



Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**



Mining Rehabilitation Fund

Yearly report 2021–22



Welcome to the 2021–22 yearly report for the Mining Rehabilitation Fund

This report outlines the activities and achievements of the Mining Rehabilitation Fund and Abandoned Mines Program from 1 July 2021 to 30 June 2022.

DMIRS is committed to good governance and this report seeks to provide a summary of the administration of the *Mining Rehabilitation Fund Act 2012 (WA)*.



Background

The Department of Mines, Industry Regulation and Safety's (DMIRS) Mining Rehabilitation Fund (MRF) was introduced in 2013. It was the State's first dedicated and perpetual fund for the rehabilitation and management of historical abandoned mines. The MRF was created as a pooled fund in which WA mining operators contribute yearly, meaning that the WA community are no longer paying for the rehabilitation of abandoned mining operations.

The MRF is administered as a Special Purpose Account under the *Financial Management Act 2006 (WA)* and funds must be spent in accordance with the purposes set out in the *Mining Rehabilitation Fund Act 2012 (WA)* (MRF Act) for which the Director General of DMIRS is accountable.

All tenement holders operating on *Mining Act 1978 (WA)* (Mining Act) tenure are required to report disturbance data and contribute annually to the Fund depending on their level of environmental disturbance on tenements. However, tenement holders operating on tenements covered by State Agreements are not required to report disturbance and pay into the MRF unless the associated tenements are listed in the MRF Regulations.

Contributions to the MRF are used in circumstances where there are unsuccessful efforts to enforce obligations of tenement holders to rehabilitate mines. It is worth noting, that recovery of costs may still be sought from former holders that fail to fulfill their obligations to rehabilitate.

In addition, interest earned is used to fund the administration of the MRF and to undertake rehabilitation work on legacy abandoned mines throughout the State.

An annual report is released each year by DMIRS. It provides valuable information on the management of the fund and enables State Government to consider and approve the projected revenue and expenditure for the MRF through the State budget each year.

This report is supplementary to the annual report and presents detailed information of the activities and achievements of the MRF for 2021–2022, as well as indicating future plans for the MRF.



Activities of the Mining Rehabilitation Advisory Panel

The Mining Rehabilitation Advisory Panel (MRAP), as prescribed in the Mining Rehabilitation Fund Regulations 2013, provides advice to the Director General of DMIRS on matters relating to the Fund and its associated Abandoned Mines Program (AMP).

The current members of MRAP (pictured below), appointed for a three-year term from August 2022, are Renee Young (Chairperson), Angela Bishop (Deputy Chairperson), Vern Newton, Naomi Hutchings and Helen Chernoff.



RENEE YOUNG

Renee has specialised knowledge in mine site ecological restoration with more than 15 years' experience across academia and industry.



ANGELA BISHOP

Angela has more than 20 years' experience working in the environmental sector for government and industry in an operational and corporate capacity.



VERN NEWTON

Vern has worked for construction material and mining companies in senior roles and has also been involved in driving sustainable policies.



NAOMI HUTCHINGS

Naomi is a senior private practice lawyer with more than 20 years' experience in environment planning, land access, native title and heritage law.



HELEN CHERNOFF

Helen is an environmental scientist with a geology qualification and 20 years' experience in the resources sector.

MRAP meets bi-annually to discuss and provide independent advice on a range of matters relating to managing the MRF and work activities associated with the AMP.

Activities of the Mining Rehabilitation Advisory Panel

DMIRS would like to acknowledge the significant contributions of the outgoing MRAP members Sally Audeyev, Michelle Rhodes, Andrew Cuthbertson and Kapila Karunaratna. The Panel attended various workshops in addition to the formal meetings of MRAP and their additional support was invaluable to furthering the projects regarding rehabilitating mines and the AMP.

During the 2021–22 year, the outgoing MRAP undertook a range of activities including the following:

- discussed the prolonged low interest rates over the past two financial years and the corresponding reduced interest revenue into the MRF. The Panel agreed that the AMP should continue to re-evaluate the schedule of projects funded by MRF interest and shift focus to higher risk priority projects while interest funds are limited.
- supported a proposed review of the MRF Act to allow access to a limited amount of MRF Principal to enable the continuing implementation and sustainable development of risk-based projects addressing historic mining legacies.
- endorsed the declaration of the Donnybrook shafts as an Abandoned Mine Site. The site was declared abandoned to fund remediation earthworks on 11 prioritised shaft features.
- reviewed the desktop studies completed for the Ashmore Seppelt project areas and agreed that the works program should be designed to allow for rehabilitation within one dry season given the remote and isolated nature of the site; and the requirement to re-establish vehicle access following each wet season.



Mining Rehabilitation Fund

MRF Lodgement

In Western Australia, all tenement holders that conduct mining or exploration operations under the *Mining Act 1978* (WA) (Mining Act) are required to provide disturbance and rehabilitation information annually for the purposes of calculating a mining rehabilitation levy. Tenement holders are not required to pay a levy if they have a 'rehabilitation liability estimate' of \$50,000 or less, however they are still required to lodge an MRF report.

The MRF reporting period is aligned with the financial year (FY) 1 July to 30 June but tenement holders are able to submit data at any time during this period, with disturbance information reckoned at a date of their own choosing. These reports may then be selected for compliance review to identify any discrepancies in reporting. This review process is a means of assuring DMIRS of the continued appropriateness of self-assessment of disturbance information, and allows the department to undertake a more targeted approach for on-site inspections.

For the 2021–22 FY reporting period, 98.9 per cent of reports had been submitted by the due date, in compliance with reporting obligations under the MRF Act (Figure 1). By 30 September 2022, 99.9 per cent had been submitted. For the remainder, levy liability was determined by DMIRS itself, under the terms of section 16(2) of the MRF Act.

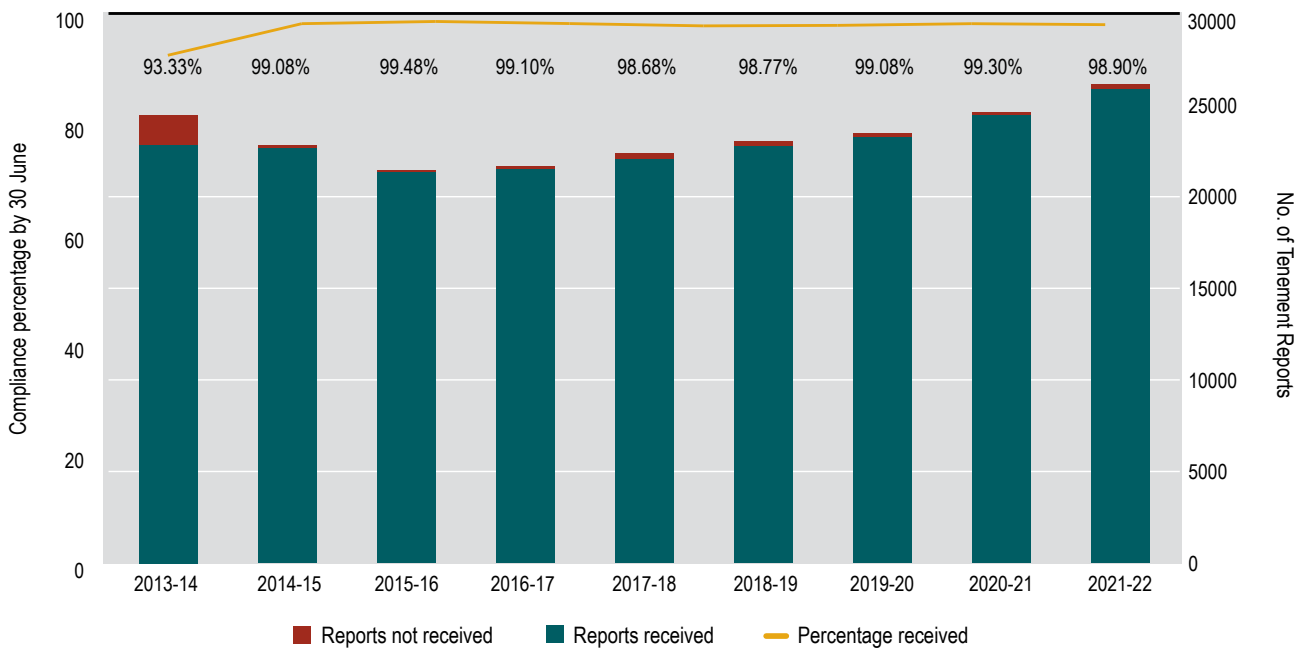


Figure 1 – Percentage of tenement reporting obligations met by 30 June for each levy period

Mining Rehabilitation Levy for the 2021–22 Period

Mining rehabilitation levies totalling \$40.75 million have been assessed for the 2021–22 FY period (Figure 2) based on assessment information provided up to 5 October 2022, in comparison to the \$37.5 million reported for last year. This represents an 8.5 per cent increase from the 2020–21 period. As at 5 October, 97.6 per cent of these levies had been collected.

Assessment information can be formally reassessed under the MRF Act for up to two years after the date of the original assessment. This means that the final total levy calculated for a levy period may vary from the amount initially reported.

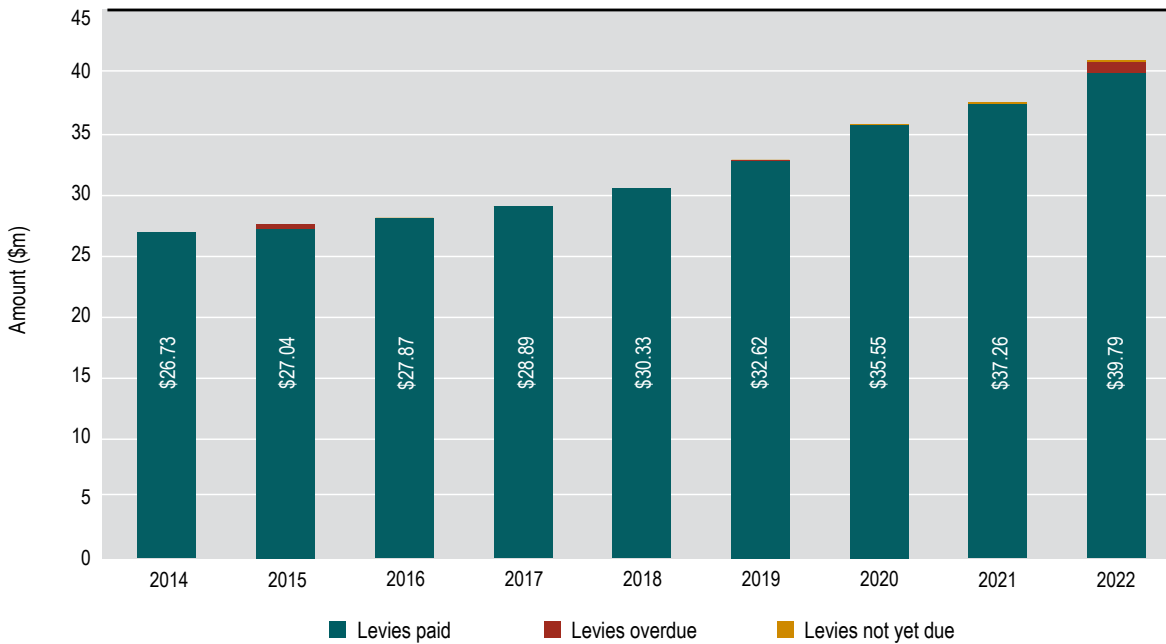


Figure 2 – Levies assessed and paid 2014–2022

Enforcement

The MRF was first introduced for the period ending 30 June 2013, at which time tenement holders that held Unconditional Performance Bonds (UPB) under the State's former mining securities system were able to apply to participate in the Fund voluntarily and to have their UPBs returned. The MRF became mandatory for the period ending 30 June 2014 when DMIRS began issuing infringement notices to tenement holders who failed to comply with their reporting obligations by 30 June. Under the *Criminal Procedure Act 2004 (WA)*, a modified penalty of \$4,000 (20 per cent of the statutory amount) applies for each tenement.

For the 2021–22 reporting period, DMIRS served 287 infringement notices to tenement holders that failed to submit assessment information by the 30 June 2022 deadline. Most tenement holders that received an infringement notice provided the information before the Final Demand was served – that is, within 28 days of issue – and, in total 277 notices were subsequently withdrawn. As at 5 October 2022, only 10 of the 287 infringements remained with the Fines Enforcement Registry.

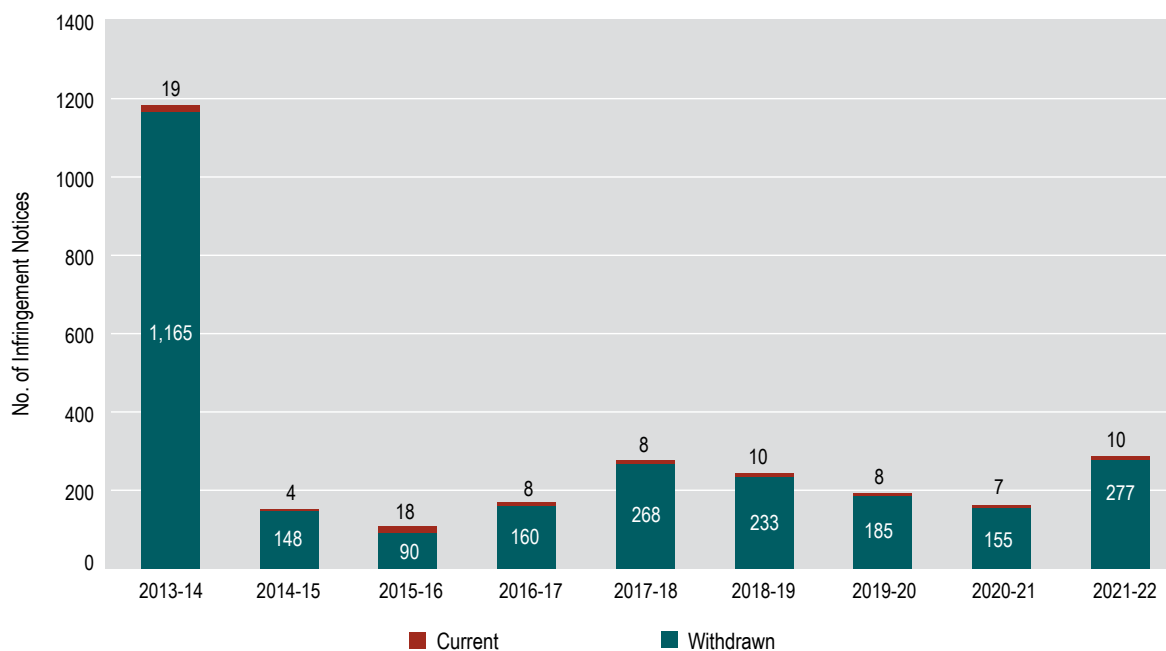


Figure 3 – Infringement notices issued for failure to provide MRF assessment information

Annual MRF Compliance Assessment

DMIRS undertakes compliance assessments of MRF reports to verify that the self-assessed data submitted by tenement holders is accurate and to ensure MRF levy contributions are correct.

In the 2021–22 FY, 2,032 tenements across 38 MRF reports for the 2020–21 levy period were reviewed and 355 tenements were found to have potential discrepancies. Of these, 309 tenements were confirmed to have incorrect assessment that required amendment.

Across the 355 tenements, potential discrepancies were associated with 900 individual features or activities. 802 individual activities were confirmed to have incorrect assessment information which therefore required amendment.

The outcomes of the compliance plan resulted in additional levy payments of \$584,980.06 and refunds of \$12,943.11.

MRF Compliance Outcomes

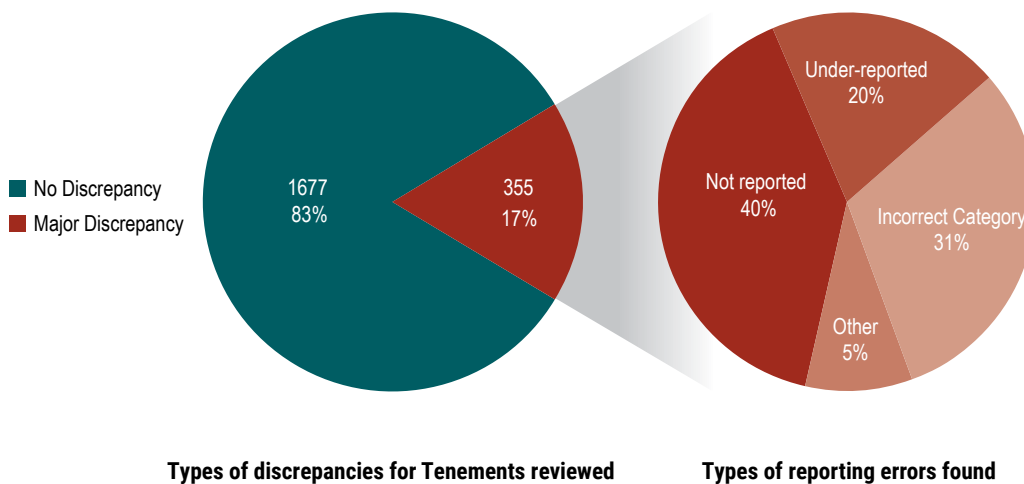


Figure 4 – Discrepancies found for tenements reviewed

The most common types of errors identified in reporting are summarised below:

- Roads/Tracks were the most commonly non-reported disturbance and the most common discrepancy found over all categories.
- Exploration/Prospecting Operations without meeting the legislative requirements was the second most common non-reported disturbance and the second most common discrepancy found over all categories.
 - < As defined in the MRF Regulations, an activity can only be considered as Exploration Operation if it directly relates to exploration or prospecting for minerals and is the subject of a Program of Work (PoW). Therefore if you do not have a current approved PoW you cannot report an activity as Category D – Exploration/Prospecting Operations in your MRF report.
- Mining Voids continued to be the most common, incorrectly reported disturbance and are also the next highest discrepancy found overall, followed closely by Waste Dumps. Both of these discrepancies are a combination of misreported as land under rehabilitation and incorrectly classed. Roads/Tracks continue to be most commonly under-reported.

MRF Data for 2021–22 FY

Each year DMIRS publishes the MRF Data Release which includes disturbance and rehabilitation data on tenure held under the Mining Act that is subject to the requirements of the MRF Act. It does not include tenure held under State Agreements.

The assessment information submitted under the MRF Act is considered the most comprehensive publicly available dataset of mine-site activities in Australia and is available for download through the DMIRS website. (www.dmp.wa.gov.au/Environment/What-is-the-MRF-19522.aspx). A summary of this dataset is also provided at the end of this report.

For the 2021–22 FY, the area of land reported as ‘under rehabilitation’ (that is, where rehabilitation was in progress) was, at 42,141ha, essentially unchanged from the previous year. For the same period, the area of ‘active’ disturbance increased by approximately 12,558ha (8.6 per cent) to 170,667ha. Land under rehabilitation therefore represented 19.8 per cent of all disturbed land (that is, including land in the process of being rehabilitated) and 24.9 per cent of the area of active disturbance.

These results suggest that the area of land allocated to new and on-going mining activity is continuing to outpace the areas consigned to rehabilitation.

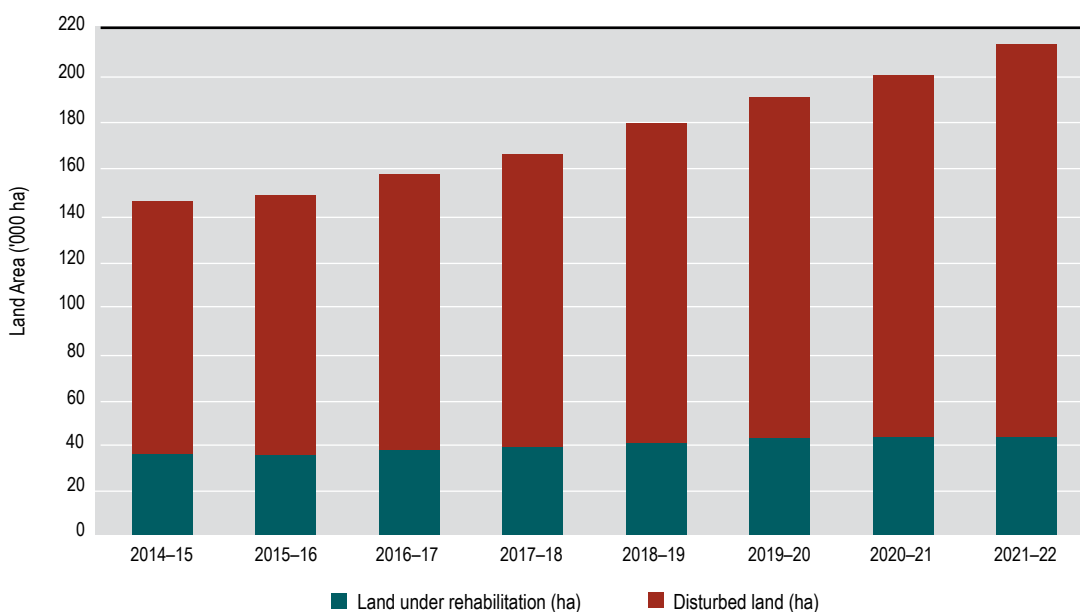


Figure 5 – MRF data reported for land under rehabilitation

	Disturbed Land (ha)						Land Under Rehabilitation (ha)					
	2019-20	2020-21	2021-22	Change 2019-20 (%)	Change 2020-21 (%)	Change 2021-22 (%)	2019-20	2020-21	2021-22	Change 2019-20 (%)	Change 2020-21 (%)	Change 2021-22 (%)
Exploration Licences	12,134	12,528	14,742	-2.7%	3.3%	17.7%	26	22	26	-6.9%	-14.3%	16.7%
General Purpose Leases	3,328	3,619	4,123	1.6%	8.7%	13.9%	983	906	915	12.9%	-7.9%	1.0%
Miscellaneous Licences	15,710	16,383	17,940	13.0%	4.2%	9.5%	2,108	2,223	2,367	1.7%	5.4%	6.5%
Mining Leases	115,323	123,740	132,526	6.7%	6.8%	7.1%	38,690	39,031	38,819	5.8%	0.9%	-0.5%
Prospecting Licences	750	617	730	17.7%	-17.8%	18.3%	54	14	14	3.5%	-74.6%	3.9%
Retention Leases	269	223	605	-31.1%	-17.2%	171.9%	0	0	0			
Total	147,514	157,109	170,667	6.3%	6.1%	8.6%	41,862	42,195	42,141	5.7%	0.8%	-0.1%
Percentage of Total Area	78.0%	78.8%	100.0%				22.0%	21.2%	19.8%			

Table 1: MRF Summary Data Reported for the period through to 2021–22

Note: Areas reported for previous periods may reflect modified data amended post the initial period.

Financial Summary

The MRF is a Special Purpose Account under Section 18 of the *Financial Management Act 2006* (WA) and, in accordance with Section 10 of the MRF Act, principal funds are used to rehabilitate abandoned mine sites after exhausting all other avenues to recover expenses from the tenement holder. Interest generated from the MRF is used to rehabilitate legacy abandoned mine sites (sites that have not had a MRF reporting obligation).

DMIRS reports on the performance of the MRF in its Annual Report, which is available on its website. A summary of this information is provided in Table 2. This Yearly Report is an expanded summary to showcase the activities within the MRF and the Abandoned Mines Program.

		2016-17 Actual	2017-18 Actual	2018-19 Actual	2019-20 Actual	2020-21 Actual	2021-22 Actual
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Opening Balance		63,377	92,400	122,616	150,473	185,237	219,493
Add receipts							
	Contribution from Industry	28,348	28,653	30,723	33,902	34,677	37,717
	Interest Received	1,654	2,223	3,094	1,644	694	859
	Other	16				941	
	RECEIPTS SUBTOTAL	30,018	30,876	33,817	35,546	36,312	38,576
Less payments							
	Salaries	163	144	163	388	620	449
	Operational Expenditure	832		479	94	692	3034
	Other		516	5,318*	300	744	766
	PAYMENTS SUBTOTAL	995	660	5,960	782	2,056	4,249
Balance at the end of the period		92,400	122,616	150,473	185,237	219,493	253,820

Table 2: MRF Financial Summary

* MRF Treasury Advance Repayment

By 30 June 2022, the net balance of the Fund reached nearly \$254 million, after accounting for interest revenue and disbursements. At that date, approximately \$12.5 million in interest had been earned on the Fund since 1 July 2014. After administration expenses and the costs of rehabilitating 'legacy' sites, a net amount of \$2.18 million remained available.

Table 3 provides a breakdown of the expenditure by the AMP in the 2021-22 FY

Project	Expenditure from MRF Principal \$'000	Expenditure from MRF Interest \$'000	Total Expenditure to 30 June 2022 \$'000
	Project Costs	Project Costs	
Elverdton	-	3	3
Donnybrook shafts	-	40	40
Safe Shafts for Towns		231	231
Ellendale	2,616		2,616
Ashmore-Seppelt	61	-	61
Total	2,677	274	2,951

Table 3: Breakdown of sources and applications of funds for Abandoned Mine projects 2021-22

ABANDONED MINES PROGRAM – Project Status

Funds contributed to the MRF can be used to rehabilitate mine sites that have become abandoned by companies that have either previously paid into the MRF or were eligible to pay into the fund, after all other avenues to ensure rehabilitation have been exhausted. Interest generated on the funds contributed to the MRF can be used to rehabilitate legacy abandoned mine features for which contributions to the MRF were not made.

Notwithstanding the ongoing challenges presented by COVID-19 including record low interest rates, DMIRS continued to provide oversight of Western Australia's abandoned mine features through the delivery of the following projects.

Historic low interest rate levels have continued resulting in an ongoing and active reassessment of AMP projects. Projects funded from MRF interest continue to be closely managed with some remaining on hold and a significant focus on project spend. While interest rates remain below 1.5 per cent the AMP will continue to prioritise the higher risk projects and continue its focus on delivering projects funded under MRF Principal (i.e. sites abandoned since the introduction of the MRF Act).

Ashmore and Seppelt Diamond Mines

The Ashmore, Seppelt 1 and Seppelt 2 former diamond exploration mine sites are located within the North Kimberley region, approximately 75km east of Kalumburu and 150km northwest of Wyndham. Trial mining ceased at Ashmore in 2001 and at Seppelt 1 and Seppelt 2 in 2004 with results of the trial indicating a commercial scale operation was not feasible at that time. The three tenements were forfeited in November 2019 and liquidators were appointed in April 2020. The site was declared abandoned under the MRF Act on 26 March 2021.

Project investigations remain at a desktop phase due to difficult access to this remote and isolated area (currently only accessible via helicopter). Stakeholder engagement with Traditional Owners has been postponed due to COVID-19 pandemic restrictions. Desktop studies for material balance and characterisation, surface water, a pit lake risk assessment and contaminated sites reviews have now been completed.

As restrictions ease and remote Aboriginal communities reopen, stakeholder engagement efforts can commence. Stakeholder engagement will then inform rehabilitation planning and re-establishment of vehicle access.



Image 1 – Tailings surface within Bulong TSF

Bulong Nickel Tailings Storage Facility

The Bulong site is located approximately 40km east of Kalgoorlie adjacent to Lake Yindarlgooda. Nickel mining operations commenced at the site in the 1990s and included the construction of a leach residue storage facility (also referred to as tailings storage facility or TSF) and evaporation ponds immediately adjacent to the lake. In 2005 the tenement holders became insolvent and by 2013 the tenement hosting the TSF expired, reverting the liability to the State. The processing plant and open pits remain on active mining tenure.

Concerns were raised regarding issues associated with seepage and dust from the TSF potentially escaping into the surrounding environment. The contaminated sites detailed site investigation (DSI) was followed by an ecological risk assessment (ERA) in 2020–21 FY. All reports were submitted to the Department of Water and Environmental Regulation (DWER). The ERA determined that no risks to human health from contamination were identified and risks to the lake ecology have been assessed as low.

Geotechnical assessments including Dam Break Assessment, Likelihood of Failure Report and a Conceptual Closure Design have now been completed. Based on the Likelihood of Failure Assessment, the most likely failure scenario is through seismic instability, with an estimated annual probability of occurrence of 1 in 25,000. All calculated failure scenario probabilities are significantly below the calculated ANCOLD¹ limit of tolerability of 1 in 1,000.

Registered Aboriginal Heritage sites, Native Title considerations, identification of a suitable source of competent capping material and a haulage route must be negotiated before the project can progress developing a detailed closure design.

¹ ANCOLD (October 2003), "Guidelines on Risk Assessment", Australian National Committee on Large Dams



Image 2 – Shaft feature in Argyle Forest Block

Donnybrook Shafts

In May 2018, the Department of Biodiversity, Conservation and Attractions (DBCA) reported the presence of old mine workings within the Argyle Forest Block to DMIRS. Following assessment of the site features in accordance with the AMP risk assessment and prioritisation process, the Donnybrook site was confirmed a priority for remediation due to operational and community safety risks. The project site is located approximately 2km south of Donnybrook within a small section of the Boyanup State Forest.

A geotechnical assessment report and a subsequent remediation methodology report were completed in 2020–21 FY for 10 priority shafts located within proximity to the primary access track. A further 15 previously unrecorded shaft features were identified on DBCA managed land, including a shaft located in State forest northeast of the project site from which a dog was rescued in July 2021. A geotechnical study was undertaken for the additional shafts in April 2022. The study indicated that these shafts were lower risk due to the shafts being stable, relatively shallow, visible and not easily accessible and therefore were not prioritised for remediation as part of this project.

The Donnybrook shafts were declared an abandoned mine site under the MRF Act on 1 March 2022. A remediation earthworks contract to backfill the 10 priority shafts and the shaft the dog was rescued from was awarded in the 2021–22 FY, with works scheduled to be completed in late 2022.



Image 3 – E9 plant area works continuing post removal of redundant infrastructure

Ellendale Diamond Mine

The Ellendale Diamond Mine is located approximately 120km east of Derby in the West Kimberley region of Western Australia. It includes the E4 and E9 pit voids, stockpiles, waste rock landforms, TSFs and other associated infrastructure. Mining at the Ellendale site commenced in 2002 and continued to 2015, when Kimberley Diamond Company NL (KDC) entered administration. Ellendale was declared an abandoned mine in December 2015.

During the second half of the 2021 dry season both the E9 and E4 bore fields had an extensive clean up works program undertaken by a local Derby business. The work included closing each of the previously open production bores with a manufactured plate and the off-site disposal of pipe and other general rubbish.

The 2021–22 FY has seen the largest contract managed by the AMP to date awarded and mobilised during the current dry season. The deconstruction and removal of the obsolete and redundant plant / equipment has commenced across multiple work fronts within the project area. A mobile camp and workshop have been established on site to facilitate execution of the works. Demolition works within the E9 project area has been completed with the whole project currently on schedule for completion later this year.

A pre and post wet season tailings storage facility (TSF) review was undertaken on the E9 TSF1D to provide technical inputs to the ongoing management of the facility. The review identified the rate of erosion to the TSF walls were significantly higher than anticipated. Remedial infill works to a peripheral bund surrounding the facility will ensure the tailings material is contained within the management area. The on ground works are to be undertaken during the 2022 dry season.

A hydrocarbon contaminated soil sampling plan has been completed. Collection of samples will be on-going with contaminated soils moved offsite for remediation as part of the deconstruction and clean up contract.



Image 4 – Tailings plume downstream from the uncontained stockpile

Elverdton

The Elverdton mine site is located approximately 10km south-east of Ravensthorpe and is defined as a cluster of abandoned mine features comprising tailings dumps, underground mine shafts, water dams and defunct mine infrastructure. Gold and copper mining began in the area during 1899 with major periods of copper ore production between 1901–18 and 1957–71.

A preliminary site investigation was completed in 2019-20 FY followed by a sampling and analysis quality plan (SAQP) that was endorsed by the Accredited Contaminated Sites Auditor (CSA) in 2020–21 FY. The CSA will oversee the implementation of the SAQP that will guide the detailed site investigation (DSI). Due to historic low interest rates and the Elverdton project being funded by MRF interest, the DSI continues to be on hold.

Further engagement with stakeholders in the Shire of Ravensthorpe was undertaken in April 2022 providing an update on the current project status and the impact of interest rates on the MRF and available project funds.

This project will be progressed as interest rates increase and funding allows.

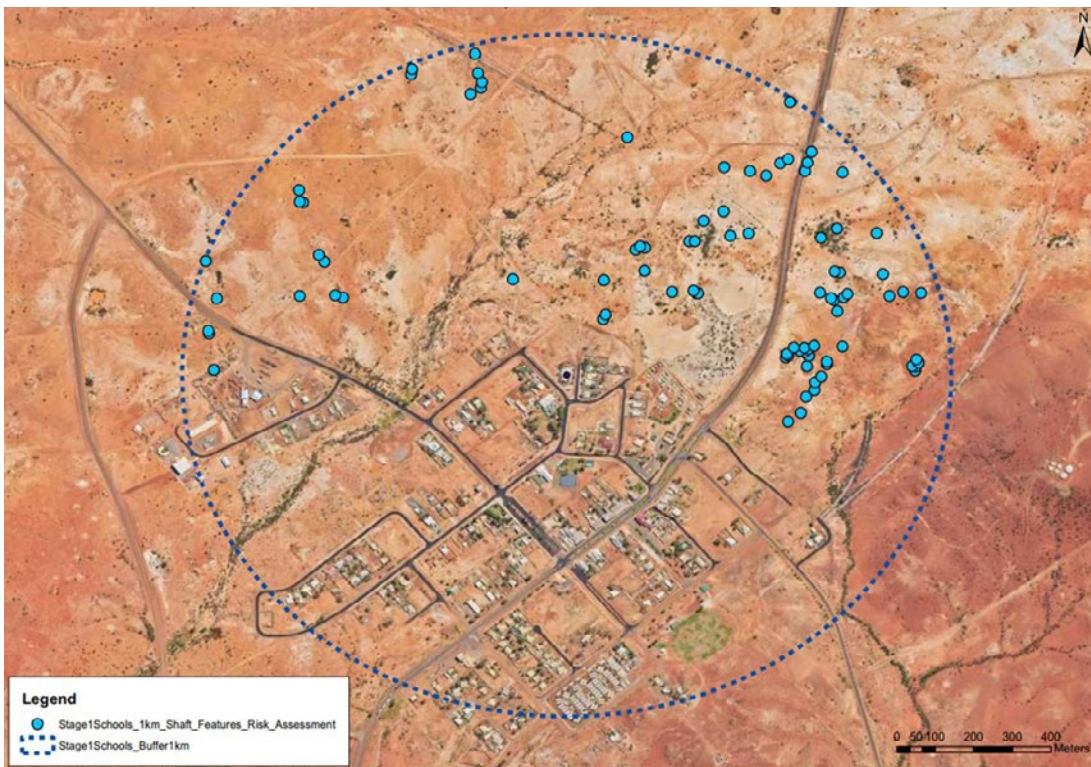


Image 5 – Abandoned shaft features identified in the inventory within 1km radius of Cue Primary School

Safer Shafts for Towns

The Safer Shafts for Towns project focuses on the identification and subsequent remediation of historic abandoned shaft features located in close proximity to regional communities. Yalgoo, Cue and Marble Bar were prioritised for Stage 1 of the project based on the inherent risk to a single child by the number of shafts that may be located near a school.

The Abandoned Mines Inventory includes more than 30,000 records of shafts located within 10km of town sites and 1km of major roads across Western Australia. These records have been prioritised through the AMP risk assessment and prioritisation process to create a shortlist of high risk features within proximity of schools.

An Aboriginal-owned and managed business were contracted to coordinate stakeholder engagement with local shires, schools and community, as well as undertake the field based assessment to locate the abandoned mine features and record specified data.

The contractor completed an aerial survey using drone technology of the 1km project area in each town in May 2022. A significant number of potential additional shaft features were identified and later verified and mapped via field based data collection.

The field based recording of abandoned shaft feature data for Yalgoo and Cue was completed in June 2022. The contractor engaged with the Aboriginal community in Yalgoo and Cue to hire local employees who were trained in the use of a specifically designed App to record feature data in the field.

Contractor stakeholder engagement with the Cue Primary School in May 2022 lead to the AMP inspection of a former backfilled shaft that had opened up following a burst water pipe in the backyard of Government Regional Officers Housing (GROH) residential property. GROH have secured the property and the AMP has responded to the urgent request to address this issue and will engage a geotechnical engineering consultant to assess the shaft and recommend remediation options. The geotechnical works followed by remedial earthworks are planned to be completed in 2022–23 FY.

Field based recording of abandoned mine feature data for Marble Bar will be completed in 2022–23 FY and it is anticipated that similar engagement outcomes with the local Aboriginal community will result. The recorded feature data for all sites in Stage 1 will inform a risk assessment in accordance with the AMP risk assessment and prioritisation process.²

The AMP will review the outcomes of the current contract and undertake further stakeholder engagement to inform the development of a remediation program for prioritised abandoned shaft features for these initial locations together with planning for other regional towns in subsequent years.

² Mitchell, I, Hryczyszyn, K & Read, T 2019, 'A framework to prioritise high-risk abandoned mine features for rehabilitation in Western Australia', in AB Fourie & M Tibbett (eds), *Mine Closure 2019: Proceedings of the 13th International Conference on Mine Closure*, Australian Centre for Geomechanics, Perth, pp. 123-132, https://doi.org/10.36487/ACG_rep/1915_11_Mitchell



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