FINAL REPORT
Evaluation of the Environmental Trust Contaminated Land Management Program

May 2017

NSW GOVERNMENT

Enquiries

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List of acronyms

EPA	NSW Environmental Protection Authority
NSW	New South Wales
UPSS	Underground Petroleum Storage System

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1 Executive Summary

Contaminated land management is a large, complex and costly issue. Contamination can come from a wide range of sources and is the responsibility of many different land holders. In NSW, it is estimated that the cost for addressing all notified contaminated sites alone is between $100 million and $200 million per year. The Environmental Trust has been funding a contaminated land management program in some form since 2001. Most recently, the Trust provided $12 million over six years to investigate and remediate specific types of contaminated sites. The Trust has also funded capacity building and education programs, and a program to gather information on sites notified to the EPA.

The Commission was engaged by the Environmental Trust to evaluate the most recent six year period of the program, which was delivered under two business plans. The evaluation considered how the program was delivered against these plans, as well as how the program strategically aligns with Trust objects and principles, and fits within the broader contaminated land context.

Some positive outcomes have been achieved by particular subprograms, such as those that provided "seed funding" to respond to, or organise response to, large, urgent contamination issues. The Regional Capacity subprogram has shown some promising capacity building and knowledge sharing. However, evidence indicates that other subprograms in many cases are likely to have achieved minimal outcomes or evidence was too limited to determine the outcomes.

In its current form, the program is not fully consistent with the Trust's policies or the principles of good practice in general, and is not the most effective or appropriate use of Trust funds. The Commission therefore recommends that the Trust strategically re-evaluate if, and how, it should invest in contaminated land management, taking account of its own policies and objects, as well as its ability to have an impact on contamination issues.

Further, any future programs should be redesigned to better target funds to areas most likely to achieve desired outcomes and to better align the program design, governance and administration with good practice. The program is most likely to achieve desired outcomes if it:

- provides genuine "seed funding" that leverages considerable co-contribution for high-impact projects for which recipients take ownership
- focusses on genuine pilot studies that test new approaches and provide "proof of concept"
- provides long-term capacity building and education.

Several areas related to program delivery and design can be improved including:

- administrative and financial oversight
- improving risk-based program design
- clarity of program logic
- monitoring and reporting requirements and adaptive management
- governance arrangements.

2 Recommendations

Recommendations

Recommendations for strategic design of future programs

1. Undertake a rigorous strategic assessment before funding any contaminated land management program, including:
    - Evaluate any future proposals in the context of broader state-wide contaminated land management issues, including those described within this report.
    - Assess potential contaminated land management programs through the major projects biennial prospectus process, so that they are evaluated relative to other funding options available to the Trust for achieving its objectives.
    - Consistently assess whether proposed programs would substantially fund core business of another agency as described in the Trust's core business policy.
    - Ensure application of any exception to the core business policy is consistent with Trust guidance and fully evaluated.
    - Assess the likely impact of available Trust funds relative to the contaminated land management problem targeted.
2. For on-ground projects, maintain flexibility to address projects across the full range of potential contaminated land scenarios, with clear funding criteria that prioritises sites consistent with Trust's desired outcomes. In particular:
    - Target projects where Trust funds:
        - are genuinely likely to provide "seed funding"
        - allow coordination of greater action and funding
        - provide information needed for others to make further investment.
    - Enhance requirements for co-contributions and ensure they are consistently applied.
    - Apply the "innocent owner" criteria rigorously and consistently.
3. For any future funding of pilot programs or research funding:
    - Clearly identify the evidence-based need and outcomes being sought by the pilot study and ensure the design is consistent with achieving the desired outcomes.
    - Allow for flexibility to ensure pilot studies can be adaptively managed to gain the greatest insights in the timeframe of the project.
4. For any future funding of capacity building and education:
    - Discontinue funding for the Regional Acceleration subprogram through the Trust as it appears to be funding core business.
    - Consider when making funding decisions whether programs/projects are likely to achieve long-term outcomes without ongoing funding past the date of the grant.
    - Consider whether there is a clearly identified need for specific education funds.

Recommendations for program delivery and design

Grant administration

5. Ensure measures are in place to ensure financial control and probity, including:

- Require a clear scope of works for the allocation of funds. Where this level of detail is not feasible at grant allocation, make the release of funds contingent upon approval of clear implementation and budgetary plans and outcomes.
- Financial reporting frameworks that ensure consistent reporting of actual spend at least quarterly, and ensure information is collected to assess cost-effectiveness, value for money and in-kind contributions.
- Clear and robust requirements for spending of grant funds, for instance specification of what is an allowable on-cost.

6. Improve project selection by ensuring robust risk-based selection criteria that reflect program objectives, and ensuring consistent and transparent use of this criteria, including documentation of decision making.

7. Improve the grant application process by:

- ensuring grant application guidelines are adhered to
- establishing a more independent review of applications if the administrator is to remain heavily involved in developing the applications
- considering opportunities to implement contestable application processes.

8. Require an implementation plan at the program and subprogram level from administrator (if devolved) or require further details in business plan prior to funding.

9. Ensure technical review is consistently conducted at key decision points including approval of the scope of works, changes to on-ground work approach and review of project progress reports.

10. Develop guidelines and standard procedures for project managers where possible, with direction on general approaches and quality criteria for investigation and remediation to allow for consistency of approach and improved efficiency.

Program design

11. Develop a program logic based on clear objectives and a strategic assessment of priority areas for investment, prior to committing funds.

12. Ensure a robust risk assessment is carried out to identify risks to program implementation and controls are in place where necessary.

13. Ensure an assessment of potential perverse outcomes of the program and associated risks is undertaken, and identified risks are adequately controlled in program design where necessary.

14. Strengthen the monitoring and evaluation framework to focus on measuring outcomes and share knowledge. In particular:

- Establish one clear set of objectives, outcomes and outputs that are clearly aligned and consistent with the Trust's objects.
- Ensure objectives, outcomes and outputs at the program, subprogram and project level are specific, measurable, achievable and appropriate for the funds, timeframe and scale of the projects.
- Establish clear roles and responsibilities for the active capture and sharing of knowledge and good practice, and implement measures to assess effectiveness of knowledge sharing.
- Revise reporting requirements to allow for evaluation of the program outcomes, assessment of whether what was proposed was delivered, and efficient collection of useful information for completing program evaluation and informing future works.

Governance

15. Determine whether to devolve administration of the program based on an assessment of the expected added value and risks, including assessment of value for money, technical capacity, administrative capacity and any potential conflicts of interest.

16. Assess the role of the Contaminated Land Management Steering Committee, including in relation to that of the Trust Environmental Hazards Subcommittee. Streamline the governance structure if possible, or more clearly define their roles.

17. Ensure the Trust is fully informed of the activities of Contaminated Land Management Steering Committee meetings, if the program is devolved and the steering committee is maintained.

18. Establish clear roles and responsibilities for the program administrator (if the grant is devolved), and include stronger mechanisms to ensure accountability.

3 Background

In August 2016, the NSW Environmental Trust (the Trust) engaged the Natural Resources Commission (the Commission) to independently evaluate the activities funded through the Contaminated Land Management Program (the program) under its two most recent business plans.[1] The evaluation's aim was to understand how the program was delivered against these plans, and to provide strategic advice regarding the alignment of the program with the Trust's objects and principles.

This report presents the findings of the Commission's evaluation. This Chapter provides a background on the approach, as well as an overview of contaminated land management in NSW and the Trust's Contaminated Land Management program.

Note that for the remainder of the report "the program" refers to the overall Contaminated Land Management Program. The use of the term project will refer to the on-ground projects funded through the program.

3.1 Evaluation objectives and methodology

The agreed approach to the evaluation aligns with the *NSW Government Program Evaluation Guidelines*, and pursued four broad lines of inquiry:

- How effective has the program been in achieving contaminated land management outcomes?
- To what extent are the design and processes used to deliver the program appropriate and efficient?
- How cost-effective is the current program in managing contaminated land in NSW?
- To what extent does the current delivery model align with the Trust's statutory objects?

The evaluation was conducted in accordance with the Evaluation Framework provided to the Trust and the EPA at the start of the evaluation (see **Attachment 2**). The methodology included:

- Interviews with Trust staff, EPA staff, Regional Acceleration program officers, Regional Capacity Building officers and participants, grant recipients, and members of both the EPA and Trust subcommittees.
- Site visits for eight on-ground projects.
- Review of program and project documentation provided by the EPA and Trust.
- Input from an external technical reviewer with expertise in contaminated land management
- Review of good practice grant management and governance policies.

Further detail on interviews, site visits and review of good practice is provided in **Attachment 3**.

[1] July 2011 to June 2014, and July 2014 to June 2017.

3.2 Responsibility for contaminated land management

Under both business plans, the program sought to address sites that the EPA considered to be significantly contaminated as defined in the *Contaminated Land Management Act 1997*, meaning they present a risk to human health or the environment and should be considered for regulation. The *Contaminated Land Management Act 1997* establishes responsibilities for significantly contaminated land, and gives the EPA powers to regulate significantly contaminated sites. Contamination that is not considered significant is managed by the Department of Planning and Environment and local government under the *Environmental Planning and Assessment Act 1979* and State Environmental Planning Policy.

In NSW, businesses, agencies or individuals responsible for contamination are liable for remediation and other associated costs. Where a responsible party cannot be identified or cannot practicably be held responsible, liability may be transferred to current owners. Section 60 of the *Contaminated Land Management Act 1997* requires landowners to notify contaminated land to the EPA.

The EPA has the following regulatory powers regarding significantly contaminated land:

- If the EPA reasonably suspect land is contaminated, they can require landowners to carry out preliminary investigations to determine the nature and extent of any contamination (Preliminary Investigation Order).
- In cases where land is notified, the EPA can declare contamination as significant enough to warrant regulation.
- The EPA may order persons responsible for pollution or landowners to manage significantly contaminated land, including investigation and remediation actions.
- The EPA can approve voluntary proposals to manage contaminated land.
- The EPA can recover administrative costs associated with managing orders and voluntary management proposals.

3.3 Contaminated Land Management Program

NSW operates under a 'polluter-pays' principle, and has mechanisms in place to hold landowners liable for contaminated land management. There may be circumstances where owners who may be held liable did not cause contamination, could not reasonably have been expected to know about contamination when they purchased land, and do not have the resources to undertake remediation. When the program began in 2001, it was initially designed to manage these cases, where significant risk of harm to human health and the environment as defined under the *Contaminated Land Management Act 1997* meant that management needs were urgent. This element of the program continued under both business plans as the **"Innocent Owner" subprogram**.

Since then, the program has been expanded and refined through additional subprograms to address other cases where it was considered that the 'polluter-pays' principle was inadequate for promoting management. The aims and justification of these subprograms is provided in **Table 1** provided at the end of this chapter.

In 2005, the program expanded to include the clean-up of gasworks sites that were owned or had been inherited by councils (the **"Council Gasworks" subprogram**). The program was established because gasworks were considered to be sites that represented significant risk to human health and the environment, but were also costly and difficult to remediate, placing a considerable

financial burden on councils. Approximately $13.5 million was allocated to the program from 2001 through 2010. During this time, the Trust administered funding directly with each grantee.

From 2011, the Trust has approved $12 million of funding for the program to be spent over six years. The six year period has been managed under two different business plans, each representing $6 million of funding. A summary of the program under the two business plans is provided in **Table 2**. A detailed list of funded projects under these two business plans is available in **Attachment 4**.

The EPA administered the program under the first business plan (2011-2014) and the Trust maintained their role as manager of the funds, providing governance, advice and approval through a subcommittee of the Trust. Under the current business plan (2014-2017), the Trust has completely devolved the grant program to the EPA. The $6 million under the current business plan is provided to the EPA in six monthly instalments subject to the receipt of progress reporting.

The Trust legislation requires that all grants be reviewed by a Technical Committee. Under the first business plan this was the Contaminated Land Management subcommittee, comprised of six stakeholders representing key groups in contaminated land management.[2] This subcommittee provided technical advice in regards to the projects and recommended projects for funding and acquittal. Under the current business plan, the Trust Environmental Hazards Subcommittee fulfils their statutory requirement and provides "appropriate governance and advice" for the program.

The Subcommittee is also responsible for reviewing business plans, monitoring implementation, advising the Trust on accountability and reporting, and promoting strategic partnerships. The Trust Environmental Hazards Subcommittee provides advice to a range of Trust major projects and is comprised of representatives from the Trust, environmental groups, local council, industry, academia, and the community.

Under the current business plan, the EPA has established a Contaminated Land Management Steering Committee comprised of predominantly the same members as were previously involved in the Trust subcommittee. This Steering Committee provides advice on program policy and direction, financial governance and oversight, and can approve or reject funding and other decisions presented by the Program Manager. However, the EPA Executive Director of Hazardous Incidents and Environmental Health ultimately approves funding.

The current and previous business plans included new subprograms in addition to the continuation of the Innocent Owner and Council Gasworks subprograms. The first business plan included a pilot subprogram aimed at assessing the nature and extent of derelict underground petroleum storage systems (UPSS) in NSW and identifying a range of solutions to address these issues (the "**Derelict UPSS Pilot subprogram**").

Under the current business plan, the Derelict UPSS Pilot subprogram was amended to focus on derelict UPSSs located in council road reserves (the "**Council Road Reserves UPSS" subprogram**). The current business plan also includes three additional subprograms that present a shift away from traditional on-ground project funding to investment in capacity building. These include the "**Regional Capacity Building**" **subprogram,** the "**Regional Acceleration" subprogram** and the **"Prevention and Education" subprogram**.

[2] Stakeholders included Trust administration, EPA, Local Government NSW, NSW Ministry of Health, Environmental Defenders Office and industry representatives

Under both business plans, the Trust has agreed to fund some projects that have been extraordinary requests and that do not fit into any subprogram eligibility criteria. These sites are known as **"Special Grants"**. The Special Grants projects include:

Urunga former antimony plant (2011-14 business plan) - $700,000 grant

- Site is significantly contaminated and causing environmental damage and impacting adjacent owners.
- Current owner had knowledge of contamination but did not comprehend extent, is elderly and does not have capacity to remediate.
- The owner was willing to surrender land to the Department of Primary Industries who would take on liability.
- Department of Primary industries requested seed funding, with other funds to be provided by the Department.
- The site applied similar technical review and funding limit guidelines to the Council Gasworks subprogram.

Broken Hill Environmental Lead Program (2014-17 business plan) - $225,000 grant

- Program funds provided to install signage and hand-washing facilities, remove soil, and install artificial surfaces on a number of playgrounds contaminated by lead that presents a significant human health risk
- The project received on-going Treasury funding from 1999 to 2006 and has Treasury funding approved from 2015 to 2020
- The Trust funds were considered important to maintain site treatment and education during the break in Treasury funding.

Coramba hydrocarbon contamination on private and council land (2014-17 business plan) - $102,275 grant

- Contamination from a service station was impacting private land, council land and local waterways. The owner of the service station was unable to pay and council were not eligible for Trust funding under any subprogram.
- Initial work was funded under previous business plans as part of the Innocent Owner subprogram for the private land owner. Later works on council land were funded as a special grant in the 2014-17 business plan.

Table 1 - Summary of Contaminated Land Management Program subprograms

Subprogram	Duration	Overview	Summary of activities in evaluation period (2011 to present)[3]
Innocent Owner	2001 – present	Purpose of subprogram is to address remediation of sites meeting the following criteria: • significantly contaminated • the polluter cannot be identified or no longer exists • urgent intervention is required • land holder does not have capacity to pay for the clean-up.	• One project funded and acquitted. • Grant comprised a variation for investigation works for a project approved prior to the evaluation, and further remediation works.
Council Gasworks	2005 - present	Addresses former council-owned or inherited gas manufacturing sites which can be highly contaminated with heavy metals and cyanide, hazardous tars and liquid waste. These sites are viewed to represent a discrete sub-section of contaminated sites that place a significant financial burden on local councils often with limited technical and financial capacity. Subprogram provides total or seed funding for investigation and seed funding for remediation activities. Eligibility criteria includes: • council is the former operator and polluter, or is the current owner with no existing polluter with capacity to pay • the council has been formally notified of a reasonable suspicion of significant contamination, or • the site has been declared as significantly contaminated. Funding may be provided in cases where investigation is required to assess location and identify impacted landholders who may be eligible under the Innocent Owner scheme.	• Two investigation and remediation projects, two remediation projects (investigation works completed prior to grant period) and two investigation only projects funded. • Two remediation and one investigation project acquitted.

[3] Note: As the program is still underway, reported activities are based on the most recent information provided to the Commission. Subprogram activities for on-ground projects based on acquittal reports provided to the Commission in August 2016 and February 2017. Regional Acceleration subprogram reported in March 2017. Regional Capacity Building and Prevention and Education subprogram activities are based on reports provided to the Commission in August 2016.

Subprogram	Duration	Overview	Summary of activities in evaluation period (2011 to present)[3]
Derelict UPSS Pilot	2011-2014	Addresses derelict UPSS sites which represent over one third of all significantly contaminated land regulated under the *Contaminated Land Management Act 1997* and pose a hydrocarbon risk to surrounding properties, aquifers and groundwater ecosystems. Subprogram aimed to identify the challenges and possible solutions for a range of derelict UPSS scenarios. Overall goal to provide a comprehensive view of the range of issues and possible solutions to address the issue state-wide going forward. Subprogram funded preliminary site investigations by EPA (desktop study), detailed site investigations, and remediation of sites that have been declared significantly contaminated. Eligibility criteria included: • non-operational site and not decommissioned to EPA standards • council considers the contaminated may be significant (investigation funding) • land has been declared significantly contaminated (required for remediation funding) • local council willing to participate • privately owned sites must be 'genuinely abandoned' and owner assessed as lacking financial capacity • council-owned sites must be inherited • sites already under regulation must have all other funding sources exhausted and there must be a clear and present risk from contamination.	• Desktop review of 225 sites in 10 local government areas. • Investigation of 50 sites using passive soil gas survey, with groundwater monitoring at 5 sites. • 5 sites progressed to remediation stage, with 25 underground petroleum storage tanks removed or decommissioned.
Council Road Reserves UPSS	2014 – present	Subprogram focusses on a smaller sub-set of sites eligible for the Derelict UPSS Pilot; smaller UPSS sites that are located in council road reserves which can pose a hydrocarbon risk to surrounding properties, aquifers and groundwater ecosystems. Subprogram funds an initial study carried out by EPA in conjunction with local councils and NSW WorkCover (site visits to confirm presence of tanks), investigation grants to councils to determine nature and extent of contamination, and remediation grants to councils. Only regional councils in an established EPA priority list are eligible for the program.	• 5 new investigation and remediation sites underway. • 2 remediation sites underway with additional works from the first business plan.

Subprogram	Duration	Overview	Summary of activities in evaluation period (2011 to present)[3]
Regional Capacity Building	2014 – present	Subprogram aims to address the issue of regional councils' limited resources and capacity for dealing with contaminated land management. The program objective is to improve the management of non-regulated contaminated sites in regional NSW, and improve access to expert technical advice in regional areas. Funding supports three specialist technical staff in regional areas of NSW through cooperative groups of councils to provide specialist support for region-specific contaminated sites. All local governments beyond the greater metropolitan region who apply as a cooperative group of councils are eligible.	• Three technical specialist staff placed in three regions. • Services provided include technical advice, training, education and resources.
Regional Acceleration	2014 – present	Subprogram was developed to provide advice and assistance to owners of regional contaminated sites notified to EPA. The program aims to accelerate the management (to EPA or council regulation) of contaminated sites, increase the likelihood of responsible parties taking action to remediate sites that are impacting the environment or communities, and minimise the impact of contaminated land on the environmental and human health. Funding supports three staff within the EPA to assist landholders in regional areas gather information on sites notified to the EPA as being potentially significantly contaminated. Information gathered is used by the EPA to make regulatory decisions. In interviews, the Trust indicated an understanding that the subprogram was designed to target smaller private landholders. However, guidelines do not specify this and Regional Acceleration officers have indicated that in many cases they were reviewing council-owned sites.	• Three staff employed within the EPA to address sites. • Fifteen sites closed out with 91 sites currently under review. • One site referred for possible regulation under the *Contaminated Land Management Act 1997*. • 215 reports reviewed with 21 close to being finalised.
Prevention and Education	2014 – present	Funding is available to support small-scale intervention projects and education campaigns that identify or prevent future contamination and improve awareness in communities and local governments. Funding is allocated based on the submission of individual business cases by the Program Manager to the Contaminated Land Management Steering Committee for endorsement.	• One project funded, which developed guidance material for small, independent service station owners.

Table 2 - Summary of the Contaminated Land Management program 2011 - 2017[4]

		First business plan (2011-14)	Current business plan (2014-17)
Period covered by business plan		2011/12 to 2013/14	2014/15 to 2016/17
Total funding		$6 million	$6 million
Administration		$870,000	$900,000 + $100,000 for external review
Innocent Owner	Total funding estimated	$630,000	$500,000
	Grants available	Estimated one grant per year at indicative cost of $300,000	Estimated one grant every two years at indicative cost of $300,000
	Number of projects approved	1	-
Council Gasworks	Total funding estimated	$2,000,000	$900,000
	Grants available	Investigation grants up to $200, 000 Remediation grants up to $500,000	Investigation grants up to $200, 000 Remediation grants up to $500,000
	Number of projects approved	1 investigation 2 remediation	3 investigations
Derelict UPSS Pilot (2011-14) **Council Road Reserves UPSS (2014-17)**	Total funding estimated	$2,500,000	$1,000,000
	Grants available	Investigation grants up to $50,000 Remediation grants up to $200,000	Investigation grants up to $5,000 per tank Remediation grants up to $25,000 per tank[5]
	Number of projects approved	3 investigation[6] 4 remediation	5 investigation 7 remediation[7]
Regional Capacity Building	Total funding available	-	$1,250,000
	Grants available	-	Up to $150,000 per year per full-time employee, up to three years
	Number of projects approved	-	3 grants awarded but only 2 employees funded in 2014/15 4 employees funded in 2015/16[8]

4 Under the first business plan, it is noted that allocated funding for each subprogram is not fixed. Under the second business plan allocations between subprograms are noted as being estimates, with variation in estimates to be approved by the "Environmental Trust subcommittee and/or the Environmental Trust administration within their respective delegations". The evaluation found that funding was moved between subprograms from initial estimates.

5 Funding maximums were amended from up to $10,000 per site (investigation) and up to $50,000 per site (remediation) in a variation approved by the Trust in 2015.

6 Two grants are for the same project

7 One grant comprises original remediation grant and the later release of contingency funds

8 In 2014/2015 a total of three grants were awarded to three co-operative council groups. One of these groups did not use their funding in the 2014/15 financial year. While the group received and used funding for 2015/16, they

		First business plan (2011-14)	Current business plan (2014-17)
Regional Acceleration	Total funding available	-	$1,250,000
	Grants available	-	Up to $150,000 per year per full-time employee
	Number of projects approved	-	Three full-time employees for three years
Prevention and Education	Total funding available		$100,000
	Grants available	-	Grants up to $30,000
	Number of projects approved	-	1 grant for $25,000
Special Grants *Note: funds allocated are outside of initial business plan allocations*	Total funding available	-	-
	Grants available	-	-
	Number of projects approved	1 grant totalling $700,000	2 grants totalling $327,275

were informed they were no longer eligible to receive funding for a third year due to inactivity in the first year. The additional funding available as a result was used to provide a grant for a fourth co-operative council group.

4 Outcomes

This section provides a summary of outcomes and achievement of program objectives. A more detailed description of program achievements is provided in **Attachment 1**. This includes an evaluation of program outcomes and achievements, and a summary of works and outcomes for individual completed projects (**Table A4.1)**. The projects reviewed included those that had been granted funds under one of the two business plans covered at the preparation of the evaluation plan in July 2016.

Key Findings

- **Outcomes are difficult to determine but outputs have largely been met:** Desired outcomes for projects are often unclear and reporting is generally output-focussed, which makes it difficult to determine project outcomes. Statements by the EPA in grant acquittal reports indicate that, in general, on-ground projects delivered the required outputs.
- **Outcomes related to significant contamination vary by subprogram:** Innocent Owners, Special Grants and Council Gasworks appear to have addressed sources of significant contamination or reduced the impact of significant contamination to some extent. However, the preliminary screening methods using passive soil gas sampling and a lack of conceptual site models mean that there is not enough evidence to determine the extent to which the UPSS subprogram has targeted and removed significant contamination.
- **The Derelict UPSS Pilot subprogram did not fully achieve pilot objectives:** The subprogram did not determine the full extent of the derelict UPSS problem across NSW, did not explore a range of possible solutions and good practice tools for on-ground work, and has not led to any further development of state-wide policy or strategy.
- **Capacity building objectives have been achieved to variable extents:** The Regional Capacity Building subprogram has demonstrated good outcomes for capacity building and awareness-raising. However, capacity building from on-ground projects has been limited, both for the development of project management and technical skills.
- **Regional Acceleration subprogram outcomes are unclear:** the subprogram has allowed for the EPA to be assured of the nature of some notified sites (e.g. whether additional investigation is needed). However, the Commission does not consider that this subprogram has had significant outcomes in terms of reducing environmental and human health risk.
- **The Prevention and Education subprogram has had limited outcomes:** Only one project has been progressed under this subprogram and the Commission considers that overall there has been minimal outcomes for education and awareness raising.

Table 3 - Summary of findings on project outcomes and issues

Subprogram	Outcomes and good practice	Issues
Innocent Owner	• One project funded and acquitted. • Remediation of lead impacts from a former battery recycling facility completed. • On-site risk to residential users removed, and site was made suitable for ongoing residential use. • Declaration of significantly contaminated land removed.	• Innocent Owner subprogram was the original focus of program but only one site was funded during the evaluation time period. • Funding periods under second business plan limited the identification and funding of sites in the later stages of the grant. • Owners may have little to no technical or project management experience. A high level of oversight is required for these projects. The extent of work required and long-term monitoring needs may be beyond what is available through the grant program.
Council Gasworks	• Completed projects have generally removed on-site sources of potential significant contamination. • Trust grant provided 'seed' funds to supplement significant council funds at two projects. • Projects where councils took ownership and provided significant co-contribution appeared to achieve better outcomes and are more likely to maintain long-term follow up requirements.	• Several gasworks sites remain to be cleaned up, and EPA has indicated some councils are uninterested in participating despite their legal obligations for addressing significant contamination. • Remediation outcomes for off-site sources is unclear. • In some cases further work and on-going management is likely to be required and it is unclear how this will be addressed. • Inconsistent outcomes for capacity building. • Two projects received substantial co-contributions (of 25 and 50 %) but three projects received minimal co-contribution, with 10 % or less of the total contribution.
Derelict UPSS Pilot	• Removal of tanks and contaminated soil can be considered to have removed a potential source of contamination.	• The relative reduction of risk and therefore magnitude of outcomes is unclear due to limited information on the original site conditions. • Number of sites remediated is a small proportion of potentially contaminated UPSS sites; councils not always aware of the residual risk in their local areas and unclear how or if this risk will be addressed. • Initial review report did not determine the full extent of the derelict UPSS problem across NSW and the scale of funding state-wide. • Estimates of the extent or scale of the problem developed at a later date do not appear to adequately draw on the findings of the pilot program and their basis is unclear leaving questions as to their accuracy (see **Attachment 1** for more detail).

Subprogram	Outcomes and good practice	Issues
Derelict UPSS Pilot		• Limited evidence that subprogram explored a range of possible solutions and best practice tools. Limited evidence of any further development of state-wide policy or strategy. • Limited evaluation of capacity building, but interviews indicate limited ownership and engagement from councils, limited knowledge sharing and barriers including lack of council funding for any additional works required to mitigate risk. Low likelihood of skills and knowledge being retained within council as formal policy or lasting cultural change. • Some councils reluctant to participate. • Did not address derelict UPSS on surrounding properties where present, which may reduce effectiveness of remediation actions. • Selection of sites was only partially risk-based.
Council Road Reserves UPSS	• Subprogram not yet complete.	• Decision to fund clean-up of derelict UPSS in council road reserves only was not based on risk. UPSS with similar potential risk are often present on surrounding properties but not addressed. • Selection of specific sites for inclusion was only partially risk-based. • The available funding from the Trust is not commensurate with the scale of the derelict UPSS problem. The number of sites addressed is a small proportion of all council road reserve UPSS sites (for example, in the local government areas included in the subprogram, approximately 12 sites were addressed compared with around 100 identified council road reserve sites. It is not clear how many of the remaining 88 sites require action. Further, only 10 local government areas were included in the pilot program, compared with around 40 on the EPA's council prioritisation list). • Councils not always aware of the residual risk in their local areas and it is unclear how or if this risk will be addressed. • Does not address derelict UPSS on surrounding properties where present, which may reduce effectiveness of remediation actions.

Subprogram	Outcomes and good practice	Issues
Regional Capacity Building	• Councils participating have greater understanding of their obligations and risks. • Subprogram staff are highly active and provide a range of services including technical advice, training, education and resources. • Key outputs include council needs analysis, training programs and workshops, flexible regional-level policy and guidance documents, information systems, and stronger networks. • Regional-level support identified as a cost-effective approach.	• Outcomes relating to improved management of non-regulated contaminated sites are not clear. • There is limited indication of evaluation of the longevity of outcomes and what will occur when funding for Regional Capacity Building staff ends.
Regional Acceleration subprogram	• The overall outcome of the subprogram is that it has allowed for the EPA to be assured of the nature of some notified sites.	• The number of sites where contamination was identified and addressed as a result of the program is unclear but anecdotal evidence suggests that it was a very small proportion of the sites reviewed. • The impact of the small number of sites identified that require regulatory actions in terms of reducing environmental and human health risk is unclear. In general, the Commission does not consider that this subprogram had significant outcomes in terms of reducing environmental and human health risk. • The program appears to be funding core business of the EPA. The program seems to fulfil the EPA's regulatory responsibilities to examine and respond to contaminated site notifications. Further, the activities of the subprogram directly address a recommendation by the NSW Audit Office in its review of contaminated land management to address the backlog of notified sites.
Prevention and Education subprogram	• One project funded, which developed guidance material for small, independent service station owners.	• *Ad hoc* identification and proposal of projects. Other proposed projects not progressed. • Overall minimal outcomes for education and awareness raising.

Subprogram	Outcomes and good practice	Issues
Special Grants	• Three on-ground projects funded and one acquitted. • Acquitted project saw the management of lead exposure on playground sites. The risk of exposure of children to environmental lead was reduced and awareness was raised in the community. • Special grant underway to remediate the site of a former antimony processing plant reflects best practice such as likely environmental outcomes, cost-savings, joint-agency working and ongoing management plans. Trust funding provided 'seed' funds to kick off works.	• Projects do not align with program funding criteria. • Environmental outcomes for lead program not clearly stated or measured.

5 Considerations for future funding

From a strategic perspective, the Commission considered how well the types of activities funded under the program align with Trust objects, policies and principles and the state-wide context in which its investment in contaminated land management occurs. Our aim was to assess the extent to which the Trust's investment in this area is appropriate and the investment is likely to be effective. More detailed recommendations regarding program design and project delivery based on evaluation of the current program are provided in **Chapter 0**. These should be considered in conjunction with the strategic advice.

Key Findings

- Programs reflect limited alignment with Trust funding principles and alignment to the Trust's objects could be clarified and strengthened.
- The size of the Trust grant funding is not commensurate with the scale and scope of the contaminated land issues the program currently targets, limiting the Trust's ability to make a significant impact on these issues.
- Issues related to the state-wide management of contaminated land further limit the Trust's ability to make a significant impact.

5.1 Alignment with the Trust's objects and funding principles

Our evaluation found that many program activities, particularly those under the current business plan, are not fully consistent with the Trust's funding principles. The Trust's major projects funding principles provided to the Commission include:

- Must target actions that actually fix a problem or significantly change the way that those responsible do their business around that problem (i.e. a game-changer).
- Most suitable for proof of concept, niche filling (where no other funding is available), early intervention of emerging issues, where early injection of resources will allow innovation and address a persistent problem, actions that provide a platform for further action. Especially where projects can foster co-contributions, strategic collaboration, and longevity of outcomes.
- Must meet the Objects of the Trust Act and priorities of Government.
- Must demonstrate additionality (i.e. outcomes over and above what would ordinarily happen).
- Cannot be for core business/cost shifting/replacement funding/ongoing maintenance or to fix policy or program failings.

The Trust has developed draft guidance regarding what is considered "core business". This guidance was not available when the current contaminated land management program was designed. However, they represent good practice and are suitable criteria to measure program design against. The guidance includes specific criteria for assessing core business activities, including whether something is the legislated responsibility of another entity, or is included in the strategic planning of another entity.

Assessment of the program activities against core business guidance indicates that the program appears to be funding core business of other agencies, particularly the EPA, in a number of cases. The Commission's key concerns around core business relate to areas where it seems that the program is funding activities that can be considered the legislative or regulatory responsibility of

another agency. These concerns are most relevant to the Regional Acceleration, the Regional Capacity Building and the Prevention and Education subprograms. The Commission acknowledges that in some respects all on-ground projects can be considered 'core business' given that the work is typically the legal responsibility of another entity. However, the business plan outlines a clear decision to fund those considered "innocent owners" due to environmental risk and capacity limitations.

The Commission also notes that the Trust allows for projects fulfilling core business criteria to be funded in exceptional circumstances, for example in cases of environmental emergencies or if immediate work is required but agencies cannot produce the required resources in the necessary timeframes. The Trust have a number of conditions for any programs funded under exceptional circumstances, including discrete timeframes and co-contribution or reimbursement requirements. It is likely that a number of Innocent Owner and Special Grants fulfil this criteria (for example, Urunga and Broken Hill). However, it does not appear that the eligibility criteria are rigorously or consistently applied.

In addition, certain programs that conceptually demonstrate alignment with the major funding principles had poor alignment given the manner in which they were actually carried out. For example, the Derelict UPSS Pilot subprogram conceptually fulfils the funding criteria in regards to proof of concept. However, in practice the pilot design did not fully explore a range of different options for how UPSS might be addressed, instead focussing on a relatively consistent approach across all sites, with limited justification for why the approach was chosen (see **Attachment 1** for more detail). Further, the findings of the pilot do not appear to have significantly contributed to clear estimates of the size and scope of the problem in NSW, with estimates ranging from $21 million to $280 million (see **Attachment 1** for more detail). There is limited evidence that the pilot has significantly changed how derelict UPSSs are addressed state-wide.

Effectiveness of achieving Trust objects

Interviews indicate a potential misconception that the Trust has a legislative obligation to fund contaminated land management.[9] In fact, the Trust does not have a specific mandate in this area, but funding of projects is in many cases consistent with the Trust's general objects. A decision to continue investment in contaminated land management should be based on a strong business case that demonstrates that this is an appropriate and effective way for the Trust to achieve its objects, relative to other options the Trust has for investment.

The previous business plan outlined how specific subprogram activities align with the Trust objects, but the current business plan does not clearly align specific program or subprogram activities or outcomes to the objects. A clear presentation of how the subprograms are meant to meet Trust objects would allow better assessment of future proposals, as well as evaluation of the extent to which they achieved their aims in regards to supporting the objects.

The Commission found that the program is somewhat aligned with the Trust's objects, but alignment could be strengthened. **Table 4** outlines the Commission's assessment of the program against Trust objects.

[9] Section 16 of the Act was specifically cited in one interview. This section of the Act specifically relates to mitigation of serious pollution and addressing waste material disposed in an illegal manner. This section limits the amount the Trust can spend under the section to $0.5 million. It is understood that the Trust's emergency spill response program addresses this portion of the Act.

Table 4 - Alignment of program with Trust objects

Trust object	Alignment
Encourage and support restoration and rehabilitation projects in both the public and private sectors that will are or are likely to prevent or reduce pollution, the waste-stream or environmental degradation, of any kind, within any part of New South Wales.	On-ground works support this to some extent, but more strategic actions could produce better outcomes.
Promote research in both the public and the private sectors into environmental problems of any kind and, in particular, to encourage and support research into and development of local solutions to environmental problems, discovery of new methods of operation for New South Wales industries that are less harmful to the environment, research into general environmental problems and assessment of environmental degradation.	Derelict UPSS Pilot subprogram is conceptually aligned but the design and outcomes of the pilot have limited outcomes in this space. The pilot did not sufficiently explore a range of alternative options, or significantly improve upon local councils' ability to implement solutions (see **Attachment 1** for more detail).
Promote environmental education and, in particular, to encourage the development of educational programs in both the public and the private sectors that will increase public awareness of environmental issues of any kind.	The Regional Capacity Building subprogram produced good outcomes for council awareness of and capacity to address contaminated land. The Prevention and Education subprogram, and to some extent the Regional Acceleration subprogram conceptually align with this object but there is limited evidence of education outcomes being achieved (see **Attachment 1** for more detail).

5.2 Alignment with scale and scope of the problem

Contaminated land management in NSW is a large and costly issue, which would require significant resources and investment to fully address. The EPA has estimated that the cost for addressing all notified contaminated sites alone is between $100 million and $200 million per year.[10] In comparison, the current program allocates $6 million over three years, less than half of which is spent on on-ground remediation projects. The scale of the contaminated land issue makes it challenging to make an impact with limited funds. In addition to the large number of sites, contaminated land projects are often expensive, resource-intensive, technically challenging and can take many years to address. In comparison to the approximately 1,600 sites currently notified to the EPA, only 90 sites have been remediated in the past decade, and 180 are currently being actively regulated. The Commission recognises the importance of funding contaminated land management in NSW. However, given these challenges, there is limited potential for the Trust to make a significant impact on the overall issue of contaminated land, particularly by attempting to fully fund on-ground projects.

To address the issue of scale, and be consistent with the Trust funding principle that the grant program should be able to "fix the problem", the program focus has increasingly shifted to target specific sources of contamination. This has included focus on gasworks, UPSSs, and specific land or liability-holders such as councils. However, the size of these "discrete" issues is still too large for the Trust to reasonably fund through a grant program.

10 Audit Office of NSW (2014) Managing contaminated sites: Environment Protection Authority, Department of Trade and Investment, Regional Infrastructure and Services.

For example, the derelict UPSS in roadside reserves program targets an issue beyond the Trust's ability to fully fund. For instance, in the local government areas included in the subprogram, approximately 12 sites were addressed compared with around 100 identified council road reserve sites. It is not clear how many of the remaining 88 sites require additional action. Further, only 10 local government areas were included in the pilot program, compared with around 40 on the EPA's council prioritisation list.[11] While several additional councils have been funded under the latest business plan, the program funds only a portion of sites identified for each council. As such, there are likely many sites remaining to be addressed in councils that have already received funding. Estimates provided by the EPA based on the pilot subprogram indicate the total cost of addressing the derelict UPSS in regional areas state-wide is between $21 million and $280 million (see **Attachment 1** for more detail).

This approach has also reduced the risk-based nature of the programs. Significant contamination can come from any number of known or unknown sources and is the responsibility of a range of different land holders, with impacts often occurring across multiple tenures. Specifying that certain types of landholders or sources of contamination are to be targeted reduces the flexibility to address the highest-risk sites. The pilot study indicated that approximately 43 percent of derelict UPSS are located in roadside reserves. However, it did not indicate that these pose a higher risk than other tanks.

5.3 Impact of state-level issues on program outcomes

The Audit Office has previously identified significant problems with contaminated land management within NSW.[12] In a 2014 report, it found that the understanding of the nature and extent of contaminated land issues at the state-level is likely to be incomplete. At the time of the audit report the EPA was unable to report on the number of contaminated sites as there was no comprehensive database of contaminated sites in NSW. In 2013 the EPA estimated there were around 30,000 sites. In 2014, 1,586 sites had been formally notified to the EPA through s.60 of the *Contaminated Land Management Act 1997*. While the total estimate of contaminated sites includes sites that would not meet the criteria for reporting to the EPA, the Audit Office did not have confidence that all notifiable sites have been formally reported to the EPA. The Audit Office identified a number of non-formal ways to identify contaminated sites to the EPA, which were not recorded in a central database. Further, the Audit Office found the EPA lacked systematic processes and transparency when declaring and assessing the extent of contamination on notified sites.

In the same report, the Audit Office also found the EPA was underutilising the regulatory power and tools available to it to identify significantly contaminated sites and ensure the owners of those sites meet their legal responsibility to investigate and clean up the contamination. The Audit Office found there was no standardised approach to declaring sites significantly contaminated, and regulatory tools such as Preliminary Investigation Orders were rarely used. Although the EPA has responded to these findings, it is too early to determine whether its actions have substantially resolved the problems identified in the audit. Further, such an assessment is beyond the scope of the evaluation.

Inconsistent practices relating to declaration of significant contamination were also identified during this evaluation. Recipients were meant to demonstrate sites being funded either had, or would be, declared significantly contaminated, this was not consistently done. While declarations or draft declarations were supplied for gasworks applications, in derelict UPSS applications

11 As of February 2017.

12 Audit Office of NSW (2014) Managing contaminated sites: Environment Protection Authority, Department of Trade and Investment, Regional Infrastructure and Services.

declarations or evidence of likely significant contamination was not supplied with the majority of applications. It is not clear from evidence provided whether the UPSS sites that were remediated met the criteria for significant contamination or not.

For significantly contaminated sites, owners have a legal responsibility to investigate and clean up contamination. EPA interviews and steering committee minutes indicate that councils were reluctant to engage with the program and several councils offered funds declined to participate. EPA staff consistently reported that even when Trust funding was available for cleaning up significantly contaminated sites – for example, under the Council Gasworks and Derelict UPSS subprograms – many landholders were reluctant to engage with the programs. This reluctance to participate indicates a likelihood that landholders may not recognise their legal responsibilities for contamination or feel there is a low risk of regulatory pressure from the EPA to enforce these responsibilities. Without adequate regulatory pressure, there is a risk that the program may not attract applications from landowners with the highest risk or highest impact sites.

Further, there is evidence that the current program risks reinforcing the idea that councils do not need to take responsibility for these liabilities, but instead can expect other agencies to step in and provide funding. Some grant recipients interviewed were unaware of what follow up work would be required to address remaining risks, and some indicated a view that they would wait for the Trust or EPA to provide additional funds before taking additional action.

The current lack of information and strategy at the state-level limits the Trust's ability to make funding decisions and strategically target funds to the high impact issues. The Commission considers that these state-level issues reduce the Trust's ability to achieve the best possible outcomes from its investments in contaminated land management.

Recommendations

1. Undertake a rigorous strategic assessment before funding any contaminated land management program, including:
    - Evaluate any future proposals in the context of broader state-wide contaminated land management issues, including those described within this report.
    - Assess potential programs through the major projects funding stream, so that they are evaluated relative to other funding options available to the Trust for achieving its objectives.
    - Consistently assess whether proposed programs would substantially fund core business of another agency as described in the Trust's core business policy.
    - Ensure application of any exception to the core business policy is consistent with Trust guidance and fully evaluated.
    - Assess the likely impact of available Trust funds relative to the contaminated land management problem targeted.

5.4 Better target programs and projects

If the Trust decides to continue funding contaminated land management, there are several areas for potential improvement of the current program. It is recognised that the state-wide issues discussed above are beyond the Trust's control. However, the Trust should take steps to ensure that funds are targeted to areas most consistent with their objects and policies that are likely to have the highest impact.

In particular, the program should focus on projects of a scale commensurate with the available funding. Programs that provide "seed funding", focus on genuine pilot studies (testing new approaches and providing "proof of concept") and which provide long-term capacity building and education are likely to be more commensurate with the scale of available funding.

5.4.1 On-ground projects

On-ground projects should be consistently assessed based on risk, the capacity of the responsible parties, and potential for the Trust funds to legitimately provide "seed funding".

The current use of narrow subprograms for on-ground works does not provide the flexibility for high impact projects to be routinely identified and addressed. The focus on council-owned derelict UPSS in road reserves in particular is not strongly based on environmental risk. While the Innocent Owners subprogram applies more broadly, it is limited to private landholders, impacting the ability to address cross-tenure issues. There is also limited identification of these sites. As such, there has only been two Innocent Owner projects funded during the period being evaluated, with these projects being extensions of work from prior projects.

The program has funded a number of projects outside of subprogram criteria that have delivered good outcomes and addressed significant environmental risk. The decision to fund these projects reflected a risk-based and flexible response that is more appropriate to the management of contaminated land. However, while the Urunga project was managed under some of the guidelines of the Council Gasworks subprogram (including funding thresholds and technical review requirements), Special Grants projects did not have specific guidelines. The need to go outside of program criteria to achieve outcomes increases the risk that high impact projects are not adequately identified, selected and managed.

The projects that appear to have been most successful and consistent with Trust principles are those that:

- have targeted high-impact projects where Trust funds are genuinely "seed funds" leveraging considerable co-contribution
- where landholders have taken ownership and responsibility for investigation and remediation
- where the Trust project has served to coordinate response to a large, high-risk problem with several potential responsible parties.

These criteria should be implemented in the assessment for funding of future on-ground projects. Consideration should also be given to whether funding is aligned with the Trust funding principles and the "innocent owner" requirements established by the Trust.

5.4.2 Pilot programs and research projects

Pilot programs and research projects are aligned with Trust funding principles and do have potential benefits in the contaminated land space. Pilot and research findings can be used to inform wider contaminated land management policy and practice, providing a high value use of limited Trust funds. However, pilot programs must be suitably designed to:

- ensure they address a clearly identified need
- trial a range of options to provide useful information regarding how to achieve efficient outcomes
- allow flexibility to be adaptively managed.

While the Derelict UPSS Pilot subprogram had the potential to inform policy making and on-ground approaches, pilot design could have been improved. The design of the pilot made it difficult to determine the relative success of different approaches and identify which ones would be considered "best tools". For example, it is not clear if the approaches were selected because they were innovative or had strong evidence supporting their potential benefits. With the exception of the sites where groundwater sampling was carried out, all sites generally received similar investigation and remediation approaches. As such, the pilot program provided limited information regarding potential options for remediating derelict UPSS sites. .

In another example, the external technical reviewer indicated that the standard approach to investigation and remediation applied to the projects could be considered "gold-plating" in the context of derelict UPSS. The reviewer indicated that the cost of the projects did not appear to provide a commensurate reduction in risk, and suggested that alternate approaches could be considered, such as streamlining the investigation through more thorough desktop analysis and proceeding directly to tank removal and site validation.

Attachment 1 provides more detailed discussion and further examples related to pilot design.

. As discussed previously, the pilot findings do not appear to have adequately informed estimates of the state-wide extent of the issue. There was limited evidence of learnings from the pilot resulting in broader, sustainable solutions to issues.

5.4.3 Capacity building and education projects

There is potential for the Trust funding to achieve outcomes through funding of capacity building and education programs. Consideration should be given to the longevity of any such activities, and whether those activities are already the core business of another agency. The evaluation indicates that capacity building in on-ground projects to date has been limited, and capacity building activities in other subprograms such as the regional capacity building and regional acceleration subprograms appears to cross-over with the EPA's core responsibilities.

For example, the Regional Capacity Building program has achieved good outcomes in regards to capacity building and knowledge transfer. However, the Commission's view is that the Trust funds are significantly contributing to EPA strategic activities through the community engagement and capacity building activities under the Regional Capacity Building subprogram, as well as under the Regional Acceleration and UPSS subprograms**.** Trust policy is to fund activities complementary to core agency programs, but it is unclear how the program engagement and capacity-building activities differ from, or are additional to, core agency responsibilities in these areas. Elements of these subprograms align with many elements of the EPA's 2016-19 strategic plan. Further, interview results indicate this may be cost shifting as EPA staff indicated that the EPA "used to" do more education and capacity building but has moved away from it. This explanation was provided in describing why the Regional Capacity Building subprogram is necessary.

Additionally, it is not evident if the Regional Capacity Building program is likely to have lasting impacts without long-term funding of the positions created under this subprogram. Although, it is noted that the EPA has indicated that they have been clear that regions currently funded will not receive further funding from the program. In light of Trust policy guidelines, the Commission recommends the Trust re-evaluate funding core engagement and capacity building activities described in the EPA's strategic planning.

The Commission's view is that the Trust appears to be funding core business through the Regional Acceleration subprogram. The subprogram seems to fulfil the EPA's regulatory responsibilities to

examine and respond to contaminated site notifications. The EPA defended the subprogram as non-core business by distinguishing between regulatory decisions and activities that gather the information required to make regulatory decisions. However, the EPA has the ability to issue preliminary investigation orders under section 10 of the *Contaminated Land Management Act* 1997, which directs a party to investigate the nature and extent of contamination and report to the EPA, or risk penalties. The Audit Office report into contaminated land management found that this tool is rarely used.

Further, the activities of the subprogram directly address a recommendation by the NSW Audit Office in its review of contaminated land management to address the backlog of notified sites. A similar program to address backlog is funded through Treasury. In interviews, EPA staff could not clearly articulate a difference between this program and the "backlog" program funded by Treasury.

The Preventative and Education subprogram has only resulted in the progression of one project and delivered minimal outcomes for education and awareness raising. The limited action under this subprogram indicates that the need for it and approaches to identifying potential projects should be reassessed. Consideration of a specific education stream should ensure it is not duplicating the activities of other Trust grant programs, for example the Environmental Education Grants Program.

Recommendations

2. For on-ground projects, maintain flexibility to address projects across the full range of potential contaminated land scenarios, with clear funding criteria that prioritises sites consistent with Trust's desired outcomes. In particular:

- Target projects where Trust funds:
  - are genuinely likely to provide "seed funding"
  - allow coordination of greater action and funding
  - provide information needed for others to make further investment.
- Enhance requirements for co-contributions and ensure they are consistently applied.
- Apply the "innocent owner" criteria rigorously and consistently.

3. For any future funding of pilot programs or research funding:

- Clearly identify the evidence-based need and outcomes being sought by the pilot study and ensure the design is consistent with achieving the desired outcomes.
- Allow for flexibility to ensure pilot studies can be adaptively managed to gain the greatest insights in the timeframe of the project.

4. For any future funding of capacity building and education:

- Discontinue funding for the Regional Acceleration subprogram through the Trust as it appears to be funding core business.
- Consider when making funding decisions whether programs/projects are likely to achieve long-term outcomes without ongoing funding past the date of the grant.
- Consider whether there is a clearly identified need for specific education funds.

6 Delivery and design of current program

6.1 Grant administration

Key Findings

- **Funding allocation processes can be strengthened:** Under the current business plan grant recipients are provided large amounts of grant funds upfront, allocated investigation and remediation grants on the same day and often allocated funds in excess of project requirements. This has tied up significant amounts of grant funds, increased the risk of inappropriate spending, and limits the potential to control project quality.
- **Financial probity can be improved:** Current financial reporting lacks transparency and it is difficult to account for how Trust money is being spent. Financial decision making is also not well documented and in some cases decisions do not appear to reflect good practice.
- **Requirements for co-contribution should be consistently considered:** Projects most likely to have achieved substantial long-term impacts are those where the landholder took ownership of the problem and provided substantial co-contributions. However, subprogram requirements for co-contribution were often not considered.
- **Project selection should be transparent and strongly risk-based:** While the Council Gasworks, Innocent Owner and Special Grants subprograms selection and criteria adequately reflect the program's focus on addressing significantly contaminated sites, UPSS sites were not based on strong evidence to determine levels of environmental risk.
- **Administrative processes and technical guidance should be formalised:** The EPA was routinely involved in on-ground projects and received good feedback from grant recipients. However, there are few formal procedures to guide projects and ensure the EPA provides consistent technical input.
- **Program delivery at all levels requires clearer implementation planning:** Business plans and subprogram guidelines are not supported by implementation plans and lack sufficient detail to provide clear guidance on project delivery, such as specific deliverables and timelines**.**

6.1.1 Funding allocation processes can be strengthened

The allocation of funds under the program does not allow for adequate control over grant recipient spending and project quality. Projects (particularly under the current business plan) are routinely allocated the maximum allowable grant for the type of work. Under the current business plan, the EPA has also allocated investigation and remediation grants on the same day. The EPA indicated the decision to allocate large amounts of grant funds upfront was to address the uncertainty of remediation projects and provide incentives for councils to apply. This decision is not considered appropriate. This process tied up the full remediation grant (typically $200,000) with no reflection of the level of work needed or the possibility that remediation works may not be required.

The level of funding provided upfront was often in excess of project requirements. At least one Council Road Reserve UPSS site has indicated it will not require the $200,000 remediation grant it was awarded and the EPA has indicated that there may be more sites that do the same. Another UPSS project returned around $140,000 of a $200,000 remediation grant. Granting all of the funds

up front limits the potential to control project quality through the allocation of funds based on milestones and outcomes.

As funding was routinely allocated without an adequate scope of works, project costs or budgets this also increased the likelihood of grant recipients identifying ways to spend the maximum grant funds, rather than having to justify a need for them. Interview results indicate that in some cases funding decisions on projects were based on the amount of funding available instead of risk and alignment with a scope of works or program guidelines. For instance, the external technical reviewer indicated an indoor air assessment was conducted for one Council Gasworks project. This was beyond the necessary scope of the problem based on a low level of risk associated with the contamination and known likelihood of interference of readings from current site usage. In the UPSS remediation projects, the external technical reviewer noted that the need for, or relevance of, activities such as multiple rounds of groundwater sampling, geotechnical supervision of backfilling and the development of an asbestos management plan could have been better considered. For the Cowra gasworks project, groundwater monitoring was determined to be necessary as part of the remediation. It appears that because the remediation funding was fully allocated, the groundwater monitoring was applied for as "investigation" funding post-remediation so that additional funds could be received. This is not consistent with how groundwater monitoring was viewed or funded for other projects.

6.1.2 Financial probity can be improved

Financial reporting from the EPA under the devolved model lacks clarity. Under the previous business plan, the Trust allocated individual grants. The EPA was required to submit annual financial reports to Trust outlining funds granted, funds allocated and remaining budget plus a full financial report at the end of the funding period. The business plan outlined procedures for variations and contingency budgets. Under the current business plan, the EPA was required to report six monthly to the Trust on budget expenditure. Budget expenditure and funding decisions were presented to the Contaminated Land Management Steering Committee four times per year.

Financial reporting requirements should be improved to increase financial probity. Current financial reporting lacks transparency and it is difficult to account for how Trust money is being spent. Financial reports provided to the Trust lack detail and do not track actual spend to date on projects. Rather, they report what has been allocated in grant agreements. The Regional Acceleration subprogram and EPA administration has been allocated an individual account within the EPA financial management system, which is monitored independently of the program. There is a lack of transparency in regards to the details of the salary and on-costs that are included in the financial reports for these positions.

Financial decision making is also unclear and in some cases decisions do not appear to reflect proper practice. For instance, one Regional Capacity Building grant recipient used grant funds to purchase a vehicle. The subprogram guidelines stipulate that capital equipment purchases will not be funded unless it is more cost effective to purchase than to lease the equipment for the life of the project. While some costs are intended to be recovered through a lease-back scheme, there is no evidence of written cost benefit analysis with EPA approval. It appears that the car was purchased prior to consultation with the EPA. While, the EPA subsequently followed up on this, stronger controls are recommended up front to ensure that proper spending is understood and adhered to.

It is evident from interviews with the EPA and Trust staff that financial reporting to the Trust is not providing sufficient information and transparency. For example, the Trust staff indicated that they were unaware that a vehicle had been purchased under the Regional Capacity Building program, or that the EPA was allocating investigation and remediation grants simultaneously.

The requirements for on-ground projects to request a variation from the EPA are unclear. The EPA indicated that if the UPSS grant recipients vary the works from the number of tanks specified in the investigation grant then a variation is required as specified in the grant agreement. Given that remediation grants are given out without a scope of work, it appears that as long as the work is completed within the full amount of the grant, no request for variation is required. The EPA indicated that in practice they approve the scope of works and recipients typically adhere to the scope and consult with them if they intend to vary it. However, the lack of strong controls increases the risk of funds being inappropriately expended.

6.1.3 Requirements for co-contribution should be consistently considered

Many of the subprogram guidelines include requirements for co-contribution. Evidence indicates that the projects that were most likely to have achieved substantial long-term impacts are those where the landholder took ownership of the problem and provided substantial co-contributions. However, these requirements have not been consistently applied when approving and selecting projects. Mechanisms for assessing co-contribution could be strengthened in the future to better target this type of recipient.

The Council Gasworks subprogram indicates that grants are to provide "seed funding" to larger projects but of the five remediation projects carried out under the subprogram, three projects (Cowra, Parkes and Bowral) reported co-contributions of 10 percent or less. Two projects reported more considerable co-contributions of 25 percent and 50 percent. In interviews, EPA staff indicated that some councils won't participate unless they are assured that the grant will cover all, or nearly all of the remediation. (Note, the overarching issues related to limited regulatory pressure on landowners is discussed in **Section 5.3**). It is difficult to see how this is "seed" funding.

The Council Road Reserves UPSS subprogram guidelines encourage shared ownership of projects between local government authorities and the EPA for the purpose of capacity building, skills development and knowledge transfer. Subprogram guidelines also contain provision for cost sharing for remediation projects. However, most of the active remediation projects under this subprogram did not consider information on cost-sharing arrangements in the application process.

In some cases, councils received grant funds to cover council administration costs in addition to receiving the full amount of funding for a project. The Trust has indicated that this is allowed only where the council had to employ someone specifically to undertake the project management (or to backfill a regular staff position while they managed the project). Evidence is insufficient to demonstrate whether this requirement is routinely applied or assessed.

6.1.4 Project selection should be transparent and strongly risk-based

The approach to selecting projects to fund varied across the subprograms and was not clearly documented. In a number of subprograms, application of selection criteria is inconsistent and unclear. As a result, the decision making process lacks transparency. The NSW Department of Premier and Cabinet Good Practice Guide for Grants Administration encourages agencies to ensure transparency by publishing procedures and criteria for making grant decisions. It is unclear if this was undertaken for this program.

While the Council Gasworks, Innocent Owner and Special Grants subprograms selection and criteria adequately reflect a focus on environmental risk, UPSS site selection was not based on strong evidence to determine levels of environmental risk. Good practice to ensure that the desired environmental outcomes are most likely to be achieved would be to prioritise project selection using an environmental-risk based approach.

On-ground projects

Applicants for all on-ground projects were required to complete a formal application. For the Council Gasworks and UPSS related subprograms sites were prioritised by the EPA (with steering committee input) prior to approaching potential applicants. Council Gasworks projects were selected based on a risk prioritisation list commissioned by the Trust in 2003. The prioritisation assessment is reasonable and the sites selected for the project generally reflect the high-priority risk-rating from this matrix.

For the UPSS related subprograms, local government areas were ranked using a set of partially risk-based criteria. These criteria are not clearly defined and are all weighted equally. Criteria associated with environmental risk were weighted equally with a criteria for "council engagement". The external technical reviewer noted that in many cases a high engagement rating meant a site was rated higher overall than a site with higher environmental risk. While council willingness to participate is important for project implementation, providing this with equal weighting with environmental risk ratings reduces likelihood that the highest risk sites will be targeted. Further, the engagement rating was based on whether councils had previously engaged with the EPA regarding UPSS or received Trust funding, which may not fully capture those interested in participating.

Once applications were submitted the subprogram guidelines provide additional assessment criteria against which to assess applications. While these criteria are sound in general, how they were applied and their relationship to pre-application selection criteria is poorly documented. In particular, the eligibility criteria for Gasworks includes criteria for value for money, community benefit, cost effectiveness and availability of other funding. It is unclear when and how these criteria influenced decision making.

Identification of on-ground projects under the Innocent Owner and Special Grants subprograms appeared to be on an *ad hoc* basis, and alignment to eligibility criteria was not clearly documented.

Addressing significant contamination

The subprograms with on-ground works were meant to be applied to sites that had "significant contamination". Initially sites were required to be declared significantly contaminated to be eligible (which continued for the gasworks program). However, for smaller projects it was considered sufficient for the EPA to determine that the site would likely be considered significantly contaminated to be eligible. This seems sensible as the process of declaring the sites is time consuming and would not add significant value for these sites.

While Council Gasworks, Innocent Owner and Special Grants sites appear to adequately reflect the program's focus on addressing significantly contaminated sites, the external technical reviewer did not consider that preliminary investigations of UPSS sites provided enough information to identify the presence of significant contamination or contamination warranting regulation.

For instance, the passive soil gas sampling was used to screen for contamination, but this does not provide conclusive evidence of the level of contamination on a site. Groundwater sampling, while more costly, is more useful for assessing the significance of contamination. Groundwater sampling was undertaken on potential remediation sites identified from passive soil gas sampling during the second round of the derelict UPSS Pilot subprogram. However, the criteria used for selecting sites based on the results of passive soil gas sampling are not clearly documented. The external technical reviewer indicated that it was difficult to determine the relative significance of sites from the information provided. There is also limited evidence of the development of conceptual site models at this stage, which would identify exposure pathways and provide a preliminary assessment of risk.

It is also not clear how site specific issues were considered in the initial desktop and scoping study for UPSS projects. The external technical reviewer considered that better consideration of site specific issues such as proximity to offsite surface water and groundwater receptors, proximity to residences, and depth to groundwater could have been used to better identify risk and develop conceptual site models.

Further, program guidelines indicate a requirement to document that contamination is considered likely to be significant, which was inconsistently applied.

Selection criteria for other subprograms

Table 5 provides an overview of the selection criteria used for other subprograms, as well as an assessment of the selection process.

Table 5 - Assessment of selection criteria for other subprograms

Subprogram	Overview and assessment of selection criteria
Regional Capacity Building	• Eligible co-operative council groups were invited to apply through an expression of interest. • Applicants submitted an application addressing a set of selection criteria outlined in the subprogram guidelines, including the environmental sensitivity of the region, identified contaminated sites issues, area-specific contaminated land issues known to the EPA, and willingness to participate as a group of councils. Applications generally adhere to these criteria. • Meeting minutes indicate that a revised set of evaluation criteria were subsequently developed and used to evaluate the applications. • While original criteria were considered, final site selection also focused on the "program objectives, geographic location in relation to access to expertise and the ability to achieve" • The basis of additional considerations appears sound and reflects overarching program objectives, but a more transparent approach would have included these considerations as criteria in the expression of interest. It is also unclear if the Trust were provided with information on additional considerations given to rankings. • Final decision making matrixes translate initial criteria into numerical rankings, but there is no documented guideline to show how numerical values were developed. The assessment of criteria also does not clearly show how the additional criteria were applied.
Regional Acceleration	• Sites addressed under the subprogram were sourced from a shortlist of sites on the EPA's notified sites backlog. • The Commission understands that this list included potential sites for both the Regional Acceleration subprogram and the EPA's Treasury-funded backlog program. • There is no documented selection criteria to demonstrate how sites for this subprogram were selected. • Interview evidence indicates that there was limited prioritisation from this list, and interviews indicate it was not sufficiently based on environmental risk.
Prevention and Education	• Projects for the subprogram were identified individually by the Program Manager for endorsement. • There was limited evidence of strategic needs assessment for the project that was approved under the Prevention and Education subprogram.

6.1.5 Program delivery at all levels requires clearer implementation planning

With some exceptions, business plans, subprogram guidelines and projects have limited formal planning. Planning documents lack sufficient detail to provide clear guidance on project delivery, such as specific deliverables and timelines.

Program and subprogram level

Both business plans provide a schedule of milestones. The quality of milestones decreased between business plans. Under the previous plan, milestones are more comprehensive and give a conceptual idea of when on-ground projects would be initiated and completed in different program stages, acknowledging that these may change due to the variable nature of contaminated land issues. Milestones are also aligned with the program objectives. Under the current business plan, milestones comprise of reporting deliverables and some key stages of some of the subprograms. In this case, milestones do not give a comprehensive outline of program activities and expected completion dates. They are also not linked to the achievement of program objectives. Appropriate milestones should be linked to objectives and demonstrate timeframes for all major activities and subprograms, including key stages of on-ground works such as engagement and estimates of when works will be carried out.

Subprogram planning under both business plans is largely limited to a high level description of subprogram stages, which sometimes indicates estimated timing. One exception is the Regional Capacity Building and Regional Acceleration subprograms, which have more detailed subprogram plans that align activities and outputs to outcomes, program measures, resources and timelines.

Both business plans note that limited program planning is driven by the unpredictable nature of contaminated land management and reliance on the activities of third parties. These issues actually increase the importance of implementation planning at a high level to ensure potential impacts of delays or unforeseen issues are easily identified and alternative actions have been considered.

Project level

For individual projects, both business plans indicate that project-specific plans and schedules will be developed. However, the Commission found limited evidence of detailed project planning. In the absence of implementation plans for on-ground works, it is unclear how expenses and time will be managed to achieve outcomes, or how risks such as project under or overspend and potential to miss deadlines will be managed.

It is understood the Trust typically would require implementation plans, where business plans are high level, prior to release of funds, but did not do so in this case. This would be good practice for ensuring that expectations are clear and risks have been properly mitigated. Lack of clear outcomes linked to implementation frameworks appears to have impacted the strategic planning and decision making across the subprograms.

In contrast to other subprograms, the regional plans developed for each by Regional Capacity Building staff appear to generally reflect good practice. Actions are targeted based on rigorous needs analysis and consultation with councils, and implementation plans are generally of high quality. Implementation plans are detailed and contain a robust breakdown of the stages and elements of the subprogram and how outcomes will be achieved. The Commission understands that in some cases, the Regional Project Officers responsible for implementing the subprogram made significant changes to the project plans provided to them in order to ensure the best approach to achieve the intended outcomes of the program. This indicates strong strategic planning and adaptive management.

6.1.6 Administrative processes and technical guidance should be formalised

It is evident from interviews that the EPA was heavily involved in setting up and in many cases managing the on-ground projects (e.g. gasworks and UPSS related projects). Most of the recipients indicated the EPA was easy to work with, and funds were easy to acquire. However, there are few formal controls or procedures in place for managing the projects, making it difficult to assess what project expectations were in terms of outcomes, timelines and budgets, and whether they were met.

The subprogram guidelines include sound application requirements, including requirements for details of the proposed works, cost estimates and specification of co-contributions. In general, the quality of approved applications continued to decline over the course of the program for the time period reviewed. Applications were often approved without adhering to the application requirements set out in the subprogram guidelines.

For example, while 60 percent of the projects funded under the Derelict UPSS Pilot subprogram provided a letter of notification with their application, no new projects funded under the Council Road Reserves subprogram supplied evidence of the level of site contamination. It is noted that in 2012 the EPA received Trust approval to remove the requirement for a declaration of significant contamination from site eligibility. However, the intention of this was to avoid the costs and delays of formally notifying a site. Sites were still required to fulfil the requirement of a significantly contaminated site through the identification of a source of contamination, a sensitive receptor and a pathway. While all sites proposed for the pilot were located in UPSS Sensitive Zones, no documentation was provided with applications that clearly outlined the nature of contamination and pathways.

Further, approximately 50 percent of UPSS applicants funded under the first business plan provided a scope of works or cost estimate, while no UPSS applications funded under the second business plan had these documents in their applications. Review of documentation indicates that project proponents did generally develop a scope of works at some stage in the project. However, the timing, quality and review of these scopes of works was inconsistent. A consistent approach to the requirement for a scope of works with a consistent review process would increase the likelihood that all projects are carried out to a consistent standard and improve accountability.

Several of the applications under the current business plan appear identical across projects, demonstrating little consideration of the project specific issues.

For the Council Gasworks and UPSS subprograms, it is unclear what purpose the application review process served given that the EPA sought out grant recipients, guided them in what to apply for and how, and then were responsible for approval of applications. In interviews the EPA indicated the applications (for on-ground works) largely served to ensure that a senior council official was aware that the grant was being undertaken. It is noted that the grant administrator was not the EPA representative who signed the grant agreements, which is good practice.

It is understood that the EPA is responsible for providing technical guidance in the program. The EPA indicated in interviews that they were routinely involved in oversight of projects and approved key documents such as the scope of works, once they were developed. However, there are limited formal processes apparent to ensure that the EPA was providing technical input at key decision making points consistently.

A review by an external technical reviewer of a representative set of projects found significant variation in the type and quality of project approach and documentation. This implies an apparent lack of consistent technical guidance in regards to standard work required to achieve project

objectives. Some variation would be expected due to councils' levels of knowledge and guidance received by different consultants. However, given the involvement of the EPA as a technical advisor it would be expected that projects would be carried out to similar standards based on assessment of risk and desired outcomes. Most grant recipients interviews indicated that oversight was informal and *ad hoc*, which increases the risk of variations in project approaches.

Councils also noted a lack of guidance material and standard templates to guide project management and decision making. While this may be suitable to some projects due to their 'unknown' nature, for UPSS and Council Gasworks subprograms clearer guidance on process, including templates and guidelines would have assisted grant recipients in implementing their projects. One submission to the EPA's Contaminated Land Management Steering Committee identified the potential to develop a technical guidance note for the standardised approach to managing derelict UPSS sites. This could have been a useful document to councils but it does not appear that this has been included as an approach in the current business plan.

Recommendations

5. Ensure measures are in place to ensure financial control and probity, including:

- Require a clear scope of works for the allocation of funds. Where this level of detail is not feasible at grant allocation, make the release of funds contingent upon approval of clear implementation and budgetary plans and outcomes.
- Financial reporting frameworks that ensure consistent reporting of actual spend at least quarterly, and ensure information is collected to assess cost-effectiveness, value for money and in-kind contributions.
- Clear and robust requirements for spending of grant funds, for instance specification of what is an allowable on-cost.

6. Improve project selection by ensuring robust risk-based selection criteria that reflect program objectives, and ensuring consistent and transparent use of this criteria, including documentation of decision making.

7. Improve the grant application process by:

- ensuring grant application guidelines are adhered to
- establishing a more independent review of applications if the administrator is to remain heavily involved in developing the applications.
- considering opportunities to implement contestable application processes.

8. Require an implementation plan at the program and subprogram level from administrator (if devolved) or require further details in business plan prior to funding.

9. Ensure technical review is consistently conducted at key decision points including approval of the scope of works, changes to on-ground work approach and review of project progress reports.

10. Develop guidelines and standard procedures for project managers where possible, with direction on general approaches and quality criteria for investigation and remediation to allow for consistency of approach and improved efficiency.

6.2 Program design

Key Findings

- **Program logic can be strengthened**: Subprograms and activities require stronger needs analysis. Objectives and outcomes should be clarified and supported by implementation planning to demonstrate how actions will achieve outcomes.
- **Program risk management can be improved**: Risks associated with project delivery, devolution, and unintended negative consequences need to be considered and mitigated.
- **Outcome-based monitoring and evaluation can be improved:** Monitoring and evaluation does not adequately capture and assess the achievement of outcomes. While the frequency of reporting and evaluation at the program level has increased over time, project measures are insufficient to demonstrate outcomes and there is limited reporting at the subprogram and project level. Quality of reports was also often low, limiting the usefulness of reports.
- **Lessons should be used to drive adaptive management:** Although there is evidence of learnings across the program period, these do not appear to have been sufficiently used to drive improved practice. When it did occur, sharing of lessons was informal and *ad hoc*.

6.2.1 Program logic can be strengthened

There is a lack of clear program logic both for the overall program and for the subprograms within the overall program. Limitations created by the context in which the program operates and the complexities of managing contaminated land were outlined in the previous chapter. These do not appear to have been fully considered in the development of the program. A sound program logic based on a needs analysis, risk, clear and achievable objectives, and desired outcomes would improve the program.

There is limited evidence of a needs analysis to support the selection of the subprograms and associated activities funded through the program. Generally the justification for subprograms weakened between the two business plans. The Council Gasworks and Innocent Owner subprograms are most strongly supported by justification of potential environmental harm and need. The support provided for these subprograms is clearer under the first business plan than in the second. There is limited evidence of learning and review based on the first business plan.

The development of the Council Road Reserves UPSS and the Regional Acceleration subprograms under the second business plan in particular appear to be weakly supported by strategic assessment of evidence, need or how to best achieve outcomes. The justifications of these subprograms are not strongly risk-based or adequately evidenced. For example, the external technical reviewer considered that the decision to focus on council road reserves under the second UPSS subprogram was not based on environmental or human health risk. Risks mitigated by the Regional Acceleration subprogram are potentially overstated, as only one site has been progressed to possible regulation for significant contamination.

Both business plans provide overarching aims, visions, objectives and outcomes for the program. There are also high-level outputs provided in the business plans. These are provided in **Attachment 5**. Objectives for the subprograms are more clearly outlined in the previous business plan, which provides project aims and links to program and Trust legislative objectives. Objectives for the subprograms and links to higher level objectives are less clear in the current business plan.

Under both business plans project-level objectives are inconsistently outlined, and are not clearly linked to the overarching framework.

The current business plan lacks a clear logic that incorporates objectives, desired outcomes, and demonstrating how actions will achieve those outcomes. The hierarchy of aims, visions, objectives, outcomes and outputs is duplicative and not well aligned. The objectives of the current plan are broader in comparison to the previous plan and are generally less measurable. The previous plan provides six objectives that are generally more specific (for example, "*develop appropriate, ongoing solutions to the risks posed by derelict UPSS sites*"). Conversely, the current business plan includes three objectives, only one of which is carried over from the previous plan. The new objectives are broad and difficult to measure, for example "*prevent other sources of contamination that may be posing a burden on regional/former industrial areas of NSW*".

Links between the subprograms and objectives in the current business plan are less clear than those in the previous business plan. General outcomes such as "reduce environmental risk" are discussed, but project measures are focused on outputs rather than the desired outcomes.

Both business plans link the program to NSW Government objectives relevant at the time the business plan was developed. Both business plans provide links to the Trust's objects and the current business plan links the program to EPA strategic objectives. Further assessment of the alignment to Trust and EPA objectives is provided in **Section 5.1**.

6.2.2 Program risk management can be improved

Both of the business plans contained a risk assessment examining potential risks to program delivery. Several relevant risks that were identified in the previous business plan have been omitted from the current plan with limited justification. These include risks associated with sites not being fully remediated, and projects taking longer than the program period.

Under the current business plan, all projects were meant to be completed within the three years from the issuance of the grant to the EPA. Documentation and interviews with the EPA and Trust staff indicate this created difficulties for the EPA. Concerns over the timeframe for completing the projects are frequently noted as an issue or "lesson learned" in the EPA Contaminated Land Steering Committee minutes. However, it is not evident that the timeframe was duly considered in the planning stage, or what steps would be taken to address the issue. Given that the types of projects funded through this grant can take one to two years, sites should be identified in the early stages of the program. Alternatively, a rolling approach to grant periods as applied under the first business plan could be considered, though this would create difficulties if the administration is devolved.

Risks associated with funding allocation do not appear to have been adequately addressed at the program design stage. EPA representatives indicated that they had planned for receiving the full $6 million allocation at the start of the grant, whereas the grant agreement indicates it will be allocated as $1 million every 6 months. The impact of this funding allocation is frequently noted in documentation as an issue by the EPA. The Trust has indicated that grant recipients may request specific timing for allocation of funds consistent with demonstrated need based on clear project and budget plans, and that timing is specified in the grant agreement.

In addition the evaluation identified risks that do not appear to have been fully assessed by the Trust, such as, risks associated with the newly adopted fully devolved model (the impacts of which are discussed further in **Section 6.3.1**).

Of particular concern is the potential risk for unintended negative consequences, which does not appear to have been adequately addressed. Many on-ground projects provide funds to a party

who is legally responsible for addressing identified contamination. Interview results indicate that rather than improving knowledge of landholders regarding their responsibilities, the program may create a false sense that landholders (councils in particular) can expect the Trust/EPA to take responsibility for managing and funding remediation in perpetuity. Similarly, funding for the Environmental Lead Program under Special Grants was acknowledged as filling a gap in on-going Treasury funding, which may create an undesired precedent for future Trust funds.

This concern is particularly evident in interviews from the Derelict UPSS Pilot subprogram in which there was little involvement of council staff, and minimal transfer of knowledge. Interviewees from local councils often were unaware of the status of the identified tanks that the EPA hadn't chosen for remediation. There is a risk that councils participating in either the Derelict UPSS Pilot or the Council Road Reserves UPSS subprograms are left with the impression that risks on their sites have been fully mitigated when they have not.

6.2.3 Monitoring and evaluation can be improved

Evaluation frameworks

Both business plans outlined an evaluation framework for the program that links the outcomes hierarchy to evaluation questions and performance indicators. The Trust note that the framework in the previous business plan was developed in line with Office of Environment and Heritage (at the time, Department of Environment and Conservation) guidance material for project evaluation. In general, shortcomings of the outcomes hierarchy, including clarity and measurability, as discussed in **Section 6.2.1** limit the ability of the Trust to assess whether the grantee is suitably achieving the desired outcomes.

There is a general decline in the quality of the evaluation framework between the previous and current business plans. Declines in quality are seen in the links between the outcomes hierarchy outlined in the body of the business plan and the outcomes presented in the evaluation framework. For example, the current evaluation framework combines different levels of the outcomes hierarchy and certain elements of the hierarchy do not appear to be included in the evaluation framework. An example is the objective to "*prevent other sources of contamination that may be posing a burden on regional/former industrial areas of NSW*." As a result, the evaluation questions and performance indicators do not clearly align with the original outcomes hierarchy.

Further, there is a decline in quality in the performance indicators. Current performance indicators are largely output-based in comparison with the previous plan. For example, the current plan measures the "number of sites investigated/remediated or resolved" while the previous plan provided more specifically outcomes-based measures, such as "number of sites where funded projects have resulted in a change to regulatory status" and "number of sites showing recovery". One exception in the current business plan is the survey of capacity for regional areas, which has the potential to demonstrate actual program outcomes.

As previously noted, objectives and outcomes at the subprogram and project level are currently limited. In many cases objectives and outcomes are not clearly stated and where present they are not designed to be measurable.

Reporting under the previous business plan

There was limited reporting at the program, subprogram and project levels under the previous business plan. The EPA was required to provide information on the program overall in annual reports. However, annual progress reporting did not occur. Instead, a final report at the end of the business plan period was accepted by the Trust, in addition to a specific review of the outcomes of the Derelict UPSS Pilot subprogram. Trust and EPA interview respondents indicated that the Trust

kept up to date on the progress of the program through the oversight subcommittee and given that they were the administrator of the funds.

The final report reflected on some learnings for each subprogram but the extent to which these informed future program activities is unclear. The report did not adequately evaluate the outcomes of the program, focussing mainly on outputs such as total funding and number of grants approved. There was no clear assessment against the evaluation framework outlined in the business plan.

Reporting under the current business plan

Under the current business plan, the EPA is required to submit mid-term and annual reports. These progress reports have been submitted in the required timeframes. While the frequency of reporting required at the program level increased under the current business plan, reporting focusses on recording outputs and there has been limited evaluation of program outcomes by the EPA. Performance measure reports for many subprograms have been limited to reporting number of projects and staff hours.

Where current program level report structures had the potential to capture useful information to track project progress, manage issues and support continuous improvement, they were generally not completed to a high standard, limiting their usefulness. Progress reports lacked detail and clarity around issues and outcomes, and often contained little to no new information from previous reports. Reports were generally focussed on the program and subprogram level and did not contain details of issues and challenges arising from individual remediation projects. The evaluations presented in progress reports did not explicitly align with Trust or business plan objectives, expected outcomes or the evaluation framework.

There is limited evidence capture at the subprogram level, with only the Regional Capacity Building subprogram required to submit mid-term and annual progress reports, covering similar areas as the program progress reports. Monthly progress reporting from the program manager is also required; however this is not formally documented. These reports were submitted in the required timeframe. The Commission understands that Regional Capacity Program staff conducted a survey to understand capacity at the beginning of the program. Ensuring a follow-up survey of capacity at the end of the program has the potential to provide valuable insights regarding subprogram outcomes.

Project level reporting

There is little evidence of consistent progress reporting and information gathering at a project scale during project activities. Under both business plans end-of-project evaluation information was gathered from the grant acquittal report. While the questions asked in the grant acquittal reports were generally sound, there is minimal alignment between grant acquittal questions and broader program objectives and outcomes. In some cases, responses to grant acquittal questions were high level and lacked critical analysis linking the project outcomes to the overall outcomes of the program. Under the current business plan, some longer-term projects were required to submit additional progress reporting. However, the majority of sites have not progressed far enough at this stage to assess if these reports were submitted or whether they add value.

6.2.4 Lessons learned should drive adaptive management

The business plans provide a brief outline of stakeholder communication strategies, but communication was largely determined on a project-by-project basis. There were limited formal structures to share lessons and disseminate information about the program and lessons to grant recipients. Interview evidence indicates effective communication between staff in the Regional

Capacity Building and Regional Acceleration subprograms which allowed some lessons to be shared. However, this process was largely informal and *ad hoc*.

In some cases lessons were identified by the technical sub-committees, as indicated in the minutes, but then do not appear to have been acted upon. For instance, key learnings from the previous business plan do not appear to have been adequately addressed under the current business plan, particularly in regards to design of the derelict UPSS subprograms and program administration.

A lack of formal communication strategy for lessons and continuous improvement has resulted in limited sharing of knowledge between the Trust, EPA and grant recipients. Although there is evidence of learnings across the program period, there appears to be limited adaptation based on learnings, or poorly considered adaptation.

Recommendations

11. Develop a program logic based on clear objectives and a strategic assessment of priority areas for investment, prior to committing funds.

12. Ensure a robust risk assessment is carried out to identify risks to program implementation and controls are in place where necessary.

13. Ensure an assessment of potential perverse outcomes of the program and associated risks is undertaken, and identified risks are adequately controlled in program design where necessary.

14. Strengthen monitoring and evaluation framework to focus on measuring outcomes and share knowledge. In particular:

- Establish one clear set of objectives, outcomes and outputs that are clearly aligned and consistent with the Trust's objects.
- Ensure objectives, outcomes and outputs at the program, subprogram and project level are specific, measurable, achievable and appropriate for the funds, timeframe and scale of the projects.
- Establish clear roles and responsibilities for the active capture and sharing of knowledge and good practice, and implement measures to assess effectiveness of knowledge sharing.
- Revise reporting requirements to allow for evaluation of the program outcomes, assessment of whether what was proposed was delivered, and efficient collection of useful information for completing program evaluation and informing future works.

6.3 Governance

Key Findings

- **Governance structures are in place:** The program has developed some sound governance structures including formal agreements between the Trust and EPA, formal agreements for grant recipients, and oversight committees.
- **The positive and negative impacts of devolving the grant should be assessed and alternative options explored:** Devolving the program did not resolve the issues it was meant to address such as time delays in funding and decision making, and created additional problems. There does not appear to have been an assessment of the range of alternative options examining value for money, technical capacity, potential conflicts of interest or administrative capacity.
- **The role of the EPA's Contaminated Land Management Steering Committee should be reassessed:** The Contaminated Land Management Steering Committee and the Trust's statutorily required technical committee – the Environmental Hazards Subcommittee – provide good oversight and sound guidance at the stages that they are involved. However, there is potential for the current structure to be streamlined and strengthened.
- **Greater accountability for performance and deliverables is requested:** There is evidence of significant delays in the EPA addressing identified issues and undertaking action items. There are limited mechanisms in place at either the program or project level to ensure accountability, or address poor performance.

The program has developed some sound governance structures including formal agreements between the Trust and EPA, formal agreements for grant recipients, and oversight committees. Both business plans provide information on the general project roles and responsibilities of the Trust, EPA and the various subcommittees. The quality of formal governance agreements between the Trust and the EPA has improved from the previous to current business plan. There was no formal agreement under the previous business plan, but there was a grant agreement developed for the devolved management under the current business plan. Formal agreements exist between the Trust or EPA and individual grant recipients. These grant agreements are sound, containing standard conditions including funding conditions, payment schedules and reporting requirements.

6.3.1 The benefits and risks of devolving the grant should be more closely considered

Interview evidence indicates that the program administration was initially devolved to the EPA because of the technical expertise required for carrying out contaminated land management projects. Under the current business plan, it was decided that the management of the program should be completely devolved to the EPA. In the EPA's request to the Trust that they devolve the grant, the reasons for devolving the program are outlined. The primary rationale given was that the original review and funding approval process did not allow for the quick and iterative management decisions required for contaminated land management. The decision to devolve the grant administration does not appear to have been strategically evaluated or the range of alternative options considered.

Grant recipients were generally pleased with the flexibility provided as a result of EPA being the primary manager of the program. However, both EPA and Trust staff interviewed indicated that devolving the program did not resolve timeliness issues, and the EPA steering committee involved an additional layer for some approvals, such as for acquittal reports.

The assessment of the key drivers for timeliness issues do not appear to have been fully assessed. Further, there does not appear to have been an assessment of the range of alternative options examining value for money, technical capacity, potential conflicts of interest or administrative capacity.

6.3.2 The role of the EPA's Contaminated Land Management Steering Committee should be reassessed

The Trust has statutory requirements for technical subcommittees to review certain aspects programs. Under the current program, the Trust's Environmental Hazards Subcommittee fulfils the technical committee role for the contaminated land program, as well as several other programs. This subcommittee provides high level review and oversight for issues such as approval for acquittal of final reports for the subprograms. Under the first business plan the Trust operated a subcommittee dedicated to providing advice and oversight of the contaminated land management program specifically, including approval of project grants. Under the current business plan, the EPA has elected to continue a similar technical committee to provide advice and oversight for the contaminated land management program, which is called the Contaminated Land Management Steering Committee.

While the subcommittees generally provided good guidance with the information provided, the current structure can be streamlined and strengthened.

In general, the subcommittees served to provide independent oversight and provided relevant technical insights when presented with adequate information. However, it is unclear the extent to which their governance shaped good decision making and improved management. For example, the Environmental Hazards Subcommittee provided insightful and critical reviews, raising a number of significant issues regarding the reporting of outcomes, financial transparency and justification of decisions as part of their review of annual reports and the Derelict UPSS Pilot final report. The subcommittee have endorsed the most recent annual report. The Derelict UPSS Pilot final report has also been endorsed under the condition the EPA address a number of outstanding issues, but the Commission has not been provided with sufficient evidence to confirm if and how these issues were addressed.

The need for the EPA to continue a technical committee similar to the Trust's first subcommittee in the devolved model is also unclear as the EPA was selected as the administrator for their technical expertise. A clearer needs analysis and reconsideration of the roles and responsibilities for the steering committee may be warranted.

While the EPA steering committee and the Trust subcommittee have different roles, there is overlap in their responsibilities and the structure is somewhat duplicative. Methods for the Trust to be better informed of the EPA steering committee activities, such as participating as an observer, or requiring submission of detailed minutes should be considered to improve communication. It is understood that direct participation is not deemed appropriate due to a potential conflict of interest. Further consideration should also be given to defining the role of the contaminated land management steering committee.

6.3.3 Greater accountability for performance and deliverables is needed

The evaluation indicates that there is a lack of accountability at the program and project levels. There is evidence of significant delays in the EPA addressing identified issues and undertaking action items requested by the Trust or subcommittees. Interviews and documentation demonstrate that issues raised by the Trust were often slow to be addressed. Meeting minutes from the Contaminated Land Management Steering Committee indicate action items carried over for many

months without any apparent action and seemingly no discussion by the committee about why the items weren't progressing.

There are limited mechanisms in place either to ensure accountability, or address poor performance either between the Trust and EPA, or between the EPA and project grant recipients. The Trust has limited ability to take action on issues that it raises. While under the current business plan the release of the grant funds can be delayed due to performance concerns, the Trust appears to be reluctant to do this in practice. Further, as noted, reporting is limited so it may be difficult to establish whether funds should be withheld.

The grant agreement between the Trust and the EPA for the current business plan contains minimal specifications for the activities the EPA is expected to undertake, and there was no agreement for the previous business plan. Further, requirements for reporting are insufficient to adequately assess actions in many cases. It is understood that in other Trust programs more detailed implementation plans are required to be submitted and approved annually prior to release of funds. This would improve accountability and provide better clarity regarding expected actions and outcomes.

Grant agreements at the project level contain minimal specifics, and funds are fully allocated up front. While evidence indicates that grant recipients were willing to comply with EPA requests and requirements, subsequently imposed, the lack of detail in the agreements creates a risk of poor control over funds and limits accountability.

Recommendations

15. Determine whether to devolve administration of the program based on an assessment of the expected added value and risks, including assessment of value for money, technical capacity, administrative capacity and any potential conflicts of interest.

16. Assess the role of the Contaminated Land Management Steering Committee, including in relation to that of the Trust Environmental Hazards Subcommittee. Streamline the governance structure if possible, or more clearly define their roles.

17. Ensure the Trust is fully informed of the activities of Contaminated Land Management Steering Committee meetings, if the program is devolved and the steering committee is maintained.

18. Establish clear roles and responsibilities for the program administrator (if the grant is devolved), and include stronger mechanisms to ensure accountability.

Attachment 1 – Detailed outcomes and achievements

1. On-ground project outputs and outcomes

As the program is still underway, not all projects were completed at the time of the evaluation. A number of projects involved multiple grants, which were allocated for different stages of work. The evaluation considered a total of 22 on-ground projects. Of these, 13 had at least one stage of grant funding completed, including one Innocent Owner project, four Council Gasworks projects, two Derelict UPSS Pilot investigation projects, five Derelict UPSS Pilot remediation projects and one Special Grants project. Additionally, 12 projects had at least one stage of grant funding awaiting completion, or had no stages complete. These sites included three Council Gasworks projects, 7 UPSS sites, and two Special Grants. For these sites, available documentation was assessed.

To ensure a broad range of projects were available to evaluate, the Commission considered projects where all or part of a project was approved in the weeks preceding the start of the previous business but where the grant was largely administered during the previous business plan period.

In many cases, it was difficult to determine performance standards that should be applied for individual projects. Many project applications were submitted without a clear scope of works and individual projects lacked performance measures in the documentation provided to the Commission. This made it difficult to quantify to the extent to which projects met performance standards. The limitations of grant acquittal reports are discussed further in **Section 6.2.3**.

A summary of the works and outcomes of completed projects is provided in **Table A1.2** at the end of this chapter. The Commission reviewed grant acquittal reports and available scope of works documents to infer required actions and assess the achievement of on-ground outputs. Statements by the EPA in grant acquittal reports generally indicate the objective to investigate or remediate a particular site and indicate that, in general, on-ground projects delivered the expected outputs. EPA acquittal reports indicate that one project did not clearly meet its expected outputs, with works to achieve the expected outputs being funded under a second grant.

Project reports are limited in their discussion of outcomes and in most cases do not explicitly link project outcomes to the intended outcomes of the program under the business plans. For this evaluation the Commission has inferred the likely outcomes for completed on-ground projects based on grant acquittal reports.

The completed projects are achieving some good outcomes on-ground and appear to be achieving specific objectives within individual projects. The Innocent Owner and Special Grants remediation projects in particular have generally demonstrated good outcomes related to the removal of likely sources of human health and environmental risk. However, in some cases the focus of measurable objectives and outcomes is on human health risks, making it difficult to quantitatively assess environmental outcomes (for example, Broken Hill and Young projects). In the case of the Young Battery Recycling Facility project (Innocent Owner), the declaration of significant contamination was able to be removed from the site.

Council Gasworks remediation projects have generally removed on-site sources of potential significant contamination, and the on-ground objectives of the specific works appear to be met. However, remediation outcomes were not commonly achieved on surrounding properties. In many cases, this reduces the likely effectiveness of the on-ground works in achieving desired

environmental outcomes. Under one project, further works and on-going management is likely to be required.

The Derelict UPSS Pilot projects have removed or decommissioned 25 underground petroleum storage tanks. The Commission recognises that the removal of tanks is likely to have reduced the risk of contaminated land. However, the nature and extent of the contamination or contamination risk prior to tank removal is difficult to quantitatively determine from the data available. For example, preliminary screening using passive soil gas sampling does not provide sufficient quantitative information regarding levels of contamination and the criteria used to identify high risk sites from passive soil gas sample data is not clearly documented. Further, as conceptual site models were not developed for these sites, it is difficult to assess the extent to which exposure pathways or risk have been removed.

2. Derelict UPSS Pilot subprogram results

In addition to funding on-ground works, the Derelict UPSS Pilot Program had overarching objectives to:

- identify the challenges and possible solutions for a range of UPSS sites in different settings and circumstances
- provide a comprehensive view of the range of associated issues to help in the development of a state wide solution for managing derelict UPSS
- enable and support local government authorities to investigate and determine the best tools for dealing with abandoned UPSS sites
- encourage shared ownership of projects between local government authorities and OEH (now EPA) resulting in capacity building and skills and knowledge transfer.

The EPA was required to produce a final report on the subprogram that addressed the overarching objectives. The capacity building outcomes of the subprogram are discussed in the following section. In relation to the other objectives, the outcomes of the subprogram were limited.

Development of state-wide solutions

The Derelict UPSS Pilot Program Overview Report identified a number of challenges, in particular noting the issue was larger and of greater complexity than anticipated. Despite this acknowledgement, the scale of funding needed state-wide was not determined in the initial Derelict UPSS Pilot Program Overview Report. At the request of the Trust Environmental Hazards Subcommittee, an additional report regarding the pilot study was produced by the EPA to provide estimates on state-wide remediation costs and possible solutions.

Table A1.1 outlines state-wide remediation costs for regional derelict UPSS as calculated by the EPA. The EPA provides a wide range of potential costs based on a number of assumptions relating to average remediation cost per tank and average number of tanks per site. The resulting estimates range from $21 million to $280 million in total. Given the lack of clarity around the basis for assumptions and the very broad range of the estimates, they are of limited use for development of state-wide solutions.

The estimates provided by the EPA do not clearly apply the findings of the pilot study to identify the most likely scenario within the range of estimates provided. **Table A1.1** outlines two estimates developed by the Commission based on the findings of both the Derelict UPSS Pilot and Council Road Reserves subprograms. These estimates provide a narrower range of potential costs between $77 million and $100 million. However, it should be noted that these estimates are based on some

of the EPA's provided assumptions such as the number of potential sites, for which the accuracy could not be verified.

There are a number of uncertainties surrounding the estimated number of regional sites to be addressed. The estimated number of sites is derived from the 2011 WorkCover NSW (now SafeWork NSW) licence database. There are a number of assumptions presented by the EPA that are not clearly supported by pilot findings and may impact on the validity of the estimate. These include that 50 percent of derelict sites are found in regional areas, and that all derelict UPSS sites require remediation.

Further, information from the pilot regarding the proportion of unlicensed sites does not appear to have been incorporated into estimates. In the pilot findings, the EPA notes many older tanks located within road reserves were installed prior to the development of licencing requirements and the WorkCover database. The pilot subprogram found that approximately 25 percent of sites identified were unlicensed. This information has not been included in the estimates, which may impact on the accuracy of the estimate.

Continued funding of UPSS remediation through the Trust does not appear commensurate with the estimates of the issue developed by both the EPA and Commission. For example, EPA estimates assume that there are 700 sites that require investigation and remediation in regional areas. In comparison, the current derelict UPSS subprograms were only able to address approximately 12 sites over a six year period. The Trust has also questioned whether it can provide a sustainable state-wide solution with its available funds given the scale of the issue.

Other avenues for funding of derelict UPSS are suggested in the EPA's reports but do not include any detail on potential implementation timelines, management, cost or funding sources. For instance, in the latest report a fuel levy is proposed as a possible solution, with estimated costs provided. However, this report does not appear to have been formally approved or released, and there is little evidence that it has resulted in the progression of a state-wide solution.

There is little evidence to indicate that the pilot program has led to any further development of state-wide policy or strategy, or that the pilot overview report explored a range of possible solutions to the issues identified. The initial subprogram review resulted in the development of the Derelict UPSS Council Road Reserves and Regional Capacity Building subprograms under the current business plan. However, this does not represent a sustainable state-wide solution as was the intent of the subprogram.

Table A1.1 - Summary of EPA and Commission estimates on state-wide derelict UPSS remediation costs in regional areas

Estimate	Total cost	Assumptions	Limitations
EPA low end costs estimates Based on an average of $30,000 per tank for investigation and remediation	$21 - $84 million	**Assumptions** • Range of estimates based on average tank per site scenarios from 1 to 4 tanks per site. • Estimate assumes 700 regional sites, and all sites are located in road reserves without any responsible party identifiable. • Based on 1470 expired sites identified in 2011 on the NSW WorkCover database (now SafeWork NSW) and assumes approximately 50 % of sites are located in regional areas. • Expired sites are those licenced for Class 3 Dangerous Goods Storage.	**Limitations** • Cost per tank estimates is not clearly linked to pilot program findings. • Estimate does not provide an indication of the likely average number of tanks per site. • It is unclear how accurate the assumption of 50 % of sites in regional areas is. • Calculation does not consider unlicensed sites. • Does not consider cost of initial desktop/scoping study.
EPA high end of costs estimate Based on an average of $100,000 per tank for investigation and remediation	$70 - $280 million		
Commission estimate Based on actual spend in pilot subprogram	$100 million	• Average remediation cost per site is $112,647, calculated based on average cost per tank across all sites ($37,549/tank) multiplied by average tanks per site from the pilot program data (3 tanks). Data is from sites acquitted as part of the pilot subprogram (excludes Gunnedah, as work is ongoing). • Average investigation cost per site is $30,832 based on inclusion of average cost for groundwater sampling provided in EPA's UPSS Pilot Program Overview Report. • Does not consider cost of initial desktop/scoping study. • Pilot program costs may not be reflective of actual cost as program is refined based on lessons learnt.	• Does/does not consider additional sites to account for unlicensed sites. • Does not consider average cost for tank inspections, passive soil gas sampling and ground penetrating radar scans. • Does not include cost of initial desktop/scoping study.

Estimate	Total cost	Assumptions	Limitations
Commission estimate Based on grant amounts awarded in the council road reserve	$77 million	• Average cost per site for both investigation and remediation is $110,475, calculated based on average cost per tank across all sites ($36,825/tank) multiplied by average tanks per site from the pilot program data (3 tanks).	• Does not consider additional sites to account for unlicensed sites. • Based on grant allocation only, not actual spend, as projects are not complete. It is unclear what the actual costs under this subprogram will be. • Does not include cost of initial desktop/scoping study.

Developing best practice tools for abandoned UPSS sites

The pilot program aimed to "investigate and determine the best tools for dealing with abandoned UPSS sites". The pilot involved a desktop survey of UPSS sites. From this, three investigation tools were applied to a selected group of sites, including tank inspections, ground penetrating radar scans and passive soil gas sampling. In general, all investigation tools were used at each site. Five sites were also investigated further using groundwater sampling wells. After the investigation stage, a number of sites had remediation undertaken in the form of tank removal and validation. While the pilot identified some lessons regarding possible practices that could be applied to future management, the Commission does not consider that the design of the subprogram allowed for the identification of the best tools for dealing with priority sites.

The design of the pilot made it difficult to determine the relative success of different approaches and identify which ones would be considered "best tools". The pilot program is outlined in the business plan, but the subprogram guidelines did not provide a detailed outline of the tools that would be assessed in the pilot. There is limited explanation regarding why the tools used during the pilot were selected. For instance, it is not clear if the approaches were selected because they were innovative or had strong evidence supporting their potential benefits. With the exception of the sites where groundwater sampling was carried out, all sites generally received similar investigation and remediation approaches, making it difficult to determine the relative effectiveness of the tools investigated. Without a clear outline justifying the methods chosen, it is unclear if the pilot investigated a full range of possible approaches.

The final evaluation review provided limited insight and detail regarding best practice tools for investigating and remediating UPSS sites. In the final review report for the subprogram, the final assessment of best practice approaches is that "the combined application of tank inspections, passive soil gas sampling and ground penetrating radar scans provided valuable and comparable information on the tank status, level of contamination and associated risk. Management of multiple sites at one time was found to be cost effective." Best practice tools for remediation are not discussed in detail in the final report.

The finding that the management of multiple sites is cost effective is an important one. However, overall the pilot does not provide a level of detail that explains how final assessments of the selected tools were made. It is unclear what criteria were used to assess the tools, for instance value for money or effectiveness. Although the final review report indicates that the three investigation tools are valuable, previous reports indicate a number of challenges associated with the approaches which are not clearly outlined in the final assessment, including rain impacts on the effectiveness of passive soil gas samplers, and the limited value of tank inspections.

A review of the pilot program documents by an external technical reviewer further highlighted a number of potential limitations that may have been identified using more rigorous evaluation criteria. For example, while cost-effective for addressing multiple sites, outside of assessing potential vapour intrusion risk to humans, passive soil gas sampling is not a conclusive measurement of contamination levels in soil or groundwater.

Further, the external technical reviewer indicated that the standard approach to investigation and remediation applied to the projects could be considered "gold-plating" in the context of derelict UPSS. The reviewer considered that the cost of the projects did not appear to provide a commensurate reduction in risk, and suggested that alternate approaches could be considered, such as streamlining the investigation through more thorough desktop analysis and proceeding directly to tank removal and site validation.

There is limited evidence that the pilot was used to develop standard guidance documents regarding site works and approaches. For example, while the final assessment indicates that the three investigation tools used provide "valuable and comparable information on the tank status, level of contamination and associated risk" there was no framework developed to apply the findings of these investigations to future decision making during site investigations. Indeed, the criteria and thresholds used to select sites for remediation from investigation results are unclear. With limited detail provided in the final pilot evaluation and a lack of guidance documents, it is unclear how the findings will be used to inform ongoing management.

Case study – Potential improvements derelict UPSS subprograms based on pilot findings

The Commission's advice to the Trust is that it should no longer fund specific derelict UPSS subprograms. However, the review of selected projects by the external technical reviewer provided a number of insights that may be useful to local councils or the EPA when addressing derelict UPSS in the future. A summary of these insights are included in the following case study.

Undertake a more detailed desktop and inspection stage to improve site risk assessment and selection

- An effective desktop survey should allow for development of a basic conceptual site model of contamination to support decision making regarding remediation. Risk rankings do not appear to have considered a number of important site-specific issues that could be used to develop a conceptual site model and improve risk assessment.
- The desktop study should consider and document site-specific issues such as proximity to surface water and groundwater receptors, proximity to residences, depth to groundwater, local groundwater usage, the number of tanks, ages of tanks and site inspection observations such as housekeeping and evidence of management.
- Proximity to residences or a specific sensitive environmental receptors could be used as a key risk criteria to determine if a site meets the criteria of being significantly contaminated. The external technical reviewer notes that UPSS sites are rarely declared significantly contaminated unless there is significant offsite contamination in proximity to a residence or a sensitive environmental receptor.
- Some sites were progressed to preliminary investigations, which subsequently found that contamination was coming from adjacent sources. The desktop study should identify potential for contamination onsite to be caused by adjacent land uses. Sites with potential contamination from operational UPSS sources should not be progressed to the preliminary investigation stage unless a collaborative approach is undertaken to ensure all necessary investigation and remediation can be completed.
- In cases where operational offsite sources of contamination are identified, one approach could be to notify the EPA of the presence of a derelict UPSS in proximity to an operational UPSS, and potential impacts could be assessed as part of monitoring for UPSS regulation.
- A more detailed assessment of the presence of active UPSS, responsible parties and financial capacity should be included in the desktop study stage. The reviewer noted that some sites were progressed to the preliminary investigation stage, which were then rejected for remediation on the basis of having active UPSS and having a responsible owner. This suggests the desktop study did not adequately identify responsible owners.

Reconsider overall approach to investigation and remediation to ensure cost is commensurate with reduction in risk

- The use of passive soil gas sampling as the main investigation screening tool should be assessed to ensure it is appropriate for the intended outcomes of the program. The reviewer considered that, while this method is appropriate for assessing potential human health risk via vapour intrusion, it cannot be relied upon to determine the significance of contamination.
- In particular, passive soil gas sampling does not address contamination risk at depth or into groundwater. As risk to groundwater is a key selection criteria used in the subprogram, groundwater sampling from local extraction bores or site groundwater via a monitoring well or grab sample is required to confirm impact to groundwater. While some sites did involve groundwater sampling, it is unclear how these sites were selected.
- An alternative approach suggested by the reviewer is to streamline the investigation and investigation process. Using a more thorough desktop analysis to identify sites and their current status within a sensitive zone (as outlined in the previous section), selected sites can then proceed straight to tank removal with validation report and groundwater sampling if required. Contamination can be identified and remediated as part of the tank removal process if required.
- Although the above method is unconventional, it has the potential to reduce the overall cost to be more commensurate with the reduction in risk. The reviewer notes that the inherent risk of identifying (or not identifying) large contamination problems through streamlining the process would be similar to the current method, given the limitations of the passive soil gas sampling method.
- In line with the findings of the Derelict UPSS Pilot Program Overview Report, tank inspections provide limited value to the program. This information should be gathered as required by a consultant during field investigations or through more detailed initial site inspections.

Overall effectiveness and efficiency of works can be improved by:

- Ensure strong oversight of consultants work, and set clear expectations for the quality of reporting and appropriate methods. This includes developing standard guidelines and procedures, and reporting templates.
- Consider engaging a suitably qualified consultant to produce the scope of work and documentation requirements at the tender stage, and to manage the contractor under the contract, particularly where the council does not have sufficient technical expertise Efficiencies could be gained by using one contractor for multiple sites as with the pilot program.
- For stages where the same fieldwork is undertaken by a single contractor at multiple sites, a single report should be requested to avoid duplication of effort and reduce unnecessary text.
- Undertake more than one scope of works within the same mobilisation. For example, service locators appear to have been on site for multiple stages of works. If possible, this information could be prepared at the start of the program and disseminated to all contractors for the duration of the program.
- If using passive soil gas sampling, analysis of F1 and F2 TPH fractions and BTEXN is adequate to assess risk. Additional analyses should only be measured if there is no additional laboratory cost.

3. Capacity building and awareness raising

Under both business plans, one of the objectives of the program is to increase the capacity of responsible parties to understand and manage contaminated land, with a focus on the capacity of local councils in regional areas. Capacity building and awareness raising are key objectives under the current business plan in particular, as evidenced by the development of the Regional Capacity Building and Prevention and Education subprograms.

Regional Capacity Building subprogram

The Regional Capacity Building subprogram has demonstrated good outcomes for capacity building and awareness-raising. The subprogram, in addition to supporting the overarching program goals, had the following objectives:

- To improve the management of non-regulated contaminated sites in regional areas of NSW
- To improve accessibility to contaminated sites expertise and increase the technical capacity of local government in regional areas

Participating councils interviewed generally noted that they had a greater understanding of their obligations and risks related to contaminated land management. Regional Capacity Building staff are highly active and provide a range of services including technical advice, training, education and resources. The subprogram is producing a range of outputs including council needs analysis, training programs and workshops, flexible regional-level templates for the development of policy, procedures and risk registers, information systems, and stronger networks.

Councils have generally been receptive to the project and have regarded them as good value for money. In particular, the delivery of capability-building services at the regional scale is seen to be an efficient approach that allowed for alignment and consistency between local councils. At the same time, councils found that staff were responsive to their individual needs and tailored technical advice and guidance to best suit local needs. Staff were also viewed as providing important pragmatic guidance to help them meet strict regulatory requirements.

Outcomes relating to improved management of non-regulated contaminated sites are less clear. No specific reporting in this regards is required or undertaken as part of the program. It is logical that management of these sites is likely to have improved at least in the short term given the beneficial outcomes noted.

The subprogram is still underway. There was an initial needs analysis carried out by staff, and a post-program capacity survey is planned. These should provide a sound basis for further assessment of the outcomes from this subprogram.

While initial results are encouraging, the Commission has concerns about the long term sustainability of this program, which may be more appropriately delivered by the EPA regional staff. This concern was raised by a number of councils, who voiced concern over the longevity of outcomes if the subprogram is no longer run. In particular the councils will still require access to technical expertise in the future and are unlikely to develop these for something as specific and needs limited as contaminated land management.

On-ground project capacity building

Evaluation of capacity building in on-ground projects is limited, with grant acquittal reports not explicitly making assessments of the level of capacity building. The Commission has relied on

inferred evidence from grant acquittal reports and interview evidence to evaluate the capacity building outcomes of the program.

Interview evidence indicates capacity building has been limited, both in regards to the development of project management and technical skills. In some cases, such as the UPSS investigation projects there is limited engagement and ownership of works at the council level. This was found to be particularly true for the Derelict UPSS Pilot subprogram. Evidence indicates a high reliance on EPA project management and limited commitment to follow up on actions or continue similar works outside of the program. Where capability building and awareness raising did occur it was often limited to individual staff members, with a low likelihood of skills and knowledge being retained within council as formal policy or lasting cultural change.

Throughout the evaluation interviews it was noted that capacity building from on-ground projects is limited by contextual barriers, most notably a lack of funding for contaminated land management within councils. In one example, a council that managed a UPSS remediation project was able to develop management policies and procedures going forward, but stated that they were unlikely to have enough council funding to use this knowledge in the future. A few recipients from the Council Gasworks and UPSS subprograms, as well as one subcommittee member indicated that there was limited education on outcomes or sharing of learning at the end of projects.

4. Regional Acceleration subprogram

There has been limited formal evaluation of the Regional Acceleration subprogram up to this point. Annual progress reports indicate that a list of approximately 500 notified sites in rural and regional NSW was developed at the beginning of the subprogram for three staff to address. The number of sites reviewed and progressed to a regulatory decision is not clearly reported in progress reporting. However, the EPA have indicated that the subprogram to date has completed the review of 15 sites, with one site referred for possible regulation under the *Contaminated Land Management Act 1997*. A further 91 sites are currently under review. The program has involved the review of 215 reports, with 21 of these close to being finalised.

The subprogram guidelines outline the objectives of the Regional Acceleration subprogram. The objectives include:

- Minimise the impact of contaminated land on the environment and human health in rural and regional areas
- Accelerate the management, either to EPA regulation or Council regulation, of contaminated sites in regional areas of NSW
- Increase the likelihood that parties responsible for contamination will take timely action to remediate legacy sites that are adversely affecting the environment and/or local communities.

The overall outcome of the subprogram is that it has allowed for the EPA to be assured of the nature of some notified sites. The number of contaminated sites that were managed in a timelier manner as a result of the program is unclear, but interview evidence suggests that it was a very small proportion of the sites reviewed. The impact of the small number of sites identified that require regulatory actions in terms of reducing environmental and human health risk is unclear. However, in general it is not considered that this subprogram has had significant outcomes in terms of reducing environmental and human health risk.

5. Prevention and Education subprogram

There was one project progressed under this subprogram in the last two years. This project funded the development of guidance material for small, independent service state owners. Other projects proposed in Contaminated Land Management Steering Committee meeting minutes under this subprogram do not appear to have progressed in the last two years. The progress reports do not list the types of projects being considered; however the projects are continually listed as 'being considered' in these reports. As such, the Commission considers that there has been minimal outcomes for education and awareness raising under this subprogram.

6. Performance against performance indicators

The previous business plan provides a list of performance indicators against which the program can be assessed. The results of these performance indicators were reported at the completion of the program in the final report. The indicators are at the program level and are largely activity and output focussed. There are also no target indicators so performance against expectations cannot be assessed. Indicators that are more outcomes-focused such as value for money and capacity building are poorly assessed and performance in these areas is unclear.

The current business plan provides a list of performance measures against which the program is assessed. These measures are at the program and subprogram level and are largely activity and output focussed (for example, hours worked and funds spent). Program level measures are being met to date. Regional Capacity Building and Regional Acceleration subprogram outputs (staff hired and number of activities under the program) are generally being met or exceeded. Targets for the identification of new on-ground projects under the current business plan in Council Gasworks, Innocent Owner and Council Road Reserves UPSS are being met to varying extents, with limited progress under the first year of the business plan, and achievement of measures in some areas during the second year. There have been no measures achieved regarding new Innocent Owner projects. Prevention and Education subprogram measures are generally not being met.

While these measures provide an important tracking tool for the program, they give little insight regarding the outcomes of the program and progress towards overarching objectives.

Table A1.2 - Summary of works and outcomes for completed projects

Project	Agreed Actions	Completed works	Outcomes
Innocent Owner			
Young Former Battery Recycling Facility	Scope of works unclear. Inferred actions from Remedial Action Plan: • Demolish, treat or dispose offsite of hazardous waste • Excavate approximately 2,485 m^3 of lead contaminated soil, treat and/or encapsulate in a containment cell • Re-contour landform surrounding the containment cell	• All lead contaminated soil remediated by immobilisation treatment in general accordance with the Remedial Action Plan • Excavations validated and re-instated • Site validated with XRF • Containment cell constructed in accordance with the Remedial Action Plan and EPA approved • Environmental management plan developed for ongoing management of the containment cell	On-site risk to residential users removed, and site made suitable for ongoing residential use. Declaration of significantly contaminated land removed.
Council Gasworks			
Deniliquin Gasworks – Stage 1 and 2 investigation	No agreed actions. Objective to assess the locations of major contamination sources, determine if contamination is migrating away from the source areas and if it poses a risk to offsite users and the environment and requires remediation	• Indoor air quality monitoring on three properties • Sampling of 20 soil bores • Sampling of 7 groundwater monitoring wells	No outcomes stated in evaluation report. Inferred outcome is confirmation of no human health risk from vapour intrusion into two residential properties, no offsite contamination of the Edward River and groundwater impact off-site unlikely.

Project	Agreed Actions	Completed works	Outcomes
Cowra Gasworks – Stage 1 investigation (variation) *Note: Grant funded under the evaluation period was a variation for a grant issued before the evaluation period*	Actions under the variation: • Drilling of 10 soil bores to 6 metres below ground level • Drilling and installation of 4 groundwater wells to 20 metres below ground level • Development of a detailed Site Investigation Report Actions under the previous grant: • Stage 1 investigation (detail not provided in grant application or agreement) • Development of Remedial Action Plan • Development of a Remedial Work Specification	It is unclear which of the final works was due to the variation. The following site works were completed: • 25 soil bores • 4 groundwater wells Development of the following plans: • Human Health Risk Assessment • Remedial Action Plan • Remedial Work Specification • Two voluntary management proposals	Variation funded additional investigation works which supported the objectives of the previous grant. Investigation works resulted in plans and documents to guide future remediation works.
Molong (Cabonne) Gasworks remediation Note: project was co-funded with council	Actions under Remedial Action Plan: • Excavation of approximately 1,700 m^3 of tar contaminated material • Containment of approximately 2,700 m^3 of contaminated material under hardstand or 0.5 m of clean soil • Validation sampling of excavations and treatment of contaminated materials if required • Re-instatement of excavation with treated or imported material • Monitored natural attenuation of groundwater	• Removal, treatment and disposal of 2,830 tonnes of tar contaminated material • Capping of coke and ash contamination under at least 0.5 m of clean soil • Re-instatement of excavations • Development of a Specification for Groundwater Monitoring Program	Substantial mitigation of risks to groundwater resources off-site. Site is suitable for commercial/industrial and public open space use subject to ongoing management controls. It is noted that not all residual contamination impacts were removed and further works and ongoing management requirements beyond the scope of the project were identified.

Project	Agreed Actions	Completed works	Outcomes
Wagga Wagga Gasworks remediation	Excavate contamination as far as required to remove impact, validation and backfill of excavation	• Former creek-line chased out and 2,300 tonnes of tar impacted soil excavated and removed for offsite treatment • Validation and re-instatement of excavation	No outcomes stated in evaluation report. Inferred likely outcome is environmental risk to groundwater and the Murrumbidgee River removed. Site reinstated to recreational open space.
Derelict UPSS Pilot			
Derelict UPSS Pilot Program Desktop Study	• Investigate 10 LGAs using desktop tools, conduct site visits and prioritise sites to progress to investigation stage according to risk	• 477 licenses extracted from WorkCover database • 225 joint site inspections with 10 LGAs • 34 historical license searches and reports reviewed	Identified 50 sites for progression to investigation stage.
Derelict UPSS Pilot subprogram Investigation Stage (Cabonne, Maitland, Mid-western, Gunnedah and Oberon)	• Investigate 25 sites with tank inspections, passive soil gas surveys and ground penetrating radar • Investigate 5 sites with groundwater monitoring wells	• Tank inspections, passive soil gas surveys and ground penetrating radar at 25 sites • Installation of 3 groundwater monitoring wells at 5 sites	Identified 6 sites considered eligible for next round of funding. Confirmed 19 sites low to moderate potential risk.
Derelict UPSS Pilot subprogram Investigation Stage (Dungog, Greater Taree, Liverpool Plains, Muswellbrook and Wellington)	• Investigate 21 sites with tank inspections • Investigate 25 sites with passive soil gas surveys • Investigate 5 sites with ground penetrating radar	• Tank inspections at 21 sites, with information gathered from 12 • A maximum of 15 passive soil gas samplers installed and read at 25 sites • Ground penetrating radar at 5 sites	Identified 5 sites considered eligible for next round of funding.

Project	Agreed Actions	Completed works	Outcomes
Dungog UPSS remediation	Scope of works unclear. Agreed actions to remove and remediate USTs and associated infrastructure from one site.	• Removed 4 USTs and associated infrastructure • Validated and reinstated tank pit excavations • Bioremediation and offsite disposal of soil unsuitable for reuse onsite • Soil sampling at 3 locations • Installation and sampling of groundwater monitoring wells • Vapour monitoring	No outcomes stated in evaluation report. Inferred outcome is no risk to human health and environmental on site but comparative reduction in risk not assessed.
Greater Taree UPSS remediation	Scope of works unclear. Agreed actions to remove and remediate USTs and associated infrastructure from one site.	• Removed 2 USTs and associated infrastructure • Validated and reinstated tank pit excavations • Offsite disposal of impacted soil • Installation and sampling of three monitoring wells • Development of asbestos management plan	No outcomes stated in evaluation report. Inferred outcome is no risk to human health and environmental on site but comparative reduction in risk not assessed.

Project	Agreed Actions	Completed works	Outcomes
Gunnedah UPSS remediation	Scope of works unclear. Agreed actions to remove and remediate USTs and associated infrastructure from five sites.	• Decommissioned 6 USTs in-situ and removed 5 USTs removed (note: only 5 in-situ and 4 removed tanks achieved with Trust funds) • Two USTs not identified at the beginning of the project could not be removed • Removal of contaminated liquids and soils from all sites • Disposal of 10.64 tonnes of hydrocarbon impacted soil and 4.28 tonnes of general waste classified soil • Disposal of 2,750 litres of contaminated liquid from • Re-instatement of three sites	Remediation not complete due to lack of funds, further remediation will occur under a new grant. Outcomes unclear at this stage. No assessment of current reduction in risk.
Liverpool plains UPSS remediation	Scope of works unclear. Agreed actions to remove and remediate USTs and associated infrastructure from one site.	• Removed 3 USTs and associated infrastructure • Validated and reinstated tank pit excavations • Bioremediation and offsite disposal of soil unsuitable for reuse onsite • Soil sampling at 13 locations • Installation and sampling of 7 groundwater monitoring wells	No outcomes stated in evaluation report. Inferred outcome is no risk to human health and environmental on site but comparative reduction in risk not assessed.

Project	Agreed Actions	Completed works	Outcomes
Muswellbrook UPSS remediation	Scope of works unclear. Agreed actions to remove and remediate USTs and associated infrastructure from one site.	• Removed 5 USTs and associated infrastructure • Validated and reinstated tank pit excavations • Disposal offsite of 37 tonnes of soil unsuitable for reuse onsite • Installation and sampling of 4 groundwater monitoring wells	No outcomes stated in evaluation report. Inferred outcome is no risk to human health and environmental on site but comparative reduction in risk not assessed.
Special Grants			
Broken Hill Environmental Lead Program	• Excavate and replace contaminated soil, and install protective groundcover to three sites. • Sampling of soils before and after works at three sites. • Install hand wash facilities and irrigation, new roof, concrete, signage, and soft fall material at one site	All agreed works completed	Risk of exposure of children to environmental lead was reduced. Awareness raised in the community.

Attachment 2 – Evaluation framework

Key evaluation questions	Sub-questions	Scale of sub-questions	Example methods and evidence sources
To what extent are the design and processes used to deliver the program appropriate and efficient?			
To what extent does the current delivery model align with the Trust's statutory objects?	▪ Which Trust objects is the program targeting? Is the program consistent with these? ▪ Is the program design consistent with Trust policies and funding principles? ▪ What are the relevant key objects, plans and priorities of the Trust? ▪ Does the design clearly align with/support these? ▪ Are the projects reviewed to ensure that they are not providing a service that is a 'core activity' of another agency/program/entity? ▪ How can the program better align with the trusts objects?	Program/sub-program/project	▪ Review of Trust and EPA documentation. ▪ Interviews with Trust, EPA and oversight committees.
To what extent is the program aligned with other relevant Government priorities and programs?	▪ What are the relevant other key Government priorities? ▪ Are the aims of the program clearly aligned with the relevant priorities? ▪ To what extent does the program complement existing programs and responsibilities for contaminated land management?	Program/sub-program/project	▪ Review of Trust policies and relevant legislation. ▪ Review of project documentation. ▪ Interviews with the Trust, EPA, project proponents.

Key evaluation questions	Sub-questions	Scale of sub-questions	Example methods and evidence sources
To what extent was the governance appropriate and effective?	▪ Were roles and responsibilities clearly defined and documented in a contract? ▪ Was there a process for handling project/budget variations? ▪ Is there a consistent, transparent and rigorous process for selecting which sub-programs/projects to fund? ▪ Were sub-programs/projects prioritised and selected based on a risk assessment or similar process? ▪ Is the established process for selecting sub-programs / projects being followed? ▪ To what extent has the quality of project applications improved over time?	Program/sub-program/project	▪ Review of program/project documentation. ▪ Review of documentation for project selection (including project applications). ▪ Interviews with the Trust, EPA, oversight committees and project proponents. ▪ Site visits.
To what extent was the design appropriate and effective for delivering desired outcomes?	▪ To what extent is program design (e.g. scale, expenditure) commensurate with the challenges posed by contaminated lands in NSW? ▪ Were there clear objectives and outcomes for the program / projects agreed to by both parties? ▪ Was there a logical design demonstrating that selected actions were likely to efficiently achieve the agreed upon objectives (or outcomes)? ▪ To what extent do the reported outcomes demonstrate contribution to achieving the program objectives and the Trust's objects? ▪ Have the sub-programs /projects been assessed relative to good practice? ▪ Is the program reviewed and adapted to address lessons learned? ▪ Are there alternative program areas that may achieve improved outcomes for relevant objects for the same cost?	Program/sub-program/project	▪ Research into good practice. ▪ Review of program design documentation (e.g. program logic, risk assessment). ▪ Review of program and project documentation. ▪ Interviews with Trust, EPA, oversight committees, project proponents. ▪ Site visits.

Key evaluation questions	Sub-questions	Scale of sub-questions	Example methods and evidence sources
Is there a sound process by which the Environmental Trust evaluates/monitors EPA performance?	▪ How does the Trust monitor performance? ▪ How does the EPA monitor project performance? ▪ To what extent is the monitoring and reporting rigorous, consistent and useful? ▪ Are there mechanisms established for addressing any performance issues? If so, have they been followed where appropriate?	Program/project	▪ Review of program documentation. ▪ Interviews with Environmental Trust, EPA, oversight committees, project proponents. ▪ Site visits.
How cost-effective is the current program in managing contaminated land in NSW?			
To what extent is the current program cost-effective in delivering the specified contaminated land management outcomes?	▪ How much of the funding is allocated to administration by the EPA? ▪ What percentage of the funds provided to the project proponents is spent on administration? ▪ Is there a co-contribution? What proportion of the funds are co-contributed and how is the co-contribution requirement determined? ▪ Was the planning and selection of sub-programs and projects efficient? ▪ Were proposed timelines met? Were those efficient timelines – i.e. reasonable but not excessive time allotted? ▪ Were projects delivered on-budget? ▪ Are similar outcomes and level of effort being achieved by each project for an equivalent dollar amount? ▪ Does the Steering Committee review the funding allocation across sub-programs and recommend adjustments to improve cost-efficiency/maximise outcomes (per the business plan)? How is this done?	Program / sub-program/project	▪ Review of project documentation. ▪ Interviews with EPA, Trust, project proponents. ▪ Individual project reports. ▪ Desktop review of project financial data. ▪ Meeting minutes for the Steering Committee.

Key evaluation questions	Sub-questions	Scale of sub-questions	Example methods and evidence sources
How effective has the program been in achieving contaminated land management outcomes?			
Is the program achieving (or likely to achieve) the desired outcomes?	▪ Does the program contain clear and achievable contaminated land management outcomes? ▪ Are the projects (or would they logically when completed) meet the agreed upon program outcomes? ▪ Have the project outputs/outcomes proposed been delivered? - **This will cover the outcomes in the business plans** ▪ Is the program likely to contribute to broader outcomes relevant to the Trust?	Program/sub-program/project	▪ Review of project documentation – including output reporting. ▪ Interviews with the Trust, EPA, project proponents. ▪ Site visits.
What changes are recommended to improve outcomes?	▪ To what extent are project recipients and other key stakeholders satisfied with the Trust program and their engagement? ▪ What are the strengths and weaknesses of the program? ▪ What suggestions do the participants have for improving the program and outcomes? ▪ What do the participants feel has been particularly effective about the program?	Program/sub-program	▪ Interviews with EPA, project proponents, Steering Committee, Trust. ▪ Site visits. ▪ Research into good practice.
Are there more effective ways for the Trust to achieve outcomes through investment in contaminated land management?	▪ What are the barriers to achieving outcomes in regards to contaminated land management? How can the Trust better address these barriers? ▪ What types of activities should the Trust focus on to achieve the best outcomes in regards to contaminated land? ▪ To what extent does the program align with current good practice for similar grant programs? ▪ Do the objectives of the program need to be revised to better align with the Trust objects?		▪ Research into good practice. ▪ Review of project documentation / Trust documentation. ▪ Results of program evaluation.

Attachment 3 – Details of evaluation method

Due to the relatively small number of funded projects, a sample of representative sites were selected based on the following considerations:

- Sites were selected that were representative of each on-ground subprogram
- Sites which had field work that was sufficiently progressed or complete works were prioritised
- Sites with lessons learned or insights which the Commission considered important based on document reviews were prioritised
- Proximity of sites to other scheduled site visits and interview locations was also considered.

The Commission considered a range of inputs in assessing what is standard good practice, including: the Trust's own Major Projects Funding Principles and draft Core Business of Government Departments and/or Agencies Policy; advice from an external technical reviewer regarding management of contaminated land; and National and NSW policies and guidelines, including:

- Audit Office of NSW Governance Framework
- Australian Institute of Grants Management Good Practice Guide
- Australian National Audit Office Implementing Better Practice Grants Administration
- Australian Stock Exchange Corporate Governance Council Principles and Recommendations
- NSW Department of Premier and Cabinet Good Governance Guide and Good Practice Guide to Grants Administration
- NSW Natural Resources Commission Performance Standards for Local Land Services.

Table A3.1 - Summary of interviews and site visits

Program staff	Interviews	Site visits
Trust staff	Interviews with: - Senior Team Leader - Project Officer for Major Projects - Senior Grants Manager	-
EPA staff	Interviews with: - CLM Program Manager - EPA Project Officer - Executive Director – Hazardous Incidents and Environmental Health Program manager under the first business plan was contacted but unresponsive to interview request.	-
Subcommittees		
EPA Contaminated Land Management Steering Committee	Interviews with **7** committee members including representatives from: - EPA - Local Government NSW - NSW Health - CLM site auditor - Industry representative - environmental law expert - community representative.	-
Trust Environmental Hazards subcommittee	Interviews with **3** committee members including representatives from industry and community, and one representative who was also interviewed as a Trust staff member. An additional 5 members were contacted but were unavailable or unresponsive to interview request.	-
Projects		
Council Gasworks subprogram		
Young Former Battery Recycling Facility	EPA advised grant recipient unlikely to participate, lessons learned were discussed in EPA and Trust staff interviews.	-
Bowral Gasworks	Wingecarribee Shire Council staff contacts were unresponsive to interview request.	-
Cowra Gasworks	Interview with **1** Cowra Shire Council staff member.	✓
Molong (Cabonne) Gasworks	Interview with **1** Cabonne Council staff member.	✓
Wagga Wagga Gasworks	Interview with **2** Wagga Wagga Shire Council staff members.	✓

Parkes Gasworks	Interview with **1** Parkes Shire Council staff member.	-
Newcastle - Waratah Gasworks	Project not considered in evaluation as not sufficiently progressed.	
Derelict UPSS Pilot subprogram		
Derelict UPSS Pilot Program Investigation Stage (Cabonne, Maitland, Mid-western, Gunnedah and Oberon)	Interview with **1** Maitland City Council staff member). Phone interviews with **2** Mid-Western Regional Council staff and **1** Gunnedah Shire Council staff member. Oberon Council unresponsive to interview request.	✓ Visit to Maitland site
Derelict UPSS Pilot Program Investigation Stage (Dungog, Greater Taree, Liverpool Plains, Muswellbrook and Wellington)	Interview with **1** Dungog Shire Council staff member. Phone interview with **1** Mid-Coast Council (Greater Taree) staff member Liverpool Plains and Wellington council staff unresponsive to interview request. No contact provided for Muswellbrook council.	✓ Visit to Dungog site
Dungog UPSS	Interview with **1** Dungog Shire Council staff member – combined with investigation grant interview.	✓ Combined with investigation grant visit
Greater Taree/Mid-Coast UPSS	Phone interview with **1** Mid-Coast Council staff member – combined with investigation grant interview.	-
Gunnedah UPSS	Phone interview with **1** Gunnedah Shire Council staff member – combined with investigation grant interview.	-
Liverpool plains	Liverpool Plains council staff unresponsive to interview request	
Muswellbrook UPSS	No contact provided for Muswellbrook council	
Council Road Reserves UPSS subprogram		
Greater Taree/Mid-coast UPSS	Phone interview with **1** Mid-Coast Council staff member – combined with investigation grant interview.	-
Gundagai UPSS	Phone interview with **1** Cootamundra-Gundagai Regional Council staff member.	-
Gunnedah UPSS	Phone interview with **1** Gunnedah Shire Council staff member – combined with investigation grant interview.	-
Kempsey UPSS	Phone interview with **1** Kempsey Shire Council staff member.	-
Nambucca UPSS	Interview with **1** Nambucca Shire Council staff member.	✓
Narrabri UPSS	Phone interview with **1** Narrabri Shire Council staff member.	-

Warrumbungle UPSS	Phone interview with **1** Warrumbungle Shire Council staff member.	-
Blayney UPSS	Project not considered in evaluation as not sufficiently progressed.	
Wagga Wagga UPSS	Project not considered in evaluation as not sufficiently progressed.	
Special Grants		
Former antimony plant	Interview with **1** NSW Department of Industry – Lands staff member.	✓
Broken Hill Environmental Lead Program	Phone interview with **1** Broken Hill City Council staff member.	-
Hydrocarbon contamination on private and council land	Interview with **1** Coffs Harbour City Council staff member.	✓
Regional Capacity Building subprogram		
Co-operative council representatives	Phone and in-person interviews with **9** representatives from across co-operative council groups including: - BOD/SWOC - RAMROC/REROC - MIDROC - Hunter Councils Group	-
Program participants	Phone and in-person interviews with **5** representatives from councils participating in the program.	-
Regional Acceleration subprogram		
Regional Acceleration Officers	Interviews with **3** Regional Acceleration Officers	-

Attachment 4 – Summary of projects funded through the program

Business plan	Grant number	Project	Total approved funding	Returned funds	Status	Project description/ comments
Council Gasworks subprogram						
2011-14	2011/CLM/0001	Young Former Battery Recycling Facility	$14,883	$14,883	Complete	Investigation (variation)
Prior to 2011-14[13]	2010/CLM/0002		$400,000	$19,277 total returned for both remediation grants		Remediation Stage 1 Project considered in review for context
2011-14	2012/CLM/0001		$260,000			Remediation Stage 2
2011-14	2010/CG/0007	Bowral Gasworks	$500,000	-	TBC	Remediation works to commence April-May 2017
2014-17	CLM-2015-CG-001		$69,221	-	Active	Stage 3 investigation works to update conceptual site model prior to remediation works
2011-14	2010/CG/0005 2011/CG/001	Cowra Gasworks	$45,165	None	Complete	Variation to initial investigation grant of $87,549 (2010/CG/0005)
	2011/CG/0003		$500,000	-	Active	Remediation
2014-17	CLM-2015-CG-002		$67,286	-	Active	Additional Investigation
Prior to 2011-14	2010/CG/0004	Molong (Cabonne) Gasworks	$500,000	None	Complete	Remediation Project considered in review as largely administered under 2011-14 business plan period

[13] Note: To ensure a broad range of projects were available to evaluate, the Commission considered projects where all or part of a project was approved in the weeks preceding the start of the previous business but where the grant was largely administered during the previous business plan period.

2011-14	2013/CG/0002	Wagga Wagga Gasworks	$500,000	None	Complete	Remediation of offsite creek line
2014-17	CLM-2015-CG-003	Parkes Gasworks	$200,000	-	Active	Remediation – works expected to be complete February 2017
2014-17	CLM/2016/CG/001	Newcastle - Waratah Gasworks	$200,000	-	TBC	Investigation works underway. Project not considered in evaluation as not sufficiently progressed at time of evaluation
Derelict UPSS Pilot subprogram						
2011-14	2012/UPSS/0001	Derelict UPSS Pilot Program Investigation Stage (Cabonne, Maitland, Mid-western, Gunnedah and Oberon)	$250,000	$6,270	Complete	Stage 1 Investigation
	2013/UPSS/0002		$200,000	$45,840		Stage 2 Investigation – Groundwater Wells
2011-14	2011/UPSS/0001	Derelict UPSS Pilot Program Investigation Stage (Dungog, Greater Taree, Liverpool Plains, Muswellbrook and Wellington)	$250,000	$15,266	Complete	Stage 1 and 2 Investigation
	2011/UPSS/0002		$33,468	None		Stage 1 and 2 Investigation (variation)
	2011/UPSS/0003		$60,000	$50,395		Stage 3 Investigation
2011-14	2012/UPSS/0004	Dungog UPSS	$200,000	$4,465	Complete	Remediation
2011-14	2012/UPSS/0002	Greater Taree/Mid-coast UPSS	$200,000	$137,294	Complete	Remediation
2011-14	2013/UPSS/0003	Gunnedah UPSS	$200,000	None	Active	Remediation not complete due to lack of funds, further remediation will occur under 2014-17 plan grant
2011-14	2012/UPSS/0003	Liverpool plains	$200,000	$42,647	Complete	Remediation

2011-14	2013/UPSS/0001	Muswellbrook UPSS	$200,000	$89,906	Complete	Remediation
Council Road Reserve UPSS subprogram						
2014-17	CLM-2015-CRR-005	Greater Taree/Mid-coast UPSS	$275,000	-	Active	Remediation
2014-17	CLM-2016-CRR-003	Gundagai UPSS	$45,000	-	Active	Investigation of 3 sites
	CLM-2016-CRR-004		$225,000	-		Remediation of 3 sites
2014-17	CLM-2014-CRR-001	Gunnedah UPSS	$100,000	-	Active	Continued remediation for 2013/UPSS/0003 sites
2014-17	CLM-2014-CRR-001		$74,459	-	Active	Contingency funding for remediation
2014-17	CLM-2016-CRR-005	Kempsey UPSS	$15,000	-	Active	Investigation of 1 sites
	CLM-2016-CRR-006		$75,000	-		Remediation of 1 sites
2014-17	CLM-2015-CRR-003	Nambucca UPSS	$40,000	-	Active	Investigation of 3 sites. UPSS identified not eligible for remediation funding
	CLM-2015-CRR-004		$200,000	-		Funding returned as sites not eligible for remediation funding
2014-17	CLM-2016-CRR-001	Narrabri UPSS	$35,000	-	Active	Investigation of 3 sites
	CLM-2016-CRR-002		$175,000	-		Remediation of 3 sites
2014-17	CLM-2015-CRR-001	Warrumbungle UPSS	$40,000	-	Active	Investigation of 4 sites
	CLM-2015-CRR-002		$260,000	-		Remediation of 4 sites, original grant was $200,000 with $60,000 contingency funding for additional tanks identified during investigations

2014-17	CLM/2016/CRR/007	Blayney UPSS	$300,000	-	Active	Investigation works underway. Project not considered in evaluation as not sufficiently progressed at time of evaluation
Special Grants						
2011-14	2011/MG/0014	Former antimony plant	$700,000	-	Active	Investigation and remediation
2014-17	CLM-2014-BHELP-001	Broken Hill Environmental Lead Program	$225,000	None	Complete	Remediation
2014-17	CLM-2016-SG-001	Hydrocarbon contamination on private and council land	$102,275	-	Active	Remediation and rehabilitation

Attachment 5 – Summary of business plan objectives

	2011-14 Business Plan	2014-17 Business Plan
Aims	The program aims to mitigate risks to human health and the environment by funding: • remediation of innocent owner sites; • investigation and remediation of council gasworks; and • investigation and remediation of derelict rural underground petroleum storage system (UPSS) sites (pilot phase)	Collectively aims to improve the community's management of legacy contaminated sites in regional areas of NSW, through improving local technical capacity, providing an impetus to remediate land notified under the Contaminated Land Management Act and improve the resolution and management associated with potentially contaminating industries in regional areas. The CLM Program does not provide funding for NSW government agencies or corporations to meet their obligations under the Act.
Vision	To protect the environment and human health by facilitating remediation of significantly contaminated land that would not otherwise be cleaned up in a timely or efficient manner due to limited funding and expertise.	1. To protect the environment and human health by facilitating remediation of significantly contaminated land that would not otherwise be cleaned up in a timely or efficient manner due to limited funding, knowledge and expertise. 2. To build the capacity of regional NSW to prevent and manage the environmental liability of contaminated sites.
Objectives	1. To reduce the risk of harm posed by significantly contaminated sites to humans and the environment. 2. To provide a mechanism to remediate significantly contaminated sites where a lack of responsible party funding sources would result in continued or future harm to human health and/or the environment. 3. To proactively encourage investigation and remediation of gasworks sites potentially posing a risk to human health and/or the environment by providing funding assistance to eligible councils and innocent owners. 4. To encourage co-investment and capacity building with local government authorities and OEH resulting in skills and knowledge transfer.	1. To assist regional areas of NSW in managing and cleaning up legacy contaminated sites which may be posing a burden environmentally, socially or financially to rural or regional communities. 2. To provide a mechanism to remediate significantly contaminated land where there is no identified responsible-party or funding source. 3. To prevent other sources of contamination that may be posing a burden on regional/former industrial areas of NSW.

	5. To assess the nature and extent of the human health and environmental risks posed by derelict UPSS sites in a variety of environments. 6. To develop appropriate, ongoing solutions to the risks posed by derelict UPSS sites.	
Outcomes	**Immediate Outcomes (within the 3 year project cycle):** Investigation of funded sites to determine remediation requirements or confirm that investigated sites do not pose an unacceptable risk to human and environmental health. Remediation of funded sites and the encouragement of grantee co-funding on remediation so that increasing harm/degradation is arrested and/or sites no longer pose an unacceptable, ongoing environmental and/or health risk. Assessment of the likely nature and extent of the derelict UPSS problem and the identification of possible solutions. A shared ownership and capacity building approach to remediation between OEH and local government authorities. **Intermediate Outcomes (within a year of project completion):** Collection of relevant information to support a range of solutions to be developed for appropriate management of derelict UPSS sites requiring remediation. Impacted communities, ecosystems and groundwater resources will recover and/or be protected from further degradation at sites that have been remediated. Recovery may be a long term outcome depending on the nature of contamination and local conditions. **Ultimate Outcomes (beyond 1 year of project completion):** Impacted communities, ecosystems and groundwater will recover and/or be protected from further degradation at sites that have been remediated. Where supported, a range of solutions will be instituted to address the derelict UPSS issue. Appendices include an outcomes hierarchy which lists each outcome, the evaluation question, performance indicator, data source and judgments about success.	**Program outcomes:** 1. Regional areas of NSW will have a greater capacity for avoiding and managing contaminated land issues than is currently the case. 2. An increased number of contaminated sites within regional NSW will have been investigated and remediated, where necessary. 3. Significantly Contaminated sites which have no identifiable funding source will be remediated or managed. **Target Outcomes:** 1. Improved capacity in the area of contaminated land management within regional areas. 2. Close out all high and medium priority Council Gasworks remaining to be investigated and/or remediated. 3. Reduced number of derelict UPSS in Council Road Reserves in regional areas that have not been investigated and managed. 4. Increased number of regional contaminated sites encouraged to further progress investigation and remediation. 5. Improved understanding of potentially contaminating industries in rural and regional NSW. 6. Assistance provided to eligible innocent owners as locations are identified and remediated.