Appendix 18 Huntly Mine Additional Areas – Significant Flora Likelihood of Occurrence Assessment

APRIL 2024

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ALCOA OF AUSTRALIA LTD
HUNTLY MINE ADDITIONAL AREAS
SIGNIFICANT FLORA LIKELIHOOD OF OCCURRENCE ASSESSMENT

Document status						
***ecologia* project number: 1979b**						
Rev.	**Author(s)**	**Reviewer**	**Date**	**Approved for Issue**		
				Name	**Distributed To**	**Date**
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1 INTRODUCTION

Alcoa of Australia Limited's (Alcoa) Western Australian (WA) mining operations comprise the Huntly and Willowdale bauxite mines, which are located in Alcoa's Mining Lease 1SA (ML1SA) within the Northern Jarrah Forest (NJF) IBRA subregion. Alcoa has approval to mine within ML1SA subject to submitting draft five-year mine plans and associated environmental management programmes known as the Mining and Management Program (MMP). The MMP is submitted to the State's Mining and Management Program Liaison Group (MMPLG) on an annual basis.

Alcoa has committed to undertaking pre-clearance ecological surveys for the Huntly Mine, Myara region and Willowdale Mine, Larego region as part its MMP assessment by the MMPLG. Targeted flora surveys within parts of the Huntly Mine area were undertaken in spring 2023 (Biologic 2024; Ecologia 2024).

To help prioritise areas within the Huntly Mine area that may require targeted surveys in spring 2024, a likelihood of occurrence assessment was requested for an area consisting of 106 sections, ranging from <0.01 ha to 17.4 ha, totalling 126.3 hectares (ha) (collectively referred to as the study area) (Map 1).

2 DESKTOP ASSESSMENT

2.1 METHODOLOGY

The methodology adopted for the desktop assessment was in accordance with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). Searches of the databases listed in Table 1 were undertaken to determine the significant species previously recorded within 20 km of the study area. The criteria listed in Table 2 were then applied to determine the likelihood of occurrence of these species within the study area, taking into consideration results of the targeted surveys undertaken in the vicinity of the study area in 2023. Habitat preferences were sourced, where available, from relevant taxonomic literature, FloraBase (Western Australian Herbarium 1998–), Threatened Species Profiles (SPRATs), or specimen data from the Australasian Virtual Herbarium (AVH) database (CHAH 2017). The presence of potentially suitable habitat within the survey area was determined using broad landforms, soils, and vegetation associations in comparison to cited preferred habitat (if available) for each species.

Two assessments were undertaken:

1. a general likelihood of occurrence assessment for the study area that included all significant species recorded within 20 km.
2. to prioritise areas for future surveys, a section-specific assessment to determine individual sections that:
    a. have any significant species records occurring within 500 m (i.e., 'High Likely').
    b. have Threatened or Priority 1 species records within approx. 2 km (i.e., 'Likely').

Table 1: Databases and datasets used for the desktop assessment.

Database/dataset	Search details
DBCA Threatened and Priority Flora (TPFL) and WAHERB database	Significant plant species records within 20 km of the survey area (search reference: 64-0223FL)
Targeted survey data (Biologic 2024; Ecologia 2024)	Significant plant species recorded during 2023 targeted surveys.

Table 2: Criteria used to assess the likelihood of occurrence of significant species.

Rating	Criterion
Recorded	The species has been recorded within the study area.
Highly Likely	Suitable habitat is likely to be present and there are existing records within 500 m.
Likely	Suitable habitat is likely to be present and there are existing records within 2 km.
Possible	Suitable habitat is likely to be present and there are existing records within 20 km.
Unlikely	Suitable habitat is not likely to be present; or Suitable habitat is potentially present but the species has not been found in the vicinity of the study area despite adequate recent survey effort.

2.2 LIKELIHOOD OF OCCURRENCE ASSESSMENT

2.2.1 Overall Assessment

The study area consists of 106 sections with a total extent of approximately 126 ha. Based on aerial imagery and on field observations made during targeted surveys in 2023, almost the entirety of the study area is likely to consist of jarrah-marri forest on rocky slopes. There are apparently no granite outcrops, creeks, or swamps within the study area.

Fifty-five significant plant taxa occurring within 20 km of the survey area (excluding records from the Swan Coastal Plain) were identified from DBCA database searches and recent targeted survey data. These included six Threatened taxa, six Priority 1 taxa, six Priority 2 taxa, 21 Priority 3 taxa, and 16 Priority 4 taxa (Table 3, Map 2).

Four significant species were recorded by Ecologia and Biologic during systematic targeted surveys of nearby areas in 2023: *Senecio leucoglossus* (P4), *Tetratheca phoenix* (P2), *Stylidium ireneae* (P4), and *Thysanotus anceps* (P3) (Biologic 2024; Ecologia 2024). No other taxa were recorded despite a significant amount of survey effort.

Four species were assessed as 'Highly Likely' based on the potential presence of suitable habitat and records occurring within 500 m of the survey area, most of which were recorded during the recent surveys:

- *Pimelea rara* (P4)
- *Senecio leucoglossus* (P4)
- *Tetratheca phoenix* (P2)
- *Thysanotus anceps* (P3)

Three taxa were assessed as 'Likely' based on the potential presence of suitable habitat and records occurring 0.5 – 2 km from the survey area:

- *Acacia drummondii* subsp. *affinis* (P3)
- *Grevillea pimeleoides* (P3)
- *Hibbertia hortiorum* (P1)

Seventeen taxa were assessed as 'Unlikely' as, although suitable habitat is potentially present, they were not recorded during the recent nearby targeted surveys. This includes one Threatened species, *Grevillea flexuosa*. The remaining 31 taxa were assessed as 'Unlikely' as suitable habitat is unlikely to be present; these are mostly taxa confined to granite outcrops, wetlands, or riparian habitats.

Table 3: Likelihood of occurrence assessment for significant plant species known to occur within 20 km of the study area.

Taxon	WA status	Habitat	Approximate flowering period	Growth form	Recorded in vicinity of study area during 2023 surveys	Potentially suitable habitat	Nearest records to survey area	Likelihood of occurrence
Pimelea rara	P4	Lateritic soils.	J----------D	Perennial shrub	Yes	Suitable habitat possibly present.	<0.5 km	Highly Likely
Senecio leucoglossus	P4	Gravelly lateritic or granitic soils. Granite slopes.	-------ASOND	Annual herb	Yes	Suitable habitat possibly present.	<0.5 km	Highly Likely
Tetratheca phoenix	P2	Brown gravelly loam over granite. Mid-upper slopes.	--------SOND	Perennial shrub	Yes	Suitable habitat possibly present.	<0.5 km	Highly Likely
Thysanotus anceps	P3	White or grey sand, lateritic gravel, laterite.	---------OND	Perennial herb	Yes	Suitable habitat possibly present.	<0.5 km	Highly Likely
Acacia drummondii subsp. *affinis*	P3	Grows in laterite or sand over laterite, in jarrah , jarrah-marri and sometimes wandoo forest and woodland.	------JA----	Perennial shrub	Yes	Suitable habitat possibly present.	0.5 - 2 km	Likely
Grevillea pimeleoides	P4	Gravelly soils over granite. Rocky hillsides.	----MJJASON-	Perennial shrub	Yes	Suitable habitat possibly present.	0.5 - 2 km	Likely
Hibbertia hortiorum	P1	Jarrah–marri forests over laterite.	--------SO--	Perennial shrub	No	Suitable habitat possibly present.	0.5 - 2 km	Likely
Acacia horridula	P3	Gravelly soils over granite, sand. Rocky hillsides.	----MJJA----	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Acacia oncinophylla subsp. *patulifolia*	P4	Granitic soils, occasionally on laterite.	-------ASOND	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Bossiaea modesta	P2	Soils derived from granite. Damp areas close to streams.	---------OND	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Calothamnus graniticus subsp. *leptophyllus*	P4	Clay over granite, lateritic soils. Hillsides.	-----JJA----	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Chorizema ulotropis	P4	White sand with gravel, laterite, granite. Outcrops, winter damp to dry areas, flats.	------JAS---	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Cyanothamnus tenuis	P4	Gritty brown sandy clay over granite. Creeks, slopes.	-------ASON-	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Gastrolobium sp. Asperum (F. Hort 2864)	P3	Slope, flat. Dry, brown loam, gravel over laterite.	--------S---	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Grevillea dissectifolia	P3	Sand/loam and laterite along creeks and road verges.	-----J--S-N-	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Grevillea flexuosa	T	Red-brown sand with laterite & gravel, sand over granite. Ridgetops, breakaways.	------JASO--	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Halgania corymbosa	P3	Gravelly soils, soils over granite.	-------ASON-	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Hemigenia platyphylla	P4	Sandy & loamy soils. Slopes.	--------SON-	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Lasiopetalum bracteatum	P4	Sandy clay, clay, lateritic gravel. Along drainage lines, creeks, gullies, granite outcrops.	J------ASOND	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Millotia tenuifolia var. laevis	P2	Granite or laterite soils.	--------SO--	Annual herb	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Petrophile filifolia subsp. *laxa*	P3	Winter-wet sites, flats, slopes, swamps, drainage lines.	J---------ND	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Stackhousia sp. Red-blotched corolla (A. Markey 911)	P3	Light grey gritty clay, with surface granitic cobbles, on a gentle southern upper slope.	-----JJAS---	Perennial herb	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Synaphea pandurata	P3	Yellowish sands and sandy loams, dark brown loam, laterite gravel, granite.	--------SOND	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Tetratheca similis	P3	Sandy clay with lateritic boulders.	-------AS---	Perennial shrub	No	Suitable habitat possibly present.	2 - 20 km	Unlikely
Acacia cuneifolia	P4	Sand, clay or loam over granite. Granite outcrops.	------JASO--	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Acacia oncinophylla subsp. *oncinophylla*	P3	Fringing granite outcrops.	-------ASO--	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Andersonia sp. Audax (F. Hort, B. Hort & J. Hort 3179)	P3	Granitic heath. Granite outcrops.	J--------OND	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Andersonia sp. Saxatilis (F. & J. Hort 3324)	T	Granitic heath. Granite outcrops.	--------SO--	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Anthocercis gracilis	T	Sandy or loamy soils. Granite outcrops.	--------SO--	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Banksia recurvistylis	P2	Granite outcrops.	----------N-	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Boronia capitata subsp. *gracilis*	P3	White/grey or black sand. Winter-wet swamps, hillslopes.	-----JJASON-	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Byblis gigantea	P3	Sandy-peat swamps.	J-------SOND	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Caladenia speciosa	P4	White, grey or black sand. Sandplains.	--------SO--	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Cyathochaeta teretifolia	P3	Grey sand, sandy clay. Swamps, creeks.	UNKNOWN	Perennial herb	No	Suitable habitat unlikely to be present.	0.5 - 2 km	Unlikely
Darwinia hortiorum	P1	Brown loam/clay/gravel laterite. Granite outcrops.	-------ASON-	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Darwinia thymoides subsp. St Ronans (J.J. Alford & G.J. Keighery 64)	P4	Sandy or gravelly clay-loam soils. Slopes and Flats. Granite outcrops.	J---------N-	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Dicrastylis reticulata	P3	Granite outcrops, heath.	--------SOND	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely

Taxon	WA status	Habitat	Approximate flowering period	Growth form	Recorded in vicinity of study area during 2023 surveys	Potentially suitable habitat	Nearest records to survey area	Likelihood of occurrence
Drosera occidentalis	P4	White-yellow sand, clayey soils. Swamps, seasonally wet depressions and slopes.	J--------OND	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Grevillea ornithopoda	P2	Riverbanks. Primarily Swan Coastal Plain.	--------SOND	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Grevillea thelemanniana	T	Sand, sandy clay. Winter-wet low-lying flats.	----MJJASON-	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Hakea oldfieldii	P3	Red clay or sand over laterite. Seasonally wet flats.	-------ASO--	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Hibbertia acrotoma	P1	Brown loam. Granite outcrops.	-------AS---	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Lasiopetalum glutinosum subsp. *glutinosum*	P3	Granite outcrops and creeks.	--------SOND	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Lasiopetalum pterocarpum	T	On sloping banks near creeks.	-------ASOND	Perennial shrub	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Lepyrodia curvescens	P2	Wetlands and swamps.	--------SON-	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Lepyrodia heleocharoides	P3	Moist peaty sand. Wetlands and swamps.	----------D	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Meionectes tenuifolia	P3	Sand or clay. Wetlands and swamps.	--------SOND	Annual herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Morelotia australiensis	T	Winter-wet, swampy depressions, drainage lines or rises surrounding swamps in Corymbia calophylla woodland.	----------D	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Paracaleana gracilicordata	P1	Moss mats on granite outcrops.	---------ON-	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Paracaleana granitica	P1	Moss mats on granite outcrops.	---------OND	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Parsonsia diaphanophleba	P4	Alluvial soils. Along rivers.	JF-AMJ--S---	Perennial climber	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Pithocarpa corymbulosa	P3	Gravely or sandy loam. Granite outcrops.	JFMA--------	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Stylidium ireneae	P4	Sandy loam. Valleys near creeks.	---------OND	Perennial herb	No	Suitable habitat unlikely to be present.	<0.5 km	Unlikely
Thysanotus formosus	P1	Jarrah low forest, in heavy clay soils, often inundated in winter.	J---------ND	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely
Tripterococcus sp. Brachylobus (A.S. George 14234)	P4	Grey, black, or peaty sand. Winter-wet flats.	---------ON-	Perennial herb	No	Suitable habitat unlikely to be present.	2 - 20 km	Unlikely

2.2.2 Area Specific Assessment

A section-specific likelihood of occurrence assessment was undertaken to assist prioritisation of future surveys (**Map 3**). Many of these sections are immediately adjacent to areas that were surveyed in 2023. Based on their proximity to significant species records (within ca. 500 m), 18 sections totalling 24.9 ha are likely to support either *Pimelea rara* (P4), *Senecio leucoglossus* (P4), *Tetratheca phoenix* (P2), or *Thysanotus anceps* (P3) (Table 4). Although *Stylidium ireneae* has been recorded within 500 m of sections '32', '52', and '71', none these are likely to support this species, which is typically restricted to the banks of creeks.

There is one historical record of *Hibbertia hortiorum* (P1) just over 2 km southwest of section 67 in which suitable habitat ('jarrah–marri forests over laterite') is likely to be present (**Map 3**). Biologic (2024) systematically surveyed an area approximately 1 km north of this record, but only the similar species *Hibbertia ovata* was found. Biologic (2024) also noted, based on communication with staff at the Western Australian Herbarium, that the collection of *H. hortiorum* here is only tentatively identified as this species. The overall likelihood of occurrence of *H. hortiorum* within the study area was 'Likely' based on the assessed criteria but given the small size of section 67 (0.41 ha), and since no records of *H. hortiorum* were found in its vicinity in 2023, it is unlikely that it occurs here.

Table 4: Area specific likelihood of occurrence assessment.

Section No.	Area (ha)	Species	Suitable habitat possible present	Likelihood of occurrence
2	1.743	*Pimelea rara* (P4)	Yes	Highly Likely
8	5.638	*Senecio leucoglossus* (P4)	Yes	Highly Likely
9	0.036	*Thysanotus anceps* (P3)	Yes	Highly Likely
10	0.101	*Thysanotus anceps* (P3)	Yes	Highly Likely
11	1.248	*Thysanotus anceps* (P3)	Yes	Highly Likely
13	0.267	*Senecio leucoglossus* (P4)	Yes	Highly Likely
20	0.864	*Senecio leucoglossus* (P4)	Yes	Highly Likely
32	0.053	*Stylidium ireneae* (P4)	No	Unlikely
34	1.615	*Senecio leucoglossus* (P4)	Yes	Highly Likely
35	0.398	*Senecio leucoglossus* (P4)	Yes	Highly Likely
36	0.479	*Senecio leucoglossus* (P4)	No	Unlikely
52	0.916	*Stylidium ireneae* (P4)	Yes	Highly Likely
65	0.204	*Senecio leucoglossus* (P4)	Yes	Highly Likely
67	0.42	*Thysanotus anceps* (P3)	Yes	Highly Likely
70	0.448	*Senecio leucoglossus* (P4)	Yes	Highly Likely
71	1.074	*Stylidium ireneae* (P4)	No	Unlikely
90	0.678	*Tetratheca phoenix* (P2)	Yes	Highly Likely
94	1.833	*Tetratheca phoenix* (P2)	Yes	Highly Likely
95	0.225	*Tetratheca phoenix* (P2)	Yes	Highly Likely
102	4.486	*Senecio leucoglossus* (P4)	Yes	Highly Likely
103	3.869	*Senecio leucoglossus* (P4)	Yes	Highly Likely

3 CONCLUSIONS

Four significant plant species were assessed as 'Highly Likely' to occur within the study area and three species were assessed as 'Likely' to occur within the study area. The remaining species were assessed as 'Unlikely' as either no suitable habitat is likely to be present within the study area, or suitable habitat is present but the species was not recorded in nearby areas in 2023. All the Threatened and Priority 1 species (excluding *Hibbertia hortiorum*) that have been recorded within 20 km of the study area were assessed as 'Unlikely' to occur.

Three of the four species recorded by Ecologia and Biologic at the Huntly Mine in 2023 (*Senecio leucoglossus*, *Tetratheca phoenix*, and *Thysanotus anceps*) and *Pimelea rara* are 'Highly Likely' to occur within 18 sections of the study area. *Stylidium ireneae*, which was recorded in 2023, is unlikely to be preset at all due to probable absent of suitable habitat. The 18 individual sections, totalling 24.9 ha, may be prioritised during future surveys if required.

A tentatively identified record of *Hibbertia hortiorum* (P1) is present approximately 2 km from the study area but this species was not found after reasonable nearby survey effort by Biologic in 2023. Although this species was assessed as 'Unlikely' to occur, Alcoa may consider surveying sections in the vicinity of this record (e.g., within 5 km), to be certain that it is not present.

4 REFERENCES

Biologic. 2024. Alcoa Huntly-Myara Targeted Flora Survey. Report to Alcoa of Australia Limited.

CHAH. 2017. Australia's Virtual Herbarium. Available at http://avh.chah.org.au.

Ecologia. 2024. Huntly Mine Pre-Clearance Surveys - Threatened Flora and Declared Weeds 2023. Report to Alcoa of Australia Limited.

EPA. 2016. Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment. EPA, Western Australia.

Western Australian Herbarium. 1998–. FloraBase – The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. http://florabase.dpaw.wa.gov.au.

410000 412500 415000 417500 420000 422500 425000 427500

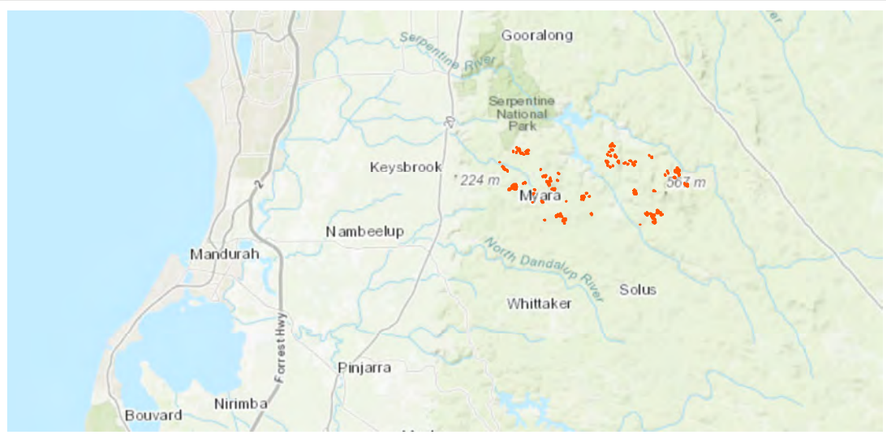
6412500

6410000

6407500

6405000

Study area



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Author: AC
Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Absolute Scale: 1:50,287 @A3

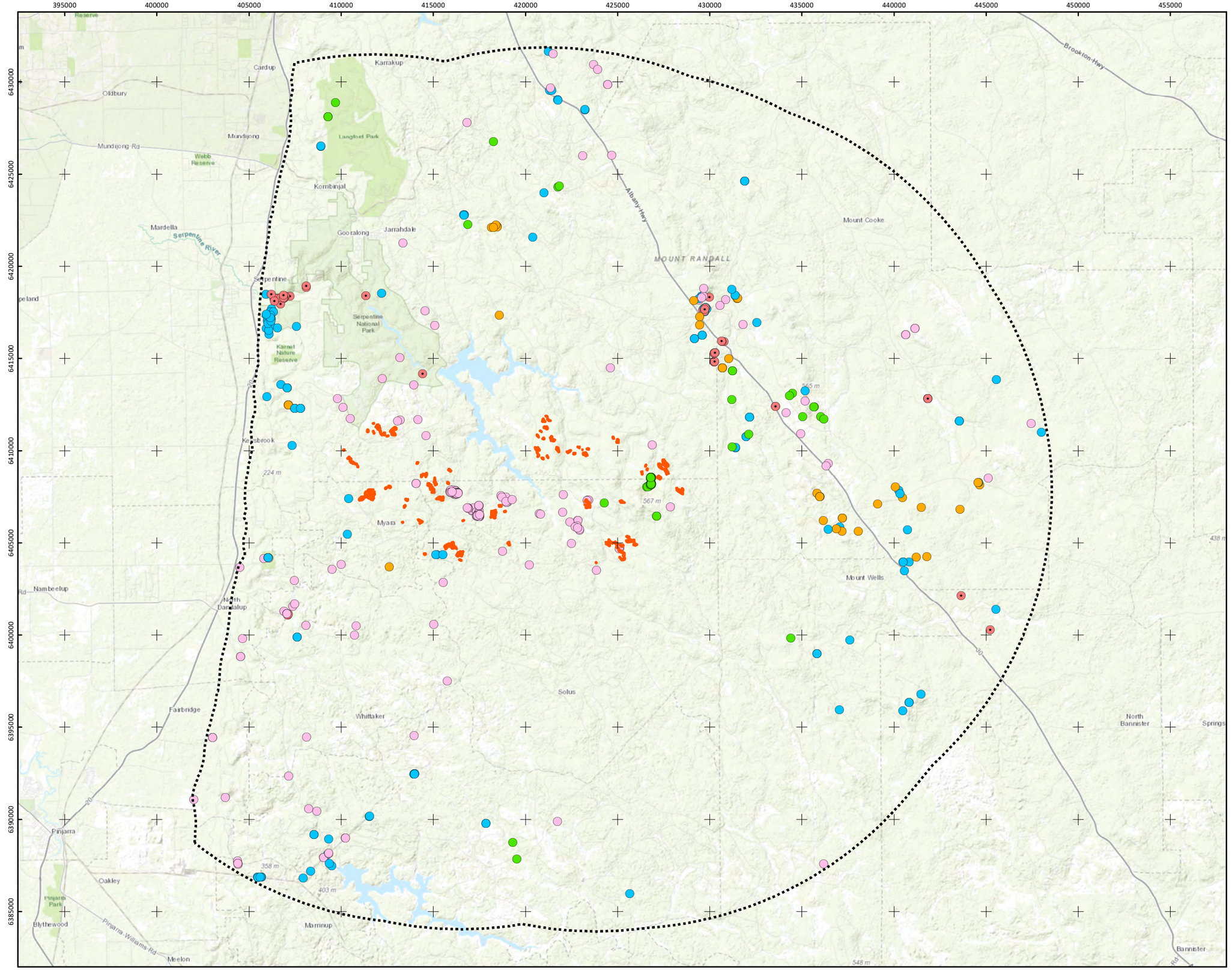
Map 1: Location of the study area.

0 0.5 1 2 3
Kilometers

Study area
Study area 20 km buffer

Significant species record

- Threatened
- Priority 1
- Priority 2
- Priority 3
- Priority 4



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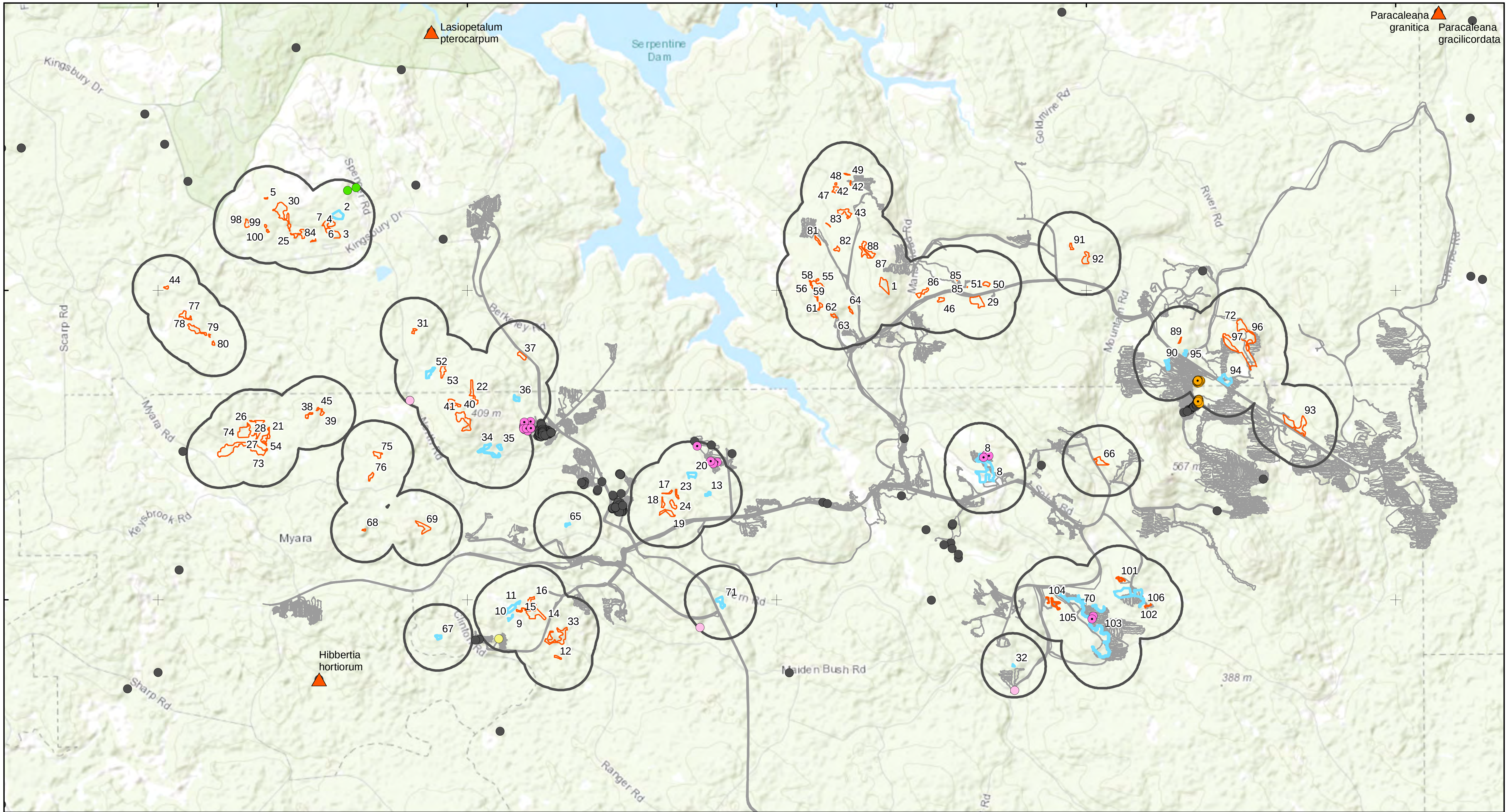
Absolute Scale: 1:200,000 @A3

Map 2: Significant plant species records within 20 km of the study area.

0 1.75 3.5 7 10.5
Kilometers



Study area

- No
- Records within 500 m
- 500 m buffer
- Targeted survey transects 2023

Significant species record (<2 km)

- P1, Hibbertia hortiorum
- P2, Tetratheca phoenix
- P3, Thysanotus anceps
- P4, Pimelea rara
- P4, Senecio leucoglossus
- P4, Stylidium ireneae

- Threatened or Priority 1 species record
- Significant species record >500 m from study area

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Projection: Transverse Mercator
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Map 3: Significant plant species records within 500 m of the study area.

0 0.5 1 2 3
Kilometers

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