing site in Urunga where waste material was allowed to contaminate the adjacent wetland in the 1970s.

Over a number of years the Audit Office has raised concerns with DTIRIS regarding the management of contaminated sites on Crown land. These issues included that DTIRIS:

- does not have a central register of contaminated Crown land
- has not assessed all instances of contamination to determine which should be reported to the EPA in compliance with CLM Act
- has not considered the impact of known contaminations in its valuation of Crown land
- has not yet recorded a provision for remediation.

Given the nature and extent of Crown lands, there is the potential for there to be substantial unknown instances of contamination.

The Crown Lands Management Review report released in March 2014 by DTIRIS acknowledged the complexity of Crown land management and proposed significant reform. It examined how land is brought into and out of the Crown estate and the best way to manage the estate. This review may result in changes to the land DTIRIS is responsible for and how it manages it.

DTIRIS has made recent efforts to identify and manage the risk of potentially contaminated sites on Crown lands. DTIRIS:

- has developed a central register of contaminated Crown land
- has developed a policy and procedures to formalise its approach to identifying and reporting on contaminated Crown land, in consultation with the EPA and other key agencies
- has conducted a preliminary desktop review that identified around 1,200 suspected or known contaminated sites
- is developing a program to undertake detailed assessments of the 38 sites it ranked as high risk and scheduled remediation work for a number of these sites
- has commenced remediation works on seven high risk asbestos sites.

Policies and Procedures

DTIRIS has recently developed a policy and strategy for the identification and assessment of contaminated sites on Crown land. Its policy and procedures were partly informed by a recent working group with the EPA and key landholding agencies including Roads and Maritime Services, National Parks and Wildlife Service, RailCorp and Forest Corporation of NSW.

The first phase of implementing its policy has been to identify the potentially contaminated sites DTIRIS currently owns. As previously noted, it has identified around 1,200 potentially contaminated sites based on a desktop review including a preliminary risk assessment. The next phase will be to assess the nature and extent of this contamination by collection and chemical analysis of soil and groundwater samples, as appropriate. DTIRIS advises that the Soil Conservation Service, its commercial entity specialising in land rehabilitation, is assisting with the assessment of sites ranked as high risk.

DTIRIS also recognises the need for training and developing capacity to identify, assess and manage contaminated sites. It advises that a core group within CLD will coordinate a broad roll out of such training.

DTIRIS's procedures do not extend to dealing with contamination issues for Crown land transactions including land:

- a) it sells or buys (including land transferred to/from other government agencies)
- b) it leases
- c) transfers to the Aboriginal Land Councils.

DTIRIS advises it is currently in the process of developing detailed procedures as part of delivering its overall strategy.

a) Land it sells or buys

In 2012-13, DTIRIS sold 126 Crown land parcels totalling \$18.9 million in sales revenue. The annual target for sales is generally set at \$10 million (net) although this amount can be increased as a result of new initiatives or commitments that arise throughout the year.

Our review of a sample of sale transactions revealed that there is no standard approach to addressing the contamination issues prior to sale to ensure that land sold is either fit for purpose or that its contamination status is properly assessed and disclosed.

DTIRIS does not have policy or guidance specifically for dealing with the implications of contamination on land it sells. Its 'Sale and Disposal of Crown Land Guideline' does not consider the contamination status of the land and its associated financial risk and future liabilities posed if sold.

Whilst DTIRIS is yet to introduce a standardised approach, more recently it has been introducing ways of addressing contamination issues on proposed land for sale. These include:

- recognising the cost of remediation in the sale price
- advertising material that alerts potential buyers of the remediation legacy
- special contract clauses that flag the condition of land.

DTIRIS advises that its updated policy will:

- contain provisions that deal with the sale of land known to be contaminated or land known to have been used for a purpose that could or may have resulted in some form of contamination while being used for this purpose
- address disclosure requirements of known or potential contamination based on previous use.

DTIRIS advises that it intends to assess the likelihood of contamination when selling land. A risk-based approach will be applied and disclosure made where the DTIRIS is aware of potentially contaminated sites. Our view is that a baseline study should be done, especially on higher risk sites, prior to sale to limit the agency's future liabilities and help maximise buyer interest and sale price. It should be noted that some other agencies' surveyed said they generally do assess land prior to divestment to mitigate long-term liability for contamination under the CLM Act.

DTIRIS does not have policies that provide for the assessment of potential contamination issues prior to purchase but has indicated that it rarely purchases land, although it does accept some land transfers from other government agencies.

b) Land leased to others by DTIRIS

Leases or licences are issued over Crown land for a variety of purposes including extractive industries, irrigation, marina sites, grazing of livestock, caravan parks and gun clubs. Many of the uses have the potential to result in contamination.

Better practice requires agencies to consider the contamination status of the land before agreeing a lease. For land with potential contamination, a baseline investigation should be conducted to identify the extent of contamination (existing or caused during the lease period) so that responsibilities and liabilities can be determined and addressed by the relevant party.

DTIRIS has developed a policy but does not have procedures specifically dealing with the implications of contamination on land it leases or licences. Existing contract clauses and a lack of baseline studies may leave DTIRIS with limited ability to hold lessees to account for the remediation of sites.

DTIRIS advises it will adopt a risk-based approach to managing contamination on tenured land. High risk sites and high value sites will have the highest requirement for baseline data to inform tenure conditions.

DTIRIS also advises it is in the process of updating its model commercial lease templates. The new lease templates will:

- contain clauses that deal with known contamination issues
- contain conditions to prevent future contamination
- provide better clarity around the responsibility for contamination of land held under lease.

DTIRIS has explained that the new lease drafted for the operation of slipways will use this template, and be clear and specific on responsibility around contamination with regard to monitoring, audit and remediation.

c) Land it transfers to the Aboriginal Land Councils

A policy has been developed but there are no detailed procedures for the Aboriginal Land Claims Unit within DTIRIS on how to deal with claimable land that could be contaminated, such as whether to conduct a site assessment prior to transfer, under what circumstances it should notify the EPA, and what should be included in the transfer contract. At 30 June 2013, DTIRIS had around 26,000 Aboriginal land claims to review.

The Aboriginal Land Claims Unit is only aware of one land claim where the land was potentially contaminated and it addressed this through a letter to the relevant Land Council. The letter highlighted the potential issue and stated that no site assessment had been made. The letter sought acknowledgement from the Aboriginal Land Council of their awareness of this potential issue. Our view, however, is that the public sector should reflect the highest standards of practice and therefore DTIRIS should investigate the condition of such sites prior to transfer.

DTIRIS advise a policy has been adopted and detailed procedures to address contamination issues with the transfer of claimable land are being developed.

Recommendation

By December 2014, DTIRIS should develop policies and procedures to minimise the risks and liabilities associated with contaminated land during the purchasing, selling, leasing or transferring of Crown land. These could include:

- having the owner of land carrying out environmental baseline investigations prior to DTIRIS purchasing land
- having DTIRIS carry out environmental baseline investigations prior to selling land
- having the previous lessee carry out environmental baseline investigations prior to DTIRIS leasing land (based upon risk and land value)
- special contract clauses disclosing the condition of land at transaction point
- securing a bond / financial assurance for potentially contaminating activities conducted on leased Crown land
- environmental management lessee conditions and ongoing monitoring.

Identifying and assessing contaminated sites

To better understand its current and past land uses and their potential to contaminate land, in May 2013, DTIRIS undertook a desktop review of its Crown land database. Using information on past land use records and the proximity to sensitive places such as populated areas, the sites were deemed potentially contaminated and ranked according to risk. The review did not cover perpetual tenures (DTIRIS consider the tenure holder as essentially the owner of the land and responsible for any contamination liability. There are around 9,000 perpetual leases).

The desktop review identified 1,177 potentially contaminated sites. Many sites are geographically isolated. DTIRIS ranked 38 sites as high risk. The exhibit below summarises the level of contamination risk by location.

Exhibit 7: Results of DTIRIS's desktop review of contamination risk

| Location | Contamination risk | | | |
|------------------|--------------------|------------|------------|--------------|
| | High | Medium | Low | Total |
| Armidale | 13 | 39 | 51 | 103 |
| Dubbo | 0 | 45 | 59 | 104 |
| Goulburn | 4 | 47 | 39 | 90 |
| Grafton | 5 | 65 | 180 | 250 |
| Griffith | 0 | 16 | 26 | 42 |
| Hay | 0 | 12 | 23 | 35 |
| Maitland | 2 | 17 | 28 | 47 |
| Metropolitan | 5 | 13 | 30 | 48 |
| Moree | 1 | 30 | 26 | 57 |
| Newcastle | 0 | 0 | 2 | 2 |
| Nowra | 1 | 14 | 29 | 44 |
| Orange | 3 | 53 | 58 | 114 |
| Tamworth | 3 | 18 | 20 | 41 |
| Taree | 0 | 10 | 29 | 39 |
| Wagga Wagga | 0 | 43 | 53 | 96 |
| Western Division | 1 | 15 | 49 | 65 |
| Total | 38 | 437 | 702 | 1,177 |

Source: DTIRIS August 2013.

Sites ranked as high risk include derelict mines identified by the Mineral Resources Division in DTIRIS as priority sites for rehabilitation works. DTIRIS estimate that 112 derelict mines are located on Crown lands. It advises it has been working to develop management strategies for these sites in consultation with its Derelict Mines Program.

Other high risk sites include the Coffs Harbour Slipway, the former heavy metal ore (antimony) processing site at Urunga and the former Bathurst gasworks site. The remaining sites include a former sewerage treatment plant, a landfill and former livestock dip site and sites contaminated by asbestos waste. The number of asbestos related sites identified is expected to increase. At March 2014 there are over 40 high risk sites due to the addition of new asbestos sites being identified. A high percentage of the sites ranked as medium risk are town rubbish depots currently in use, as well as cattle dips that are in operation in the north-east of New South Wales.

DTIRIS has commenced a program to assess, manage and/or remediate its 38 identified high risk sites including:

- completion of the remediation action plan (RAP) for the Urunga antimony site. Remediation is scheduled to commence in August 2014 and be completed by December 2014.
- commencement of detailed investigations and preparation of the RAP for Coffs Harbour Slipway
- allocation of funding and commencement of remediation works on asbestos waste sites. \$450,000 has been allocated for the clean-up and rehabilitation of eight sites affected by asbestos dumping to be carried out in 2013-14
- developing rehabilitation management strategies for derelict mines in consultation with the Derelict Mines Program staff
- allocation of funding to collaborate with the Soil Conservation Service to assess its sites ranked as high risk. \$120,000 has been allocated for this project in 2013-14. This includes:
 - site investigations to assess the nature and extent of contamination
 - development of a process for site investigation and preparation of work plans that can be used to assess and manage future contaminated sites.

The desktop review did not include the submerged land portion of Crown lands. DTIRIS acknowledges that contaminated submerged land in coastal areas is a significant issue. For example, it recently notified the EPA of the Coffs Harbour Slipway as a contaminated site, and also acknowledges that there is likely to be more submerged sites that are similarly contaminated.

DTIRIS has a newly developed central register within its Crown Lands Information Database. This register records known contaminated and potentially contaminated sites, and supports risk assessment and key decisions around any investigation and works undertaken on a site. DTIRIS advises that nominated staff will receive training on the use of the database.

In addition to its recent steps to identify contaminated sites, DTIRIS may also become aware of a potential contamination if a community member contacts a regional office, through a new or renewal licence or lease application, routine tenure or reserve inspection, through notification by another government agency, through a commercial development proposal. However, currently there is no process to ensure that this information is directed to the contaminated sites team and makes it to the contaminated sites register. Full implementation of the register, as mentioned above, may address this issue.

DTIRIS is yet to formulate a plan across its Crown land portfolio to:

- assess and manage its remaining medium to low risk sites
- investigate and (where required) manage contaminated submerged land
- roll out and implement its contaminated land management policy and associated strategy and procedures, including sale, lease and transfer of Crown land.
- train regional staff and develop its capacity.

Recommendation

By December 2015, DTIRIS should develop a comprehensive plan for ongoing investigation, assessment and management of its known and suspected contaminated sites, including prioritisation processes, timeframes and resources to achieve this.

Reporting on contaminated sites

Reporting to the EPA

Government agencies have a duty under s.60 of the CLM Act to notify the EPA as soon as practicable after becoming aware of contamination that meets certain criteria.

Around 90 per cent of agencies surveyed say they own known or suspected contaminated sites and around 80 per cent said they have processes in place for reporting contamination to the EPA or Council. Around half of the surveyed agencies have notified sites to the EPA.

As shown in Exhibit 8, around 12 per cent of all sites notified to the EPA are on government agency owned land.

Exhibit 8: Number of sites notified under s.60 of the CLM Act as being potentially contaminated

| Landowner type | Number of notified sites |
|-----------------------------|--------------------------|
| Private | 1,295 |
| Council | 91 |
| Crown land (DTIRIS) | 26 |
| Other government agencies | 165 |
| Federal | 9 |
| Total notified sites | 1,586 |

Source: The EPA May 2014.

In recent years the Audit Office has highlighted the need for DTIRIS to meet reporting requirements under the CLM Act.

DTIRIS has provided only one s.60 notification to the EPA, being the recent notification of Coffs Harbour Slipway. The EPA advises that most of the other sites notified on Crown land have been notified by a third party (Caltex, Mobil or Council) or referred to the EPA by a party with an interest (Council, NSW Health, etc.). DTIRIS is aware of around 1,200 sites on Crown land that are likely to be contaminated to some degree. Preliminary site assessments are required to determine the nature and extent of contamination and whether any sites should be notified to the EPA. As previously noted, DTIRIS is yet to develop a program to address this.

Amongst the 38 high risk sites, DTIRIS is aware that seven large scale derelict mines on Crown land are potentially high risk to the environment and public health, and may need to be notified to the EPA. These are Conrad, Woodsreef, Captains Flat, Sunny Corner, Ottery, Cowarra Gold and SCA Cobar. As DTIRIS has known about these sites for a number of years, it could be failing its duty to report under s.60 of the CLM Act as it 'should reasonably have become aware of contamination'.

Failure to notify carries significant penalties. The maximum penalty for a corporation in breach of s.60 obligations to report is \$165,000, and in the case of a continuing offence, a further penalty of \$77,000 for each day the offence continues. There are also penalties that can apply to directors or other persons involved in the management of the corporation.

Recommendation

By September 2014, DTIRIS should assess its sites ranked as high risk as a matter of urgency, and notify those that meet the reporting requirements under s.60 of the CLM Act.

Financial reporting

Remediating contaminated sites can be expensive. It is therefore important to measure and record the impact of contamination on the value of land and liabilities for remediation. In particular, Australian Accounting Standards require recognising liabilities for remediation obligations. AASB 137, includes examples of the circumstances in which the recognition of liabilities is required.

Some agencies account for the potential cost of land remediation in their annual financial report as either a devaluation of its land holdings, a provision and/or a contingent liability, depending on their circumstances. The 2012-13 Report on State Finances included a land remediation and restoration provision of \$605 million (\$583m for 2011-12). This provision includes:

- \$125 million for the remediation of the former Millers Point Gasworks site managed by the Barangaroo Delivery Authority
- \$90 million for the remediation of the former BHP main steel works site at Mayfield and the Kooragang Island waste emplacement sites in the Newcastle ports area
- \$30.7 million for remediation of asbestos and \$33.0 million for remediation of contamination on RailCorp land.

Over a number of years, the Audit Office has highlighted the need for DTIRIS to meet recording and reporting requirements under accounting standards.

The 2012-13 DTIRIS annual report stated:

Liabilities to remediate contamination on Crown Lands may exist but are not considered to be presently quantifiable. Further Crown Lands may be subject to contamination but have not been fully assessed and may not be able to be economically viable to assess. A provision will be raised when the Environmental Protection Authority provides an order.

The valuation of Crown land has not yet considered the impact of known contamination and DTIRIS has not recorded a provision even though it has received such orders from the EPA. It should be noted that the total 2013 Crown Lands Estate valuation of the 1,177 potentially contaminated sites identified in its desktop review is estimated at \$554 million (\$35 million for high risk sites, \$89 million for medium risk, and \$430 million for low risk). Note that these are land values and not provisions to remediate. DTIRIS's newly adopted Crown Lands Contaminated Land Management Policy covers the valuation of contaminated Crown land.

CLD's contaminated land management strategic project plan, dated December 2011, states a number of sites have been identified where there is a potential for contamination to de-value high value reserves and that contamination is categorised as the highest potential environmental risk on Crown land. In issuing the plan, DTIRIS acknowledged that the project was essential in meeting Crown land valuation responsibilities.

The EPA has issued a management order on DTIRIS in relation to a former heavy metal ore processing site in Urunga. DTIRIS advises that its latest cost estimate for implementation of its remediation action plan is around \$4 million. Despite project planning being well advanced on this site, as previously noted, DTIRIS is yet to recognise a liability associated with this work.

Recommendation

By December 2014, DTIRIS should ensure that the impact of contamination is considered in the valuation of Crown land and a provision made for remediation for contaminated land, particularly for those sites that have been investigated such as Coffs Harbour Slipway and the former antimony processing plant in Urunga.

DTIRIS acknowledges that the contamination issues should be recorded in the financial report and is developing a process to report these liabilities.

2.3 Derelict Mines Program

The Derelict Mines Program (DMP) is a program for funding the remediation of derelict mines sites in New South Wales. It is administered by a small team within the Environmental Sustainability Unit, Resources and Energy Division of DTIRIS. It is subject to oversight by the Derelict Mines Steering Committee including representatives from the EPA and other divisions within DTIRIS. Works undertaken by the DMP are generally focussed on improving safety at derelict mine sites or reducing environmental impacts from the derelict mine including remediating areas of contamination.

The program received an annual allocation from the NSW State Budget of \$4.1 million in 2013-14 (\$3.2 million in 2012-13) with a further \$6.3 million one off allocation for the Woodsreef asbestos mine.

DTIRIS has identified around 600 derelict mine sites that present a potential risk to human safety and/or the environment. These sites are listed in the DMP Database. DTIRIS advises that the more urgent safety aspects have been dealt with by blocking access to site entry points and areas of subsidence.

DTIRIS is in the process of populating a new database that contains site history and an assessment of the risks to the environment and safety. Around 90 sites have been assessed and ranked in the system to date. DTIRIS anticipates that risk assessments for all sites will be completed by October 2014.

An internal audit of the program in June 2013 identified a range of issues including:

- the need to improve the specification of the program including the scope, objectives and performance measures
- the Steering Committee terms of reference do not adequately outline responsibilities in terms of determining strategic direction, endorsing approach and process or monitoring the performance and success of the program
- limited documentation on how the top 50 potential rehabilitation sites were identified.

It also reported that there is no single information source for derelict mines in New South Wales. The DMP Database and determination of priority sites was compiled more than 10 years ago from a number of sources. There is limited documentation on how it has been updated, leading to doubts over quality and completeness of the information it contains.

DTIRIS advises it is working to address these issues. A new database has been developed to better identify and manage the risks associated with each site. Additional expert advice is continually sought and staff are progressively inputting data into the new system. It advises that whilst funding is still insufficient to remediate all problem sites, it has increased in recent years.

Recommendation

By June 2015, DTIRIS should implement the recommendations from its internal review of the Derelict Mines Program targeted at improving program performance and integrity.

2.4 Management of Cattle Dip Sites – Department of Primary Industries

The traditional method of treating cattle for ticks is dipping. When cattle are dipped they jump through a bath containing a solution that kills the cattle tick. The advantages over other treatments can include lower costs per head and immediate tick kill.

More than 1,600 cattle tick dip yards were built last century under a government-controlled strategy to manage ticks, with most located on land leased from stock owners. A range of chemicals have been used to treat ticks over the years. Arsenic was used in dips up until 1955 but the ticks became resistant to it. DDT (a pesticide) was then used until 1962 when it too became ineffective. Since 1962 other, much less persistent, tickicides have been used to dip cattle.

DTIRIS has a program to manage those sites that have become contaminated. This program has been operating since the late 1980s. In 1991, a Cattle Tick Dip Site Management Committee (DIPMAC) was established with representation from NSW Health and the EPA. The Committee arranged an audit of former dip sites which was used to compile a list of top priority sites.

A 1992 DIPMAC report recommended a nominal 200 metre radius assessment zone around cattle dip sites, whereby development proposals within the 200 metres should be subject to an assessment of land contamination. DPI advises that North Coast councils maintain a record of known dip sites on s149 certificates and consider the proximity of development proposals to cattle tick dip sites. However, we cannot be certain that this is applied consistently across councils.

DTIRIS maintain a publicly available database containing historical information for over 1,600 cattle dip sites in the Northern Rivers region that the NSW Government was involved with (that is, sites that are currently, or were previously, leased or sites located on a Government reserves). The database includes GPS coordinates for around half of these dip sites.

DTIRIS follows a set of standard operating procedures for decommissioning former dip sites. The decommissioning process generally involves filtering off the liquid contents then bioremediating the remaining sediments and capping the top. Decommissioning does not necessarily mean a site is decontaminated. Around 80 per cent of sites used arsenic and DDT in the dips at some point. The main problem is DDT, which is in soil concentrations that are considered hazardous, is persistent in the soil and is difficult and expensive to remove.

At July 2013, as shown in the exhibit below, 698 decommissioned and 11 sites have been remediated.

Exhibit 9: Status of cattle dip sites in New South Wales

| Dip Status | No. of dips |
|--|--------------|
| Decommissioned - All standing structures, shed, fencing and roof have been dismantled. The bath itself if present, is emptied of all chemical fluid and may have contaminated timbers put into it and then is capped with concrete lids | 698 |
| Demolished - Partially or wholly dismantled or demolished prior to the introduction of the decommissioning policy. In many cases there is no physical signs of the dip ever being there | 259 |
| Remediated - Has been demolished, extensive soil testing completed and any contaminated soil with Arsenic or DDT levels above human/environmental health thresholds is removed or securely buried. Generally these sites have been remediated by NSW DPI | 11 |
| Active | 162 |
| Closed* | 186 |
| Lapsed* | 359 |
| Total | 1,675 |

Note: * means the dip is still standing, capable of dipping operations either immediately or with some minor refurbishment.

Source: DTIRIS, February 2014.

DTIRIS used a risk ranking system for dip sites to assist in their prioritisation for its decommissioning program. The risk scores were based on a range of factors including: proximity to human activity, soil leachability, activity on site, fencing and bath condition. It considers the sites that are yet to be decommissioned as low to medium risk until there is a change in land use. In saying that, very few assessments or audits have been conducted on these sites and there is no current methodology in place to assess the risk they pose.

DTIRIS advises that it continues to decommission cattle dip sites at a rate of around 12 sites per annum. Most of this work is carried out upon the request from landowners for public safety and cosmetic reasons.

Recommendations

By June 2015, DTIRIS should review the currency of the cattle dip site program including:

- the risks associated with cattle dip sites due to changing factors, including urban encroachment and changes of land use
- revisiting its methodology for selecting sites for decommissioning
- updating its information on the status of dip sites.

By September 2014, DTIRIS should confirm with relevant local Councils that former cattle tick dip sites are recorded on the s149 certificate issued under the *Environmental Planning and Assessment Act 1979* for affected parcels of land.

2.5 The EPA's guidance

The EPA has developed and endorsed (under the CLM Act) a range of guidelines and has produced technical notes to assist agencies and private enterprises, site auditors and consultants in key areas of contaminated land management. Guidelines made or approved by the EPA under the CLM Act are publicly available online. With the national endorsement of the guidelines under the National Environment Protection (Assessment of Site Contamination) Amendment Measure, effective from May 2013 (the NEPM), we anticipate the EPA will fully utilise these guidelines reducing the need for it to produce its own.

The EPA endorsed guidelines cover specific areas including site assessment (for example, sampling design, reporting, groundwater assessment), regulatory requirements (for example, duty to report contamination to the EPA), and programs implemented by the EPA (Site Auditor Scheme and the UPSS regulation).

The EPA also provides guidance for a range of premises including petroleum storage sites, marinas, dry cleaners, landfills, metal industries, auto servicing and smash repairers, the furniture industry and the printing industry.

The EPA's list of guidelines, endorsed under s.105 of the CLM Act, included the Australia and New Zealand Environment and Conservation Council guidelines (1992), which were rescinded in 2002. The EPA advises it is in the process of updating the list of guidelines made or approved under s.105 of the CLM Act and has now removed the ANZECC guidelines from its list.

The EPA does not provide model procedures for the management of land contamination although it advises that the SEPP 55 guidelines and the "Managing Land Contamination – Planning Guidelines" (published by the then Department of Urban Affairs and Planning and the EPA in 1998) provide a good basis for this.

However, as mentioned earlier, our survey results indicated that the quality of procedures varies widely between major landholding agencies. We consider that most agencies would benefit from a set of model procedures that would provide a consistent framework for dealing with contaminated land. For example, the UK Environment Agency have model procedures for the management of land contamination which provide such a framework.

Recommendation

By September 2015, the EPA, in consultation with key landholding agencies, develop a set of model procedures for the identification and management of contaminated sites.

As well as the guidance provided, the EPA has also run some preventative and investigative programs in industries that are more likely to encounter contamination issues. These include:

- the development of the UPSS regulation and guidelines for its implementation, the development of associated auditing tool and workshops for Council Officers throughout New South Wales
- the development of an audit tool for marinas and compliance audits of these sites
- compliance campaigns for dry cleaners including the tracking of waste, inspections and issuing of notices, phone surveys undertaken and presentations delivered
- compliance audits of galvanisers/foundries including the compiling of a chemical inventory and risk ranking of chemicals used
- compliance audits of the timber treatment industry and the development of a pesticide control order to ensure copper chromium arsenate is used in accordance with the appropriate Australian Standard and by trained personnel.

The EPA advises it provides informal advice to government agencies and councils upon request. It also engages with Local Government NSW, other state and local government forums, and community forums such as the Orica Botany Community Liaison Committee.

3. Notifying and assessing significantly contaminated sites

How effective are notification and assessment processes in determining the extent of contamination?

Findings: The CLM Act contains a duty to notify the EPA of contaminated sites that meet certain criteria. The EPA provides guidelines and a notification form to assist with this. The EPA believes the largest and most contaminated sites in New South Wales have been identified. However, concerns regarding government agency procedures for reporting and doubts about the EPA's process for dealing with sites brought to its attention without a notification form being completed, mean we do not have confidence that all notifiable sites have been formally reported to the EPA.

The CLM Act also contains criteria relating to the assessment of contaminated sites to determine whether they are significant enough to warrant regulation. The EPA has documented assessment processes in place to facilitate this. However, there are long delays in the assessment of sites, and there is a large backlog of around 800 notified sites awaiting assessment. Whilst the EPA advises that it prioritises sites for assessment, it does not have a systematic approach.

Once the EPA decides that a site is significantly contaminated and declares it, recipients are required to prepare plans to remediate sites. However, there are delays in declaring sites which can further delay the remediation process.

If the EPA believes that contamination is significant enough to warrant regulation, it will declare a site or take other reasonable steps to investigate and manage it. We identified a range of sites that the EPA could have declared as significantly contaminated and decided not to. The EPA has documented the reasons for each decision with appropriate sign off by management. However, these decisions are not supported by clear principles and this means there is a lack of transparency which could result in inconsistencies and poor regulation.

The EPA has established a some key performance indicators, however it requires better performance information and targets to enable it to demonstrate its approach is effective in the regulation of significantly contaminated sites.

3.1 Notifying contaminated sites to the EPA

We examined whether the EPA has a notification process in place with clear guidelines for owners/polluters and the public about when and to whom they should notify potential contaminated sites.

Under s.60 of the CLM Act, a person whose activities have contaminated land and the owner of the land are required to notify the EPA in writing as soon as practicable after becoming aware of the contamination, if it meets certain criteria.

Such a person is required to notify the EPA if:

- the level of the contaminant in, or on, soil exceeds a level of contamination set out in these guidelines with respect to a current or approved use of the land, and people have been, or foreseeably will be, exposed to the contaminant, or
- the contamination meets a criterion prescribed by the regulations, or
- the contaminant has entered, or will foreseeably enter, neighbouring land, the atmosphere, groundwater or surface water, and the contamination exceeds, or will foreseeably exceed, a level of contamination set out in these guidelines and will foreseeably continue to remain above that level.

The EPA has established guidelines and a s.60 notification template to enable this to occur. The duty to notify the EPA also applies to a land owner or person who "...should reasonably have become aware of contamination", even if no environmental investigation has been undertaken.

The notification process can be quite complex due to the technical nature of reporting requirements. For comprehensive reporting, the reporting party will likely need expertise to take the necessary samples, organise analysis and interpret results.

At May 2014, 1,586 sites had been formally notified to the EPA. The majority of these sites are current and former service stations. Other sites include metal industries, gasworks, chemical industries and landfill sites.

The EPA lists all notified sites on its website by address, the activity that may have caused contamination and limited information on its status regarding progress through the assessment process.

The EPA believes the largest and most contaminated sites in New South Wales have been identified. However, concerns regarding government agency procedures for reporting and doubts about the EPA's process for dealing with sites brought to their attention without a notification form being completed, mean we have little confidence that all notifiable sites have been reported as required by the Act.

Apart from s.60 notifications, there are a variety of ways information on known/suspected contaminated sites can reach the EPA. These include: by telephone on its Environment Line, letters from the public, discussions with other government agencies, reports from local councils and from regional EPA offices. However, there is limited guidance on how a third party (that is, not the owner or polluter) should notify a suspected site, although they can use the s.60 notification template.

The EPA indicated that sites brought to their attention without a notification form being completed under s.60 of the CLM Act are treated as a general enquiry and registered in its record management system. As these sites are managed with other general enquiry correspondence, a database/list of these sites is not kept and cannot be generated.

However, we expected the EPA would be able to provide a list of sites brought to their attention without a notification form being completed, including details of how they were acquitted. We note that in Western Australia anyone can report a known or suspected contaminated site on a standard form, whereas in New South Wales there is no standard form for suspected sites.

Such leads are a means of gathering intelligence on contaminated sites potentially enabling the EPA to act prior to formal notification. If such a lead led to the identification of a site prior to a notification form being completed by a polluter or owner, actions could include the prosecution of responsible parties for failing to notify (that is, for breaching s.60 of the Act: 'duty to report contamination'). We note that there have been no prosecutions for this offence.

Recommendation

By December 2014, the EPA should review its process for dealing with sites brought to its attention without a notification form being completed and its means of recording the details, including how each lead is acquitted.

3.2 The EPA's response to notified sites

Once notification has occurred, we expected potential contaminated sites to be assessed within appropriate timeframes to determine their risk to the environment and human health and prioritised for remedial action.

Under s8 of the CLM Act, it is the duty of the EPA to respond in a reasonable time to a person who has furnished information. The EPA's internal procedures require acknowledgement letters to be sent within 2 weeks of an s.60 notification. The procedures state that officers should assess information received in a timely manner and should aim to provide a response within two months, depending on the complexity and sensitivity of the site contamination.

The EPA will initially respond with a letter to the notifier in a number of ways. These are:

- an acknowledgement that the notification is being considered for a determination
- a request for further information however no timeframe is specified, or
- a determination that the contamination present is not significant enough to warrant regulation.

One of the KPIs under the EPA's Strategic Plan 2013-16 is that 95 per cent of all new contaminated sites are assessed and prioritised within four months of notification. However, the EPA has indicated that the clock does not necessarily start when the notification occurs. Rather, the clock will start when it considers it has sufficient information to assess the notification. The EPA's other KPI is an increase in the number of contaminated sites that have clear outcomes and milestones established with parties responsible for their clean-up.

These two key performance indicators are insufficient to demonstrate the EPA's performance in the regulation of significantly contaminated sites.

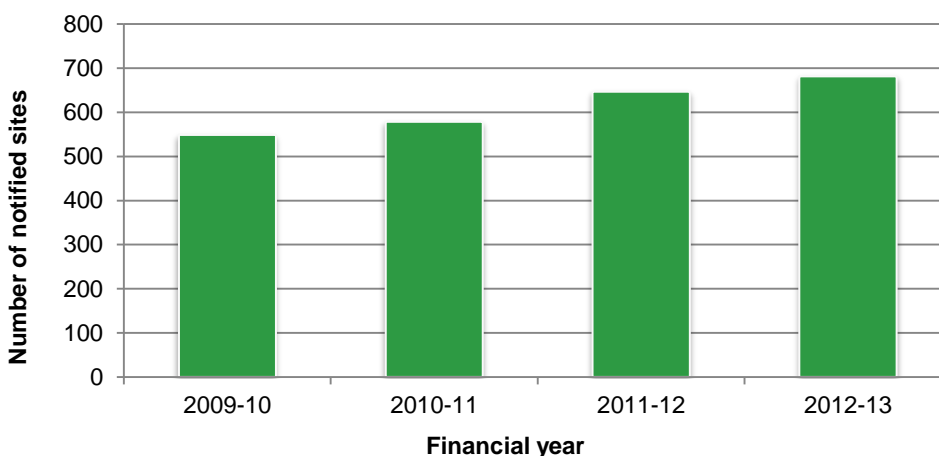
Recommendation

By June 2015, the EPA should develop and implement key performance indicators to measure its success, including target timeframes for acknowledging notified sites, conducting s.12 assessments, issuing declarations, finalising voluntary management proposals and management orders, and monitor its performance through its newly developed database.

The results of 'screening' (or initial assessment) of s.60 notifications are documented in the EPA's s.60 database. The database is designed to document the s.60 decisions on whether to proceed to a s.12 assessment. We expected to see the database used to screen all notifications. However:

- many notified sites have not undergone an initial assessment within the database. The table below shows the increasing backlog of notified sites that require initial assessment. The EPA reports it is awaiting additional information on around 60 per cent of these sites
- around 550 sites notified in 2009-10 are still waiting to be screened. A large proportion of these sites are petroleum related and were notified to the EPA by the major oil companies with limited supporting information.

Exhibit 10: Number of notified sites awaiting initial assessment



Source: The EPA March 2014.

The EPA advised that it prioritises notifications through an initial review by the Manager Contaminated Sites / Unit Head and the notified site is allocated to a project officer for initial assessment. Sites that are identified as requiring more immediate attention are discussed with the allocated project officer for prioritisation within existing workloads. However, whilst the EPA advises that this information is documented in emails and TRIM notes, it does not have a systematic approach to the prioritisation of sites for assessment.

The EPA did advise that in 2010-11 around 250 notified petroleum sites underwent a prioritisation assessment as a specific response to the initial influx of notifications that occurred following changes to notification requirements under the CLM Act. It advises that it has ongoing dialogue with petroleum companies with regard to identifying sites for prioritised assessment.

3.3 Assessing for significant contamination

Deciding whether or not there are reasons to believe the contamination is significant enough to warrant regulation involves the consideration of the matters described in s.12 of the CLM Act. Before declaring a site significantly contaminated the EPA must consider whether:

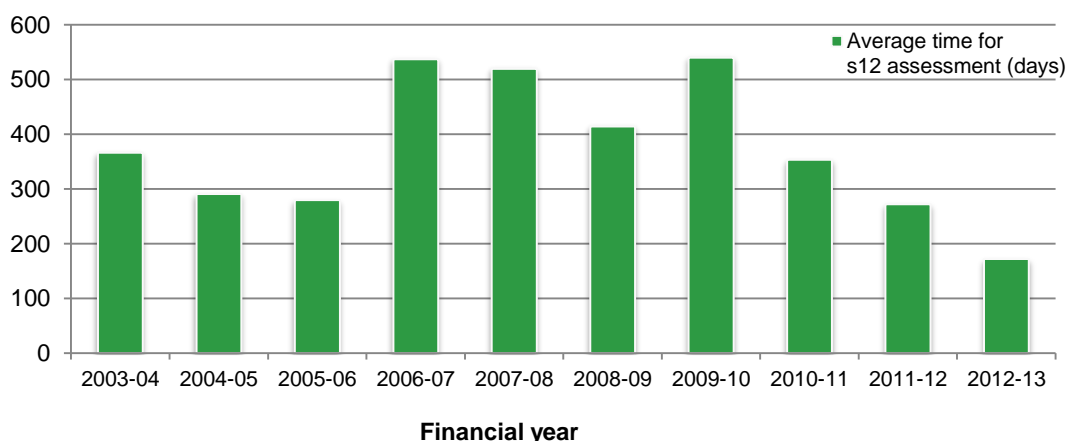
- the substances have already caused harm
- the substances are toxic, persistent or bioaccumulative or are present in large quantities or high concentrations or occur in combinations
- there are exposure pathways available to the substances
- the uses to which the land and land adjoining it are currently being put are such as to increase the risk of harm
- whether the approved uses of the land and land adjoining it are such as to increase the risk of harm
- whether the substances have migrated or are likely to migrate from the land.

This is referred to throughout this report as a 's.12 assessment'.

If the s.60 initial assessment indicates that further assessment is warranted, notifications that require s.12 assessment are imported into the s.12 database. Based on the information provided by an owner/polluter, the EPA then decides whether the site is significantly contaminated.

The EPA's internal procedures require s.12 assessments to be undertaken on a timely manner. Over the last 10 years the average elapsed time between a notification and a s.12 decision is 12 months (for those sites where a s.12 assessment has been made), although this timeframe has been significantly reduced in recent years. Note that this only applies to notifications that make it to the s.12 database.

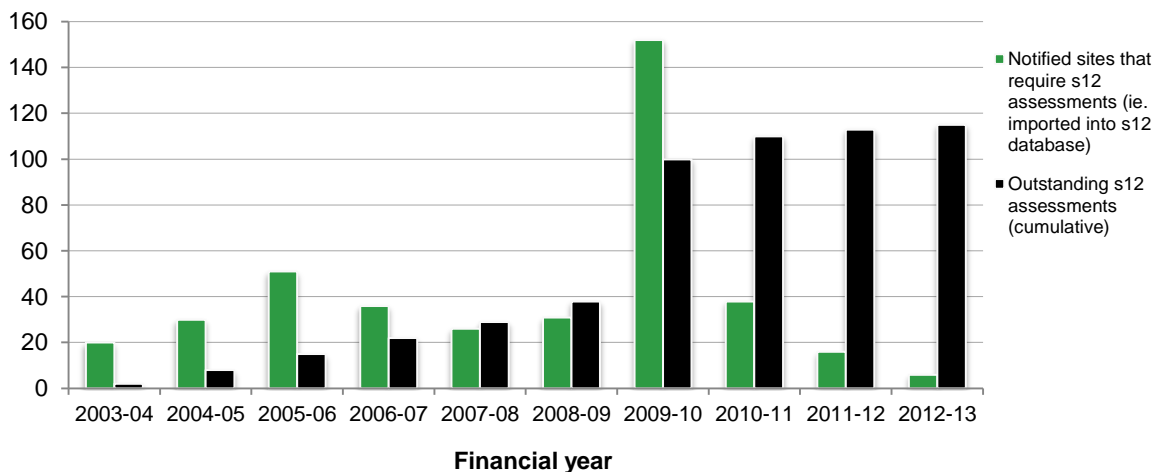
Exhibit 11: Average time between notified sites and s.12 assessments by notification date



Source: The EPA March 2014.

Timeframes are yet to be established for s.12 assessments. The EPA advises that assessments usually involve the review of detailed technical information that is inherently time consuming. The number of sites entered into the s.12 database for which a decision is pending is increasing as illustrated in the following exhibit.

Exhibit 12: Notifications in the s.12 database awaiting assessment by notification date



Source: The EPA March 2014.

We have not seen evidence to indicate that sites awaiting assessment are routinely monitored to check progress with the assessment and sourcing of the necessary information. The current s.12 database enables officers to set tasks with a due date and the generation of reports listing outstanding tasks. However, the EPA advises that this feature is not well used.

It is difficult to visualise how the EPA's increasing backlog of s.60 initial assessments and s.12 assessments can be easily or quickly resolved. In the meantime the status of sites that have been notified but remain unassessed is unclear and the public and local government may have no knowledge of significant contamination, if present, at these sites.

The EPA advises that:

- additional resources have previously been sought from the Office of Environment and Heritage (pre-EPA separation), through the NSW budget process and from the NSW Environmental Trust, with no success to date
- the database upgrade project currently being implemented will streamline and therefore improve the efficiency of the assessment process. A revised initial assessment form is also being trialled to improve that process. We are advised that the revised database should be operational within six months.

To help expedite the assessment process, the EPA is able to issue a preliminary investigation order under s.10 of the CLM Act, for those sites where the assessment is delayed because of a lack of information, but has used this tool on very few occasions. Such an order is served on a person to direct them to conduct a preliminary investigation of land specified in the order to:

- investigate whether the land is contaminated with the substances specified in the order being the substances that the EPA reasonably suspects contaminate the specified land, and
- investigate the nature and extent of any such contamination, and
- provide to the EPA such information with respect to the investigation it may require.

A preliminary investigation order would compel the recipient to provide information or risk penalties. The EPA would also be able to recover its costs, potentially allowing it to better resource its assessments.

Recommendations

By December 2014, the EPA should implement a streamlined process for prioritising and assessing sites notified under the CLM Act.

By March 2015, the EPA should develop a program, including timeframes, to eliminate the backlog of notified sites that are yet to be assessed. This should include the issuing of preliminary investigation orders for those sites that fail to provide the necessary information in a timely manner.

3.4 Declaration of significantly contaminated land

If the EPA believes that contamination on a site is significant enough to warrant regulation, its internal procedures allow it to declare the site significantly contaminated under s11 of the CLM Act or take other reasonable steps it considers necessary in relation to investigating and managing the site. In other words, it does not have to declare the site significantly contaminated. Our review indicated that there are significantly contaminated sites that could have been declared but the EPA has classified them as:

- being 'managed by a planning approval process' (that is, management class F)
- being 'assessed by the EPA'
- 'awaiting further information'
- residential properties where management through the regulation of the adjoining source site is considered sufficient
- managed through current licensing processes under the *Protection of the Environment Operations Act 1997* (POEO Act)
- managed under the *Environmentally Hazardous Chemicals Act 1985* (EHC Act)
- managed under voluntary management proposals without declaration.

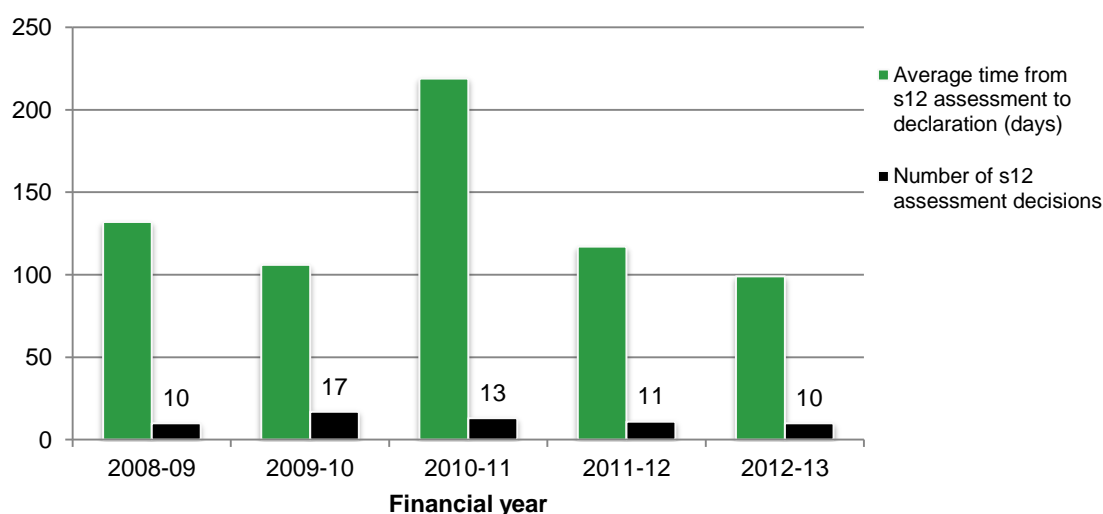
Records of formal decisions are documented in the s.12 database with review and sign off by the relevant manager. These decisions have largely been justified on the basis that this is most effective process for dealing with the site, but we have not seen evidence of clear rules to support this approach. Without it, there is a lack of transparency which could result in inconsistencies and poor regulation. An inconsistent approach may also leave the community and/or the environment vulnerable to the impact of significant contamination, if present.

Once the EPA declares a site, a management order or voluntary management proposal can be prepared to drive remediation. The EPA can also start recovering its costs and, if an order is issued, it can also issue penalty notices. The declaration is also a key communication tool informing public and key stakeholders of the significantly contaminated site. Considering all of these potential benefits, it is unclear as to why the EPA would wish to enter into other arrangements.

The value of declaring sites is highlighted in the 2003 review of the CLM Act report which states that declarations are intended to inform the public of the risk of harm. The EPA's internal procedures also support this by stating the purpose of issuing declarations is to inform stakeholders and obtain comments as to whether or not a management order should be issued or a voluntary proposal be approved by the EPA, within a period specified in the declaration.

Once the EPA decides to declare a site, there are delays in issuing the declarations. The average time to declare land significantly contaminated, following s.12 assessment decision, has come down in recent years but is still around 100 days as illustrated in the following graph.

Exhibit 13: Average time from s.12 assessment decision to declaration



Source: The EPA March 2014.

This variation in time to declare a site can be due to a range of factors. The EPA advises that these include complex issues arising from comments on the 'draft declaration' (for example, recipient opposing the declaration), delays due to ongoing works and changes in contaminant status of the site, which could necessitate a re-assessment, and consideration of additional information relating to a site.

The EPA advises procedural fairness is followed to ensure that people have the opportunity to comment or provide additional information for the EPA's consideration before a declaration is finalised. It contends that this approach reduces the risk of litigation. We note, however, that the CLM Act does not require the EPA to issue draft declarations, and that their use can result in excessive delays.

According to the EPA's internal procedures, sites that are not significantly contaminated are dealt with under the planning and development control process and administered by the planning authorities. However our review identified two sites that we consider should have been assessed as significantly contaminated but the EPA classed as 'contamination to be dealt with under the planning process'. The EPA decided not to declare or issue notices on these sites and has not reassessed these sites since its initial assessment (these sites were the Coolac service station and the former arsenic poison factory at Jennings where high concentrations of contaminants were notified to the EPA).

Other notified sites that the EPA also categorised as management class F in the public register are (in theory) managed through the planning approval process. However, many of these sites were assessed by the EPA over five years ago and it is unclear what their current status is.

Planning consent authorities are required to consider contamination where land is proposed for rezoning or development. However, where the planning process is called upon to address significant contamination, no public notification needs to be made. Generally the owner or developer of the land can take as much time as they need to address issues and the process may not require remediation works to be completed. In addition, on large sites, the planning process may not require contamination to be either identified or remediated on part/s of the site that is not subject to the planning process. For example, there may be a large former industrial site where the contamination is present on part of the site that is not proposed for development and may not be addressed for many years.

Recommendation

By March 2015, the EPA should revisit the status of sites characterised by significant contamination that have been classified as being managed through the planning process (that is, management class F sites).

The EPA advises that this process has already commenced.

There are also examples of notified sites that have not been declared or had notices issued but, following a review of documentation, we consider could have been regulated by the EPA (these include sites where fuel was identified on groundwater that could give rise to fire or explosion). These are:

- The Toll distribution centre at Villawood (decision to class it as 'site being assessed by EPA' – decision dated July 2007)
- The former Mobil depot at Coonabarabran (decision to class it as 'site being assessed by EPA' – decision dated July 2010)
- BP service station at Dubbo (decision to class it as 'EPA is awaiting further information to progress its initial assessment of this site' – decision dated December 2012)

The EPA is reluctant to declare residential properties that are significantly contaminated as a result of migration from an adjacent regulated site because of the negative implications for existing owners of the property. For example, a development adjoining the 7-Eleven service station at Randwick was not declared despite significant contaminated groundwater infiltration issues.

Exhibit 14: Case study: significant contamination on residential property

The EPA was notified of the contamination associated with the 7-Eleven Randwick Service Station in September 2008 and commenced the regulatory process in October 2008 when the draft declaration notice was issued for the service station site.

The main problem was the ingress of contaminated groundwater into a basement car park of a new development on a nearby property. This should not have happened because the planning consent was for a waterproof underground car park.

The EPA advises that it had no control over the development and chose not to declare the site. The EPA's approach is to have offsite residential contamination issues addressed through the regulation of the source site and appropriate dialogue with adjacent impacted properties, local government and relevant state agencies.

This site highlights the importance of the notation of factual information relating to residual contamination on planning certificates issued under s149 of the *Environmental Planning and Assessment Act 1979* to provide a means of informing future site owners of the contamination. It also highlights some limitations of third party assessment of developments as the EPA could not require the private certifier to acknowledge the contamination impacts on a nearby development.

Source: The EPA 2014.

The EPA advises that previous experience has shown that significant concern can be generated through the regulation of adjoining properties (particularly residential), including heightened concerns about health impacts that are not in proportion to the actual risks posed by the contamination and title blight issues associated with regulatory notices being placed on properties.

When a site is declared it remains indefinitely on the public record and land title and therefore can affect the valuation of the property. The EPA considers declaring residential sites as problematic and an unfair penalty for innocent owners not responsible for the contamination.

We note, however, that the EPA is prepared to declare adjoining commercial sites that have experienced significant contamination (for example, premises adjoining the Lawrence Dry Cleaners site in Waterloo). We also note that there is nothing in the CLM Act that exempts residential sites from being declared to protect residents and potential buyers.

The EPA also advises there are instances where it may delay declaring a site if an arrangement can be made where they are satisfied work towards remediation is being done. For example, an EPA letter on the Coffs Harbour Slipway stated that: "Provided timely progression of these actions is undertaken and regular updates on the outcomes of the works is submitted to the EPA, we are willing to postpone assessment of the site until remediation is complete." This means that the site may never be recorded in the public register as a significantly contaminated site.

The EPA advises that the slipway is an example of a site licensed under the POEO Act where Contaminated Sites Section is providing assistance to the EPA regional staff on the management of contamination issues. For such sites, the suitability of managing issues via an existing POEO Act licence is considered, noting that Contaminated Sites Section still has the option to assess and potentially regulate the contamination under the CLM Act if management via the licence is not a suitable option. The EPA is unable to provide statistics on the number of sites that are regulated this way because they have not been entered into their contaminated sites database for formal assessment.

The EPA advises that while postponing declaration is an exception, it provides a practical approach to site management where sufficient regulatory controls and/or oversight (for example, environment protection licence, development approval, site auditor involvement) provide confidence that contamination will be appropriately addressed. However, we consider the most practical approach to ensure sites are appropriately managed is to declare a site if the contamination is significant enough to warrant regulation. This would help ensure progress on the assessment of the extent of the contamination and the completion of remedial works. It would also ensure site details are communicated to the community.

The EPA advised that there are also 13 sites that it has determined as significantly contaminated that are regulated under the CLM Act without a declaration:

- 11 sites are subject to current voluntary proposals approved prior to the amendment of the CLM Act in 2008
- two sites are subject to Preliminary Investigation Orders.

A further 27 undeclared sites are subject to notices issued under s.35 of the EHC Act that are listed as current on the Contaminated Land Public Record. The Galvatech site at 49 Gow Street, Padstow, is the only current significantly contaminated site that is regulated under the POEO Act (Environment Protection Licence) without any regulatory involvement under the CLM Act. The EPA has not yet carried out an s.12 assessment of the Coffs Harbour Slipway site.

Recommendation

By March 2015, the EPA should implement a more standardised approach to the declaration of contaminated sites including:

- declaring all sites where the contamination meets criteria set out in the Duty to Report guidelines that classify the contamination significant enough to warrant regulation (or establish and communicate clear rules around whether a significantly contaminated site should be declared and when it can be managed under some other regulation or instrument)
- reviewing the need for draft declarations and timeframes for responses.

3.5 Public information about contaminated sites

We expected contaminated sites to be listed on a public register including information on all sites notified and assessed, and their risk level. Section 58 of the CLM Act requires the EPA to keep a public record of all current and former regulatory instruments issued under the Act.

The EPA maintains two lists of sites on its website that relate to contaminated land:

- A list of sites notified to the EPA under s.60 of the CLM Act with the address and classification of the site, but not the date of notification
- A public record of regulatory notices issued under the CLM Act as required under section 58 of that Act. This includes:
 - preliminary investigation orders (s.10)
 - declarations of significantly contaminated land (s.11)
 - management orders (s.14)
 - approved voluntary management proposals (s.17)
 - ongoing maintenance orders (s.28)
 - site audit statements furnished to the EPA that relate to land that is significantly contaminated land (s.53B).

The public record also includes notices issued under s.35 and 36 of its preceding Act, the EHC Act. Declarations are also published in the NSW Government Gazette.

The EPA classifies sites, in its list of sites notified to the EPA under s.60 of the CLM Act, as:

Exhibit 15: The EPA's management classes for notified sites

| Management Class | Explanation |
|------------------|---|
| A | Sites yet to be determined as significant enough to warrant regulation. |
| B | Sites awaiting further information to progress its initial assessment. |
| C | Sites that are or were regulated under the <i>Contaminated Land Management Act 1997</i> . |
| D | Sites that are or were regulated under the <i>Protection of the Environment Operations Act 1997</i> . |
| E | Sites with an operational underground petroleum storage system, such as a service station or fuel depot. The contamination of this site is managed under the <i>Protection of the Environment Operations Act 1997</i> and the <i>Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008</i> . |
| F | Sites where the contamination of this site is managed by a planning approval process. |
| G | Sites where the contamination of this site is considered by the EPA to be not significant enough to warrant regulatory intervention under the CLM Act. |
| H | Sites that have had a s.12 assessment and are to be regulated by the EPA. |

Source: The EPA website 2014.

Whilst some of these classes are useful to gauge the status of notified sites, others can be confusing, making it difficult to determine how many sites the EPA is actively regulating and their current status. For example:

- class C and D include contaminated sites and sites that have been remediated
- class E sites are those sites managed under two or more legislative instruments creating uncertainty around whether sites are being regulated under the CLMA Act, or the POEO Act, or the UPSS regulation.

The EPA acknowledged that it needs to clarify its classification of sites. It also notes that sites in the s.60 screening database can only have one class allocated whereas sites in the s.12 database can have multiple classes. It advises a new database upgrade project will improve consistency here to allow for a site to be allocated all applicable classes.

To the EPA's credit it publishes declarations, approved voluntary management proposals, and management orders on its website. These notices generally include milestones for the remediation of sites. The EPA could improve this feature further by providing information on the progress with the milestones for each site.

Recommendation

The EPA should improve and clarify public information on contaminated sites such that:

- management classes are revised to minimise confusion (by December 2014)
- progress on notified and regulated sites is clearer and more accessible (by June 2015)
- geographical information on the location of notified and regulated sites is available (by June 2015).

Data from several databases is used to develop the information on the public register. The existing databases have been developed at different times over a number of years in response to a need to manage information relating to a range of regulatory functions performed by the EPA's Contaminated Sites Section. These databases include the screening database, s.12 database, UPSS regulation database and GIS information currently accessed via ArcGIS. The disconnection between databases makes it difficult for the EPA to readily provide information on the sites it regulates and track progress with those sites.

A new database project is currently underway to combine and streamline the information held in the existing databases to deliver several benefits including:

- streamlined business processes within Contaminated Sites Section
- improved capacity to analyse data and report on the EPA Strategic Plan key performance indicators, compliance plans, project tracking data and data requests
- improved public availability of information (including spatial information).
- storing information relating to sites notified to the EPA under s.60 of the CLM Act
- conducting initial assessments of notified sites to prioritise them in terms of whether further assessment is required
- conducting assessments against matters listed under s.12 of the CLM Act to determine whether regulation is warranted
- recording site management actions.

Recommendation

By June 2015, the EPA should implement the combined database, currently being developed, to better manage the:

- prioritising and s.12 assessments of potentially contaminated sites
- monitoring of progress against agreed actions and milestones for declared sites
- storage and analysis of information needed to:
 - measure the EPA's performance against established timeframe targets
 - enable the EPA to construct accurate and complete record of its interventions
- public reporting including improved availability of information on the status of sites
- process for dealing with sites brought to its attention without a notification form being completed, which is not kept in the current system.

4. The EPA's monitoring and management of contaminated sites

How well does the Environment Protection Authority oversee the monitoring and management of significantly contaminated sites?

Findings: The EPA has overseen remediation on a range of significantly contaminated sites since the introduction of the CLM Act, from very large industrial sites to former service stations and workshops. Over the last decade, around 90 sites had been remediated to the EPA's satisfaction, with about 180 currently subject to active regulation.

The EPA has a range of tools available to it under the CLM Act and *Protection of the Environment Operations Act 1997* to direct parties to remediate contaminated sites. It has established processes for ensuring milestones are established for the remediation of sites.

The EPA adopts a collaborative approach with owners/polluters regarding the regulation of significantly contaminated sites. Over 70 per cent of sites are regulated with voluntary management proposals rather than management orders.

Ensuring compliance with proposals and orders is difficult because the EPA lacks management controls for ensuring regulated sites are actively monitored in relation to progress and key milestones. It currently uses several databases but they are not well integrated to fully support to its monitoring and public reporting functions, making it challenging to track the history of sites and progress with milestones. The EPA is currently developing a new integrated database to address this.

The EPA has a compliance policy that summarises its general approach to compliance and enforcement. However, the EPA's contaminated sites procedures do not provide guidance on how to escalate its regulatory activities when its collaborative approach is not working. For example, it does not have clear guidelines on when to issue warning letters, management orders and penalty notices. The EPA advises that its contaminated sites procedures manual, which provides advice on the application of regulatory tools, will be updated to include further information on escalating its regulatory approach to problem sites.

The CLM Act provides for the recovery of costs by the EPA for the preparation, monitoring and compliance action associated with an order or under an approved voluntary management proposal. However, the EPA does not currently take steps to recover its costs. Cost recovery is also restricted because current arrangements under the Contaminated Land Management Regulation 2013 do not allow for the full recovery of costs.

4.1 Regulatory tools available

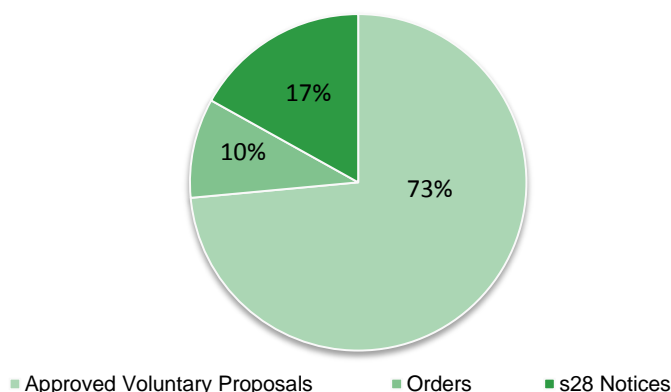
We examined whether the EPA uses a range of tools to appropriately assist and direct relevant parties to remediate contaminated sites.

The EPA has a range of tools at its disposal under the CLM Act and the POEO Act to direct parties to remediate contaminated sites. These tools include preliminary investigation orders, declarations, voluntary management proposals, management orders and ongoing maintenance orders. The EPA can also issue penalty notices and prosecute parties for failure to comply.

The EPA has discretion to choose which tools to use when regulating a contaminated site. This may be through the CLM Act or through a licence under the POEO Act, or as part of the planning process.

The EPA advises that there are around 200 sites with current notices. The majority of significantly contaminated sites are regulated with voluntary management proposals rather than management orders. This is where a person submits a proposal to the EPA for the management of a significantly contaminated site (a voluntary management proposal), which the EPA can approve. The EPA cannot issue penalties for failure to comply with a voluntary management proposal but it can issue a management order if an owner/polluter fails to act.

Exhibit 16: Proportion of sites regulated by approved voluntary management proposals and other regulatory tools, in the last five financial years



Source: The EPA March 2014

We note that there can be long delays in the issuing of approved voluntary management proposals. Along with delays in assessment and delays in declaring sites, this can further delay site remediation.

The EPA is able regulate contaminated sites on both privately and publicly owned land. Around 15 per cent of the sites it currently regulates are on government agency owned land. The following table presents the sites that have been assessed under the CLM Act as being significantly contaminated.

Exhibit 17: Number of sites regulated by the EPA under the CLM Act

| Landowner type | Number of regulated sites |
|---------------------------|---------------------------|
| Private | 133 |
| Council | 15 |
| Crown land (DTIRIS) | 4 |
| Other government agencies | 23 |
| Federal | 3 |
| Total | 178 |

Source: The EPA April 2014.

Note: excludes sites with s.35 EHC Act notices – The EPA advises there are 27 sites that have s.35 notices listed as being 'current' on the contaminated land public record.

The EPA has not declared any derelict mines or former cattle dip sites as significantly contaminated under the CLM Act. It should be noted that the NSW Government has established specific programs for the management of these two particular issues. However, it is unclear as to why the more significant sites have not been notified, assessed and declared.

The EPA advised that cattle dip sites are managed by DTIRIS, and that its position has been that none of the approximately 1650 dip sites pose a significant risk to human health or the environment. The EPA has not re-examined these sites since the late 1990's and we are yet to see evidence to indicate that all existing sites are a low risk and that the EPA has endorsed the established decommissioning process.

The EPA did regulate 12 cattle dip sites which predate the CLM Act (regulation was under the now repealed Part 5 of the EHC Act, with the notices being carried forward via savings under the CLM Act). Notices are current for only five of these sites. To date the EPA has assessed five of the EHC Act regulated dip sites under s.12 of the CLM Act and none have been found to be significantly contaminated.

Recommendation

By June 2015, the EPA should revisit the oversight of cattle dip sites and derelict mines to satisfy itself that these sites are being well managed.

The EPA advises that its staffing costs associated with regulating contaminated sites are estimated to be \$2.6 million in 2013-14, including staff involved in implementing the UPSS regulation and the site auditor scheme. However, it does not currently have a good understanding of its other costs such as office accommodation, transport, IT systems and administrative support.

Under s.34 of the CLM Act the EPA may recover all or any of the costs associated with administering management orders and voluntary management proposals. The EPA's internal procedures also allow for the recovery of these costs.

Exhibit 18: Recovery of the EPA's costs under section 34 of the CLM Act

The EPA may, by notice in writing, require a person to pay (at the prescribed rate or amount, or if no such rate or amount is prescribed, at a reasonable rate or amount) all or any costs incurred by the EPA in connection with any one or more of the following:

- (a) preparing and serving an order under this Part to which the person is subject or in assessing and settling the terms of any voluntary management proposal to which the person is a party,
- (b) monitoring action under such an order or under an approved voluntary management proposal to which the person is an approved party within the meaning of section 17,
- (c) seeking the compliance of the person with any such order or approved voluntary management proposal,
- (d) any other matter associated with, or incidental to, the matters set out in paragraphs (a)-(c),
- (e) any other matter prescribed by the regulations.

At June 2013, the EPA reported that:

- it has only applied administration costs to highly complex and extensively contaminated sites that require considerable time for the EPA to regulate
- currently New South Wales taxpayers, via the EPA, contribute a large proportion of the cost of maintaining the CLM framework.

The EPA advises that it is currently investigating options to increase the implementation of cost recovery provisions under the CLM Act, which have been used to a limited degree in past years.

It should be noted that the EPA can only recover costs incurred with administering management orders and voluntary management proposals if a site is declared significantly contaminated. Therefore declaring a site is not only important for communication but is also critical for cost recovery. Cost recovery is also restricted because current arrangements under the Contaminated Land Management Regulation 2013 do not allow for the full recovery of costs. The EPA advises it plans to establish a special deposit account for CLM related revenue to assist with this cost recovery.

Recommendation

By December 2015, the EPA should:

- gain a better understanding of its costs and develop procedures that support the recovery of costs
- begin recovering costs for those sites that require additional administrative work because of their complexity or the non-cooperation of owners/ polluters.

The NSW Environmental Trust is an independent statutory body established by the NSW Government to fund a broad range of projects that enhance the environment. The Environment Trust Contaminated Land Management Program (CLM Program) allows for the remediation of contaminated sites that may pose a major risk to human health and the environment. The Trust approved funding for the CLM Program for three years until 2013-14, with up to \$2 million available per year to investigate and remediate contaminated sites.

The CLM Program initially focused on sites where existing site owners did not cause the contamination on their properties and did not have the resources to undertake remediation (Innocent Owner Program). In 2005, the program was expanded to include investigation and remediation of council gasworks sites (Council Gasworks Program). The program aimed to assist Councils to remediate former gasworks sites for which they were legally responsible under the CLM Act.

Exhibit 19: CLM Program funding in the rehabilitation of the Bathurst gasworks site

The Bathurst Regional Council used a parcel of Crown land to produce gas from 1888 until 1986. The interests in the site were ceded to AGL Western Limited in 1988 with a special lease to continue using the land for 40 years for the purpose of gas related business.

The site was notified to the EPA in 2000, and in 2004 it declared the site significantly contaminated with chemicals including polycyclic aromatic hydrocarbons (PAHs), benzene and cyanide. A voluntary management proposal was agreed with the Council in July 2006.

The Council completed some remediation work completed in 2009 with funding exceeding \$500,000 from the NSW Environmental Trust. Future works are dependent on the availability of funds and reaching an agreement with the EPA.

A new voluntary management proposal needs to be prepared so that this can occur in stages. It is not known when funding will become available to allow this to occur and the restoration completed. The existing 'current' voluntary management proposal required remediation works to have been completed by 2007.

The EPA advises that the remediation work to date has dealt with the worst of the contaminated material, and the off-site risks have been minimised.

Source: The EPA and DTIRIS 2014.

The availability of funds is, of course, usually dependent on whether owners or polluters decide to make rehabilitation work a priority. If excessive delays do occur, the EPA has the option to enforce remediation by issuing management orders.

Since 2011-12 the CLM Program has also included a pilot program regarding derelict UPSS issues (UPSS Program) where regional Councils have found themselves responsible for abandoned underground petroleum storage systems in road reserves.

4.2 Compliance and enforcement

We examined whether the EPA takes appropriate action when contaminated sites are not being managed in accordance with legislation, voluntary management proposals, orders, and guidelines.

The EPA's 2013-16 Strategic Plan states that it needs to take effective regulatory action to address identified non-compliances using the appropriate regulatory tools, including education and awareness programs, warning letters, statutory notices, enforceable undertakings and prosecutions.

The EPA's Compliance Policy, which is publicly available on its website, summarises the EPA's general approach to compliance and enforcement. The policy states that the EPA:

- makes informed regulatory decisions that ensure its compliance and enforcement activities focus on the biggest risks to the environment and health and target those businesses and people least likely to comply.
- escalates its regulatory response according to the risk to the environment and human health, the seriousness of the non-compliance, the apparent attitude to compliance, and the compliance history and frequency of issues arising.

The EPA does not have a clear escalation policy for responding to instances of non-compliance with notices. For example, there is no guidance within the EPA's internal procedures on when a voluntary management proposal should be elevated to a management order or when a penalty notice should be issued if an owner or polluter is not complying.

Ensuring compliance with proposals and orders is difficult because the EPA lack controls for ensuring regulated sites are actively monitored in relation to progress and key milestones. It currently uses several databases but they are not well integrated to fully support to its monitoring and public reporting functions, making it challenging to track the history of sites and progress with milestones. The s.12 database enables officers to set tasks with a due date and the generation of reports listing outstanding tasks. However, this database tool is currently not well used.

The EPA advises that officers currently use a range of tools for tracking projects, including electronic calendars and spreadsheets but acknowledges that a more standardised approach to tracking projects is required. To this end, improved project tracking functionality is planned for the upgraded database along with procedures to improve consistency in project tracking within the Section.

The EPA can issue a penalty notice for offences including failure to:

- report contamination to the EPA
- comply with preliminary investigation order, management order and ongoing maintenance orders.

To date, the EPA has not issued any penalty notices or prosecutions under the CLM Act to ensure sites are notified, assessed and remediated in a timely manner. It advises that breach reports have previously been prepared but have not resulted in prosecution.

Since July 2013, the EPA has kept tally of the number of warning/official caution letters issued. It has issued four warning/official caution letters since then. The EPA advised that while numbers are not readily available for earlier years, a similar rate of issue of warning/official caution letters would be expected for the last 10 years.

In 2013 the EPA reported that, since the CLM Act's introduction, it has adopted an educative and collaborative approach but it intends to move towards using a mix of regulatory tools in the future, including penalties, to ensure that obligations under the CLM Act are being met.

The sites we examined highlighted:

- an instance where due dates for key milestones in approved voluntary management proposals have not been followed up in a timely manner (that is, Jacksons Place where site work was scheduled for late December 2012 but was not followed up till late July 2013).
- four sites that experienced extensive delays, although three were due in part to the complexity of these sites
- an instance where the EPA could have issued a management order following a breach but chose to continue with an approved voluntary management proposal (that is, former AGL gasworks Clyde St Hamilton)
- warning letters issued for non-compliances ranging from delays in reporting to potentially serious breaches.

Recommendation

By December 2015, the EPA should implement a clear escalation policy that covers the issuing of warning letters, management orders and/or penalty notices on sites for failures to meet certain conditions (that is, proportional to the severity of those failures).

4.3 Validation of site remediation

We examined whether the EPA ensures that remediation reduces the risk of harm to the environment and human health to acceptable levels.

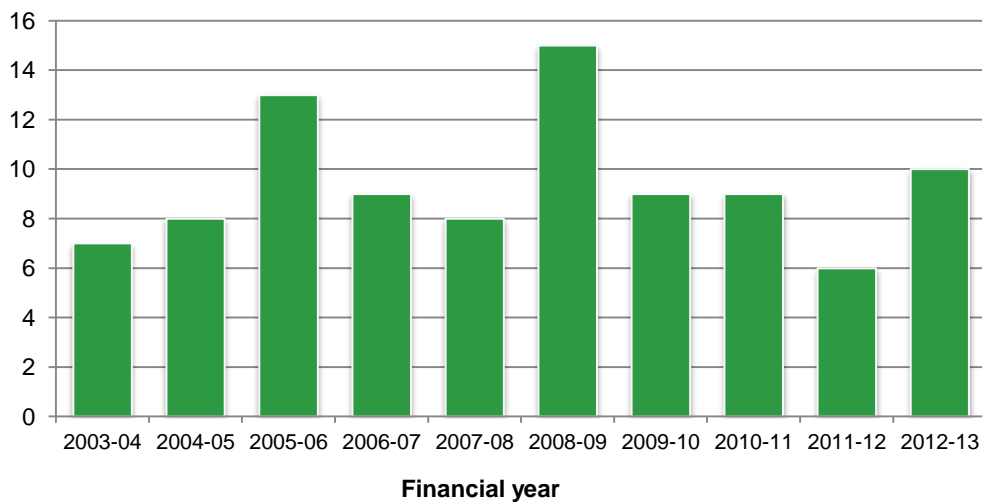
We found that the EPA has processes in place for checking remediation outcomes of sites it regulates.

The EPA's internal procedures state that land is no longer considered significantly contaminated once the requirements of a management order or a voluntary management proposal have been complied with to the satisfaction of the EPA. The procedures also provide information on post-remediation management and the completion of regulation under the CLM Act.

Declarations, management orders and voluntary management proposals can be revoked by the EPA following a s.12 assessment of the site. If the s.12 assessment indicates that the contamination is no longer significant, the EPA will revoke the instruments. The decision is recorded in the s.12 database, signed off by management, and the public register is updated to reflect these changes.

The EPA has overseen the remediation of a range of contaminated sites in collaboration with landholders. Over the last decade, around 90 sites have been remediated under the CLM Act.

Exhibit 20: Number of sites remediated under CLM Act in the last 10 years



Source: The EPA March 2014.

Even though a decision has been made to no longer declare these sites as significantly contaminated, there are some cases where ongoing management is appropriate. In these instances, the EPA can issue an ongoing maintenance order under s.28 of the CLM Act. For example, the ongoing management of seven Sydney Olympic Park former landfills is regulated by the EPA via a s.28 notice. As at June 2014, the EPA had 34 ongoing maintenance orders in place.

It should be noted that revocation of a declaration does not necessarily mean that a site has been rehabilitated. It may still contain contaminated material but no longer presents a risk to human health or the environment given its present use. For example, some sites are fenced and well vegetated with a low risk of material moving off site. Other sites may have localised contamination of groundwater but do not present a risk to adjoining premises.

4.4 Communication with key stakeholders

National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM) highlights the importance of stakeholder and community involvement in the effective management of contaminated sites. It states that this should be considered at the initial evaluation stage, once a potentially contaminated site has been identified. It also highlights the need for careful planning and the need to evaluate the effectiveness of communication throughout the process.

According to NEPM, a communication plan answers the following questions:

- why do you need to communicate? (purpose of communication)
- who do you need to communicate with? (target audience/s)
- what is your message? (what you need to say or what information you need to gather)
- how will you communicate? (communication methods and tools)
- how will you use the information you gather? (evaluate and review)

The NEPM states that community engagement should address:

- the extent of community engagement undertaken, which should be documented and justified
- details of the engagement process including names of potential stakeholders (individuals and groups) who were identified and invited to participate, method or techniques of engagement used, names of community members who participated, details of how, when and where engagement was carried out
- information provided to the community and the availability of all documentation to the community
- input and comments received from the community and how the community's input was considered and incorporated in the decision-making process

We examined whether the EPA keeps the public and key stakeholders informed of progress and outcomes of contaminated site remediation as outlined in the EPA's internal procedures.

The EPA informs key stakeholders of regulatory decisions via:

- correspondence and updates of the public register to reflect changes in the regulatory status of a site (for example, declaration, approval of a voluntary management proposal, issuing an order, completion of regulatory actions)
- publishing the list of sites notified on its website, which is updated monthly to reflect changes in management class that may have occurred for sites in that list.
- media releases and letters to the local community
- attending community meetings such as the Orica Botany Community Liaison Committee and Orica Villawood community meetings.

However, we have not seen plans, guidelines and supporting tools (such as checklists) to ensure the EPA can oversee the provision of consistent, relevant and timely information to key stakeholders, such as the relevant Council, NSW Health, Workcover, Office of Water and community groups.

Improvements could also be made in notification to utilities after the EPA becomes aware of a potential contamination risk under the CLM Act. Currently the EPA requests the polluter to notify potentially affected utilities but this may not occur or only occur after delay.

The EPA advises it has recently established a dedicated communications/public affairs unit that assist with informing the community of contaminated sites that are identified as requiring specific community engagement.

Recommendation

By March 2015, the EPA should develop plans, guidelines and tools to ensure a more structured approach to communication with key stakeholders and the public during the assessment and remediation of sites.

We also examined how DTIRIS communicates information on its contaminated sites on Crown lands. DTIRIS advised that communication strategies may be developed for individual or classes of contamination and tailored according to the contamination case.

DTIRIS has emphasised the importance of effective communication strategies for coordinating the efforts of key stakeholders such as councils and public utilities. Their importance was highlighted by the recent sewerage leak in Belmore Basin at Wollongong Harbour where Wollongong City Council, Sydney Water Corporation and the EPA were kept informed of the situation.

We looked at whether DTIRIS implemented timely communication plans for the Urunga and Coffs Harbour Slipway sites. In both instances there were delays in the preparation and implementation of plans and in informing the community.

For example, the EPA became aware of contamination at the slipway in late 2011, through a compliance audit, however DTIRIS did not formally notify the site until December 2013. DTIRIS issued its first media release on the site, informing the closure of the slipway for remediation, in March 2014. It advises that consultation had been occurring prior to this date and a community working group has been established. A communications strategy for the site was adopted in May 2014.

We noted some variation in the quality of communications plans. For example, the plan for Urunga does not outline communication objectives, does not specify which communication tool to use on with each target audience and has no information on implementation or reporting on milestones. The communications plan for the Coffs Harbour Slipway, however, contains all of these key features.

Recommendation

By December 2014, DTIRIS should develop processes for ensuring timely communication plans for individual or classes of contamination that are tailored according to the contamination case.

Appendices

Appendix 1: About the audit

This audit aimed to assess how well the risks associated with contaminated sites are being managed.

It examined the management of contaminated sites on both private and public land under the CLM Act. The auditees were the Environment Protection Authority, as regulator under the CLM Act, and the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS) as the largest landholder (by area) in New South Wales.

As part of this audit, we issued a survey questionnaire to 35 government agencies with land holdings valued in excess of \$100 million to better understand how agencies identify and manage the risk of potentially contaminated land they own, manage, lease or intend to buy.

By 'government agencies' we mean New South Wales government departments, State owned corporations, statutory authorities, universities and other state government bodies.

The Audit Office does not have the mandate to review local government, a key regulator under state planning laws.

The current audit did not examine:

- how contaminated sites are managed under state planning laws (that is, the *Environmental Planning and Assessment Act 1979* and State Environment Planning Policy 55 – Remediation of Land)
- activities to limit future contamination (that is, processes to prevent pollution from current and new commercial and industrial activities)
- the appropriateness of technical solutions for rehabilitating contaminated sites.

However, commentary on these issues is included within the report where they affect findings or provide context.

Details of our approach to selecting topics and our forward program are available on our website.

Audit methodology

Our performance audit methodology is designed to satisfy Australian Audit Standards ASAE 3500 on performance auditing, and to reflect current thinking on performance auditing practices. Our processes have also been designed to comply with the auditing requirements specified in the *Public Finance and Audit Act 1983*.

Acknowledgements

We gratefully acknowledge the co-operation and assistance provided by the EPA and DTIRIS. In particular we wish to thank our liaison officers and staff who participated in interviews and provided material relevant to the audit. We also wish to thank consultant William Ryall who provided expert advice and input through the audit.

Audit team

Jasmina Munari and Neil Avery conducted the performance audit. Sean Crumlin provided direction and quality assurance.

Audit cost

Including staff costs, printing costs and overheads, the estimated cost of the audit is \$442,000.

Appendix 2: Recommendations

Specific recommendations in the body of the report

DTIRIS should:

1. by December 2014, develop policies and procedures to minimise the risks and liabilities associated with contaminated land during the purchasing, selling, leasing or transferring of Crown land. These could include:
 - having the owner of land carrying out environmental baseline investigations prior to DTIRIS purchasing land
 - having DTIRIS carry out environmental baseline investigations prior to selling land
 - having the previous lessee carry out environmental baseline investigations prior to DTIRIS leasing land (based upon risk and land value)
 - special contract clauses disclosing the condition of land at transaction point
 - securing a bond / financial assurance for potentially contaminating activities conducted on leased Crown land
 - environmental management lessee conditions and ongoing monitoring. (page 21)
2. By December 2015, DTIRIS should develop a comprehensive plan for ongoing investigation, assessment and management of its known and suspected contaminated sites, including prioritisation processes, timeframes and resources to achieve this. (page 23)
3. by September 2014, assess its sites ranked as high risk, as a matter of urgency, and notify those that meet the reporting requirements under s.60 of the CLM Act (page 24)
4. by December 2014, ensure that the impact of contamination is considered in the valuation of Crown land and a provision made for remediation for contaminated land, particularly for those sites that have been investigated such as Coffs Harbour Slipway and the former antimony processing plant in Urunga (page 25)
5. by June 2015, implement the recommendations from its internal review of Derelict Mines Program targeted at improving program performance and integrity (page 26)
6. by June 2015, review the currency of the cattle dip site program including:
 - the risks associated with cattle dip sites due to changing factors, including urban encroachment and changes of land use
 - revisiting its methodology for selecting sites for decommissioning
 - updating its information on the status of dip sites. (page 28)
7. by September 2014, confirm with relevant local Councils that former cattle tick dip sites are recorded on the s149 certificate issued under the *Environmental Planning and Assessment Act 1979* for affected parcels of land (page 28)
8. by December 2014, develop processes for ensuring timely communication plans for individual or classes of contamination that are tailored according to the contamination case (page 48).

The EPA should:

1. by September 2015, in consultation with key landholding agencies, develop a set of model procedures for the identification and management of contaminated sites (page 28)
2. by December 2014, review its process for dealing with sites brought to its attention without a notification form being completed and its means of recording the details, including how each lead is acquitted (page 31)
3. by June 2015, develop and implement key performance indicators to measure its success, including target timeframes for acknowledging notified sites, conducting s.12 assessments, issuing declarations, finalising voluntary management proposals and management orders, and monitor its performance through its newly developed database (page 32)
4. by December 2014, implement a streamlined process for prioritising and assessing sites notified under the CLM Act (page 35)
5. by March 2015, develop a program, including timeframes, to eliminate the backlog of notified sites that are yet to be assessed. This should include the issuing of preliminary investigation orders for those sites that fail to provide the necessary information in a timely manner (page 35)
6. by March 2015, revisit the status of sites characterised by significant contamination that have been classified as being managed through the planning process (that is, management class F sites) (page 36)
7. by March 2015, implement a more standardised approach to the declaration of contaminated sites including:
 - declaring all sites where the contamination meets criteria set out in the Duty to Report guidelines that classify the contamination significant enough to warrant regulation (or establish and communicate clear rules around whether a significantly contaminated site should be declared and when it can be managed under some other regulation or instrument)
 - reviewing the need for draft declarations and timeframes for responses (page 38)
8. improve and clarify public information on contaminated sites such that (page 40):
 - management classes are revised to minimise confusion (by December 2014)
 - progress on notified and regulated sites is clearer and more accessible (by June 2015)
 - geographical information on the location of notified and regulated sites is available (by June 2015)
9. by June 2015, should implement the combined database, currently being developed, to better manage the:
 - prioritising and s.12 assessments of potentially contaminated sites
 - monitoring of progress against agreed actions and milestones for declared sites
 - storage and analysis of information needed to:
 - measure the EPA's performance against established timeframe targets
 - enable the EPA to construct accurate and complete record of its interventions
 - public reporting including improved availability of information on the status of sites
 - process for dealing with sites brought to its attention without a notification form being completed, which is not kept in the current system (page 40)

10. by June 2015, revisit the oversight of cattle dip sites and derelict mines to satisfy itself that these sites are being well managed (page 43)
11. by December 2015:
 - gain a better understanding of its costs and develop procedures that support the recovery of costs
 - begin recovering costs for those sites that require additional administrative work because of their complexity or the non-cooperation of owners/ polluters. (page 44)
12. by December 2015, implement a clear escalation policy that covers the issuing of warning letters, management orders and/or penalty notices on sites for failures to meet certain conditions (that is, proportional to the severity of those failures) (page 46)
13. by March 2015, develop plans, guidelines and tools to ensure a more structured approach to communication with key stakeholders and the public during the assessment and remediation of sites (page 48).

Appendix 3: Glossary of terms

The definition of the terms below are based on the definitions provided in the *Contaminated Land Management Act 1997*

Contamination of land, for the purposes of the CLM Act, means the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.

Harm means, in relation to the contamination of land, harm to human health or some other aspect of the environment (including any direct or indirect alteration of the environment that has the effect of degrading the environment), whether in, on or under the land or elsewhere.

Land includes water on or below the surface of land and the bed of such water.

Management of land or of contamination of land means management in relation to the actual or possible contamination of the land, including investigation into the existence, nature and extent of contamination of the land and remediation of contaminated land.

Management order: A management order is served to direct a person to do one or both of the following in relation to significantly contaminated land, within such reasonable time as is specified in the order:

- (a) carry out any action regarding the management of the land as specified in the order
- (b) submit for the EPA's approval a plan of management of the land.

Ongoing maintenance order: When land that has been the subject of a management order or an approved voluntary management proposal (whether or not the land is significantly contaminated land) the EPA may by order in writing direct the person to carry out any ongoing management of the land that is specified in the order.

Preliminary investigation order: The EPA may, by order in writing direct the person to conduct a preliminary investigation of land specified in the order within the time specified in the order to:

- investigate whether the land is contaminated with the substances specified in the order
- investigate the nature and extent of any such contamination
- provide to the EPA such information with respect to the investigation as it may require.

POEO Act *Protection of the Environment Operations Act 1997*

Remediation of contaminated land includes:

- preparing a long-term management plan (if any) for the land, and
- removing, dispersing, destroying, reducing, mitigating or containing the contamination of the land, and
- eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Significant contamination or significantly contaminated land

If the EPA has reason to believe that land is contaminated and that the contamination is significant enough to warrant regulation, the EPA may declare the land to be significantly contaminated land.

Voluntary management proposal

Where one or more persons furnish the EPA with a proposal for the management of significantly contaminated land.

Appendix 4: Survey respondents

1. New South Wales Land and Housing Corporation
2. Department of Education and Communities
3. Rail Corporation New South Wales
4. Roads and Maritime Services
5. Department of Premier and Cabinet (National Parks and Wildlife Service, Taronga Conservation Society)
6. Parramatta Park Trust
7. NSW Ministry of Health
8. Corporation Sole 'Minister Administering the Environmental Planning and Assessment Act 1979'
9. Forestry Corporation of NSW
10. Sydney Water Corporation
11. Landcom
12. Sydney Olympic Park Authority
13. Aboriginal Housing Office
14. Western Sydney Parklands Trust
15. Department of Family and Community Services
16. Centennial Park and Moore Park Trust
17. NSW Police Force
18. Department of Attorney General and Justice
19. TransGrid
20. Newcastle Port Corporation
21. Government Property NSW
22. Barangaroo Delivery Authority
23. Ausgrid
24. Transport for NSW (three divisions)
25. Royal Botanic Gardens and Domain Trust
26. Sydney Ports Corporation
27. State Transit Authority
28. Fire and Rescue NSW
29. Historic Houses Trust of New South Wales
30. Hunter Water Corporation
31. Cobbora Holding Company Pty Limited
32. City West Housing Pty Limited
33. Lord Howe Island Board
34. Port Kembla Port Corporation.

Performance auditing

What are performance audits?

Performance audits determine whether an agency is carrying out its activities effectively, and doing so economically and efficiently and in compliance with all relevant laws.

The activities examined by a performance audit may include a government program, all or part of a government agency or consider particular issues which affect the whole public sector. They cannot question the merits of government policy objectives.

The Auditor-General's mandate to undertake performance audits is set out in the *Public Finance and Audit Act 1983*.

Why do we conduct performance audits?

Performance audits provide independent assurance to parliament and the public.

Through their recommendations, performance audits seek to improve the efficiency and effectiveness of government agencies so that the community receives value for money from government services.

Performance audits also focus on assisting accountability processes by holding managers to account for agency performance.

Performance audits are selected at the discretion of the Auditor-General who seeks input from parliamentarians, the public, agencies and Audit Office research.

What happens during the phases of a performance audit?

Performance audits have three key phases: planning, fieldwork and report writing. They can take up to nine months to complete, depending on the audit's scope.

During the planning phase the audit team develops an understanding of agency activities and defines the objective and scope of the audit.

The planning phase also identifies the audit criteria. These are standards of performance against which the agency or program activities are assessed. Criteria may be based on best practice, government targets, benchmarks or published guidelines.

At the completion of fieldwork the audit team meets with agency management to discuss all significant matters arising out of the audit. Following this, a draft performance audit report is prepared.

The audit team then meets with agency management to check that facts presented in the draft report are accurate and that recommendations are practical and appropriate.

A final report is then provided to the CEO for comment. The relevant minister and the Treasurer are also provided with a copy of the final report. The report tabled in parliament includes a response from the CEO on the report's conclusion and recommendations. In multiple agency performance audits there may be responses from more than one agency or from a nominated coordinating agency.

Do we check to see if recommendations have been implemented?

Following the tabling of the report in parliament, agencies are requested to advise the Audit Office on action taken, or proposed, against each of the report's recommendations. It is usual for agency audit committees to monitor progress with the implementation of recommendations.

In addition, it is the practice of Parliament's Public Accounts Committee (PAC) to conduct reviews or hold inquiries into matters raised in performance audit reports. The reviews and inquiries are usually held 12 months after the report is tabled. These reports are available on the parliamentary website.

Who audits the auditors?

Our performance audits are subject to internal and external quality reviews against relevant Australian and international standards.

Internal quality control review of each audit ensures compliance with Australian assurance standards. Periodic review by other Audit Offices tests our activities against best practice.

The PAC is also responsible for overseeing the performance of the Audit Office and conducts a review of our operations every four years. The review's report is tabled in parliament and available on its website.

Who pays for performance audits?

No fee is charged for performance audits. Our performance audit services are funded by the NSW Parliament.

Further information and copies of reports

For further information, including copies of performance audit reports and a list of audits currently in-progress, please see our website www.audit.nsw.gov.au or contact us on 9275 7100

Performance audit reports

| No | Agency or issues examined | Title of performance audit report or publication | Date tabled in parliament or published |
|-----|--|--|--|
| 245 | Environment Protection Authority Department of Trade and Investment, Regional Infrastructure and Services | <i>Managing contaminated sites</i> | 10 July 2014 |
| 244 | Office of Finance and Services Department of Education and Communities Forestry Corporation of NSW Fire and Rescue NSW NSW Businesslink Pty Ltd Essential Energy Sydney Trains | <i>Making the most of Government purchasing power – Telecommunications</i> | 26 June 2014 |
| 243 | NSW Treasury | <i>Use of purchasing cards and electronic payment methods</i> | 5 June 2014 |
| 242 | NSW Police Force | <i>Effectiveness of the new Death and Disability Scheme</i> | 22 May 2014 |
| 241 | Road and Maritime Services | <i>Regional Road funding – Block Grant and REPAIR programs</i> | 8 May 2014 |
| 240 | NSW State Emergency Service | <i>Management of volunteers</i> | 15 April 2014 |
| 239 | Fire and Rescue NSW NSW Rural Fire Service | <i>Fitness of firefighters</i> | 1 April 2014 |
| 238 | Transport for NSW Department of Attorney General and Justice Department of Finance and Service Roads and Maritime Services NSW Police Force Department of Education and Communities | <i>Improving legal and safe driving among Aboriginal people</i> | 19 December 2013 |
| 237 | Department of Education and Communities | <i>Management of casual teachers</i> | 3 October 2013 |
| 236 | Department of Premier and Cabinet Ministry of Health – Cancer Institute NSW Transport for NSW – Rail Corporation NSW | <i>Government Advertising 2012-13</i> | 23 September 2013 |
| 235 | NSW Treasury NSW Police Force NSW Ministry of Health Department of Premier and Cabinet Department of Attorney General and Justice | <i>Cost of alcohol abuse to the NSW Government</i> | 6 August 2013 |
| 234 | Housing NSW NSW Land and Housing Corporation | <i>Making the best use of public housing</i> | 30 July 2013 |
| 233 | Ambulance Service of NSW NSW Ministry of Health | <i>Reducing ambulance turnaround time at hospitals</i> | 24 July 2013 |
| 232 | NSW Health | <i>Managing operating theatre efficiency for elective surgery</i> | 17 July 2013 |
| 231 | Ministry of Health NSW Treasury NSW Office of Environment and Heritage | <i>Building energy use in NSW public hospitals</i> | 4 June 2013 |

| No | Agency or issues examined | Title of performance audit report or publication | Date tabled in parliament or published |
|-----|---|---|--|
| 230 | Office of Environment and Heritage - National Parks and Wildlife Service | <i>Management of historic heritage in national parks and reserves</i> | 29 May 2013 |
| 229 | Department of Trade and Investment, Regional Infrastructure and Services – Office of Liquor, Gaming and Racing Independent Liquor and Gaming Authority | <i>Management of the ClubGRANTS scheme</i> | 2 May 2013 |
| 228 | Department of Planning and Infrastructure Environment Protection Authority Transport for NSW WorkCover Authority | <i>Managing gifts and benefits</i> | 27 March 2013 |
| 227 | NSW Police Force | <i>Managing drug exhibits and other high profile goods</i> | 28 February 2013 |
| 226 | Department of Education and Communities | <i>Impact of the raised school leaving age</i> | 1 November 2012 |
| 225 | Department of Premier and Cabinet Division of Local Government | <i>Monitoring Local Government</i> | 26 September 2012 |
| 224 | Department of Education and Communities | <i>Improving the literacy of Aboriginal students in NSW public schools</i> | 8 August 2012 |
| 223 | Rail Corporation NSW Roads and Maritime Services | <i>Managing overtime</i> | 20 June 2012 |
| 222 | Department of Education and Communities | <i>Physical activity in government primary schools</i> | 13 June 2012 |
| 221 | Community Relations Commission For a multicultural NSW Department of Premier and Cabinet | <i>Settling humanitarian entrants in NSW: services to permanent residents who come to NSW through the humanitarian migration stream</i> | 23 May 2012 |
| 220 | Department of Finance and Services NSW Ministry of Health NSW Police Force | <i>Managing IT Services Contracts</i> | 1 February 2012 |

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A list of performance audits tabled or published since March 1997, as well as those currently in progress, can be found on our website www.audit.nsw.gov.au.

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