



Government of **Western Australia**  
Department of **Mines and Petroleum**  
Environment



# Abandoned Mines Policy

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# Foreword

Since 2010, the Department of Mines and Petroleum (DMP) has been implementing significant reforms to the regulatory and policy frameworks relating to mine closure in Western Australia (WA).

These reforms have three main areas:

1. Improving the planning arrangements for mine closure (all mine sites under the *Mining Act 1978* (the 'Mining Act') now require a mine closure plan)
2. Establishing adequate financial assurance for when mine sites are abandoned through the introduction of the *Mining Rehabilitation Fund Act 2012* (the 'MRF Act')
3. Developing appropriate policy and information material for managing and rehabilitating mine sites that are abandoned.

These reforms have been substantially implemented, with this policy being one of the final milestones in the overall framework.

The reality is that it is neither practical nor desirable to rehabilitate all abandoned mine sites in WA. Availability of funds will result in the works being undertaken over many years. Therefore a policy is required to establish the principles that should be used in making decisions about the management and/or rehabilitation of these sites.

Management decisions regarding abandoned mine sites need to balance risk, costs and benefits to both the environment and the WA community, and also recognise the varying values of abandoned mines. Every site will need to be considered individually, with management and/or rehabilitation undertaken in a landscape context.

This policy, which is a whole of government statement regarding abandoned mines, will be underpinned by a suite of products that DMP will be developing or updating over the next 12 months to provide the framework for the identification and rehabilitation of abandoned mine sites.

Dr Phil Gorey  
**Executive Director**  
**Environment**

# Introduction

Mining has occurred in WA for more than 150 years, resulting in many thousands of workings that were abandoned after exploration or mining. Few of these site workings and their associated features have been recorded, with many remaining undocumented. As a result, the health, safety or environmental risks and potential historical, cultural, social, environmental, educational or economic value of these sites are unknown.

During the early 1980s, the effects of mining on the environment became a key consideration in assessing and approving mineral exploration and mining activities. Unconditional Performance Bonds (UPBs) were introduced and imposed on exploration and mining companies to ensure mine sites would be appropriately rehabilitated prior to closure.

In 1997, the then Department of Minerals and Energy commenced a programme to capture, from a safety perspective, baseline data relating to historical mining-related features. While not a complete record of the abandoned sites in the State, the database currently contains over 190,000 abandoned mine site features.

The *Mining Rehabilitation Fund Act 2012* (the 'MRF Act') was passed by the WA parliament and the Mining Rehabilitation Fund (MRF) became operational in 2013. The MRF requires all Mining Act tenement holders to annually report areas of disturbance on their tenements and, providing they meet a minimum threshold, pay a levy based on the disturbance area.

MRF funds will be used to rehabilitate future abandoned mine sites, when all other avenues to ensure rehabilitation have been exhausted. Interest generated from the MRF shall be used to rehabilitate legacy abandoned mine sites (sites that have not had an MRF reporting obligation).

The data captured during the inventory of abandoned mines programme and the creation of an ongoing source of funding provides the foundation for further development of the inventory, site prioritisation and rehabilitation or management of known abandoned mine sites.

In addition, land managers may have obligations relating to the management of abandoned mine sites. This policy, and supporting material, will assist them in that decision making.

It is important that a robust policy and project framework is in place to support decisions regarding the prioritisation, management and/or rehabilitation of these sites.

# Definitions

The following definitions apply to this policy.

**“Abandoned mine sites”**, for the purpose of this policy, are areas of land impacted by former mining activities for which no individual, company or organisation can be held responsible for rehabilitation.

An abandoned mine site may comprise of multiple areas of land or site features (eg. mine shafts, waste dumps, abandoned equipment) that may or may not be adjacent to each other.

**“Abandoned mine site features”** are things such as shafts, dumps and buildings that are commonly found at sites of historical mine production.

**“Affected land”** in relation to an abandoned mine site means land outside the site that has been affected by mining operations carried out in, on or under the site.

**“Cost sharing arrangement”** is an arrangement between the WA government and an interested third party (or parties) to jointly contribute funding and/or resources to manage and/or rehabilitate an abandoned mine site.

The level of input contributed by each party should reflect the anticipated proportion of benefit expected to be realised by each party as a result of the management and/or rehabilitation effort.

**“The Gazette”** refers to the WA Government Gazette including the General and Special Gazettes, which contain the formal public notices that are required by law and Government authority to be published in the Gazette.

The types of notices that may be accepted for publication include official publications required under enactments such as Acts, regulations, rules and by laws, and may include instruments such as notices, orders and proclamations.

**“Gazettal of abandoned mine sites”**. Abandoned mine sites confirmed as high priority following the preliminary analysis will be submitted to the Mining Rehabilitation Advisory Panel for review before forwarding to the DMP CEO for gazettal approval.

If approved by the DMP CEO, land identified within the project boundary will be formally identified as an abandoned mine site for the purposes of the MRF Act and published in the Gazette, allowing funds from the MRF to be allocated for rehabilitation activities within the boundary.

**“Manage an abandoned mine site”** refers to the activities undertaken to ensure a declared abandoned mine site is made as safe to humans and the environment as reasonably possible eg. through public education or restricting public access to the site, when full rehabilitation of the abandoned mine site is not an option eg. due to a negative cost/benefit analysis associated with full rehabilitation.

**“Mining Rehabilitation Fund Act 2012”** is an Act to provide for:

- the establishment of the Mining Rehabilitation Fund (MRF)
- the declaration of abandoned mine sites
- a levy payable in respect of mining authorisations, and for related purposes.

The main purpose of the MRF is to provide a source of funding for the rehabilitation of abandoned mine sites and other land affected by mining operations carried out in, on or under those sites.

**“Mining Rehabilitation Advisory Panel”** A Mining Rehabilitation Advisory Panel (MRAP) has been established under the *Mining Rehabilitation Fund Act 2012*. This statutory panel provides advice to the Director General of the DMP on MRF matters.

**“Potential value”** refers to the potential historical, cultural, social, environmental, educational or economic value of an abandoned mine site that may be realised as a result of management or rehabilitation activities.

This may also include the potential for future mining at the abandoned mine site.

**“Project boundary”** is the combined areas of land impacted by former mining activities for which no individual, company or organisation can be held responsible for rehabilitation (see ‘abandoned mine site’ definition), plus any land outside the site which has been affected by the same activities (see ‘affected land’ definition), packaged as a single abandoned mine site for the purposes of Gazettal.

**“Rehabilitate an abandoned mine site”** refers to the range of activities undertaken to physically rehabilitate an abandoned mine site in order to be (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use.

**“Safety and Environmental Risk Matrix”** is a tool used to identify abandoned mine sites that present the highest safety and environmental risks.

High risk sites will progress to prioritisation assessment.

Low risk sites will remain in the abandoned mines database for future consideration, if/when new information is made available to change the outcome of the original risk assessment.

**“Land manager”** is a person or organisation that has either a legal obligation or direct interest in land affected by an abandoned mine site. Examples include land owners, tenement holders and operators.

# Purpose

The purpose of this policy is to provide a framework that guides decision making by the WA Government relating to the prioritisation, management and/or rehabilitation of abandoned mine sites.

The policy ensures decision making is undertaken in a strategic manner that minimises environmental and community safety risks and leads towards the realisation of potential value within each site through efficient, sustainable and innovative solutions.

# Scope of policy

The policy will apply to all identified abandoned mine sites and associated site features in WA.

Abandoned mine sites, for the purpose of this policy, are areas of land impacted by former mining activities for which no individual, company or organisation can be held responsible for rehabilitation.

An abandoned mine site may comprise of multiple areas of land or site features (eg. mine shafts, waste dumps, abandoned equipment) that may or may not be adjacent to each other.

# Policy objectives

The objectives of this policy are to ensure:

1. abandoned mine sites are prioritised in a consistent manner based on agreed criteria
2. significant risks to the community and the environment are identified and contribute towards the overall priority to manage and/or rehabilitate an abandoned mine site
3. potential value within an abandoned mine site is identified and protected
4. tools are in place to support the ongoing capture, analysis and management and/or rehabilitation tracking of abandoned mine site features throughout the State
5. an efficient, repeatable methodology is used to plan and implement the management and/or rehabilitation of abandoned mine sites
6. outcomes of managed and/or rehabilitated abandoned mine sites are consistent with the WA Government's Mine Closure Plan objectives ie. abandoned mine sites to be managed or rehabilitated to be (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use.

# Policy principles

The following principles will provide the foundation for management and/or rehabilitation activity:

## Risk assessment and prioritisation

1. A risk-based approach focussed on community safety and environmental impact should form the basis for abandoned mine site management and/or rehabilitation prioritisation.
2. Risk assessment outcomes will be combined with a range of other considerations such as likelihood of success, beneficial land use, cost effectiveness and potential for long term benefit to determine an overall site priority.
3. Risks associated with potential abandoned mine site management and/or rehabilitation options should be identified and analysed to inform selection of the solution that best meets the project objectives.

## Valuing abandoned mine sites

4. The potential historical, cultural, social, environmental, educational or economic value of an abandoned mine site should be considered when developing a management and/or rehabilitation plan.
5. There should be clear community benefit with any management and/or rehabilitation work that receives funding from government or industry schemes such as the MRF.
6. Where management and/or rehabilitation will result in private benefit, a cost sharing arrangement between interested parties should be pursued.

## Data collection and management

7. Data collection should include multiple aspects of an abandoned mine site.
8. Data management should allow comparative analysis and reporting of information.

## Resourcing and partnership opportunities

9. Resources should be focussed on addressing priority risk sites.
10. Management and/or rehabilitation partnerships with other government bodies, community groups and businesses should be encouraged.
11. Definition of management and/or rehabilitation goals for a given site should be a joint effort involving all stakeholders.
12. If a community could reasonably have an interest in an abandoned mine site, stakeholder engagement should commence during the initial stage of site investigation and assessment and continue through to post project handover.

### Information sharing and leading 'best practice'

13. Site management and rehabilitation learnings and outcomes should be reviewed regularly to support a continuous improvement approach which drives improved industry best practices for mine site planning, operations, closure and compliance monitoring.
14. The project management methodology should be reviewed regularly and adjusted as required as part of an overall continuous improvement approach.
15. Information regarding the identification, prioritisation, management and/or rehabilitation of abandoned mine sites throughout the State should be publically accessible.

### Governance

16. A formal, transparent governance structure should exist to support management and/or rehabilitation funding decisions, track spending and clearly define responsibilities.
17. Management and/or rehabilitation of abandoned mine sites should be cost-effective.
18. Other government agencies responsible for implementing legislation and land management applicable to a given abandoned mine site will be regarded as key stakeholders.

## Policy measures

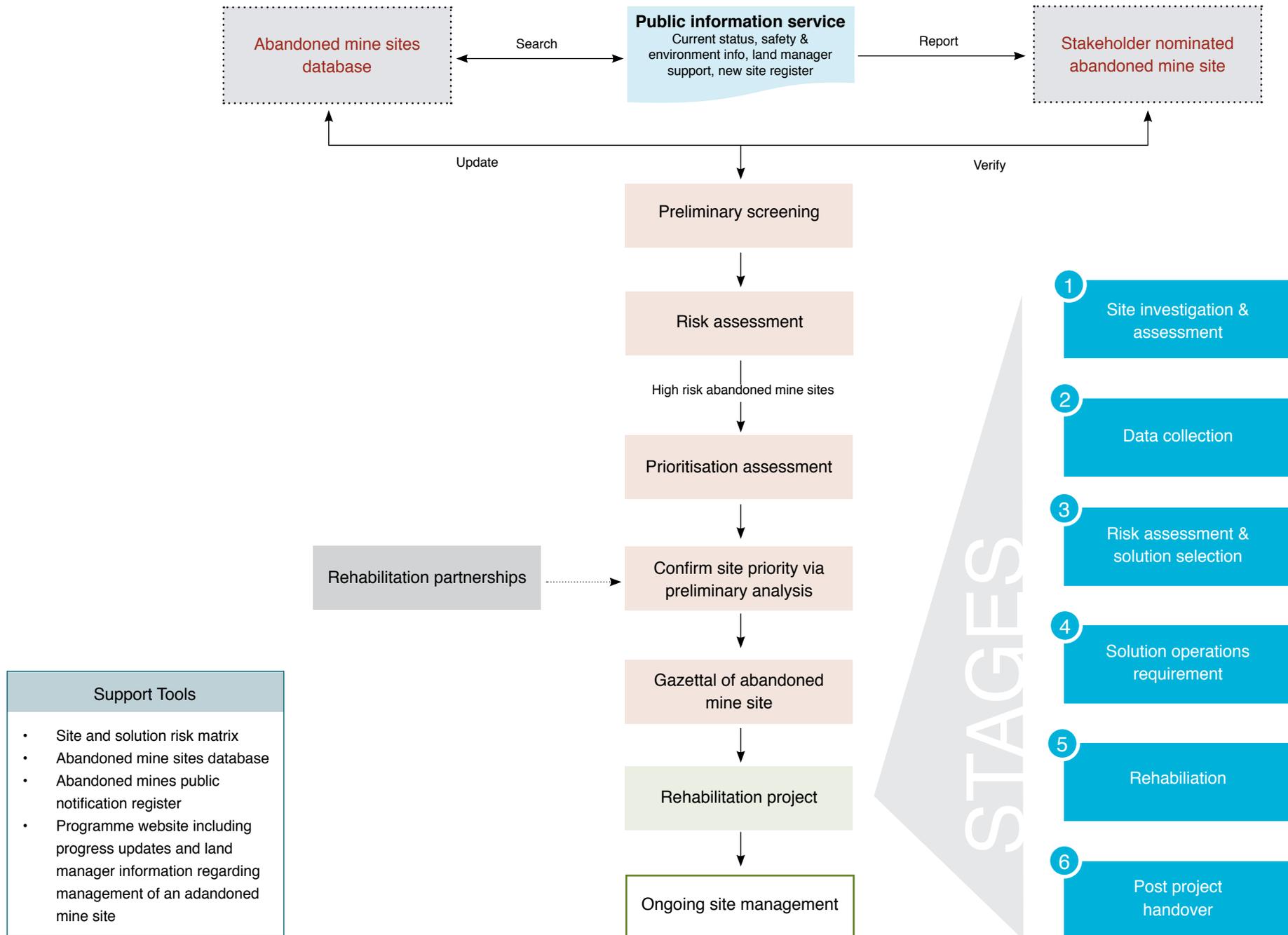
The following diagram outlines the activities that will be undertaken in the implementation of this policy.

For simplicity, the process depicts a linear approach. In practice, it is likely that preliminary and concurrent processes will need to be incorporated in order to maximise the timeliness of risk reduction and value preservation.

All major project activities will be reviewed once complete to ensure they are optimised, relevant and add value.

It is anticipated that industry rehabilitation standards will continue to improve through development of a continuous improvement culture and ongoing commitment to transparency and stakeholder engagement.

Diagram 1. Abandoned Mines Policy measures



# Policy measure descriptions

## Abandoned mine sites database and stakeholder nominated abandoned mine sites

A database currently available via the Mines and Mineral Deposits (MINEDEX) system on the DMP website contains information on a number of abandoned mine site features in WA. Data captured includes type, size, location and status. The database will continue to mature as further information is reported from a range of sources and verified.

A public register will be developed to enable the community to nominate additional potential abandoned mine site features, which will be verified for completeness and suitability for inclusion in the database.

This will provide a comprehensive, public accessible dataset of abandoned mine site features across WA.

## Public information service

A centralised information service will be available to the public via the DMP website containing support tools such as the ability to report abandoned mine site features, current status of an abandoned mine site or feature, safety and environmental information and provide support to land managers who have abandoned mine site features on their land.

## Preliminary screening

Desktop data quality assessments of all recorded abandoned mine sites will be undertaken to ensure the minimum information is available in each site to enable a risk assessment.

## Risk assessment

A 'course grain' filter of abandoned mine sites will be undertaken to identify those sites that present the highest safety and environmental risks based on criteria defined in the WA government safety and environmental risk matrix (under development). High risk sites will progress to prioritisation assessment.

Low risk sites will remain in the abandoned mines database for future consideration, if/when new information is made available to change the outcome of the original risk assessment.

The DMP CEO will have the opportunity to seek advice from MRAP on matters where an abandoned mine site does not fall within the high priority risk assessment parameter, however significant benefits can be realised for the community, industry, best practice or government if the project was to proceed.

## Prioritisation assessment

A 'fine grain' filter of high risk abandoned mine sites identified during risk assessment will be undertaken to determine the overall site priority.

Risk assessment outcomes will be combined with a range of other considerations such as likelihood of success, beneficial land use, cost effectiveness and potential for long term benefit to determine the overall abandoned mine site priority.

### Confirm site priority via preliminary analysis

A comprehensive site summary paper including pre-MRF/post-MRF identification, site history, risks, opportunities, cost indicators, site limitations, potential stakeholders and partnership opportunities will be developed that informs the final decision to proceed to gazettal.

### Rehabilitation partnerships

Industry, other government bodies, research organisations and community groups who are best positioned to contribute and benefit from a successful rehabilitation outcome and/or assume long term management responsibilities of a site will have the opportunity to partner with the department.

### Gazettal of abandoned mine site

Abandoned mine sites confirmed as high priority following the preliminary analysis will be submitted to the MRAP for review before forwarding to the DMP CEO for gazettal approval.

If approved by the DMP CEO, land identified within the project boundary will be formally identified as an abandoned mine site for the purposes of the MRF and published in the Gazette, allowing funds from the MRF to be allocated for rehabilitation activities within the boundary.

### Rehabilitation project

An efficient, repeatable project methodology including objectives, implementation plan, budget, clearly defined processes and stage boundaries will guide and support all projects. The approach will be independently audited periodically to identify continuous improvement opportunities contributing to industry best practice.

The agreed rehabilitation solution will be determined based on the abandoned mine site's unique characteristics, potential value and detailed stakeholder consultation and will align with DMP's mine closure plan rehabilitation policy. Key goals will include ensuring sites are safe, stable, non-polluting, non-contaminating and able to support self-sustaining land use. Activities requiring external contracts will adhere to State Government tender policy and procedures.

Post project handover to end land users will indicate completion of the project.

### Ongoing site monitoring

Sites will be monitored as required following management and/or rehabilitation efforts to ensure long term benefits continue to be realised.

Ongoing site monitoring will include the requirement for a post-implementation review to assess achievement of objectives, outcomes and outputs, and the performance regarding time, budget and benefits.

Responsibilities for ongoing site monitoring will be determined during establishment of rehabilitation partnerships.

## Policy review

This policy will be reviewed every five years by DMP, in consultation with the MRAP, industry and the community.

## Further information

If you have any queries about the policy, please send an email to the Abandoned Mine project team via [abandonedmines@dmp.wa.gov.au](mailto:abandonedmines@dmp.wa.gov.au).



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