FLORA & VEGETATION ASSESSMENT

ON VEGETATION PLOTS ON OFFSET AREA AT NEWMONT BODDINGTON GOLD MINE

Prepared By

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Prepared For

Newmont Boddington Gold Pty Ltd

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LIST OF ABBREVIATIONS

BAM Act:	*Biosecurity and Agriculture Management Act 2007* (WA)
BC Act:	*Biodiversity Conservation Act 2016* (WA)
BOM:	Bureau of Meteorology
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DBCA:	Department of Biodiversity, Conservation and Attractions
DPaW:	Department of Parks and Wildlife (now under DBCA)
DPIRD:	Department of Primary Industries and Regional Development (includes Agriculture and Food)
EP Act:	*Environmental Protection Act 1986* (WA)
EPA:	Environmental Protection Authority
EPBC Act:	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
IBRA:	Interim Biogeographical Regionalisation for Australia
MCPL:	Mattiske Consulting Pty Ltd
NBGM:	Newmont Boddington Gold Mine
WAH:	Western Australian Herbarium (Perth)
WAOL:	Western Australian Organism List

EXECUTIVE SUMMARY

Mattiske Consulting Pty Ltd (MCPL) was commissioned by Newmont Boddington Gold to undertake an assessment of permanent monitoring plots that were established in 2009 in representative forest communities (Mattiske Consulting 2010d) . The monitoring plots were established in seven representative forest site types, H, AY, Y, MG, G, P and M. Five plots were established in type H forest, two in type Y forest and one in each of the remaining forest types. These plots are a subset of an extensive dataset on permanent plots recorded for Newmont BGM and also South32.

Flora

A total of 42 families, 117 genera and 208 taxa were recorded in the vegetation plots during the 2009 A total of 44 families, 114 genera and 206 taxa were recorded in the vegetation plots during the 2009 assessment (Appendix B). Of these, 31 were introduced species. The dominant families recorded in 2009 were Fabaceae (23 taxa), Asteraceae (20 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

A total of 44 families, 115 genera and 223 taxa were recorded in the vegetation plots during the 2024 assessment (Appendix B). Of these, 29 were introduced species. The dominant families recorded in 2024 were Fabaceae (22 taxa), Asteraceae (22 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

Selected species were only identified to the genera or family level as they were either juvenile plants of did not have flowers or other identification traits at the time of monitoring.

No Threatened Flora species pursuant to the Biodiversity Conservation Act (2016) [WA] or the Environment Protection and Biodiversity Conservation Act (1999) were recorded in the monitoring plots.

A total of 5 plants of the Priority 1 species *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) were recorded in Plot RDA08 in 2009 and 4 plants were recorded in 2024 in the same plot. This species is geographically restricted species which is known from a range of locations near Boddington including the valley floors north of the Newmont BGM mine camp, the fringes of the Hotham River, the Camballing Reserve just south of the Pinjarra-Williams Road and in other nearby areas.

A total of 36 introduced (exotic) taxa have been recorded within the monitoring plots on the Newmont BGM areas. Of the introduced species recorded, **Moraea flaccida* is Declared Plants species pursuant to section 37 of the *Agricultural and Related Resources Protection Act 1976* according to the Western Australian Department of Primary Industries and Regional Development (DPIRD 2025). No introduced species are Weeds of National Significance (WONS), DCCEEW (2025e).

Vegetation

The species richness, density and foliage cover data reflected greater similarity within plots than between plots. The 2024 results based on species richness, density and foliage cover were relatively consistent within the plots from 2009. These trends were also evident in the diversity indices. The local variation between plots reflected the local site conditions and the differences in site-vegetation types. The presence of weeds in some of the plots reflects some introduction of smaller grasses and herbs and as such may relate to the proximity of the agricultural lands and also the slightly moister seasonal soils in the valley systems.

As observed in other studies in the northern Jarrah forest, there has been a decline in condition of tree species which appears to reflect the more recent drier seasonal conditions. Otherwise the results for the trees also reflect greater similarities within the plots over time than between the plots.

1. INTRODUCTION

1.1 Background

In 2009, Mattiske Consulting Pty Ltd (2010d) was commissioned by Newmont Boddington Gold to undertake a flora and vegetation survey of the offset area to the north of the Boddington Gold mine camp. As part of the 2009 survey permanent monitoring plots were to be established in representative forest communities. As such these plots are a few of the range of plots established for Newmont BGM and South32 in the eastern Jarrah forest. This report covers a re-assessment of the plots in the spring months of 2024.

1.2 Climate

The survey area lies at the southern end of the Northern Jarrah Forest subregion. Beard (1990) described the climate of this area as being warm Mediterranean, with rainfall of 600 – 1200 mm per annum and 5 - 6 dry months per year. The closest weather stations are the Wandering (Temperature) and Rainfall (Bannister), Bureau of Meteorology (BOM 2025).

The assessment in November 2024 followed a below long-term monthly average in the months of September and October 2024, Figure 1. The annual rainfall in 2009 (569.8 mm), 2023 (471.6 mm) and 2024 (570.2 mm) were all below the longer term average of 643.3 mm. This is a wider trend currently in the southwest of Western Australia.

The temperatures in 2009, 2023 and 2024 were similar to the long-term records with only slight variations in some months, Figure 1.

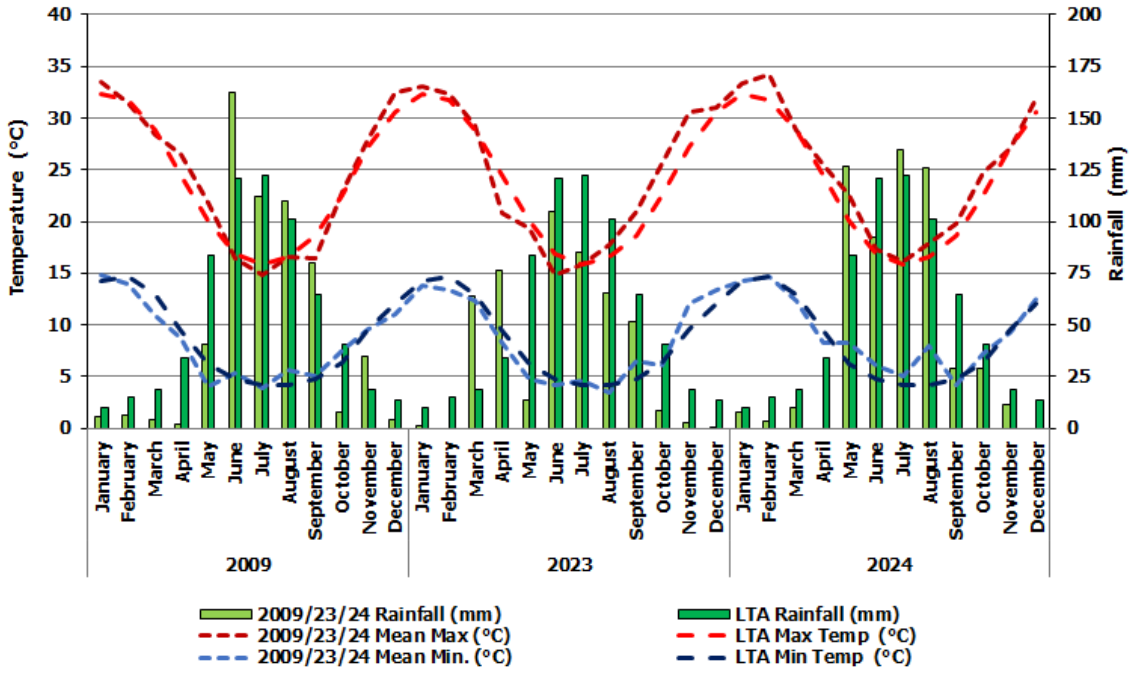


Figure 1: Rainfall and temperature data for Bannister (WA) and Wandering (WA), (BOM 2025)

Note: Rainfall for May 2023 missing from Bannister (WA) so utilised nearby Culford (WA) record for this month.

1.3 Threatened and Priority Flora

Species of flora are defined as Threatened or Priority conservation status where their populations are restricted geographically or threatened by local processes. Threatened Flora species are gazetted under the Biodiversity Conservation Act (2016) and the listings of Threatened and Priority Flora are reviewed on a regular basis as data is updated (DBCA 2025b).

Threats of extinction of species are also recognised at a Federal Government level and are categorised according to the Environment Protection and Biodiversity Conservation Act (EPBC Act), 1999 (Department of Climate Change, Energy, the Environment and Water 2025a).

1.4 Declared and Listed Introduced Plants

At a Federal level the Weeds of National Significance (DCCEEW 2025e) include the most aggressive and environmentally threatening species on a national scale.

Plant species are defined as Declared Plant species pursuant to section 37 of the *Agricultural and Related Resources Protection Act 1976* by Department of Primary Industries and Regional Development (2025) according to their threat to agriculture and the environment.

The Department of Parks and Wildlife (2014) has ranked the ecological impact and invasiveness of the introduced species which is proposed to assist in their management and control where necessary.

1.5 Vegetation

The Boddington Gold Mine survey area lies within the eastern section of the Darling Botanical District of the South-western Botanical Province as recognized by Diels (1906) and later developed by Gardner (1942) and Beard (1979, 1980).

Previous workers have stressed the significance of the climate, landforms and soils in determining the distribution of plant communities in this area (Diels 1906; Williams 1932, 1942; Speck 1952, 1958; Lange 1960; Churchill 1961, 1968; Smith 1974; Seddon 1972; Havel 1968, 1975a, 1975b; Heddle *et al.* 1980a; Beard 1981, Mattiske and Havel 1998).

In vegetation mapping it is necessary to define and map the plant communities into groups with common characteristics in structure and floristics. This grouping and classification has been achieved by:

- Havel on the Swan Coastal Plain (1968) and in the Northern Jarrah Forest (1975a, 1975b),
- Beard (1979) in the Pinjarra area (1:250,000),
- Heddle *et al.* (1980a) in the System 6 area; Perth, Pinjarra and Collie areas (1:250,000), and
- Mattiske and Havel (1998) in the vegetation mapping for the Regional Forest Agreement.

The classification system of Heddle *et al.* (1980a), which utilized the concept of vegetation complexes, emphasized the relationships between the underlying landforms, soils and the plant communities. This latter system incorporated linkages with the previous work by Havel (1975a and b).

The site-vegetation types on this area have been mapped previously by Mattiske Consulting Pty Ltd (2009) in work undertaken for the Boddington Gold Mine since 1983, based on Havel (1975a and 1975b). It is not possible to assess the representation of the site-vegetation types at a regional scale as only sections of the Jarrah forest have been mapped at this finer scale of definition. Therefore it is necessary to rely on previous mapping for Boddington Gold Mine, Alcoa (Hedges) and other organizations in defining the degree of representation on this eastern fringe of the northern Jarrah forest. The earlier publications by Heddle et al. (1980b) reviewed some of the representation in broad terms for these site-vegetation types.

2. METHODS

The assessment of the flora and vegetation of the monitoring plots was undertaken by 5 experienced botanists from Mattiske Consulting Pty Ltd in the spring months of 2024. A total of 12 sampling sites were selected to sample the site-vegetation types, Figure 2. As such these compliment multiple plots established in this eastern area of the northern Jarrah forest for Newmont Boddington Gold Mine and South32. The monitoring plots were established in November 2009 and re-assessed in seven representative forest site types, H, AY, Y, MG, G, P and M. Five plots were established in type H forest, two in type Y forest and one in each of the remaining forest types. The layout of the plots followed the 'Bright' design (Bright, 1995) and consists of a 20m x 20m tree plot and 20 x 2m by 2m understorey quadrats located within (Figure 3). Table 1 shows the GPS locations of the monitoring plots.

Table 1: GPS Locations of Monitoring Plots within Newmont BGM Survey Area

Plot	Site Vegetation Type	GPS - Easting (GDA 94 Northwest Corner)	GPS - Northing (GDA 94 Northwest Corner)
RDA01	AY	448198	6375061
RDA02	G	447694	6376332
RDA03	H	449012	6375920
RDA04	H	445535	6373624
RDA05	H	444508	6377715
RDA06	H	445545	6375310
RDA07	H	444921	6379394
RDA08	M	448378	6374337
RDA09	MG	446725	6375517
RDA10	P	445589	6374083
RDA11	Y	447919	6375786
RDA12	Y	444632	6379007

Data collected on each plot included the following:

Tree Monitoring

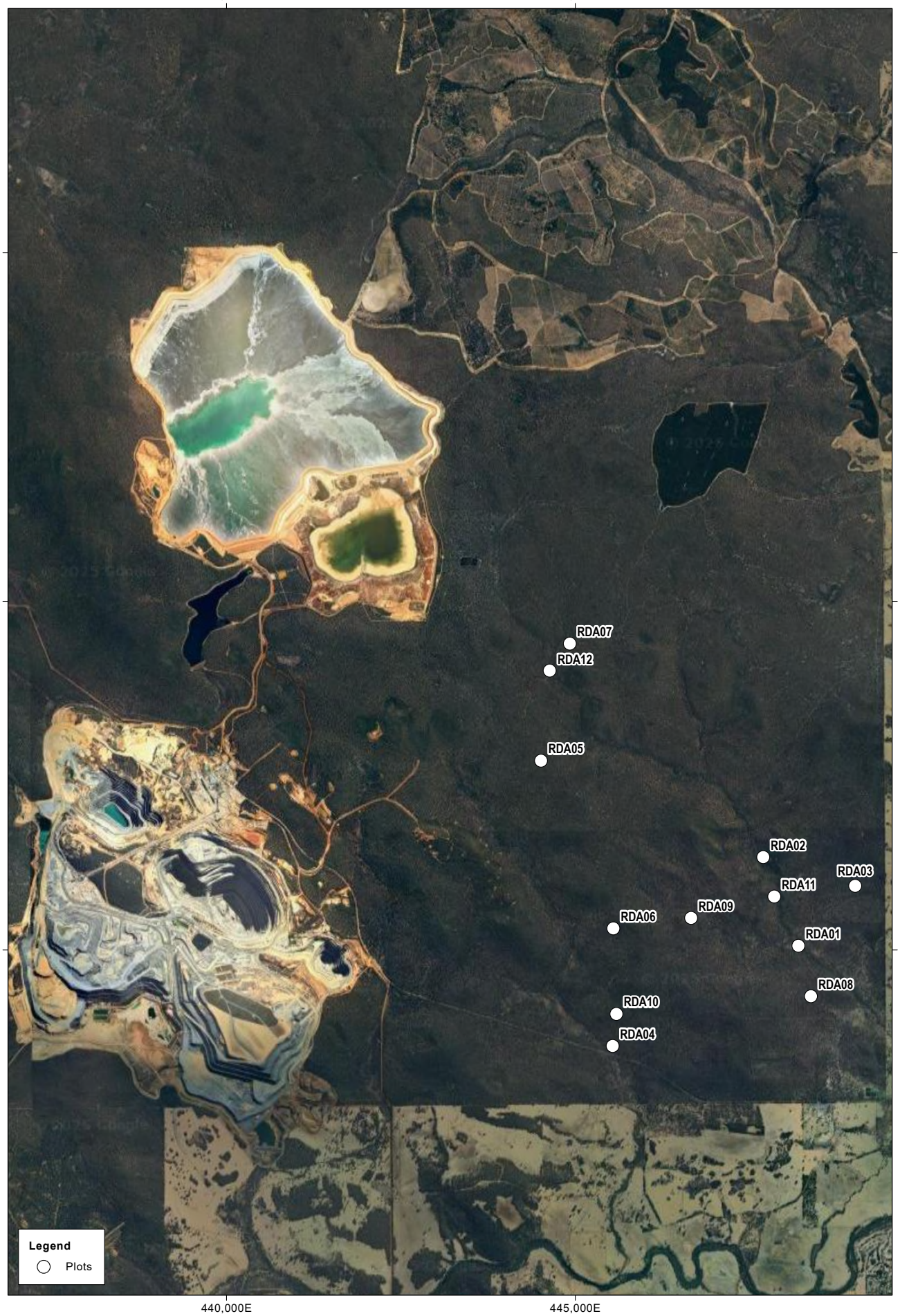
Data collected in the 20m x 20m plots was as follows

- Species of each Tree
- Tree condition (healthy, slightly stressed, stressed, very stressed – dying, dead)
- Height (cm)
- DBH (cm), diameter at breast height, 130cm
- Number of Stems

The overstorey species were classed as trees, if they recorded a height at or above DBH, and as seedlings if they fell below this height. DBH refers to Diameter at Breast Height; and is taken at a height of 130 cm from the base of the tree.

The following calculations were made for each tree species recorded in each rehabilitation age:

- Live tree density;
- Dead tree density;
- Proportion of trees falling into each of the five stress categories;
- Mean tree height (cm);
- Mean tree DBH (cm) (including only trees ≥130 cm in height); and
- Mean density of stems per tree (including only trees ≥130 cm in height).



Imagery: © OpenStreetMap (and) contributors, CC-BY-SA

0 0.8 1.5km

Scale: 1:75,000
GDA 1994 MGA Zone 50

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Offset Area Plot Locations

Figure: 1

CAD Ref: g1881_F066_01		Author: L. Mattiske	Ref:
Date: March 2025	Rev: A	A4	Drawn: CAD Resources ~ www.cadresources.com.au

Table 2: Tree condition scale

CONDITION	CODE	CLASSIFICATION FACTORS
Healthy	H	> 90 % foliage present (canopy essentially intact); no epicormic growth; no-to-minor evidence of leaf discolouration; no-to-minor evidence of insect damage.
Slightly Stressed	SS	75 % - 90 % foliage present (some minor canopy loss); some epicormic growth; no-to-minor evidence of leaf discolouration (potentially some dead/dying leaves); no-to-minor evidence of insect damage.
Stressed	S	50 % - 75 % foliage present (moderate canopy loss); minor-moderate epicormic growth; moderate evidence of leaf discolouration (dead/dying leaves); moderate evidence of insect damage.
Very Stressed	VS	< 50 % foliage present (major canopy loss); moderate-high epicormic growth; moderate-high evidence of leaf discolouration (dead and dying leaves); moderate-high evidence of wide-scale insect damage.
Dead - Recent	DR	Tree dead; foliage still present.
Dead - Moderate	DM	Tree dead; foliage absent; bark and fine twigs still present.
Dead - Old	DO	Tree dead; foliage and fine twigs absent; bark completely or partially absent.

All plant specimens collected during the field surveys were dried and processed in accordance with the requirements of the Western Australian Herbarium (WAH 1998-). The plant species were identified based on taxonomic literature and through comparison with pressed specimens. Where appropriate, plant taxonomists with specialist skills were consulted.

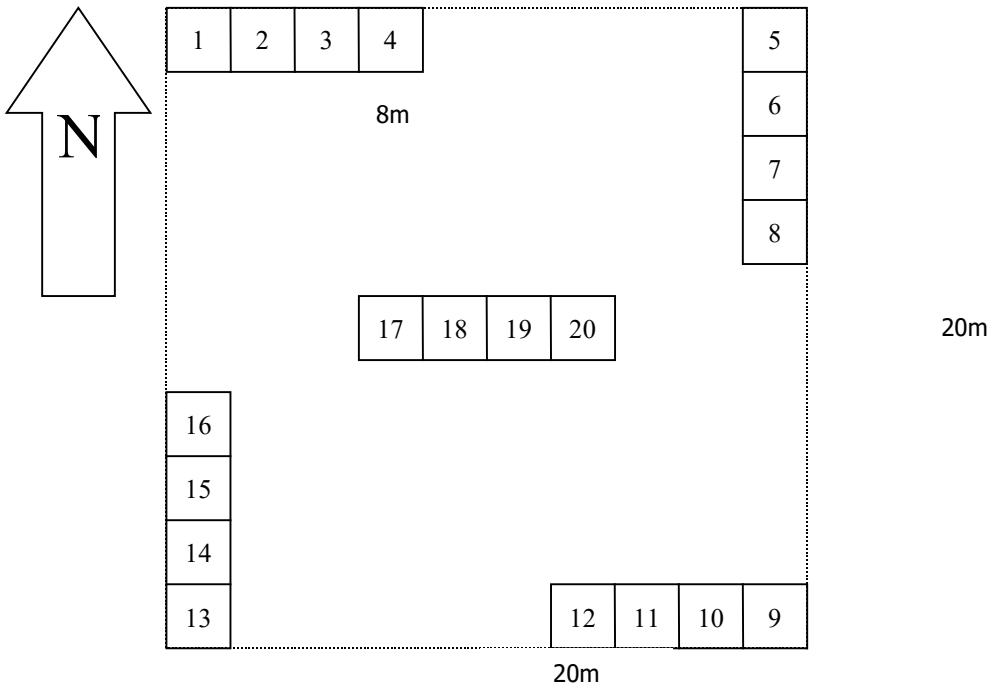

Figure 3: Layout of the monitoring plot design (Bright, 1995)

Understorey Monitoring

Data collected in the 2m x 2m quadrats was as follows:

- Number of Individuals alive and dead of each species (including only those rooted within the quadrat)
- Percentage Foliage Cover of each species both alive and dead (including also species rooted outside the quadrat, but with foliage overhanging it)

A variety of statistical analyses were conducted on the data collected from the understorey quadrats. These are outlined below.

Species Richness

Species richness for native and introduced taxa was calculated based on any occurrence (i.e. alive and dead cover).

Diversity Indices

Two different indices were used to calculate species diversity for the understorey plots in the rehabilitation and forest control areas. Weed species and annual species were excluded from the calculations to avoid bias associated with temporal variations in the sampling process. The first was the Shannon-Wiener Diversity Index (H`):

$$H` = -\Sigma\, p_i \log p_i \text{ (Brower and Zar, 1977)}$$

Where:

p_i = the proportion of the total number of individuals occurring in species I
n_i = the number of individuals in species I
N = the total number of individuals of all species in the population (plot)

The Shannon-Wiener Diversity Index (H`) was calculated for both density and cover parameters (including alive and dead).

The second index was the Hierarchical Richness Index (HRI), as defined by French (1994). In contrast to the Shannon-Wiener Index this index takes into account total abundance (Environmental Management and Research Consultants 1995).

$$HRI = \Sigma\, (s_i \times I)$$

Where:

s_i = the number of individuals occurring in species I, with species arranged in order from least common to most common.
i = the rank of the species in descending order so the most abundant species has the lowest rank.

Flora and vegetation were described and sampled systematically at each survey site, and additional opportunistic collections were undertaken wherever previously unrecorded plants were observed. At each quadrat the following floristic and environmental parameters were recorded:

3. FIELD SURVEY RESULTS

3.1 Flora

A total of 44 families, 114 genera and 206 taxa were recorded in the vegetation plots during the 2009 assessment (Appendix B). Of these, 31 were introduced species. The dominant families recorded in 2009 were Fabaceae (23 taxa), Asteraceae (20 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

A total of 44 families, 115 genera and 223 taxa were recorded in the vegetation plots during the 2024 assessment (Appendix B). Of these, 29 were introduced species. The dominant families recorded in 2024 were Fabaceae (22 taxa), Asteraceae (22 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

Selected species were only identified to the genera or family level as they were either juvenile plants of did not have flowers or other identification traits at the time of monitoring.

3.2 Threatened and Priority Flora

No Threatened Flora species pursuant to the Biodiversity Conservation Act (2016) [WA] or the Environment Protection and Biodiversity Conservation Act (1999) were recorded in the monitoring plots.

A total of 5 plants of the Priority 1 species *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) were recorded in Plot RDA08 in 2009 and 4 plants were recorded in 2024 in the same plot. This species is geographically restricted species which is known from a range of locations near Boddington including the valley floors north of the Newmont BGM mine camp, the fringes of the Hotham River, the Camballing Reserve just south of the Pinjarra-Williams Road and in other nearby areas.

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130)

- Prostrate, mat-like shrub, to 0.05m high
- Flowers yellow, red, October
- Occurs on littered brown loam, clay, laterite
- Lower slopes, rises and valley floors
- Six recorded specimens at held at the WA state herbarium
- Thousands of plants have been recorded during studies for Newmont and South32 by the Mattiske Consulting crew.

3.3 Introduced (Exotic) Plant Species

A total of 36 introduced (exotic) taxa have been recorded within the monitoring plots on the Newmont BGM areas (Appendix B, Table 3).

Of these, Moraea flaccida is Declared Plants species pursuant to section 37 of the *Agricultural and Related Resources Protection Act 1976* according to the Western Australian Department of Primary Industries and Regional Development (DPIRD 2025), Table 3. No introduced species are Weeds of National Significance (WONS), DCCEEW (2025e).

Table 3: Summary of Introduced (Weed) Species recorded in the Monitoring Plots in 2009 and 2024

	Species	WONS (DCCEEW 2025e)	Declared Weeds WAOL (DPIRD 2025)	Ecological Impact (DPAW 2014)	Invasiveness (DPAW 2014)
*	*Aira caryophyllea*	-	Permitted – S11	U	R
*	*Arctotheca calendula*	-	Permitted – S11	M	M
*	*Avena barbata*	-	Permitted – S11	H	R
*	*Bellardia trixago*	-	Permitted – S11	U	R
*	*Bellardia viscosa*	-	Permitted – S11	U	U
*	*Briza maxima*	-	Permitted – S11	U	R
*	*Briza minor*	-	Permitted – S11	U	R
*	*Caryophyllaceae sp.*	-	-	U	U
*	*Centaurium erythraea*	-	Permitted – S11	U	R
*	*Cyperus tenellus*	-	Permitted – S11	U	R
*	*Ficinia marginata*	-	Permitted – S11	L	R
*	*Galium divaricatum*	-	Permitted – S11	L	U
*	*Hypochaeris glabra*	-	Permitted – S11	M	R
*	*Hypochaeris radicata*	-	Permitted – S11	M	R
*	*Liliaceae* sp.	-	-	U	U
*	*Lysimachia arvensis*	-	Permitted – S11	U	R
*	*Medicago polymorpha*	-	Permitted – S11	M	U
*	*Medicago sp.*	-	Permitted – S11	M	U
*	*Moenchia erecta*	-	Permitted – S11	U	U
*	*Monopsis debilis*	-	Permitted – S11	L	R
*	*Moraea flaccida*	-	Declared – S22(2)	H	M
*	*Oxalis corniculata*	-	Permitted – S11	U	U
*	*Oxalis* sp.	-	Permitted – S11	U	U
*	*Parentucellia latifolia*	-	Permitted – S11	U	R
*	*Pentameris airoides*	-	Permitted – S11	U	U
*	*Petrorhagia dubia*	-	Permitted – S11	U	R
*	*Romulea rosea* var. *australis*	-	Permitted – S11	H	U
*	*Sonchus asper*	-	Permitted – S11	M	R
*	*Sonchus oleraceus*	-	Permitted – S11	M	R
*	*Trifolium arvense*	-	Permitted – S11	U	U
*	*Triticum dubium*	-	Permitted – S11	U	U
*	*Ursinia anthemoides*	-	Permitted – S11	U	R
*	*Vulpia bromoides*	-	Permitted – S11	U	R
*	*Vulpia myuros*	-	Permitted – S11	U	R
*	*Vulpia myuros* forma *megalura*	-	Permitted – S11	U	R
*	*Vulpia* sp.	-	Permitted – S11	U	R

3.4 Vegetation Types on Plots

The monitoring plots were established in seven representative forest site types, H, AY, Y, MG, G, P and M. The plant communities were defined as distinct vegetation communities based on floral composition and structure, landform position and soil types. The nomenclature used to describe the vegetation is based on the site-vegetation types as initially developed by Havel (1975a, 1975b). A description of each site-vegetation type is set out below.

AY: Open woodland of *Eucalyptus rudis* with no second storey over *Acacia saligna, Desmocladus asper, Rytidosperma caespitosum, Stylidium uniflorum, Haemodorum simplex, *Briza minor, *Anagallis arvensis* and **Aira caryophyllea* on winter-waterlogged pale loamy soils and leached acid sands on valley floors and lower slopes.

G: Mosaic of Lithic Complex to Shrubland of Myrtaceous and Proteaceous species to Low Forest of *Allocasuarina huegeliana* over *Hypocalymma angustifolium, Schoenus clandestinus, Stackhousia monogyna* and *Xanthorrhoea preissii* on exposed or shallow granite outcrops. Variable structural formation depending on the degree of outcrop exposure.

H: Forest of predominantly *Eucalyptus marginata* with some *Corymbia calophylla* over *Hakea lissocarpha, Acacia preissiana, Bossiaea ornata, Daviesia decurrens, Patersonia occidentalis, Lechenaultia biloba* and *Styphelia tenuiflora* over *Trachymene pilosa, Trichocline spathulata* and *Stylidium piliferum* on gravelly sands or loamy sands on lower and middle slopes.

M: Woodland of *Eucalyptus wandoo* with occasional *Eucalyptus marginata* over *Hakea lissocarpha, Lysiandra calycina, Lepidosperma tenue* and *Macrozamia riedlei* over *Ptilotus manglesii, Rhodanthe citrina* and *Waitzia suaveolens* var. *suaveolens* on sandy loams, gravelly loams and clay loams on valley slopes.

MG: Woodland of *Eucalyptus wandoo* over *Allocasuarina humilis, Gastrolobium calycinum, Hakea undulata, Pericalymma ellipticum* and a range of herbs on clay loams over potentially pockets of shallow outcropping.

P: Low forest of *Eucalyptus marginata* over *Allocasuarina fraseriana* over *Acacia preissiana, Lechenaultia biloba, Bossiaea ornata* and *Netrostylis* sp. Jarrah Forest (R. Davis 7391) on sandy gravels and loams on middle and lower slopes.

Y: Woodland of *Eucalyptus wandoo* over *Hakea lissocarpha, Gastrolobium calycinum, Grevillea bipinnatifida, Hypocalymma angustifolium* and *Acacia pulchella* over *Hibbertia commutata, Desmocladus asper, Rytidosperma caespitosum* and *Lagenophora huegelii* on winter-waterlogged pale loams on valley floors and lower slopes.

The plots are located mainly in forest and woodland areas well away from current disturbances.

3.5 Species Richness

The species richness results were variable across the monitoring plots (Figure 4). The plots with the lower range of species were associated with the lower valley slopes (RDA01, RDA11) and the granite outcrops ((RDA02). Despite the shifts in seasonal conditions from year to year, the species richness of native plants varied only slightly in 2024 when compared with 2009 with slight increases in species richness on most plots.

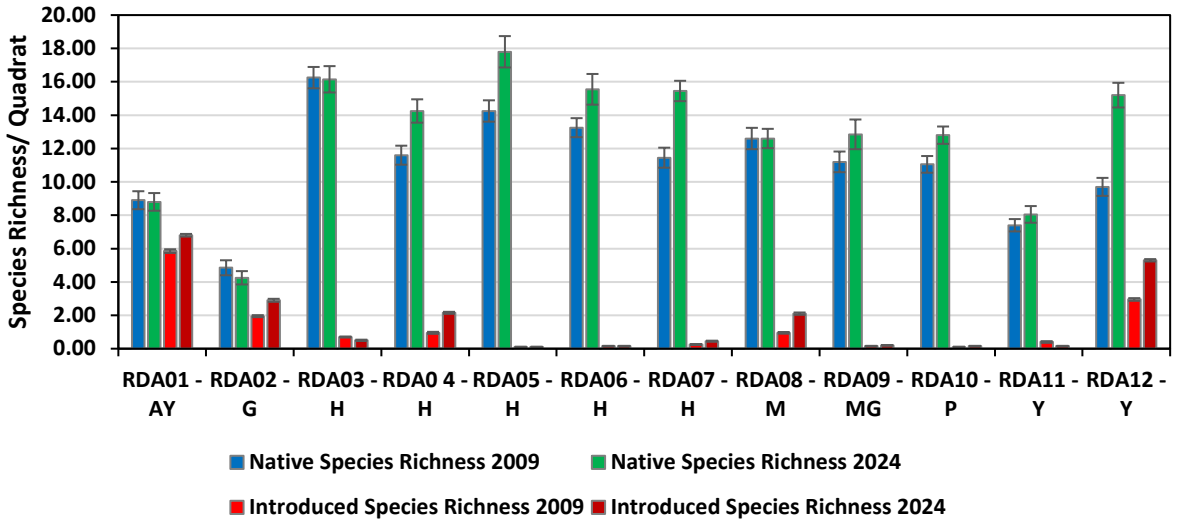

Figure 4: Average Species Richness in Monitoring Plots within the Newmont BGM survey area

3.6 Density

The density results for the native species were relatively consistent from 2009 to 2024 with slight increases in the density of native plants on the majority of the plots with the exception of the plots on the lower valley slopes (RDA01, RDA11) and the granite outcrops ((RDA02), Figure 5. The larger densities of introduced species on plots RDA01 and RDA12 in part reflect the types of introduced species (such as the grasses **Aira caryophyllea* and **Briza minor*, as well as *Moraea flaccida* (One-Leaf Cape Tulip) and *Lysimachia arvensis* (Pimpernel)).

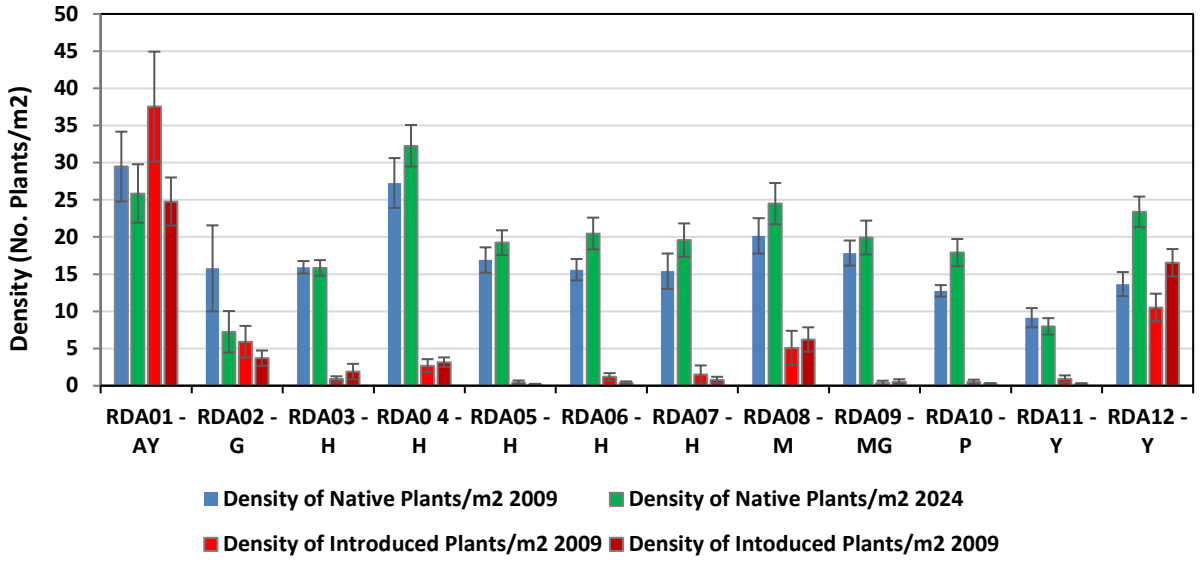

Figure 5: Average Density (plants/m^2) in Monitoring Plots within the Newmont BGM survey area

3.7 Foliage Cover

Foliage cover was consistently slightly higher in 2024 when compared to 2009 with the exception of data for RDA02 (on granite outcrops) (Figure 6). The contribution of the native species outweighed the introduced species and as such reflected again the types of introduced species (mainly small grasses and herbs).

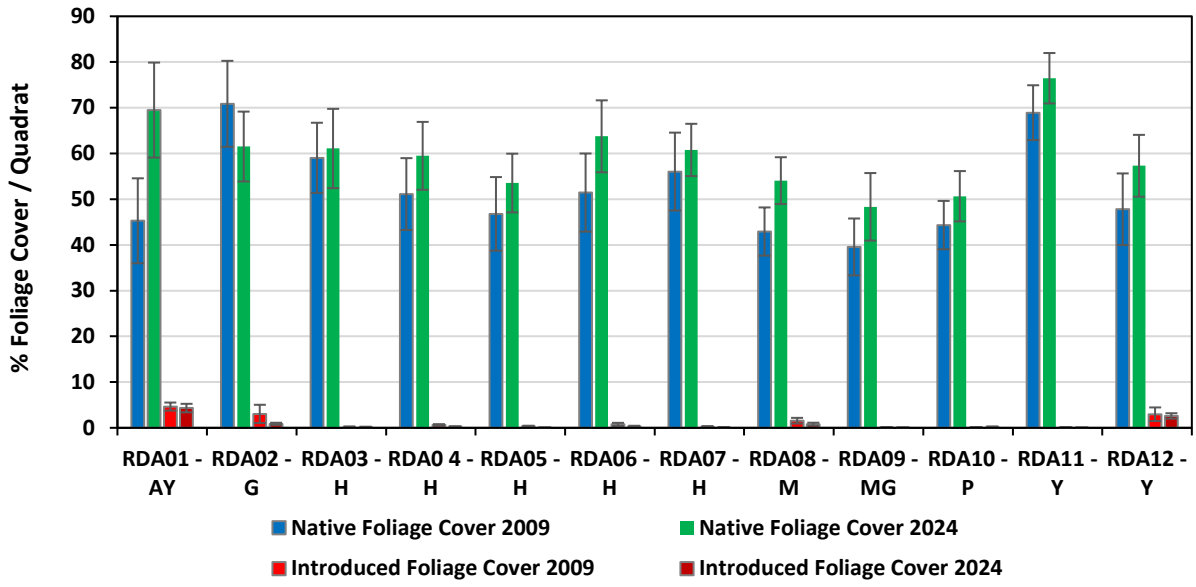

Figure 6: Percentage Foliage Cover/ quadrat in Monitoring Plots within the Newmont BGM survey area

3.8 Tree Density

Figure 7 shows the number of live and dead stems recorded per hectare in each monitoring plot. The highest alive tree density was recorded in RDA02 – G types with 1850 trees per ha in 2024, the majority of these being *Allocasuarina huegeliana*. The least dense plots was RDA07-H and RDA09-MG. The proportion of dead trees was concentrated in the valley (RDA01–AY), on the granites (RDA02-G) and in the Jarrah-Sheoak forests (RDA10-P) in 2024. There were increases and decreases in total stems alive and dead.

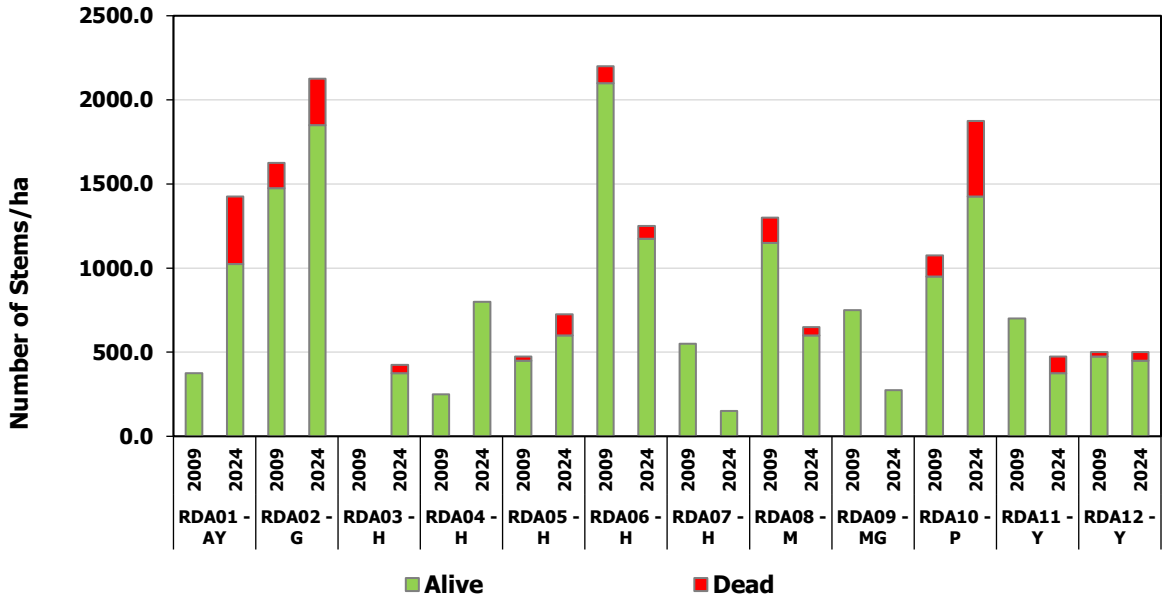

Figure 7: Density of Stems/ha Alive and Dead on the Monitoring Plots within the Newmont BGM survey area

3.9 Tree Height

The average tree height was variable across the monitoring plots (Figure 8). The majority of average tree heights was greater than 500cm and this also reflects the tree structures and not necessarily the tallest trees. As seedlings mature the overall height would be expected to change over time.

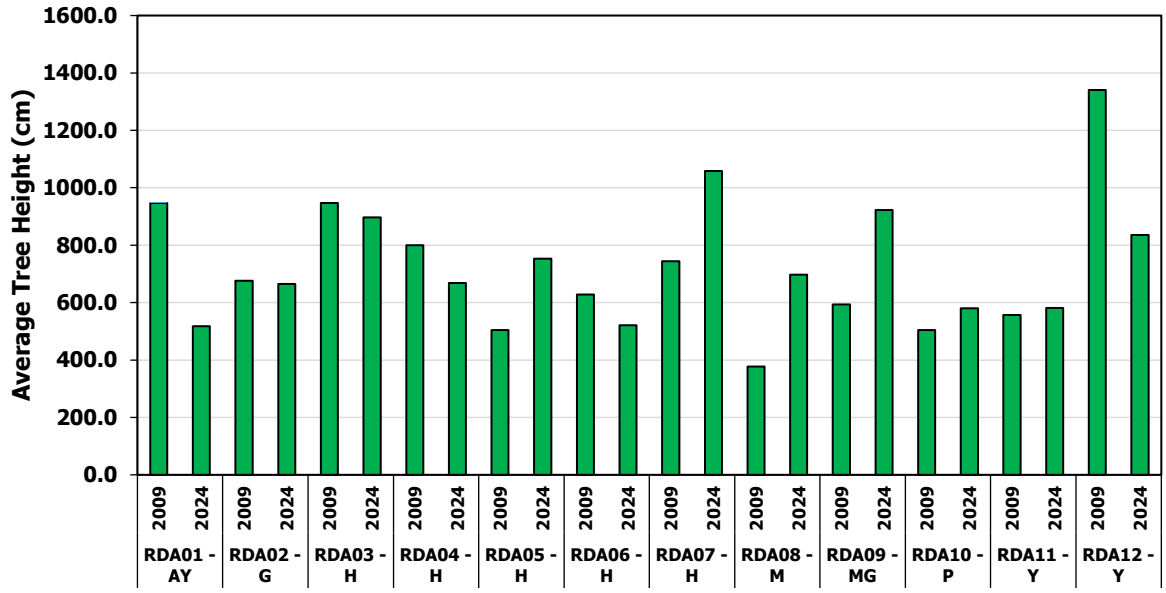

Figure 8: Average Tree Height in the Monitoring Plots within the Newmont BGM survey area

3.10 Tree DBH

Average Diameter at Breast Height (DBH) was recorded in plot RDA07-H in 2024 at 38.77 cm. The lowest average DBH was 9.62 in Plot RDA2-G which was a similar trend in 2009. The results were similar to those in 2009.

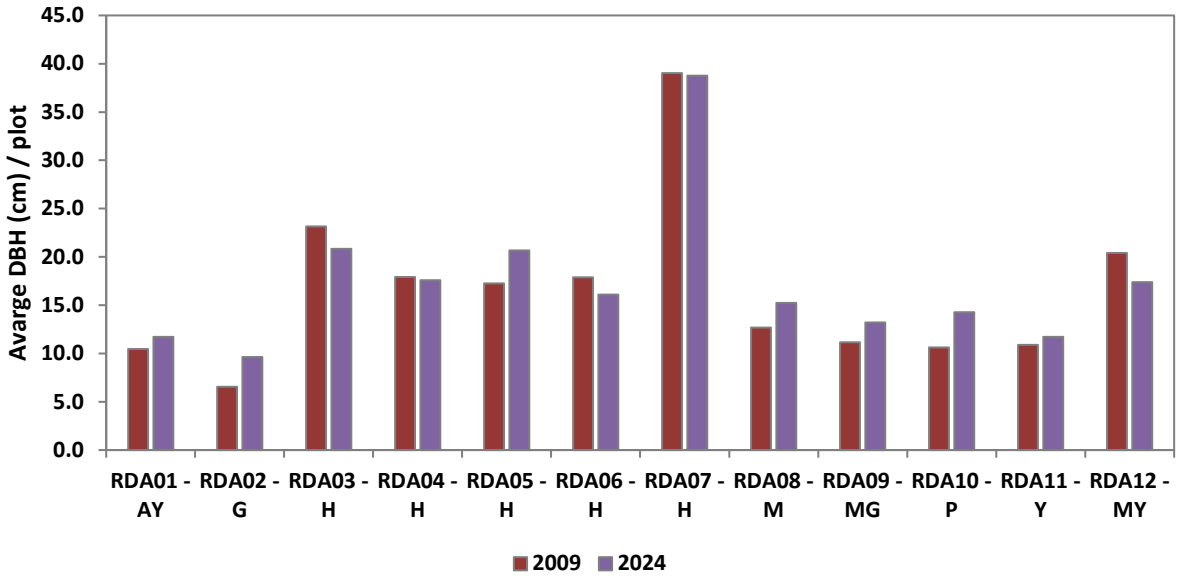

Figure 9: Average Stem DBH (plot) on the Monitoring Plots within the Newmont BGM survey area

3.11 Tree Health

Plots RDA06-H recorded the highest proportion of healthy trees in 2024 with 46% of trees being classified as health, Figure 10. In general there was a decline in the condition of the stems in the majority of the plots which supports local trends observed in forest areas in recent years due to drying seasonal conditions.

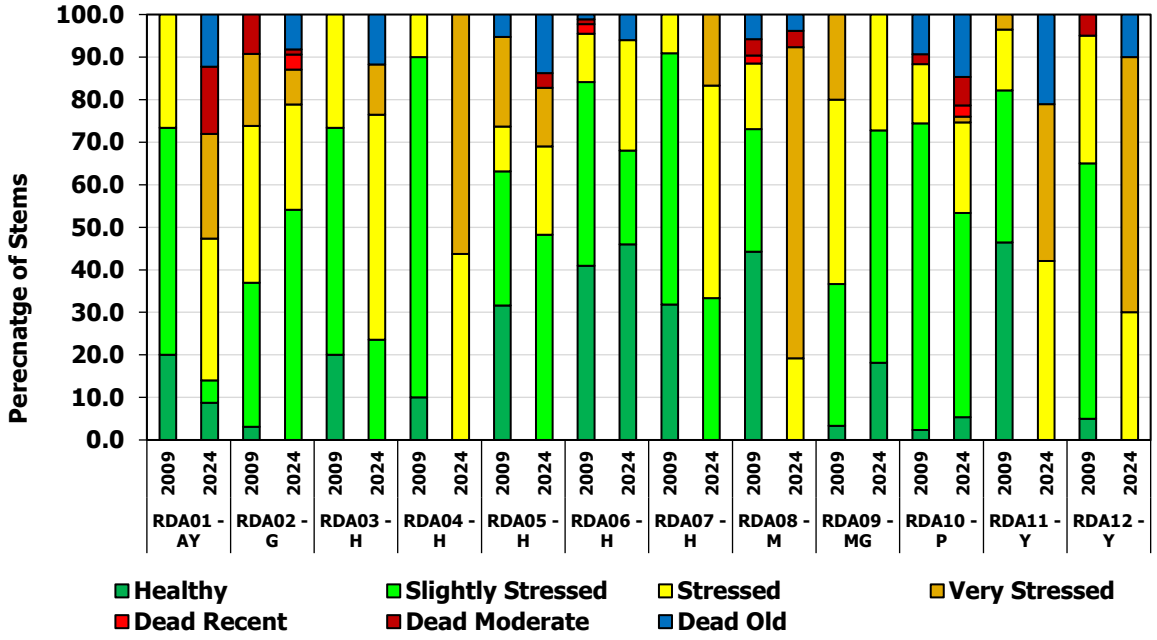

Figure 10: Percentage of Stem Conditions on the Monitoring Plots within the Newmont BGM survey area

3.12 Shannon Wiener Diversity Indices

The Shannon-Wiener diversity is used to determine the evenness of species distribution in a sample size. The values generally range from 1 to 3.8 for density results in 2024 and 2.12 for cover results, Figures 11 and 12 respectively. A low value indicating that every species is the same and a high value indicating a very uneven abundance of species.

The Shannon-Weiner diversity index varied between monitoring plots. RDA03-H displayed the highest value for density, with a value of 3.38, and RDA11-Y displayed the lowest, with a value of 2.47.

For foliage cover, RDA05-H displayed the highest Shannon-Weiner diversity index, with a value of 2.12, and RDA02-G displayed the lowest, at 1.03.

The results in 2009 and 2024 were similar within plots but differed between plots.

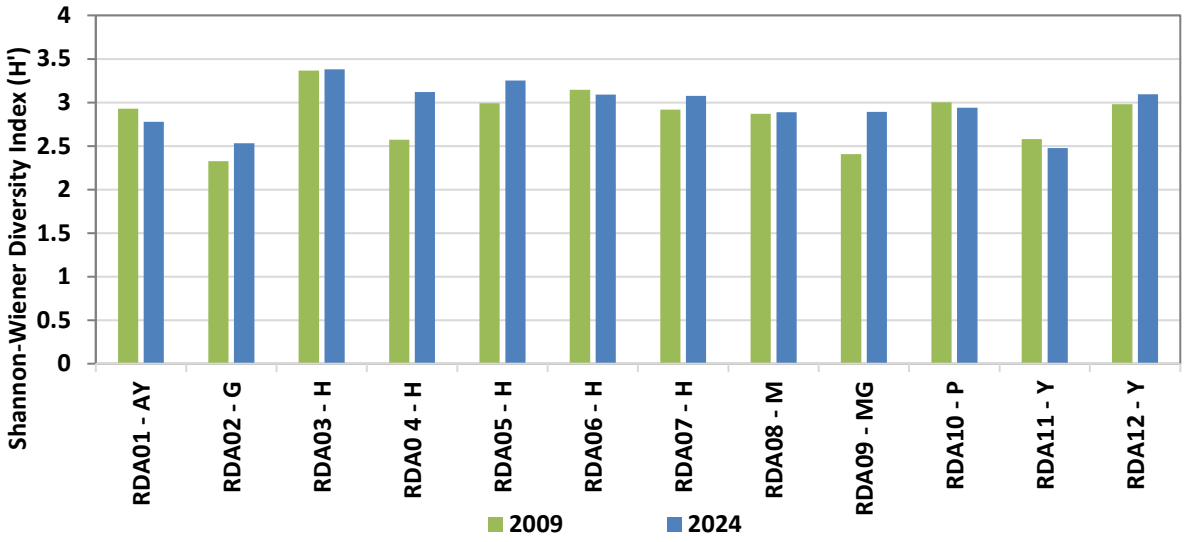

Figure 11: Shannon Wiener Diversity Indices for Density on the Monitoring Plots within the Newmont BGM survey area

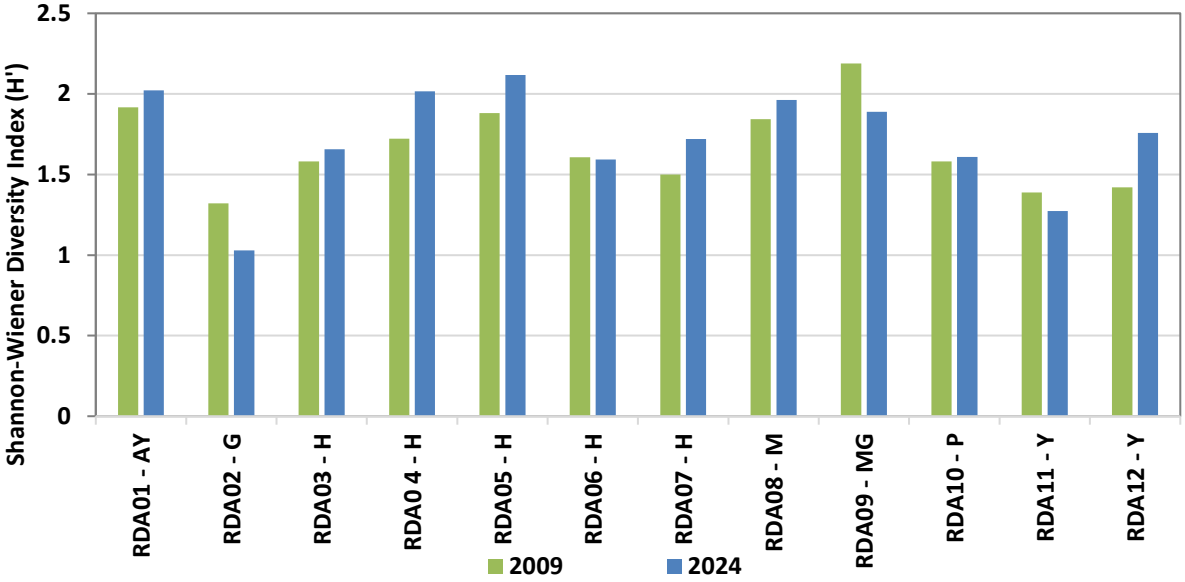

Figure 12: Shannon Wiener Diversity Indices for Foliage Cover on the Monitoring Plots within the Newmont BGM survey area

13 Hierarchical Diversity Indices

The Hierarchical diversity index in contrast to the Shannon-Wiener diversity takes into account the total abundance. As indicated in Figure 13 the results are relatively consistent within the plots and differs between the plots. As indicated in Figure 13, the results varied between 2009 and 2024 with increases and decreases.

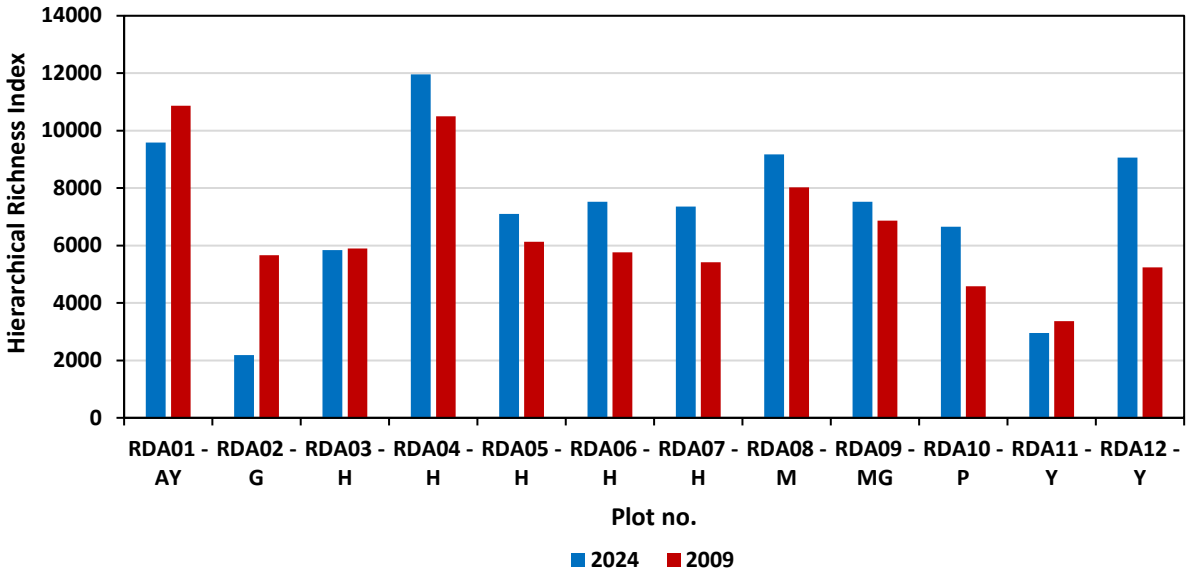

Figure 13: Hierarchical Diversity Indices on the Monitoring Plots within the Newmont BGM survey area

4. DISCUSSION

Mattiske Consulting Pty Ltd (MCPL) was commissioned by Newmont Boddington Gold to undertake an assessment of the monitoring plots in the eastern area of the Boddington Gold Mine. The permanent monitoring plots were established in representative forest communities. The monitoring plots were established in seven representative forest site types, H, AY, Y, MG, G, P and M. Five plots were established in type H forest, two in type Y forest and one in each of the remaining forest types.

This report summarizes the data collected to date on the monitoring plots located within the area adjacent to the Newmont Boddington Gole Mine, approximately 7 km North West of Boddington, Western Australia.

A total of 42 families, 117 genera and 208 taxa were recorded in the vegetation plots during the 2009 A total of 44 families, 114 genera and 206 taxa were recorded in the vegetation plots during the 2009 assessment (Appendix B). Of these, 31 were introduced species. The dominant families recorded in 2009 were Fabaceae (23 taxa), Asteraceae (20 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

A total of 44 families, 115 genera and 223 taxa were recorded in the vegetation plots during the 2024 assessment (Appendix B). Of these, 29 were introduced species. The dominant families recorded in 2024 were Fabaceae (22 taxa), Asteraceae (22 taxa), Poaceae (18 taxa) and Proteaceae (15 taxa).

Selected species were only identified to the genera or family level as they were either juvenile plants of did not have flowers or other identification traits at the time of monitoring.

No Threatened Flora species pursuant to the Biodiversity Conservation Act (2016) [WA] or the Environment Protection and Biodiversity Conservation Act (1999) were recorded in the monitoring plots.

A total of 5 plants of the Priority 1 species *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) were recorded in Plot RDA08 in 2009 and 4 plants were recorded in 2024 in the same plot. This species is geographically restricted species which is known from a range of locations near Boddington including the valley floors north of the Newmont BGM mine camp, the fringes of the Hotham River, the Camballing Reserve just south of the Pinjarra-Williams Road and in other nearby areas.

A total of 36 introduced (exotic) taxa have been recorded within the monitoring plots on the Newmont BGM areas. Of the introduced species recorded, **Moraea flaccida* is Declared Plants species pursuant to section 37 of the *Agricultural and Related Resources Protection Act 1976* according to the Western Australian Department of Primary Industries and Regional Development (DPIRD 2025). No introduced species are Weeds of National Significance (WONS), DCCEEW (2025e).

The species richness, density and foliage cover data reflected greater similarity within plots than between plots. The 2024 results were relatively consistent with the results from 2009. These trends were also evident in the diversity indices. The local variation between plots reflected the local site conditions and the differences in site-vegetation types.

As observed in other studies in the northern Jarrah forest, there has been a decline in condition of tree species which appears to reflect the more recent drier seasonal conditions. Otherwise the results for the trees also reflect greater similarities within the plots over time than between the plots.

5. PERSONNEL

The following Mattiske Consulting Pty Ltd personnel were involved in this project in 2024:

NAME	POSITION	PROJECT INVOLVEMENT	FLORA COLLECTION PERMITS
Dr E Mattiske	Managing Director & Principal Ecologist	Planning, managing, editing, reporting	N/A
Mr L Rowles	Senior Botanist	Field studies and reporting	FB6200020-6
Mr A Pereira	Senior Botanist	Field studies and reporting	FB2000145-6
Ms K Tribbeck	Experienced Botanist	Field Studies	FB6200467-3
Ms K Smith	Experienced Botanist	Assisting with reporting	N/A
Mr V Ferguson	Experienced Botanist	Field Studies	FB62200711
Ms J Crane	Experienced Botanist	Field Studies	FB62000671

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APPENDIX A: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Amaranthaceae		*Ptilotus drummondii* var. *drummondii*	x	x
		Ptilotus humilis		x
		Ptilotus manglesii	x	x
		Ptilotus sp.		x
Apiaceae		*Daucus glochidiatus*	x	x
		Pentapeltis peltigera	x	x
		Platysace compressa		x
		Xanthosia atkinsoniana	x	x
		Xanthosia candida	x	x
		Xanthosia ciliata	x	
		Xanthosia huegelii	x	x
		Xanthosia singuliflora		x
		Apiaceae sp.		x
Araliaceae		*Trachymene pilosa*	x	x
Asparagaceae		*Dichopogon capillipes*	x	x
		Laxmannia squarrosa		x
		Lomandra brittanii	x	
		Lomandra caespitosa	x	x
		Lomandra hermaphrodita	x	x
		Lomandra micrantha		x
		Lomandra sericea	x	
		Lomandra spartea	x	x
		Lomandra sp. 1		x
		Lomandra sp.	x	x
		Sowerbaea laxiflora	x	
		Thysanotus ?fastigiatus	x	
		Thysanotus tenellus	x	
		Thysanotus thyrsoideus		x
		Thysanotus sp.		x
Asteraceae	*	*Arctotheca calendula*	x	x
		Asteridea pulverulenta	x	
		Brachyscome iberidifolia	x	x
		Craspedia variabilis	x	x
		Gnephosis drummondii	x	x
		Hyalosperma cotula	x	x
	*	*Hypochaeris glabra*	x	x
	*	*Hypochaeris radicata*		x
		Lagenophora huegelii	x	x
		Panaetia lessonii	x	x
		Podolepis gracilis	x	x
		Podotheca angustifolia		x
		Pterochaeta paniculata	x	x
		Rhodanthe citrina	x	x
		Senecio diaschides	x	
		Senecio hispidulus	x	
		Senecio quadridentatus		x
		Senecio sp.	x	x
	*	*Sonchus asper*	x	
	*	*Sonchus oleraceus*		x
		Trichocline spathulata	x	x
	*	*Ursinia anthemoides*	x	x

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Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Asteraceae		*Waitzia suaveolens*		x
(continued)		*Waitzia suaveolens* var. *suaveolens*	x	x
		Xerochrysum macranthum		x
		Asteraceae sp.	x	x
Campanulaceae		*Isotoma hypocrateriformis*	x	x
	*	*Monopsis debilis*	x	x
Caryophyllaceae	*	*Moenchia erecta*	x	
	*	*Petrorhagia dubia*	x	
	*	Caryophyllaceae sp.	x	
Casuarinaceae		*Allocasuarina fraseriana*	x	x
		Allocasuarina huegeliana	x	x
		Allocasuarina humilis	x	x
		Allocasuarina sp.	x	x
Celastraceae		*Stackhousia pubescens*		x
		Stackhousia sp.	x	x
		Tripterococcus brunonis	x	x
Centrolepidaceae		*Aphelia cyperoides*	x	x
		Centrolepis aristata	x	x
Cyperaceae		*Cyathochaeta avenacea*	x	x
	*	*Cyperus tenellus*	x	x
	*	*Ficinia marginata*	x	x
		Fimbristylis velata	x	
		Lepidosperma costale	x	x
		Lepidosperma leptostachyum		x
		Lepidosperma squamatum	x	x
		Lepidosperma tenue	x	x
		Lepidosperma sp.		x
		Lepidosperma sp. 1		x
		Lepidosperma sp. 2		x
		Morelotia octandra	x	x
		Netrostylis sp. Jarrah Forest (R. Davis 7391)	x	x
		Schoenus clandestinus	x	x
Dilleniaceae		*Hibbertia acerosa*	x	
		Hibbertia amplexicaulis	x	x
		Hibbertia commutata	x	x
		Hibbertia commutata (hairy)	x	x
		Hibbertia diamesogenos	x	
		Hibbertia hypericoides	x	x
		Hibbertia silvestris		x
		Hibbertia spicata	x	x
		Hibbertia sp.		x
Droseraceae		*Drosera stricticaulis*	x	
		Drosera sp.	x	x
Elaeocarpaceae		*Tetratheca hirsuta*	x	x
		Tetratheca virgata	x	x

APPENDIX A: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Ericaceae		*Leucopogon capitellatus*	x	x
		Styphelia discolor	x	x
		Styphelia ?erectifolia	x	
		Styphelia nitens	x	x
		Styphelia pallida	x	x
		Styphelia propinqua	x	x
		Styphelia tenuiflora	x	x
		Ericaceae sp.		x
Fabaceae		*Acacia alata*	x	x
		Acacia drummondii subsp. *drummondii*		x
		Acacia lateriticola		x
		Acacia nervosa	x	
		Acacia preissiana	x	x
		Acacia pulchella	x	x
		Acacia saligna	x	x
		Acacia stenoptera	x	
		Acacia sp.	x	
		Acacia willdenowiana	x	x
		Bossiaea eriocarpa	x	x
		Bossiaea ornata	x	x
		Chorizema ilicifolium	x	
		Daviesia decurrens	x	x
		Daviesia incrassata subsp. incrassata	x	x
		Gastrolobium calycinum	x	x
	P1	*Gastrolobium sp. Prostrate Boddington (M. Hislop 2130)*	x	x
		Gompholobium marginatum	x	x
		Gompholobium polymorphum		x
		Gompholobium preissii	x	x
		Hovea chorizemifolia	x	x
		Kennedia coccinea	x	x
		Kennedia prostrata	x	x
	*	*Medicago polymorpha*		x
	*	*Medicago* sp.	x	
		Paraserianthes lophantha		
		Templetonia drummondii		x
	*	*Trifolium arvense*	x	x
	*	*Trifolium dubium*	x	
Gentianaceae	*	*Centaurium erythraea*		x
		Schenkia australis		x
Geraniaceae		*Geranium retrorsum*	x	x
Goodeniaceae		*Dampiera alata*	x	x
		Dampiera linearis	x	x
		Lechenaultia biloba	x	x
		Scaevola calliptera	x	x
		Goodeniaceae sp.	x	x
Haemodoraceae		*Conostylis pusilla*	x	x
		Conostylis setigera	x	x
		Conostylis setosa	x	x
		Conostylis sp.		x
		Haemodorum simplex	x	x
		Haemodorum sp.		x

APPENDIX A: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Haemodoraceae		*?Haemodorum* sp.	x	x
(Icontinued)		Haemodoraceae sp.	x	
Haloragaceae		*Glischrocaryon aureum*	x	x
Hemerocallidaceae		*Caesia micrantha*		x
		Dianella revoluta	x	x
		Tricoryne humilis	x	x
Iridaceae	*	*Moraea flaccida*	x	x
		Patersonia babianoides		x
		Patersonia occidentalis	x	x
		Patersonia pygmaea	x	x
		Patersonia rudis		x
		Patersonia sp.		x
	*	*Romulea rosea* var. *australis*	x	x
Lamiaceae		*Hemiandra pungens*		x
Liliaceae	*	Liliaceae sp.	x	
Myrtaceae		*Corymbia calophylla*	x	x
		Eucalyptus marginata	x	x
		Eucalyptus rudis	x	x
		Eucalyptus wandoo	x	x
		Eucalyptus sp.	x	x
		Hypocalymma angustifolium	x	x
		Pericalymma ellipticum	x	
Olaceae		*Olax benthamiana*		x
Orchidaceae		*Caladenia macrostylis*	x	
		Caladenia sp.	x	x
		Orchidaceae sp.	x	x
Orobanchaceae	*	*Bellardia trixago*	x	x
	*	*Bellardia viscosa*		x
	*	*Parentucellia latifolia*	x	x
Oxalidaceae	*	*Oxalis corniculata*	x	x
	*	*Oxalis* sp.	x	x
Phyllanthaceae		*Lysiandra calycina*	x	x
		Poranthera microphylla	x	x
Pittosporaceae		*Billardiera fusiformis*	x	x
		Marianthus sp.		x
Poaceae	*	*Aira caryophyllea*	x	x
		Austrostipa elegantissima		x
		Austrostipa flavescens		x
		Austrostipa tenuifolia	x	
		Austrostipa sp.	x	x
	*	*Avena barbata*	x	x
	*	*Briza maxima*	x	x

APPENDIX A: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Poaceae	*	*Briza minor*	x	x
(continued)		*Neurachne alopecuroidea*	x	x
	*	*Pentameris airoides*	x	x
		Rytidosperma acerosum	x	x
		Rytidosperma caespitosum	x	x
		Rytidosperma occidentale	x	x
		Rytidosperma sp.	x	
		Tetrarrhena laevis	x	x
	*	*Vulpia bromoides*	x	x
	*	*Vulpia myuros*	x	x
	*	*Vulpia myuros* forma *megalura*		x
	*	*Vulpia* sp.		x
		Poaceae sp.	x	x
Polygalaceae		*Comesperma calymega*	x	x
		Comesperma virgatum	x	x
Primulaceae	*	*Lysimachia arvensis*	x	x
Proteaceae		*Banksia armata var. armata*	x	x
		Banksia bipinnatifida		x
		Banksia bipinnatifida subsp. *bipinnatifida*	x	x
		Banksia dallanneyi	x	x
		Banksia dallanneyi subsp. *dallanneyi*		x
		Banksia fraseri var. *fraseri*	x	x
		Banksia sessilis	x	x
		Banksia squarrosa		x
		Grevillea bipinnatifida	x	x
		Grevillea quercifolia	x	
		Grevillea wilsonii	x	
		Hakea incrassata	x	x
		Hakea lissocarpha	x	x
		Hakea prostrata	x	x
		Hakea ruscifolia	x	x
		Hakea undulata	x	
		Hakea varia	x	x
		Synaphea damopsis	x	x
Pteridaceae		*Cheilanthes sieberi*		x
		Cheilanthes sp.		x
Ranunculaceae		*Ranunculus colonorum*	x	x
Restionaceae		*Desmocladus asper*	x	x
		Desmocladus fasciculatus	x	x
		Desmocladus flexuosus	x	x
		Desmocladus lateriflorus		x
		Leptocarpus coangustatus	x	x
		Leptocarpus sp.	x	x
		Loxocarya cinerea	x	
Rhamnaceae		*Trymalium ledifolium*	x	x
		Trymalium odoratissimum	x	x
Rosaceae		*Acaena echinata*	x	x

APPENDIX A: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Rubiaceae	*	*Galium divaricatum*	x	x
		Opercularia echinocephala	x	x
		Opercularia hispidula	x	
Rutaceae		*Boronia crenulata*	x	x
		Boronia fastigiata	x	x
		Diplolaena drummondii	x	x
Selaginellaceae		*Selaginella gracillima*	x	
Stylidiaceae		*Levenhookia pusilla*	x	x
		Levenhookia stipitata		x
		Stylidium affine	x	x
		Stylidium amoenum	x	x
		Stylidium amoenum var. amoenum	x	x
		Stylidium androsaceum		x
		Stylidium crassifolium	x	x
		Stylidium hispidum		x
		Stylidium inundatum	x	x
		Stylidium lineatum		x
		Stylidium piliferum	x	x
		Stylidium uniflorum	x	x
		Stylidium sp.	x	
Thymelaeaceae		*Pimelea ciliata*		x
		Pimelea imbricata	x	
		Pimelea suaveolens	x	x
		Pimelea sp.		x
Xanthorrhoeaceae		*Xanthorrhoea preissii*	x	x
Zamiaceae		*Macrozamia riedlei*	x	x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Amaranthaceae		*Ptilotus drummondii* var. *drummondii*	x	x
		Ptilotus humilis		x
		Ptilotus manglesii	x	x
		Ptilotus sp.		x
Apiaceae		*Daucus glochidiatus*	x	x
		Pentapeltis peltigera	x	x
		Platysace compressa		x
		Xanthosia atkinsoniana	x	x
		Xanthosia candida	x	x
		Xanthosia ciliata	x	
		Xanthosia huegelii	x	x
		Xanthosia singuliflora		x
		Apiaceae sp.		x
Araliaceae		*Trachymene pilosa*	x	x
Asparagaceae		*Dichopogon capillipes*	x	x
		Laxmannia squarrosa		x
		Lomandra brittanii	x	
		Lomandra caespitosa	x	x
		Lomandra hermaphrodita	x	x
		Lomandra micrantha		x
		Lomandra sericea	x	
		Lomandra spartea	x	x
		Lomandra sp. 1		x
		Lomandra sp.	x	x
		Sowerbaea laxiflora	x	
		Thysanotus ?fastigiatus	x	
		Thysanotus tenellus	x	
		Thysanotus thyrsoideus		x
		Thysanotus sp.		x
Asteraceae	*	*Arctotheca calendula*	x	x
		Asteridea pulverulenta	x	
		Brachyscome iberidifolia	x	x
		Craspedia variabilis	x	x
		Gnephosis drummondii	x	x
		Hyalosperma cotula	x	x
	*	*Hypochaeris glabra*	x	x
	*	*Hypochaeris radicata*		x
		Lagenophora huegelii	x	x
		Panaetia lessonii	x	x
		Podolepis gracilis	x	x
		Podotheca angustifolia		x
		Pterochaeta paniculata	x	x
		Rhodanthe citrina	x	x
		Senecio diaschides	x	
		Senecio hispidulus	x	
		Senecio quadridentatus		x
		Senecio sp.	x	x
	*	*Sonchus asper*	x	
	*	*Sonchus oleraceus*		x
		Trichocline spathulata	x	x
	*	*Ursinia anthemoides*	x	x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Asteraceae		*Waitzia suaveolens*		x
(continued)		*Waitzia suaveolens* var. *suaveolens*	x	x
		Xerochrysum macranthum		x
		Asteraceae sp.	x	x
Campanulaceae		*Isotoma hypocrateriformis*	x	x
	*	*Monopsis debilis*	x	x
Caryophyllaceae	*	*Moenchia erecta*	x	
	*	*Petrorhagia dubia*	x	
	*	Caryophyllaceae sp.	x	
Casuarinaceae		*Allocasuarina fraseriana*	x	x
		Allocasuarina huegeliana	x	x
		Allocasuarina humilis	x	x
		Allocasuarina sp.	x	x
Celastraceae		*Stackhousia pubescens*		x
		Stackhousia sp.	x	x
		Tripterococcus brunonis	x	x
Centrolepidaceae		*Aphelia cyperoides*	x	x
		Centrolepis aristata	x	x
Cyperaceae		*Cyathochaeta avenacea*	x	x
	*	*Cyperus tenellus*	x	x
	*	*Ficinia marginata*	x	x
		Fimbristylis velata	x	
		Lepidosperma costale	x	x
		Lepidosperma leptostachyum		x
		Lepidosperma squamatum	x	x
		Lepidosperma tenue	x	x
		Lepidosperma sp.		x
		Lepidosperma sp. 1		x
		Lepidosperma sp. 2		x
		Morelotia octandra	x	x
		Netrostylis sp. Jarrah Forest (R. Davis 7391)	x	x
		Schoenus clandestinus	x	x
Dilleniaceae		*Hibbertia acerosa*	x	
		Hibbertia amplexicaulis	x	x
		Hibbertia commutata	x	x
		Hibbertia commutata (hairy)	x	x
		Hibbertia diamesogenos	x	
		Hibbertia hypericoides	x	x
		Hibbertia silvestris		x
		Hibbertia spicata	x	x
		Hibbertia sp.		x
Droseraceae		*Drosera stricticaulis*	x	
		Drosera sp.	x	x
Elaeocarpaceae		*Tetratheca hirsuta*	x	x
		Tetratheca virgata	x	x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Ericaceae		*Leucopogon capitellatus*	x	x
		Styphelia discolor	x	x
		Styphelia ?erectifolia	x	
		Styphelia nitens	x	x
		Styphelia pallida	x	x
		Styphelia propinqua	x	x
		Styphelia tenuiflora	x	x
		Ericaceae sp.		x
Fabaceae		*Acacia alata*	x	x
		Acacia drummondii subsp. *drummondii*		x
		Acacia lateriticola		x
		Acacia nervosa	x	
		Acacia preissiana	x	x
		Acacia pulchella	x	x
		Acacia saligna	x	x
		Acacia stenoptera	x	
		Acacia sp.	x	
		Acacia willdenowiana	x	x
		Bossiaea eriocarpa	x	x
		Bossiaea ornata	x	x
		Chorizema ilicifolium	x	
		Daviesia decurrens	x	x
		Daviesia incrassata subsp. incrassata	x	x
		Gastrolobium calycinum	x	x
	P1	*Gastrolobium sp. Prostrate Boddington (M. Hislop 2130)*	x	x
		Gompholobium marginatum	x	x
		Gompholobium polymorphum		x
		Gompholobium preissii	x	x
		Hovea chorizemifolia	x	x
		Kennedia coccinea	x	x
		Kennedia prostrata	x	x
	*	*Medicago polymorpha*		x
	*	*Medicago* sp.	x	
		Paraserianthes lophantha		
		Templetonia drummondii		x
	*	*Trifolium arvense*	x	x
	*	*Trifolium dubium*	x	
Gentianaceae	*	*Centaurium erythraea*		x
		Schenkia australis		x
Geraniaceae		*Geranium retrorsum*	x	x
Goodeniaceae		*Dampiera alata*	x	x
		Dampiera linearis	x	x
		Lechenaultia biloba	x	x
		Scaevola calliptera	x	x
		Goodeniaceae sp.	x	x
Haemodoraceae		*Conostylis pusilla*	x	x
		Conostylis setigera	x	x
		Conostylis setosa	x	x
		Conostylis sp.		x
		Haemodorum simplex	x	x
		Haemodorum sp.		x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Haemodoraceae		*?Haemodorum* sp.	x	x
(Icontinued)		Haemodoraceae sp.	x	
Haloragaceae		*Glischrocaryon aureum*	x	x
Hemerocallidaceae		*Caesia micrantha*		x
		Dianella revoluta	x	x
		Tricoryne humilis	x	x
Iridaceae	*	*Moraea flaccida*	x	x
		Patersonia babianoides		x
		Patersonia occidentalis	x	x
		Patersonia pygmaea	x	x
		Patersonia rudis		x
		Patersonia sp.		x
	*	*Romulea rosea* var. *australis*	x	x
Lamiaceae		*Hemiandra pungens*		x
Liliaceae	*	Liliaceae sp.	x	
Myrtaceae		*Corymbia calophylla*	x	x
		Eucalyptus marginata	x	x
		Eucalyptus rudis	x	x
		Eucalyptus wandoo	x	x
		Eucalyptus sp.	x	x
		Hypocalymma angustifolium	x	x
		Pericalymma ellipticum	x	
Olaceae		*Olax benthamiana*		x
Orchidaceae		*Caladenia macrostylis*	x	
		Caladenia sp.	x	x
		Orchidaceae sp.	x	x
Orobanchaceae	*	*Bellardia trixago*	x	x
	*	*Bellardia viscosa*		x
	*	*Parentucellia latifolia*	x	x
Oxalidaceae	*	*Oxalis corniculata*	x	x
	*	*Oxalis* sp.	x	x
Phyllanthaceae		*Lysiandra calycina*	x	x
		Poranthera microphylla	x	x
Pittosporaceae		*Billardiera fusiformis*	x	x
		Marianthus sp.		x
Poaceae	*	*Aira caryophyllea*	x	x
		Austrostipa elegantissima		x
		Austrostipa flavescens		x
		Austrostipa tenuifolia	x	
		Austrostipa sp.	x	x
	*	*Avena barbata*	x	x
	*	*Briza maxima*	x	x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Poaceae	*	*Briza minor*	x	x
(continued)		*Neurachne alopecuroidea*	x	x
	*	*Pentameris airoides*	x	x
		Rytidosperma acerosum	x	x
		Rytidosperma caespitosum	x	x
		Rytidosperma occidentale	x	x
		Rytidosperma sp.	x	
		Tetrarrhena laevis	x	x
	*	*Vulpia bromoides*	x	x
	*	*Vulpia myuros*	x	x
	*	*Vulpia myuros* forma *megalura*		x
	*	*Vulpia* sp.		x
		Poaceae sp.	x	x
Polygalaceae		*Comesperma calymega*	x	x
		Comesperma virgatum	x	x
Primulaceae	*	*Lysimachia arvensis*	x	x
Proteaceae		*Banksia armata var. armata*	x	x
		Banksia bipinnatifida		x
		Banksia bipinnatifida subsp. *bipinnatifida*	x	x
		Banksia dallanneyi	x	x
		Banksia dallanneyi subsp. *dallanneyi*		x
		Banksia fraseri var. *fraseri*	x	x
		Banksia sessilis	x	x
		Banksia squarrosa		x
		Grevillea bipinnatifida	x	x
		Grevillea quercifolia	x	
		Grevillea wilsonii	x	
		Hakea incrassata	x	x
		Hakea lissocarpha	x	x
		Hakea prostrata	x	x
		Hakea ruscifolia	x	x
		Hakea undulata	x	
		Hakea varia	x	x
		Synaphea damopsis	x	x
Pteridaceae		*Cheilanthes sieberi*		x
		Cheilanthes sp.		x
Ranunculaceae		*Ranunculus colonorum*	x	x
Restionaceae		*Desmocladus asper*	x	x
		Desmocladus fasciculatus	x	x
		Desmocladus flexuosus	x	x
		Desmocladus lateriflorus		x
		Leptocarpus coangustatus	x	x
		Leptocarpus sp.	x	x
		Loxocarya cinerea	x	
Rhamnaceae		*Trymalium ledifolium*	x	x
		Trymalium odoratissimum	x	x
Rosaceae		*Acaena echinata*	x	x

APPENDIX B: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 AND 2024

Note: * denotes iontrdouced species; P1, P2, P3 and P4 denote Priority Flora Species (WA Herb 1998-))

Family		Species	2009	2024
Rubiaceae	*	*Galium divaricatum*	x	x
		Opercularia echinocephala	x	x
		Opercularia hispidula	x	
Rutaceae		*Boronia crenulata*	x	x
		Boronia fastigiata	x	x
		Diplolaena drummondii	x	x
Selaginellaceae		*Selaginella gracillima*	x	
Stylidiaceae		*Levenhookia pusilla*	x	x
		Levenhookia stipitata		x
		Stylidium affine	x	x
		Stylidium amoenum	x	x
		Stylidium amoenum var. amoenum	x	x
		Stylidium androsaceum		x
		Stylidium crassifolium	x	x
		Stylidium hispidum		x
		Stylidium inundatum	x	x
		Stylidium lineatum		x
		Stylidium piliferum	x	x
		Stylidium uniflorum	x	x
		Stylidium sp.	x	
Thymelaeaceae		*Pimelea ciliata*		x
		Pimelea imbricata	x	
		Pimelea suaveolens	x	x
		Pimelea sp.		x
Xanthorrhoeaceae		*Xanthorrhoea preissii*	x	x
Zamiaceae		*Macrozamia riedlei*	x	x

APPENDIX C: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 to 2024

Note: * denotes introduced species; P1-P4 denotes Priority species (WA Herb 1998-)

		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024
	Acacia alata		x					x			x	x								x	x				
	drummondii																								x
	Acacia lateriticola										x		x		x										
	Acacia nervosa							x																	
	Acacia preissiana					x	x			x	x	x	x	x	x	x	x			x	x				x
	Acacia pulchella													x	x	x	x					x	x	x	x
	Acacia saligna	x	x																						
	Acacia sp.																			x				x	
	Acacia stenoptera	x																							
	Acacia willdenowiana							x	x	x	x														
	Acaena echinata																							x	x
*	*Aira caryophyllea*	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x
	Allocasuarina fraseriana																			x	x				
	Allocasuarina huegeliana			x	x				x																
	Allocasuarina humilis																	x	x						
	Allocasuarina sp.		x	x																					
	Aphelia cyperoides	x	x																						
	Apiaceae sp.		x		x																				
*	*Arctotheca calendula*		x		x																			x	
	Asteraceae sp.						x						x		x	x	x					x			x
	Asteridea pulverulenta							x																	
	Austrostipa elegantissima				x																				
	Austrostipa flavescens						x		x				x												x
	Austrostipa sp.	x				x	x			x		x	x			x	x			x		x	x	x	x
	Austrostipa tenuifolia															x				x					
*	*Avena barbata*				x			x																	
	Banksia armata var. armata																	x	x						
	Banksia bipinnatifida																		x						
	Banksia bipinnatifida subsp. bipinnatifida																	x	x						
	Banksia dallanneyi					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Banksia dallanneyi subsp. dallanneyi						x		x		x		x		x						x				
	Banksia fraseri var. fraseri																	x	x						

APPENDIX C: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 to 2024

Note: * denotes introduced species; P1-P4 denotes Priority species (WA Herb 1998-)

		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024
	Banksia sessilis					x	x								x					x	x			x	x
	Banksia squarrosa										x														
*	*Bellardia trixago*	x	x					x								x	x					x		x	x
*	*Bellardia viscosa*		x																						
	Billardiera fusiformis	x	x																						
	Boronia crenulata												x	x	x										
	Boronia fastigiata									x		x	x												
	Bossiaea eriocarpa						x			x						x									
	Bossiaea ornata					x	x	x	x	x	x	x	x	x	x	x	x		x	x	x			x	x
	Brachyscome iberidifolia													x	x									x	x
*	*Briza maxima*			x	x																	x	x		x
*	*Briza minor*	x	x		x		x	x									x							x	x
	Caesia micrantha				x										x										
	Caladenia macrostylis									x															
	Caladenia sp.	x				x	x				x	x			x										
*	*Caryophyllaceae sp.*	x																							
*	*Centaurium erythraea*																x								
	Centrolepis aristata	x	x		x																		x		
	Cheilanthes sieberi				x																				
	Cheilanthes sp.				x																				
	Chorizema ilicifolium									x				x											
	Comesperma calymega																			x	x				
	Comesperma virgatum							x		x	x	x				x		x		x					
	Conostylis pusilla					x	x				x	x	x			x	x	x	x	x	x		x		
	Conostylis setigera					x	x				x														
	Conostylis setosa					x	x		x	x	x	x	x		x	x	x	x	x	x	x	x			
	Conostylis sp.						x								x										x
	Corymbia calophylla									x	x		x	x	x										
	Craspedia variabilis							x	x	x		x	x	x	x										x
	Cyathochaeta avenacea					x	x																	x	
*	*Cyperus tenellus*	x	x																						
	Dampiera alata					x	x	x	x	x	x					x			x						
	Dampiera linearis								x	x	x		x				x								
	Daucus glochidiatus	x	x					x						x	x	x	x							x	x

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Note: * denotes introduced species; P1-P4 denotes Priority species (WA Herb 1998-)

		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**
	Daviesia decurrens					x		x	x	x		x				x									
	Daviesia incrassata subsp. incrassata							x	x			x	x	x					x						
	Desmocladus asper	x	x	x	x			x	x			x	x			x	x	x	x			x	x	x	x
	Desmocladus fasciculatus					x	x	x	x			x	x		x		x	x	x						
	Desmocladus flexuosus								x																
	Desmocladus lateriflorus																		x						
	Dianella revoluta															x	x								
	Dichopogon capillipes							x	x																
	Diplolaena drummondii													x	x										x
	Drosera sp.	x	x	x											x	x	x				x				
	Drosera stricticaulis	x																							
	Ericaceae sp.										x		x												
	Eucalyptus marginata					x	x	x	x	x	x	x	x	x	x	x	x			x	x				
	Eucalyptus rudis	x	x																						
	Eucalyptus sp.					x	x				x														
	Eucalyptus wandoo			x	x	x	x									x	x	x	x			x	x	x	x
*	*Ficinia marginata*	x	x							x								x	x						
	Fimbristylis velata	x																							
*	*Galium divaricatum*	x	x		x																			x	x
	Gastrolobium calycinum			x														x	x			x	x	x	x
P1	*Gastrolobium sp. Prostrate Boddington (M. Hislop 2130)*															x	x								
	Geranium retrorsum	x	x																						
	Glischrocaryon aureum							x	x			x	x												
	Gnephosis drummondii			x	x																				
	Gompholobium marginatum								x	x	x			x	x	x	x	x	x			x	x	x	x
	Gompholobium polymorphum										x														
	Gompholobium preissii						x				x	x	x	x							x				
	Goodeniaceae sp.										x		x			x								x	
	Grevillea bipinnatifida																	x	x			x	x	x	x
	Grevillea quercifolia					x																			
	Grevillea wilsonii																	x							
	Haemodoraceae sp.							x		x															
	Haemodorum simplex	x	x															x							

APPENDIX C: SUMMARY OF VASCULAR PLANT SPECIES RECORDED IN MONITORING PLOTS, NEWMONT BODDINGTON GOLD MINE, 2009 to 2024

Note: * denotes introduced species; P1-P4 denotes Priority species (WA Herb 1998-)

		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**
	Haemodorum sp.						x				x														
	?Haemodorum sp.					x				x					x				x	x	x				
	Hakea incrassata																	x	x						
	Hakea lissocarpha					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x
	Hakea prostrata	x	x						x																
	Hakea ruscifolia	x	x																						
	Hakea undulata																	x							
	Hakea varia	x	x																						
	Hemiandra pungens																		x						
	Hibbertia acerosa			x																					
	Hibbertia amplexicaulis					x	x																		
	Hibbertia commutata	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x
	Hibbertia commutata (hairy)	x	x	x		x		x	x	x	x	x		x	x			x		x		x	x	x	x
	Hibbertia diamesogenos	x																				x			
	Hibbertia hypericoides									x	x			x	x			x				x			
	Hibbertia silvestris		x				x		x		x		x		x										x
	Hibbertia sp.				x		x				x		x		x				x						
	Hibbertia spicata																	x	x						
	Hovea chorizemifolia					x	x			x	x			x	x					x	x				
	Hyalosperma cotula		x			x		x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x	x
	Hypocalymma angustifolium		x	x	x																	x	x	x	x
*	*Hypochaeris glabra*	x	x	x	x				x							x	x	x						x	x
*	*Hypochaeris radicata*				x				x								x								x
	Isotoma hypocrateriformis					x	x			x	x			x	x										
	Kennedia coccinea																		x					x	
	Kennedia prostrata	x	x												x	x	x		x		x			x	x
	Lagenophora huegelii	x	x	x		x	x	x	x	x	x	x		x	x	x	x	x		x	x	x		x	x
	Laxmannia squarrosa						x												x						
	Lechenaultia biloba					x	x	x	x	x	x	x	x	x		x		x	x	x	x				
	Lepidosperma costale					x						x				x	x	x							
	Lepidosperma leptostachyum								x				x						x						
	Lepidosperma sp.						x		x				x						x		x		x		
	Lepidosperma sp. 1								x																
	Lepidosperma sp. 2								x																

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		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024
	Lepidosperma squamatum					x	x		x				x							x	x				
	Lepidosperma tenue					x	x					x	x	x		x	x	x		x	x				
	Leptocarpus coangustatus	x																							
	Leptocarpus coangustatus		x																						
	Leptocarpus sp.	x														x	x	x	x			x			
	Leucopogon capitellatus					x								x	x										
	Levenhookia pusilla		x		x	x	x		x	x	x	x	x		x				x		x				x
	Levenhookia stipitata						x		x										x		x				
*	*Liliaceae sp.*													x											
	Lomandra brittanii					x		x																	
	Lomandra caespitosa					x	x		x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
	Lomandra hermaphrodita					x	x	x	x	x	x	x	x	x	x		x	x		x	x	x		x	
	Lomandra micrantha										x														
	Lomandra sericea					x																			
	Lomandra sp.								x	x				x								x			
	Lomandra sp. 1								x																
	Lomandra spartea	x	x			x	x			x	x	x	x	x	x	x	x	x	x	x					x
	Loxocarya cinerea																					x			
	Lysiandra calycina							x	x	x	x	x	x			x	x			x	x			x	x
*	*Lysimachia arvensis*	x	x	x	x				x							x	x							x	x
	Macrozamia riedlei											x	x	x	x	x	x								
	Marianthus sp.						x																		
*	*Medicago polymorpha*		x																						
*	*Medicago sp.*	x																							
*	*Moenchia erecta*													x											
*	*Monopsis debilis*	x	x																						
*	*Moraea flaccida*	x	x	x	x	x			x	x						x	x								x
	Morelotia octandra					x	x	x	x	x	x	x	x			x	x			x		x	x		
	Netrostylis sp. Jarrah Forest (R. Davis 7391)	x				x	x	x	x	x	x	x	x		x	x	x			x	x	x	x	x	
	Neurachne alopecuroidea	x	x	x		x	x	x	x		x	x	x	x	x	x	x	x	x		x	x	x	x	x
	Olax benthamiana						x										x								
	Opercularia echinocephala									x		x	x												
	Opercularia hispidula	x																							
	Orchidaceae sp.						x					x													

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		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**	**2009**	**2024**
*	*Oxalis corniculata*	x	x	x	x				x					x	x	x								x	x
*	*Oxalis sp.*	x	x						x								x								
	Panaetia lessonii	x	x	x	x				x					x			x							x	x
	Paraserianthes lophantha																								
*	*Parentucellia latifolia*	x	x																						
	Patersonia babianoides						x						x												
	Patersonia occidentalis					x	x		x	x	x	x	x							x	x	x			
	Patersonia pygmaea	x	x				x				x														
	Patersonia rudis										x														
	Patersonia sp.		x												x				x						
*	*Pentameris airoides*	x	x																					x	
	Pentapeltis peltigera					x	x			x	x	x		x	x					x	x				
	Pericalymma ellipticum																	x							
	Petrorhagia dubia	x																							
	Pimelea ciliata																								x
	Pimelea imbricata			x																					
	Pimelea sp.																								x
	Pimelea suaveolens																							x	x
	Platysace compressa						x																		
	Poaceae sp.		x		x												x		x	x		x			
	Podolepis gracilis															x	x								
	Podotheca angustifolia								x		x														
	Poranthera microphylla	x	x	x	x				x												x		x	x	
	Pterochaeta paniculata					x				x	x							x	x	x	x				
	Ptilotus drummondii var. drummondii																x			x	x				
	Ptilotus humilis				x																				
	Ptilotus manglesii		x					x	x							x	x				x			x	x
	Ptilotus sp.				x														x						
	Ranunculus colonorum	x	x																						x
	Ranunculus sp.																								x
	Rhodanthe citrina															x	x	x		x					x
*	*Romulea rosea var. australis*	x	x																						
	Rytidosperma acerosum	x	x	x				x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x

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		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024
	Rytidosperma caespitosum	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Rytidosperma occidentale					x	x																		
	Rytidosperma sp.					x																			
	Scaevola calliptera					x	x	x	x	x	x	x	x	x	x	x	x	x		x	x				
	Schenkia australis																x								
	Schoenus clandestinus			x	x													x	x						
	Selaginella gracillima	x																							
	Senecio diaschides													x											
	Senecio hispidulus																							x	
	Senecio quadridentatus																								x
	Senecio sp.												x	x											
*	*Sonchus asper*	x																							
*	*Sonchus oleraceus*																								x
	Sowerbaea laxiflora							x		x				x						x					
	Stackhousia pubescens		x		x		x		x		x		x				x		x						
	Stackhousia sp.			x		x		x		x						x	x								
	Stylidium affine		x					x	x					x		x						x		x	x
	Stylidium amoenum					x	x					x			x										
	Stylidium amoenum var. amoenum					x	x																		
	Stylidium androsaceum				x																				
	Stylidium crassifolium	x	x																						
	Stylidium hispidum														x						x				
	Stylidium inundatum	x	x																						
	Stylidium lineatum						x																		
	Stylidium piliferum					x	x			x	x	x	x	x	x			x	x	x	x				
	Stylidium sp.																	x							
	Stylidium uniflorum	x	x	x	x											x	x		x			x	x		
	Styphelia ?erectifolia					x																			
	Styphelia discolor					x	x		x			x	x	x	x			x	x	x					
	Styphelia nitens		x				x		x					x			x		x		x		x	x	x
	Styphelia pallida					x	x	x	x	x	x	x		x		x	x		x	x			x		
	Styphelia propinqua					x	x		x		x				x				x	x	x				
	Styphelia tenuiflora					x	x				x	x	x	x	x						x				

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		RDA01-AY		RDA02-G		RDA03-H		RDA04-H		RDA05-H		RDA06-H		RDA07-H		RDA08-M		RDA09-MG		RDA10-P		RDA11-Y		RDA12-Y	
	Species	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024	2009	2024
	Synaphea damopsis																	x	x						
	Templetonia drummondii						x				x		x		x										
	Tetrarrhena laevis	x	x	x	x	x	x	x	x		x		x	x	x	x			x					x	x
	Tetrarrhena sp.												x												
	Tetratheca hirsuta					x	x			x	x	x	x												
	Tetratheca virgata	x																x	x						
	Thysanotus ?fastigiatus					x																x			
	Thysanotus sp.				x																x				
	Thysanotus tenellus	x																		x					
	Thysanotus thyrsoideus						x		x						x						x				
	Trachymene pilosa		x				x	x	x	x	x	x	x	x	x	x	x		x	x	x			x	x
	Trichocline sp.												x												
	Trichocline spathulata	x	x			x	x	x	x	x	x	x	x			x	x	x		x	x	x			
	Trichoryne sp.		x														x				x				
	Tricoryne humilis						x			x	x		x					x	x						x
*	*Trifolium arvense*	x	x	x	x																				
*	*Trifolium dubium*	x																							
	Tripterococcus brunonis					x	x		x		x								x						
	Trymalium ledifolium									x	x			x	x									x	
	Trymalium odoratissimum																						x	x	
*	*Ursinia anthemoides*		x		x			x	x							x									
*	*Vulpia bromoides*	x	x													x	x							x	
*	*Vulpia myuros*	x	x	x	x	x	x	x	x		x	x			x		x		x			x		x	x
*	*Vulpia myuros forma megalura*		x																						
*	*Vulpia sp.*						x																		x
	Waitzia suaveolens																x								
	suaveolens					x	x	x	x							x	x			x	x				
	Xanthorrhoea preissii			x	x		x					x	x									x	x		
	Xanthosia atkinsoniana																			x			x		x
	Xanthosia candida					x		x		x	x	x		x		x		x	x	x		x			
	Xanthosia ciliata					x						x								x					
	Xanthosia huegelii												x	x	x										
	Xanthosia singuliflora																		x						
	Xerochrysum macranthum																x								