

UPPER HUNTER REHABILITATION 2022



Upper Hunter Mining Dialogue

Rehabilitation Principles & Commitments - Analysis and Trends

Since 2012, the Upper Hunter Mining Dialogue has been collecting and reporting on annual rehabilitation data from Upper Hunter mining operations, providing information to the community and improving transparency regarding the amount of progressive rehabilitation across the region.

The mining industry has agreed to a set of common rehabilitation principles and commitments to drive improvements to rehabilitation. More information regarding these principles and commitments can be found on the Mining Dialogue website.

A progress table is updated yearly with new results, providing an overview of the newly rehabilitated land and newly disturbed land during each calendar year for the past five years, as well as a selection of long-term averages.

In 2022, a further 529 hectares of land was newly rehabilitated, taking the total amount of land under rehabilitation to 14,987 hectares, which equates to just under 39 percent of all land disturbed by mining in the Upper Hunter. During the same period, 676 hectares of new disturbance was recorded.

The annual rehabilitation to disturbance ratio for 2022 was 0.78, meaning that for every hectare of land disturbed, 0.78 hectares of rehabilitation was undertaken.

While there was a slight increase in 2022 for newly disturbed land, this is far below the long-term average of new disturbance per calendar year.

At the close of the reporting period, a total of 23,572 hectares of disturbed land is awaiting rehabilitation.

A number of companies reported the disturbance of land previously under rehabilitation (instead of creating new disturbance) since the end of the 2021 reporting year, which has impacted the 'E' figure for total land under rehabilitation in 2022.

For more information:

miningdialogue.com.au

2022 Rehabilitation Snapshot

New rehabilitation

529 ha

Last Year (2021)

701 ha

Five-year average

804 ha

New disturbance

676 ha

Last Year (2021)

514 ha

Five-year average

1,043 ha

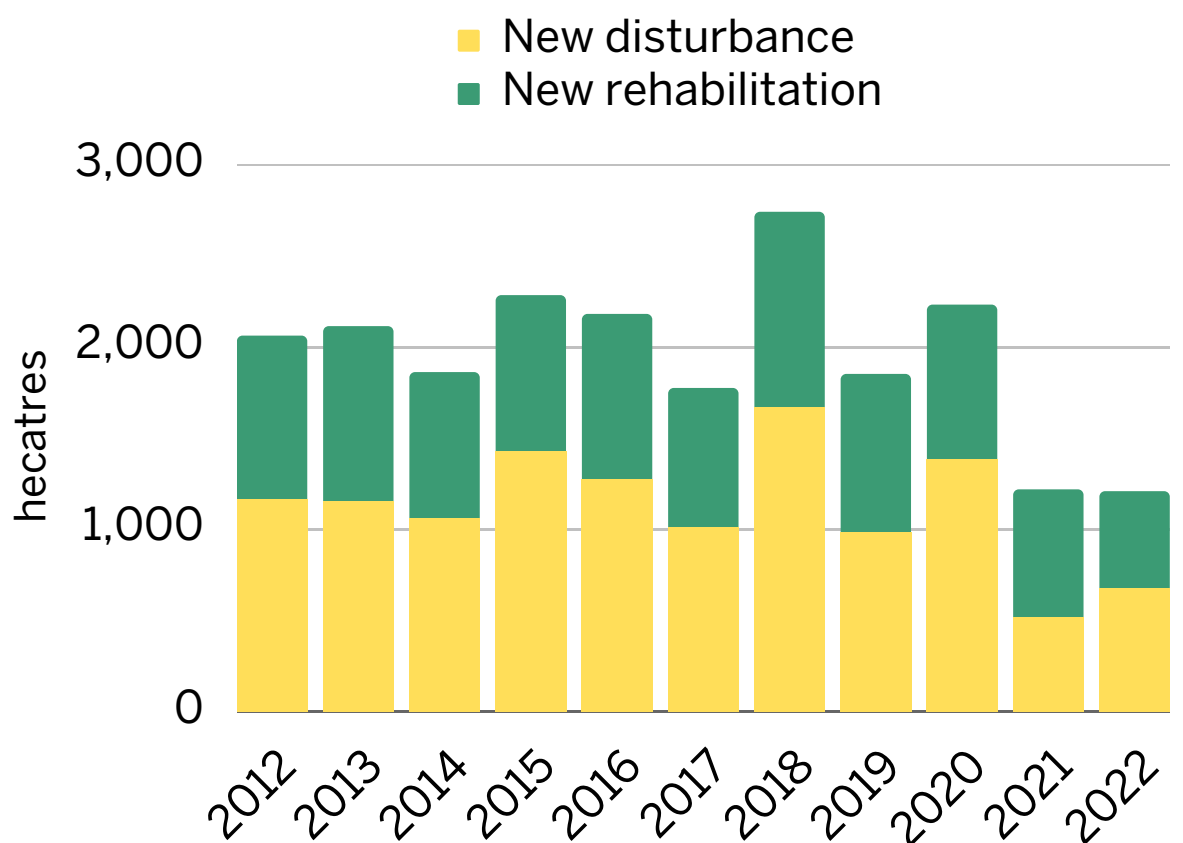


Figure 1: Comparison of annual new rehabilitation and disturbance

Total disturbed land under rehabilitation*

14,987 ha

Total disturbed land awaiting rehabilitation*

23,572 ha

*at the end of the reporting period



Almost 40% of land disturbed by mining in the Upper Hunter is under active rehabilitation.

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Upper Hunter
Mining Dialogue

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Figure 2: Comparison of Annual New Disturbance to New Rehabilitation, with trendlines (2012 to 2022)

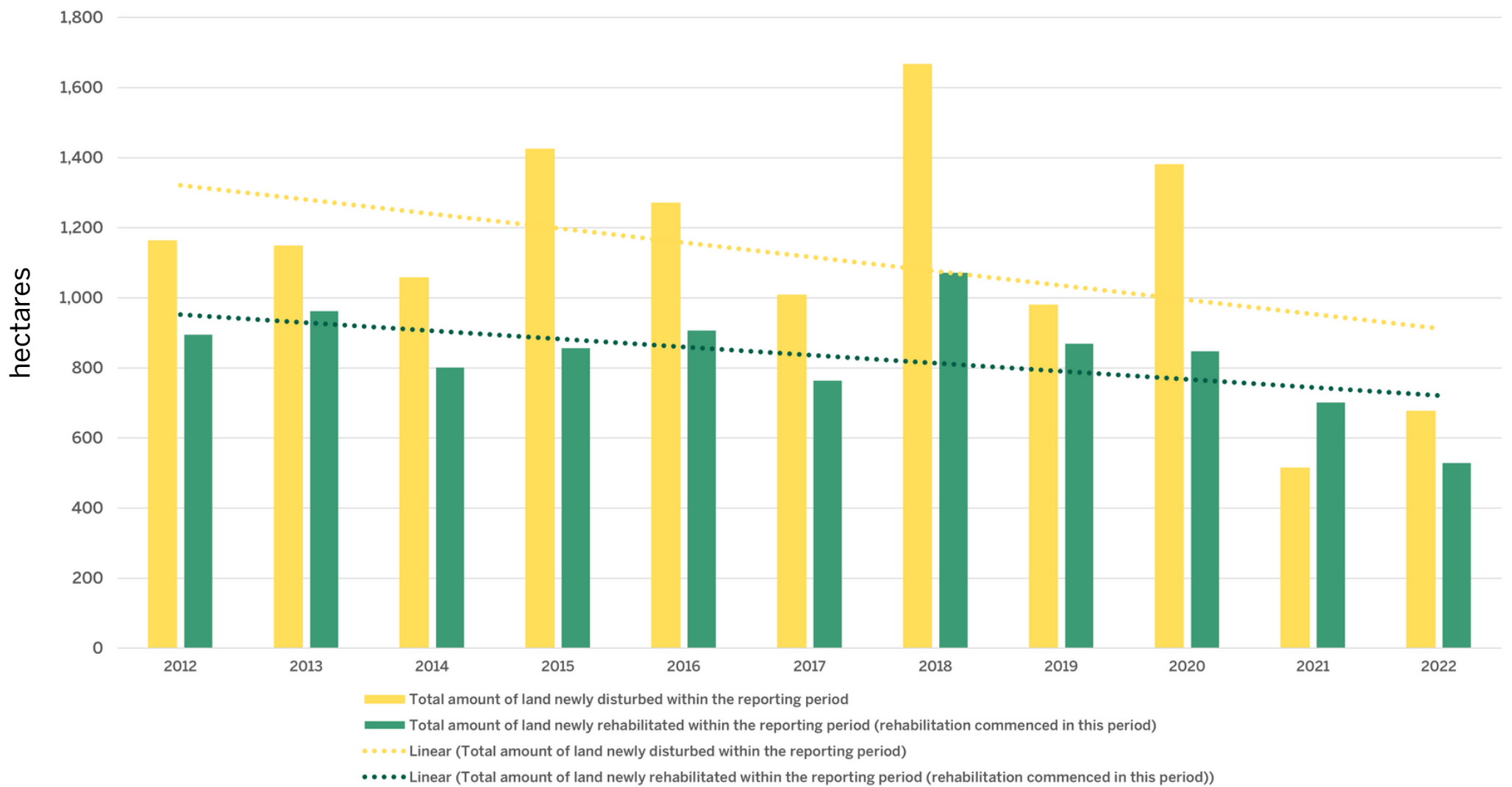
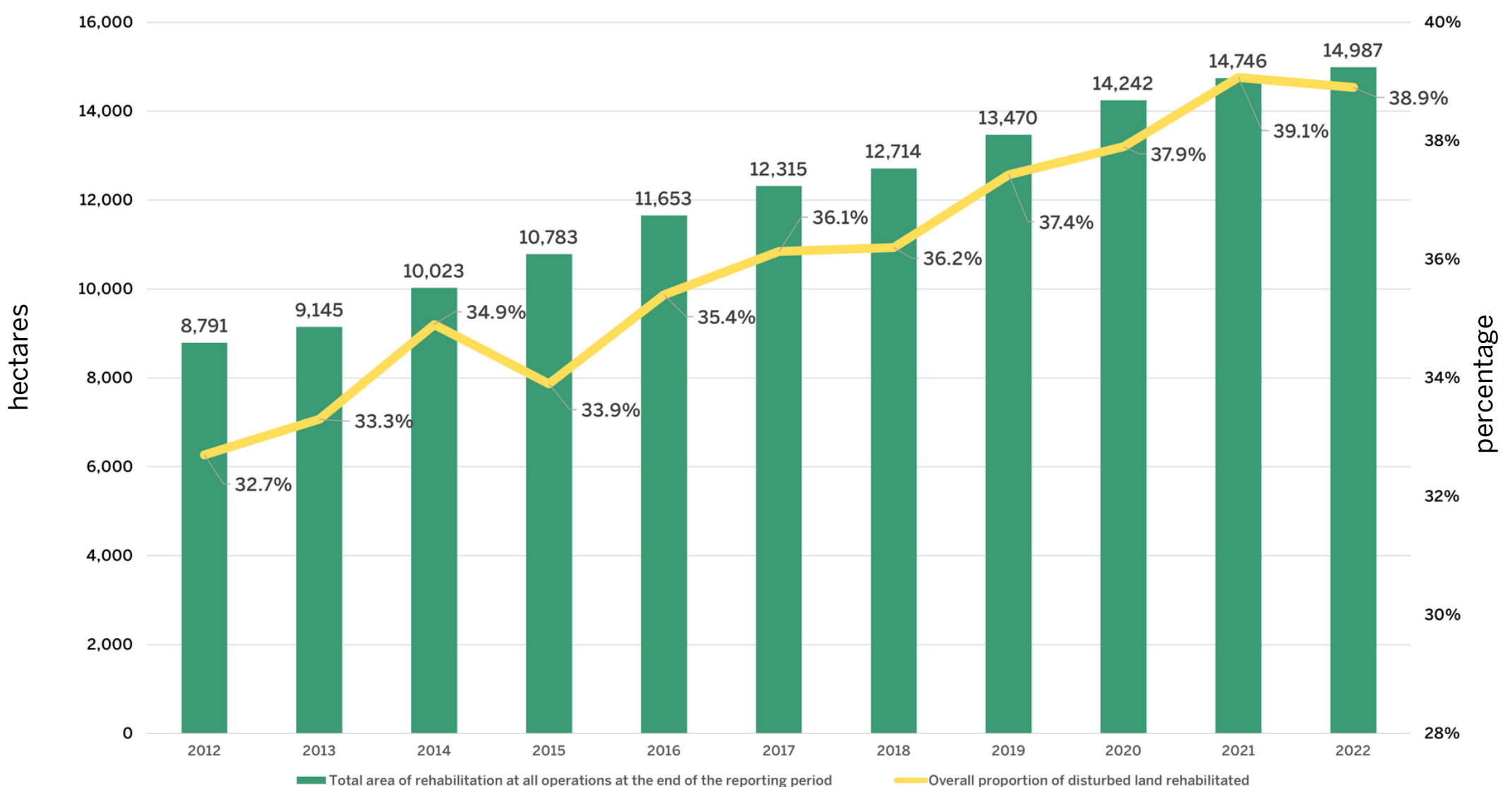


Figure 3: Total area of land under rehabilitation and Percentage of disturbed land under rehabilitation (2012 to 2022)



UPPER HUNTER REHABILITATION 2022



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Rehabilitation Principles & Commitments - Progress Table

Rehabilitation Progress Table	Opening Figure	Five-Year Average	Last Five Years [7]				
Rehabilitation [1]	2012	2018-2022	2018	2019 [8]	2020 [9]	2021 [10]	2022 [11]
A: Disturbed land awaiting rehabilitation - Start amount (ha) [2]	17,830	N/A	21,816	22,276	22,726	23,245	23,425
B: Total land newly disturbed within the reporting period (ha)	1,163	1,043	1,666	979	1,380	514	676
C: Total land newly rehabilitated within the reporting period (ha)	895	804	1,071	869	848	701	529
D: Disturbed land awaiting rehabilitation - End amount (ha) (D=A+B-C)	18,098	N/A	22,411	22,518	23,259	23,058	23,572
E: Total land under rehabilitation at all operations (ha) [3]	8,791	N/A	12,714	13,470	14,242	14,746	14,987
F: Annual ratio of rehabilitation to disturbance (C:B) [4]	0.77	0.86	0.64	0.89	0.61	1.36	0.78
G: Overall proportion of disturbed land rehabilitated	32.7%	N/A	36.2%	37.4%	37.9%	39.0%	38.9%
Other Managed Land [5]	2012	2018-2022	2018	2019	2020	2021	2022
Estimate of total biodiversity offset land (ha)	10,973	N/A	41,139	41,803	43,689	41,034	44,109
Estimate of total managed agricultural land (ha)	N/A	N/A	59,212	59,209	59,160	52,788	51,404
Estimate of total buffer land (ha) [6]	N/A	N/A	N/A	47,063	47,179	48,175	44,976

Note: Please see over the page for Contextual Notes that provide further information to the table and figures presented.

Thanks to all Upper Hunter Mining Dialogue industry members (Bengalla Mining Company, BHP, The Bloomfield Group, Glencore, MACH Energy Mount Pleasant Operation, Malabar Resources, Muswellbrook Coal Company, Peabody Energy, and Yancoal) for supplying rehabilitation and disturbance data for this project.

For more information:

miningdialogue.com.au

UPPER HUNTER REHABILITATION 2022



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Rehabilitation Principles & Commitments - Notes

Contextual Information to the Rehabilitation Progress Table

1	Rehabilitation is defined by the Mining Act 1992 as the treatment or management of disturbed land or water for the purpose of establishing a safe and stable environment.
2	Row 'A' (Year) may not necessarily equal Row 'D' (Year -1) because several companies reconcile their previously reported figures and have provided corrections over time which are incorporated into the subsequent year's reporting.
3	Row 'E' figures for the current reporting year are generally calculated by adding the new rehabilitation 'C' amount from the current reporting year to the total land under rehabilitation 'E' amount from the previous reporting year. This is not always a straightforward calculation, as several companies may report re-disturbance to areas previously rehabilitated (rather than creating new disturbance). Previously rehabilitated land is excluded from the total area under rehabilitation of all operations at the end of the reporting period.
4	The annual rehabilitation to disturbance ratio indicates how many hectares of rehabilitation are undertaken for each hectare of land disturbed during the year. A ratio of 1 would indicate that the total area of new rehabilitation and new disturbance in that year are the same.
5	The Dialogue collects and reports on a number of 'other managed land' including biodiversity offsets, and total managed agricultural land. Substantial changes in the amount of 'Other Land Managed' were identified between 2013 and 2014 because: (i) significant increases in additional offset areas have been established, and (ii) because some of the land previously identified as being used for agriculture is now being used for mining purposes or biodiversity offsets.
6	The Dialogue introduced a new reporting category as part of the 2018 results, where the total amount of buffer land owned by the mining companies operating in the Upper Hunter is now being reported. The total amount is also broken down into various categories (e.g. agricultural, residential, commercial, recreational, or vacant land not suitable for use). There will be a doubling up between some managed land and the buffer land results in most years due to some managed agricultural land being included in the buffer land figure.
7	The reporting table has been condensed for the reporting of 2022 data due to the project now having 11 years of supporting data since established in 2012. A number of previous contextual notes have been removed as they relate to data no longer shown in the table, however are important to note in other graphs produced by the Dialogue in association with this project. In 2015, there was an increase in newly disturbed land, which was predominantly due to the establishment of the Bulga Optimisation project. In 2017, Mount Pleasant Operation commenced operation, and a larger amount of new disturbance was recorded that year due to this project's initial stages. As the mine develops, progressive rehabilitation is conducted and much of the initial disturbance is rehabilitated.
8	2019 result notes: The reported D and E figures for 2019 do not align with previously reported data due to a site reporting that 170 ha of previously reported rehabilitation is being reclassified as a result of an Independent Rehabilitation Review conducted in 2019. Approximately 40 ha of this amount was reported as rehab disturbance in 2019, however a remaining discrepancy of 130 ha was removed from the rehabilitation reporting due to the fact that these were seeded to cover crops, but not the final seed mixes. These areas will be seeded to the final seed mixes in 2020/21 and will feed back into the rehabilitation reporting figures in the coming years.
9	2020 result notes: As per note [2], differences in the opening and closing figures between years were recorded due to sites amending their figures between reporting years following internal accuracy reviews. As per note [3], the 2020 Row 'E' figure is impacted by the disturbance of previously rehabilitated areas across two operations for dump space, resulting in a lower aggregate rehabilitation total in 2020. Further, as the United Wambo Joint Venture (UWJV) commenced on 1 December 2020, data for the site is now reported individually by Glencore and Peabody for respective sections of responsibility as per new arrangements. Given this transition, there may be minor impacts on the total results reported (e.g. opening 'A' and previous closing 'D' figures, which should generally align).
10	2021 result notes: The total figure for biodiversity offset land decreased slightly in 2021, due to a revision and correction of this data from Mount Pleasant Operation following an internal review for accuracy. Further, the figures for managed agricultural land and buffer land both decreased by a significant amount in the 2021 reporting year with Glencore advising they no longer include offset lands in this figure, and BHP advising of an increase in active mining area and the construction of the new Edderton Rd.
11	2022 result notes: As per note [2], differences in the opening 2022 'A' and closing 2021 'D' figures between years were recorded due to sites amending their figures between reporting years following internal accuracy reviews. Bloomfield reported that through their review they had removed areas previously classified as rehabilitation that were actually infrastructure areas (i.e. topsoil stockpiles etc), which are now classified as disturbance. Mount Pleasant Operation advised that in 2022, Rail 1 infrastructure south of the operations was removed and the area rehabilitated. This area is no longer included in MPO site footprint, and the data has been adjusted. Yancoal advised that MTW reporting changes between 2021 and 2022 have affected some figures included in UHMD reporting, primarily: 1) temporary rehabilitation has been reclassified as disturbance; and 2) Mount Thorley Coal Loader (MTCL) disturbance areas have been included for the first time in 2022 due to granting of mining lease ML 1828

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Industry Rehabilitation Principles & Commitments

Acknowledging increasing community concern about a lack of transparent information about mine rehabilitation, the Upper Hunter Mining Dialogue established a reporting project in 2012 to improve transparency of awareness of progressive rehabilitation by collating and reporting aggregate rehabilitation and disturbance data for all mining companies operating across the Upper Hunter.

Operating as one of the Dialogue's key annual projects since 2012, the project 'Rehabilitation Principles and Commitments' has resulted in industry members agreeing to a set of temporary and final rehabilitation principles and commitments that aim to decrease the periods of time that disturbed areas are left without temporary or final cover to minimise any impacts on the landscape or air quality.

These principles and commitments were developed in consultation with the Dialogue's Joint Environment Working Group members, with annual results reported back to members of the Joint Working Groups and Joint Advisory Steering Committee.

This project has enabled the Dialogue to publicly report the collective progress of all Upper Hunter companies against the principles each year, with an annual report from each individual company also submitted and published on the Mining Dialogue website for reference.

Since 2012, there have been significant improvements in the total amount of rehabilitation undertaken in the Upper Hunter, and the annual results can help the Dialogue demonstrate to stakeholders that progressive rehabilitation continues to be a priority for mining operations.

For more information:

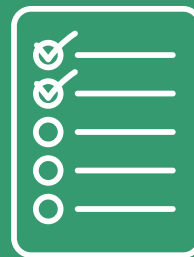
miningdialogue.com.au

Temporary and Final Rehabilitation Principles and Commitments

All Dialogue member companies have agreed to a set of common principles and commitments, developed by the Joint Environment Working Group, to encourage improvements in the speed of rehabilitation and to provide aggregate data to the community about total land disturbed and rehabilitated.

The Principles and Commitments are as follows:

1



Include rehabilitation planning
in mine planning

2



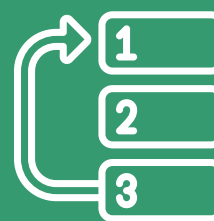
Undertake progressive rehabilitation

3



Minimise time that disturbed areas
are left without vegetation

4



Prioritise areas of rehabilitation and
temporary cover to reduce impacts

5



Meet target for rehabilitation progress
identified in the Forward Program

6



Set quality targets for rehabilitation in
the Rehabilitation Management Plan
and/or Forward Program and
implement a monitoring program to
measure performance