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27 May 2025

Stuart Simmonds – Principal Approvals
South32 Worsley Refinery
Gastaldo Road
Collie, WA

Dear Stuart,

Please find below the technical memorandum following the targeted flora survey for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) undertaken within the three designated survey areas to the west of Boddington. The field assessment was undertaken over one targeted survey, in February 2025.

The focus of this technical memorandum is to provide the results of the targeted flora assessment to address the requirements of Ministerial Statement No. 1237. This includes locations and observations of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) as outlined in the ministerial statement at B12-1(3) to confirm the number of plants in and/ or adjacent to planned disturbance footprints. Condition B12-1(3) states that South32 are to ensure no disturbance or adverse impacts to 8% or more of the known *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) population.

Yours sincerely,

RYAN WOODHOUSE

Botanist

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1 Introduction

South32 Pty Ltd (South32) commissioned Biologic Environmental Survey Pty Ltd (Biologic) to undertake a targeted significant flora survey for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) within three areas of interest located to the west of Boddington; Area 1, Area 2 and Area 3; hereafter cumulatively referred to as the Survey Area (Figure 1.1). The objective of the survey was to record the number of individuals occurring within the Survey Area to support condition B12-1(3) of Ministerial Statement No. 1237 (MS 1237). The Survey Area totals 190.3 ha, comprising of the three areas of interest:

- Area 1 (southern-most portion of Survey Area): 87.5 ha;
- Area 2 (western-most portion of Survey Area): 30.9 ha; and
- Area 3 (northern-most portion of Survey Area): 71.9 ha.

1.1 Objective and Scope of Works

On the 20th of December 2024, the Minister for the Environment issued Ministerial Statement No. 1237, stating that the Worsley Mine Expansion – revised proposal could be implemented following a set of conditions and procedures.

Part B of MS 1237 refers to the environmental outcomes, prescriptions and objectives. More specifically, this memo addresses Condition B12-1(3), which states:

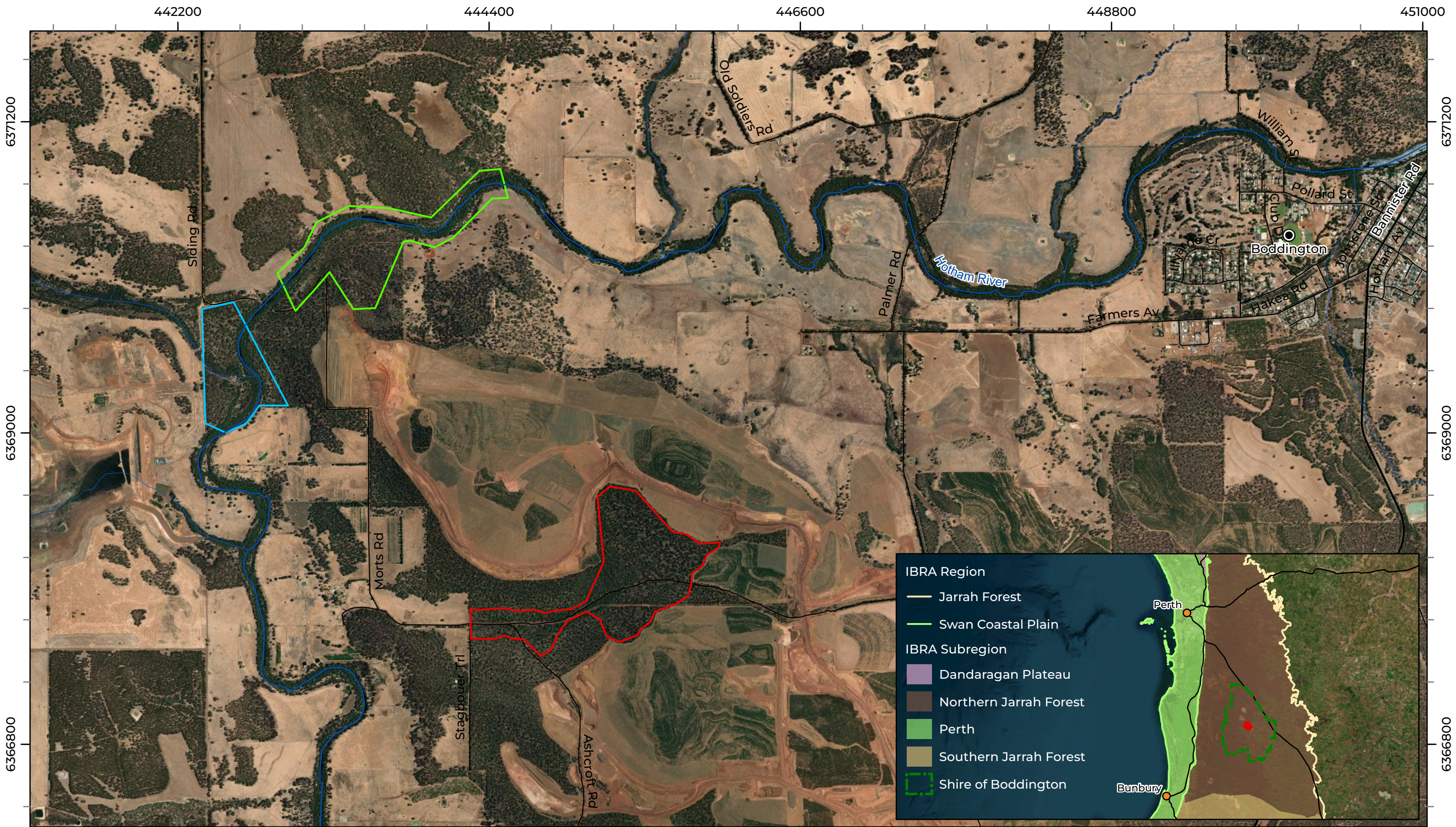
B12-1 The proponent must ensure the implementation of the proposal achieves the following environmental outcomes:

(3) ensure no disturbance of adverse impacts to more than:

(b) 8% of the known population of *Gastrolobium* sp. Prostrate Boddington.

The objective of the survey was to complete targeted searches within designated areas as set by South32 to further increase the knowledge, understanding and population extent of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1). This was achieved via:

- A desktop assessment to understand the current knowledge and extent of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) within and adjacent to the Survey Area;
- Complete a targeted search, employing targeted transects, for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130);
- Prepare a short technical memorandum, and supporting spatial dataset, following the completion of the field survey and any taxonomic identifications.



LEGEND

- Survey Area
- Area 1
 - Area 2
 - Area 3
- Local Road
- State Road
- SurfaceHydroLines_WA
- Surface Hydrology
- Minor



Biologic



Scale 1:25,000

0 0.5 1 Km

Coordinate System: GDA 1994 MGA Zone 50
Transverse Mercator Created: 19/03/2025



SOUTH32

Gastrolobium sp.
Prostrate Boddington
(M. Hislop 2130) (P1)
Targeted Survey

**Figure 1.1: Survey Area
and regional context**

2 Desktop Assessment

2.1 Methods

2.1.1 Compliance

The targeted flora survey was conducted in line with relevant state and federal guidance and requirements; thus, of a standard for Environment Impact Assessment (EIA) through the Environmental Protection Authority (EPA) and to address the requirements of the scope of works. Specifically, the assessment was undertaken with consideration of the following survey guidelines and recommendations, where applicable:

- EPA (2018) Statement of environmental principles, factors and objectives;
- EPA (2016a) Environmental Factor Guideline: Flora and Vegetation;
- EPA (2016b) Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment; and
- DBCA (2017) Threatened and Priority Flora Report Form – Field Manual.

2.1.2 Database Searches and Review of Other Reports

A desktop assessment, comprising database searches and a review of other reports, was undertaken prior to the field survey (Table 2.1). The purpose of the desktop assessment was to collate information on *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1), including floristic information, distinctive identifying characteristics, habit and habitat. South32 provided Biologic with previous Mattiske Consulting Pty Ltd (Mattiske) records of the taxon within and surrounding (up to 10 km) the Survey Area, which was reviewed prior to field surveying.

One Mattiske report (Mattiske, 2021) and a supplementary Mattiske addendum (Mattiske, 2022) conducted for South32 and intersecting the Survey Area, were reviewed prior to mobilisation. This included reviewing taxonomic descriptions of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130), regional and local population information, and vegetation types the taxon is known to occur in.

Additionally, the field team personnel visited the Western Australian Herbarium (WAH), where formally identified specimens of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) are held. Using the available material, field personnel familiarised themselves with the taxon; to identify characteristics to assist in the in-field identification of the target species.

Table 2.1: Details of database searches conducted

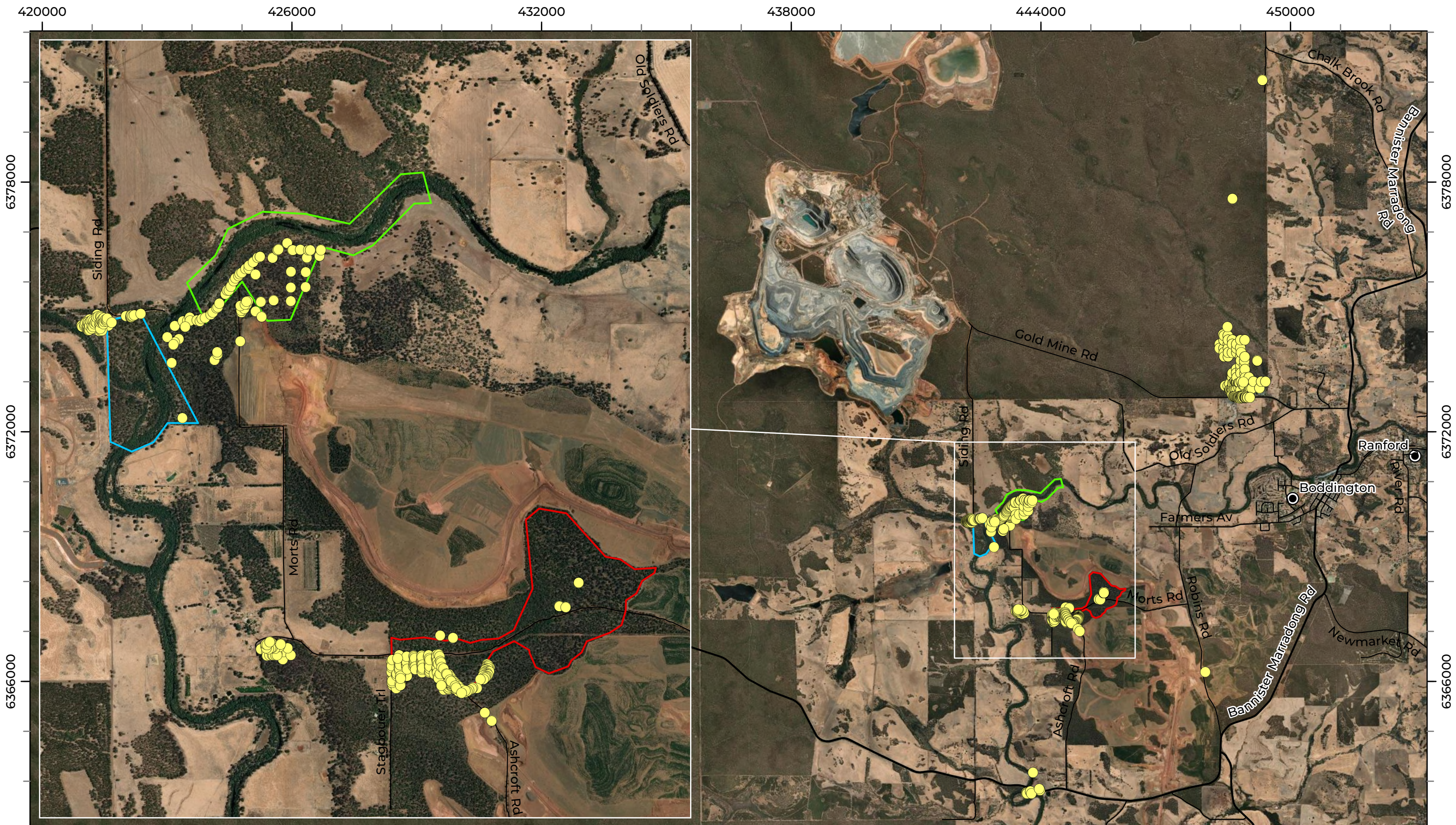
Provider	Database	Reference	Parameters
Western Australian Herbarium (WAH)	WAH Specimen database	WAH (1998 -)	Within the Survey Area
Department of Biodiversity, Conservation and Attractions (DBCA)	Threatened and Priority Flora database	DBCA (2025)	
South32	Spatial data of significant and introduced flora	Mattiske (2021, 2022)	In and within 10 km of the Survey Area

2.2 Results and Discussion

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130) (P1) is known from six records at the WAH, all occurring within the Shire of Boddington near the Hotham River and to the north of the Newmont Boddington Gold mine camp (WAH, 1998 -). The initial collection was made by M. Hislop on the Pinjarra-Williams Road in 2000 (WAH, 1998 -).

Mattiske recorded a total of 25,757 individuals of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) in the Wider Boddington Area, as defined in Mattiske (2021), with 10,667 individuals from 156 locations recorded within the Survey Area (Figure 2.1). During the Mattiske (2021) field survey, *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) was observed from three main populations in the Wider Boddington Area with scattered individuals additionally recorded further south and north of the three main populations (Figure 2.1). Two of the three main populations occur within the Survey Area; one population occurs within Area 1 and the other occurs across both Areas 2 and 3 along Hotham River) (Figure 2.1).

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130) was mainly recorded in four vegetation types associated with slopes and gullies supporting forests of wandoo (*Eucalyptus wandoo*) and jarrah-marri (*Eucalyptus marginata* – *Corymbia calophylla*) as the dominant overstorey (Mattiske, 2021, 2022). This species was noted as a prostrate shrub and mostly occurring in dense patches (Mattiske, 2022). It was also observed to tolerate disturbance as it was recorded along several road verges and the former Dwellingup to Boddington railway line (follows Hotham River and divides Area 3) (Mattiske, 2021, 2022).



LEGEND

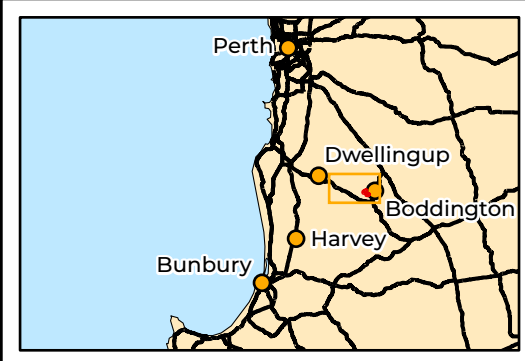
Survey Area	Mattiske (2021, 2022)	— Local Road
Area 1	● <i>Gastrolobium sp. Prostrate Boddington</i> (M. Hislop 2130) - P1	— State Road
Area 2		
Area 3		

 **Biologic**

Scale 1:85,000

0 1 2 3 Km

Coordinate System: GDA 1994 MGA Zone 50 Transverse Mercator Created: 19/03/2025



SOUTH32
Gastrolobium sp.
Prostrate Boddington
 (M. Hislop 2130) (P1)
Targeted Survey
 Figure 2.1: Significant flora records from the desktop assessment

3 Field Survey

3.1 Methods

3.1.1 Survey Timing and Personnel

One targeted field survey was conducted from the 3rd to the 6th of February 2025 by four Biologic personnel, totalling 16 person days. The field survey was co-led by Botanists Ryan Woodhouse and Emma Marsh, supported by Graduate Botanists Kay Greenacre and Rylan Cunnane. Personnel involvement, project roles and licenses are listed in Table 3.1.

Table 3.1: Project team and licences

Biologic Personnel	Project Involvement	Flora Licenses	Experience
Principal Botanists			
Clinton van den Bergh	- Project management support - QA/QC	FB62000453 TFL 2223-0030	19 years' Field 18 years' EIA 19 years' Botanical
Botanists			
Ryan Woodhouse	- Project management - Field survey co-lead - Data management - Reporting	FB62000459	5 years' Field 4 years' EIA 5 years' Botanical
Emma Marsh	- Field survey co-lead - Reporting	FB62000233-4	6 years' Field 5 years' EIA 6 years' Botanical
Graduate Botanists			
Kay Greenacre	Field team	FB62000595	2 years' Field 2 years' EIA 3 years' Botanical
Rylan Cunnane	Field team	FB62000667	1 years' Field 1 years' EIA 1 years' Botanical

3.1.2 Targeted Flora Survey

The targeted field survey for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1), as per the requirements in MS 1237, was undertaken within the Survey Area. Field personnel familiarised themselves with photographs, reference samples and descriptions of the taxon before conducting the survey.

Targeted searches involved botanists systematically grid-searching the Survey Area at approximately 10 to 20 m spacing for the target taxon with records of other significant flora being made opportunistically. Existing records of *Gastrolobium* sp. Prostrate Boddington (M.

Hislop 2130) from Mattiske (2021) in the Survey Area were ground-truthed when applicable to assess population health, confirm counts and update the accuracy of the previous data (Appendix B). Some of these existing records (mainly from Area 1) were excluded from ground-truthing due to conflicting data at some location (GPS coordinate referencing system, Easting/Northing). Targeted searching within the Survey Area was not conducted during optimal seasonal timing for the priority target taxon (i.e., during the flowering period, which is known to be in spring) as pre-survey it was thought to be readily identifiable in the field without flowering or fruiting material due to its prostrate habit. Although this assumption held true for the most part, there were some taxonomic issues, as discussed further in Section 3.2.1, which lead to constraints on the confident identification of specimens in-field and from dried specimens.

When significant flora were encountered (and not already captured in previous data or if Biologic was updating previous data) a GPS coordinate of the individual was taken, when occurring in isolation, or a central GPS coordinate was taken for a small population (central coordinate with an approximate 10–20 m radius). Information collected at each location comprised:

- GPS track logs of search effort;
- Number of individuals, for a small population or the extent of the population (if many);
- Condition and reproductive status of the plants in each population;
- Photographs of individuals and of the broad vegetation community/ habitat; and
- Broad information on vegetation type and condition.

Biological photo points, which comprise a GPS location, short description and photographs, were also established throughout the Survey Area to capture areas of unsuitable habitat for the priority target taxon and/or inaccessible areas (such as Hotham River which covers and divides large portions of both Areas 2 and 3).

3.1.3 Nomenclature and Specimen Identification

Flora nomenclature used in this report is consistent with the WAH's plant census, provided on Florabase (WAH, 1998 -). All species nomenclature is current at the time of report preparation. Five *Gastrolobium* specimens from each of the three areas of interest were submitted to the WAH for authoritative identification by WAH specialist taxonomists Michael Hislop and Olga Nazarova using the appropriate taxonomic keys and available materials (ACC/11418/E returned on 25/02/2025; Appendix C) (WAH, 2015).

Threatened and Priority Flora Report Forms (TPRFs) will be completed and submitted to the Department of Biodiversity, Conservation and Attractions (DBCA), as required under the flora

collecting permits. Specimens of conservation significant flora will be vouchered with the WAH where required and appropriate.

3.2 Results and Discussion

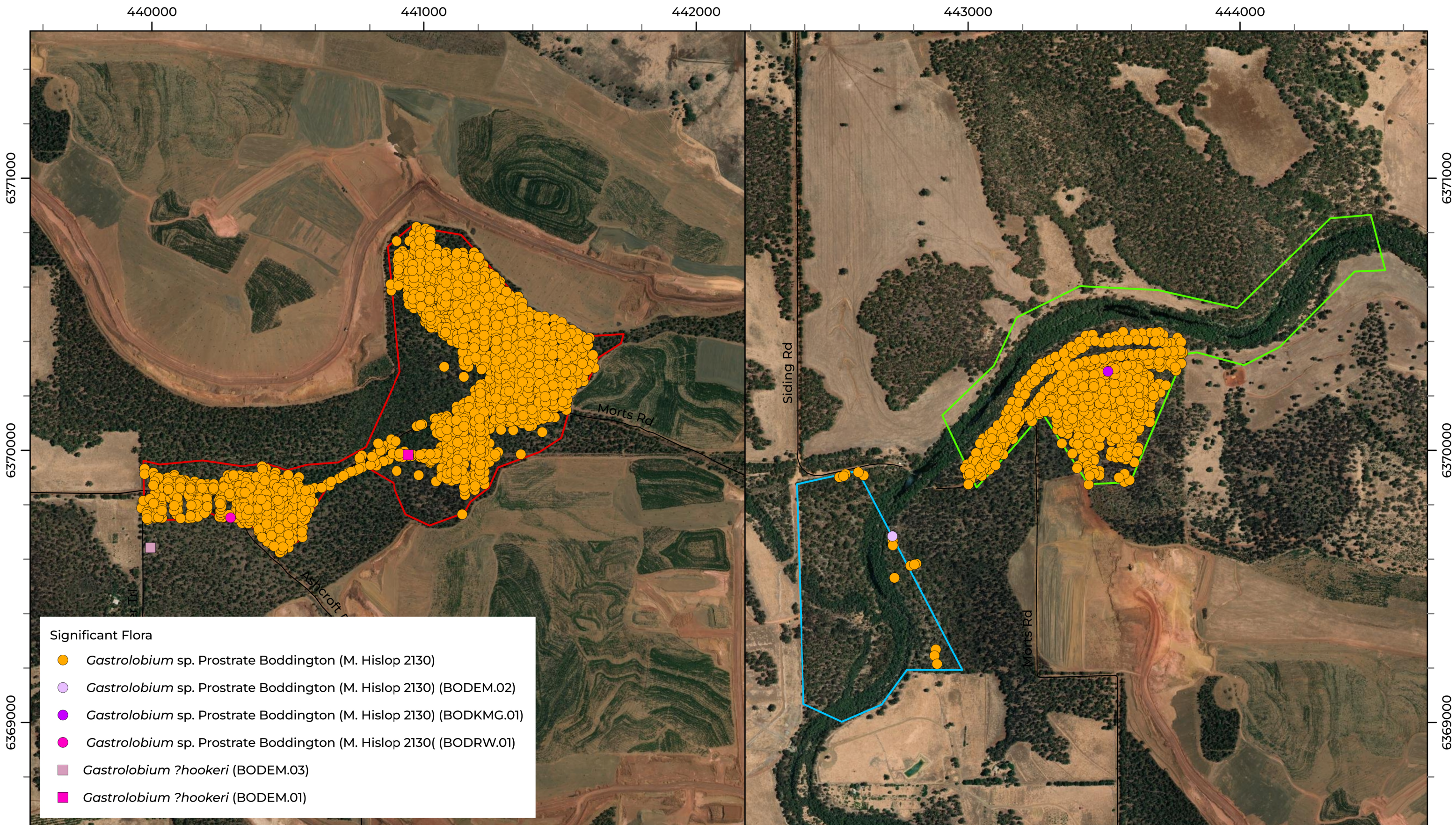
3.2.1 *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1)

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130) (P1) (Plate 3.1) is a prostrate, mat-like shrub to 0.05 m high, which produces yellow and red flowers in October, and fruits in December (WAH, 1998 -). This taxon is known to occur in in woodlands of *Eucalyptus wandoo*, *E. marginata* and/ or *Corymbia calophylla* on valley bottoms, lower slopes and lateritic rises, in clay/ littered brown loam soils (Mattiske, 2005). *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) is known from localities near Tullis Bridge, west of Boddington, Marradong Timber Reserve, west-southwest of Boddington, north of the Newmont Boddington Gold mine camp and on Pinjarra-Williams Road, south-west of Boddington (Mattiske, 2022; WAH, 1998 -).



Plate 3.1: *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) **Source:** Biologic photos, taken during current survey (Left from Area 2, Right from Area 3).

A total of 72,957 *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) individuals from 1,862 point-locations were recorded within (or within 50 m of) the Survey Area during the February 2025 targeted flora survey. Of this total, 790 individuals were recorded outside of the Survey Area (adjacent to, up to 50 m), resulting in a total of 72,167 *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) individuals from 1,826 point-locations being recorded solely within the Survey Area. The locations of these individuals within the three areas of interest are presented in Table 3.2 and Figure 3.1.



- Significant Flora
- *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130)
 - *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (BODEM.02)
 - *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (BODKMG.01)
 - *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (BODRW.01)
 - *Gastrolobium ?hookeri* (BODEM.03)
 - *Gastrolobium ?hookeri* (BODEM.01)

LEGEND

Survey Area — Local Road

Area 1

Area 2

Area 3

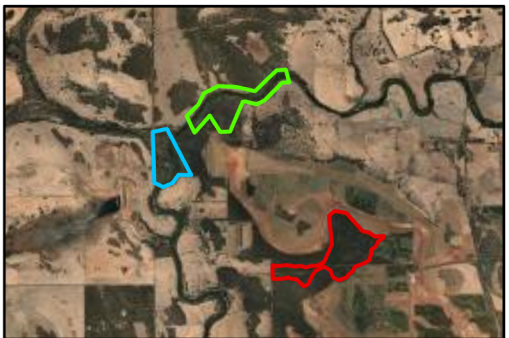


Biologic

Scale 1:13,000

0 0.2 0.4 Km

Coordinate System: GDA 1994 MGA Zone 50 Transverse Mercator Created: 17/03/2025



SOUTH32

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130) (P1) Targeted Survey

Figure 3.1: Significant flora recorded in the Survey Area

Table 3.2: Significant flora records within the Survey Area – recorded by Biologic 2025

Area	<i>Gastrolobium</i> sp. Prostrate Boddington (M. Hislop 2130) (P1)	
	No. of individuals	No. of locations
Area 1	53,697	1,290
Area 2	188	10
Area 3	18,282	526
Total	72,167	1,826

Based on DBCA (2017) guidelines for determining discrete populations, i.e., plants separated by at least 500 m of each other, records of *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) within the Survey Area constitute two broad populations. These two populations correlate to the ones identified by Mattiske (2021, 2022), which intersected the Survey Area. One of the populations overlaps Area 1 whilst the other population extends across both Areas 2 and 3 (Figure 3.1). As previously noted by Mattiske (2021), *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) appears to tolerate some disturbance as it was recorded in dense patches along road verges, old tracks and the former Dwellingup to Boddington railway line in the Survey Area as well as areas of native vegetation which have been disturbed by pig foraging activities.

Five *Gastrolobium* specimens were sent to the WAH for formal identification by Mike Hislop. Three of these specimens (BODRW.01, BODEM.02, and BODKMG.01), which were collected from each of the areas of interest, were formally identified as *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) (Table 3.3; Figure 3.1). The remaining two collections, from Area 1 (BODEM.01 and BODEM.03), were formally identified as *Gastrolobium* ?*hookeri* (Table 3.3; Figure 3.1). Florabase records indicate that both *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) and *G. hookeri* occur in the Boddington area (WAH, 1998 -).

Table 3.3: Western Australian Herbarium formal identification

WAH Accession no.	Coll #	WAH Formal ID
11418	Area 1	
	BODRW.01	<i>Gastrolobium</i> sp. Boddington Prostrate (M. Hislop 2130) (P1)
	BODEM.01	<i>Gastrolobium</i> ? <i>hookeri</i>
	BODEM.03	<i>Gastrolobium</i> ? <i>hookeri</i>
	Area 2	
	BODEM.02	<i>Gastrolobium</i> sp. Boddington Prostrate (M. Hislop 2130) (P1)
	Area 3	
	BODKMG.01	<i>Gastrolobium</i> sp. Boddington Prostrate (M. Hislop 2130) (P1)

Gastrolobium sp. Prostrate Boddington (M. Hislop 2130) has been segregated from *G. hookeri* on the basis of its prostrate habit; however, it requires further taxonomic study to determine if it is a discrete taxon. One collection possessed old fruits and another had adventitious roots, but otherwise the specimens were sterile, with collections made based on the different forms observed in-field. Due to the lack of other distinguishing features, it is difficult to determine if the two growth forms observed (i.e., prostrate habit, identified as *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130), and erect habit, identified as *Gastrolobium* ?*hookeri*) represent two taxa or just infraspecific variation (M. Hislop, WAH, pers. comm. 05/03/2025).

These differing forms were observed in-field with all *Gastrolobium* plants recorded from Areas 2 and 3 having a distinctly prostrate habit (<0.05 m tall) (Plate 3.1) whilst the *Gastrolobium* individuals recorded from Area 1 were observed as having a more erect habit (ranging from 0.05 to 0.6 m tall) (Plate 3.2). Based on these in-field observations, and the formal identifications, it is likely that all *Gastrolobium* records from Areas 2 and 3 are the priority target taxon whilst those from Area 1 might be two different taxa, with one being the priority target taxon.

Olga Nazarova, who is undergoing a wider examination of unresolved taxonomic issues in *Gastrolobium*, including an assessment of whether *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) can be consistently distinguished from *G. hookeri* on anything other than habit, also examined these five specimens (on 11/03/2025). Olga concluded that there might be two different taxa involved but in order to be taxonomically confident, additional flowering and fruiting material will need to be collected (M. Hislop, WAH, pers. comm. 11/03/2025).



Plate 3.2: *Gastrolobium* ?*hookeri* (BODEM.01) **Source:** Biologic photos, taken during current survey (Area 1).

Until additional taxonomic work and field surveys are completed, the two collections formally identified as *Gastrolobium ?hookeri* cannot be confidently determined to represent true *G. hookeri*. The specimens formally identified as *Gastrolobium ?hookeri* were observed in-field to have a more erect growth habit, with the individual from which voucher specimen BODEM.01 was taken recorded as being 0.6 m tall (Plate 3.2). The taller, more erect individuals in Area 1 were observed occurring along the main access tracks and the old powerline track, where factors such as runoff and sun exposure may have influenced growth, resulting in greater height.

Two of the three collections recorded from Area 1 (BODRW.01 and BODEM.03) were taken from plants within previously confirmed *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) locations in Mattiske (2021), and were located only 314 m away from each other (Figure 2.1; Figure 3.1). However, BODRW.01 was confirmed as *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) whilst BODEM.03 was formally identified as *Gastrolobium ?hookeri* (Table 3.3). This discrepancy reinforces the requirement for additional in-depth examination of this priority phrase name taxon, including further collections and possibly genetic research, to resolve the taxonomic issue.

3.2.2 Survey Adequacy

The survey effort for the targeted assessment is presented in Figure 3.2, which demonstrates the systematic grid-searching technique used (10–20 m spacing) within the Survey Area. There were substantial unsurveyable areas and/or areas of unsuitable habitat for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) within Areas 2 and 3 of the Survey Area, which are presented in Figure 3.3. These unsuitable areas were not traversed thoroughly as they were either inaccessible (Hotham River) or they did not contain the appropriate habitat for the priority target taxon.

These areas constituted substantial amounts of Areas 2 and 3 and were mainly associated with riparian vegetation of Hotham River (*Melaleuca* spp. overstorey with a dense understorey of *Atriplex* spp., *Juncus* spp., and *Lobelia* spp.), cleared paddock farmland (no native overstorey or understorey species) and disturbed native vegetation (intact overstorey but with a dense understorey of invasive paddock species) (Figure 3.3).



LEGEND

- Survey Area — Local Road
- Area 1 — Traverse
- Area 2
- Area 3



Biologic



Scale 1:13,000

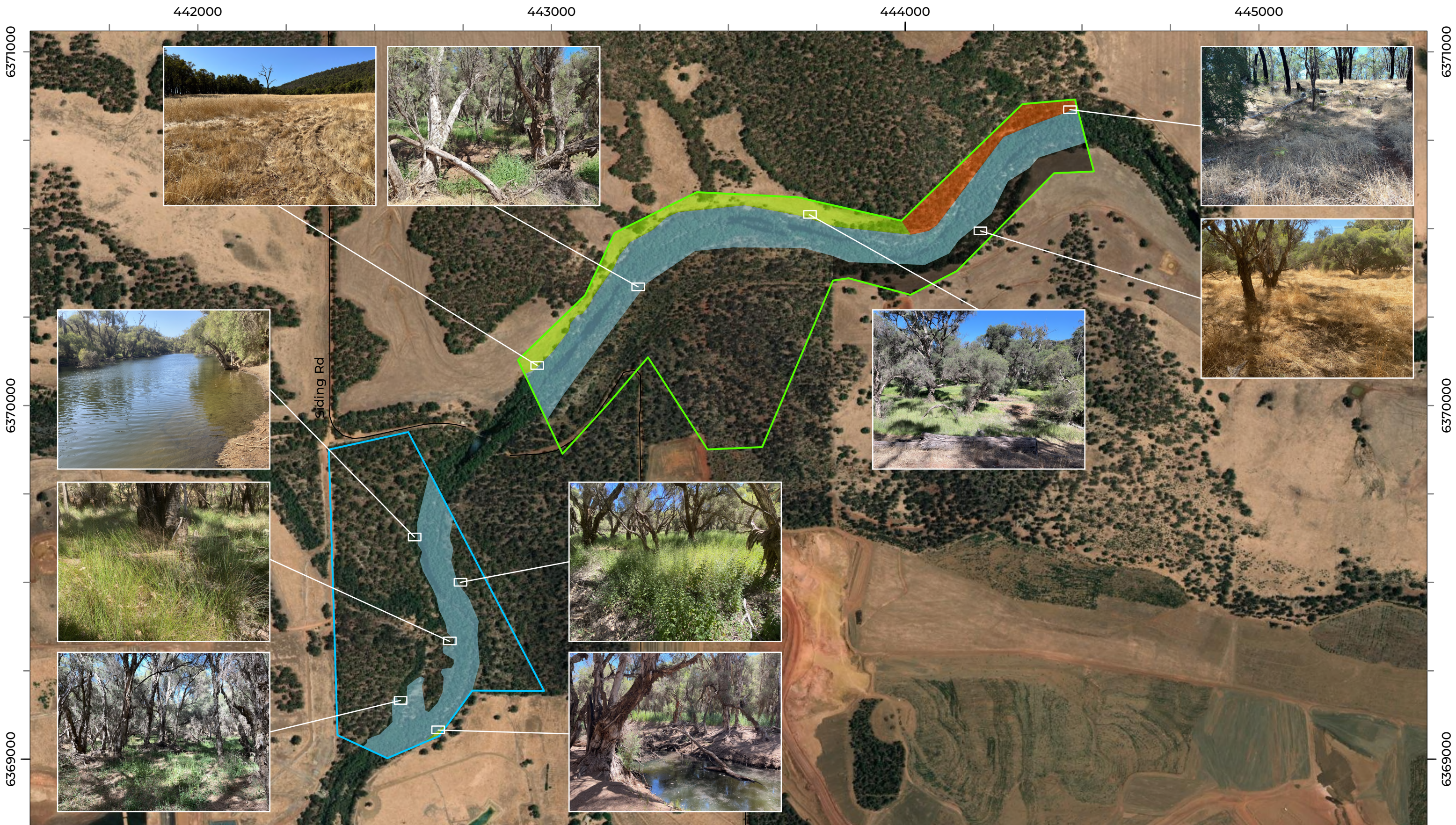
0 0.2 0.4 Km

Coordinate System: GDA 1994 MGA Zone 50
Transverse Mercator Created: 17/03/2025



SOUTH32
Gastrolobium sp.
Prostrate Boddington
(M. Hislop 2130) (P1)
Targeted Survey

Figure 3.2: Traverses in
the Survey Area



LEGEND

Survey Area	— Local Road	Unsuitable Habitat
 Area 2		 Paddock/Disturbed
 Area 3		 Disturbed
		 Hotham River
		 Paddock

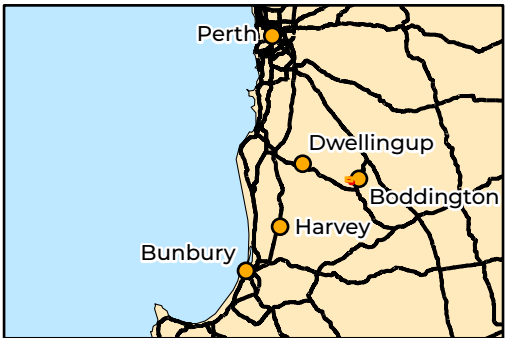


Biologic

Scale 1:10,000

0 0.1 0.2 0.3 Km

Coordinate System: GDA 1994 MGA Zone 50 Transverse Mercator Created: 18/03/2025



Perth
Bunbury
Harvey
Dwellingup
Boddington

SOUTH32
Gastrolobium sp.
Prostrate Boddington
(M. Hislop 2130) (P1)
Targeted Survey
Figure 3.3: Unsuitable
Habitat within
the Survey Area

3.3 Constraints and Limitations

The EPA (2016b) outlines several potential limitations to flora surveys. These aspects are assessed and discussed in Table 3.4. Two constraints, with regards to taxonomic identifications, were identified for the survey (Table 3.4).

Table 3.4: Potential limitations and constraints

Limitation	Constraint	Comment
Availability of data and information	No	Sufficient contextual information was available for the Survey Area, including broad information on land systems and vegetation associations. Botanical survey work, including targeted searches for <i>Gastrolobium</i> sp. Prostrate Boddington (M. Hislop 2130) (P1), has previously been undertaken by Mattiske (2021).
Competency/ experience of the team carrying out the survey, including experience in the bioregion surveyed	No	The field survey was co-led by Botanists Ryan Woodhouse and Emma Marsh, both with over five years' field experience. They were the field leads of each team which meets the minimum requirements of the EPA (2016b) to manage a flora and vegetation field survey/ team in the Jarrah Forest bioregion.
Proportion of flora recorded/collected and any identification issues	Yes	All flora records were identified in-field with representative collections of the two potentially different forms of the priority target taxon made in each of the areas of interest of the Survey Area. However, due to limited taxonomic research on the priority phrase name taxon (including few specimens at the WAH), confident formal identification of the five sterile <i>Gastrolobium</i> collections was difficult (especially distinguishing natural variation). This resulted in three being confirmed as <i>G. sp. Prostrate Boddington</i> (M. Hislop 2130) (P1) and the other two collections identified as the unconfirmed common taxon (<i>G. ?hookeri</i>). Following taxonomic reviews from Mike Hislop and Olga Nazarova, Olga concluded that there might be two different taxa present, but to be confident in the identification, additional flowering and fruiting material will need to be collected, with a wider review of unresolved taxonomic issues in <i>Gastrolobium</i> currently underway.
Was the appropriate area fully surveyed (effort and extent)	No	The Survey Area was systematically traversed at 10–20 m grid-spacing on foot, which aligns with EPA guidance for a targeted survey in the Jarrah Forest. All appropriate habitat for <i>G. sp. Prostrate Boddington</i> (M. Hislop 2130) was surveyed within the Survey Area with inaccessible/ unsuitable habitat in Areas 2 and 3 not traversed as thoroughly (Figure 3.3)
Survey timing, rainfall, season of survey	Yes	Fieldwork was conducted in February (summer) when plants were sterile. Pre-survey, this was not considered to be a constraint as the target taxon was thought to be readily identifiable in-field without flowers or fruit due to its prostrate habit. Post-survey, the lack of fertile material (due to survey timing) proved to be a constraint, with Olga Nazarova requesting flowering and fruiting material in order to determine whether collections represented two different taxa or variation within <i>G. sp. Prostrate Boddington</i> (M. Hislop 2130).

Limitation	Constraint	Comment
Access restrictions within the Survey Area	No	The Survey Area was accessible via gravel access tracks which provided adequate access across most of the Survey Area. Walking traverses were limited to a maximum distance of <1 km from the vehicle for safety reasons.

4 Conclusion and Recommendations

A targeted survey for *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) was completed for the Survey Area over four days (3rd to 6th of February 2025) by four Biologic personnel, totalling 16 person days. All appropriate habitat for the priority target taxon was surveyed, and previous Mattiske (2021) records were ground-truthed and updated when applicable in the Survey Area. The survey and reporting have been completed in line with EPA guidelines, with two constraints related to taxonomic identifications identified for the survey (associated with survey timing/ season of survey and identification issues due to unresolved taxonomic issues). The key findings of the survey are:

- A total of 72,167 *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (P1) individuals from 1,826 point-locations were recorded within the Survey Area;
- Two *Gastrolobium* ?*hookeri* from two point-locations were recorded and formally identified at the WAH within (or within 50 m) from the Survey Area;
- Two discrete populations were recorded within the Survey Area; one overlapping Area 1, whilst the other extending across both Areas 2 and 3;
- *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) appears to tolerate some disturbance as it was recorded in dense patches along road verges, old tracks and the former Dwellingup to Boddington railway line in the Survey Area as well as areas of native vegetation which have been disturbed by pig foraging activities;
- Two differing forms were observed in-field with all *Gastrolobium* recorded from Areas 2 and 3 having a distinctly prostrate habit (<0.05 m tall) whilst the *Gastrolobium* recorded from Area 1 were observed as having a prostrate to more erect habit (ranging from 0.05 to 0.6 m tall);
- Due to the lack of other distinguishing features (no flowers or fruit), it is difficult to determine if the two forms observed in-field represent two taxa or just infraspecific variation (M. Hislop, WAH, pers. comm. 05/03/2025);
- Olga Nazarova also concluded that there might be two different taxa involved in Area 1, but in order to be taxonomically confident, additional flowering and fruiting material will need to be collected (M. Hislop, WAH, pers. comm. 11/03/2025);
- Until further taxonomic work is completed, and as advised by Mike Hislop, it is prudent to assume individuals identified within Area 1 are *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) (M. Hislop, WAH, pers. comm.); and
- Additional survey work to obtain collections with flowers and fruit will need to occur (including making collections from previously confirmed records). Alternatively, a molecular taxonomic study of the priority phrase name taxon could be conducted using sterile material (out of season) to resolve these taxonomic issues.

5 References

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Appendix A: Important Note

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Appendix B: *Gastrolobium* sp. Prostrate Boddington (M. Hislop 2130) Updated Mattiske Records

Easting	Northing	Mattiske No	Biologic No	Area
445518	6368127	1	0	1
445518	6368127	1	0	1
445518	6368127	1	0	1
445518	6368127	2	0	1
445518	6368127	2	0	1
445518	6368127	2	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	3	0	1
445518	6368127	4	0	1
445518	6368127	5	0	1
445518	6368127	5	0	1
445518	6368127	6	0	1
445518	6368127	6	0	1
445518	6368127	6	0	1
445518	6368127	6	0	1
445518	6368127	7	0	1
445518	6368127	7	0	1
445518	6368127	8	0	1
445518	6368127	8	0	1
445518	6368127	8	0	1
445518	6368127	8	0	1
445518	6368127	9	0	1
445518	6368127	9	0	1
445518	6368127	10	0	1
445518	6368127	11	0	1
445518	6368127	12	0	1
445518	6368127	13	0	1
445518	6368127	15	0	1
445518	6368127	16	0	1
445518	6368127	16	0	1
445518	6368127	30	0	1
445518	6368127	30	0	1
445518	6368127	40	0	1
445518	6368127	40	0	1
445518	6368127	45	0	1
445431	6367963	1	0	1

Eastings	Northing	Mattiske No	Biologic No	Area
442381	6369842	10	0	2
442403	6369863	1	0	2
442528	6369899	14	0	2
442528	6369897	13	0	2
442531	6369897	10	0	2
442531	6369902	3	0	2
442533	6369908	6	0	2
442542	6369906	16	6	2
442552	6369911	2	0	2
442874	6369224	200	100	2
443077	6369931	31	30	3
443172	6370077	10	30	3
443216	6370139	34	1	3
443248	6370173	1	60	3
443270	6370196	1	80	3
443295	6370220	25	40	3
443346	6370265	94	20	3
443375	6370296	1	60	3
443475	6370294	200	20	3
443625	6370183	200	30	3
443573	6370392	100	80	3
443611	6370346	28	80	3
443661	6370348	152	80	3
443704	6370296	1	40	3
443715	6370346	1	60	3
443727	6370345	1	8	3
443598	6370201	1	60	3
443483	6370010	1	10	3
443397	6370000	1	0	3
443597	6370095	1	0	3
443597	6370004	1	0	3
443185	6370078	100	0	3
443102	6369959	6	0	3
443110	6369964	11	0	3
443507	6370346	1	0	3
443509	6370346	34	0	3
443515	6370350	130	0	3

Appendix C: WAH Accession 11418

Clinton van den Bergh

From: Michael Hislop <michael.hislop@dbca.wa.gov.au>
Sent: Tuesday, 25 February 2025 11:36 AM
To: Ryan Woodhouse; herbarium@biologicenv.com.au
Subject: ACC/11418/E

OFFICIAL

Hello Ryan

Below are the identifications of six specimens from the Boddington area that you recently forwarded to the W.A. Herbarium:

BODI02.03	Lasiopetalum cardiophyllum
BODEM.02	Gastrolobium sp. Boddington Prostrate (M. Hislop 2130)
BODRW.01	Gastrolobium sp. Boddington Prostrate (M. Hislop 2130)
BOGKMG.01	Gastrolobium sp. Boddington Prostrate (M. Hislop 2130)
BODEM.01	Gastrolobium ?hookeri
BODEM.03	Gastrolobium ?hookeri

Although sterile these are still interesting collections in that that there appears to be two different growth habits at the same general locality. **Would you describe these as all belonging to the same population? Were the two growing intermixed?** It remains an open question whether G. sp. Boddington Prostrate can be consistently distinguished from G. hookeri on anything other than habit. Olga Nazarova is looking into this question as part of a wider examination of unresolved taxonomic issues in the genus. Would it be okay if I held back these specimens until she is able to take a look? Or do you require them to be returned in the short term?

Cheers Mike

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