Thirteen Creek and Davidson Creek Detailed Flora and Vegetation Survey

FINAL REPORT PREPARED FOR BHP WAIO | April 2024

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Revision Schedule

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Executive Summary

BHP Western Australian Iron Ore are investigating areas for dewatering discharge and/or the establishment of a managed aquifer recharge borefield as part of the Eastern Pilbara Regional Surplus Water Project. One area being considered for the Eastern Pilbara Regional Surplus Water Project is the Thirteen Creek and Davidson Creek area, located approximately 67.5 kilometers east of Newman at the junction of the Pilbara and Gascoyne bioregions. Stantec Australia Pty Ltd was commissioned by BHP Western Australian Iron Ore to undertake a detailed flora and vegetation survey of the Thirteen Creek and Davidson Creek Survey Area, comprising a total area of 8,736.30 hectares.

The detailed flora and vegetation survey was conducted over two phases in 2022; a post-wet season survey from 5 to 13 April and a dry season survey from 11 to 22 October. Phase 1 was timed to coincide with the optimal season for surveying in the Pilbara and Gascoyne bioregions (following summer rainfall), while Phase 2 was conducted following supplementary winter rainfall. Following Phase 1 and Phase 2, an additional supplementary site visit was undertaken on 30 April 2023 to sample an additional three quadrats required to achieve adequate replication within one vegetation type.

There were 73 quadrats and 27 relevés sampled during the surveys to document a representative species inventory and to inform vegetation type mapping and vegetation condition mapping with the Survey Area. Of the 73 quadrats, 46 were installed in Phase 1 and 26 of these (61.7%) were re-sampled in Phase 2. Furthermore, opportunistic sampling and targeted searches were conducted throughout the Survey Area where possible, to supplement the suite of flora recorded within quadrats and relevés. There were 358 fully identified vascular flora from 52 families and 160 genera recorded during the survey. A further 100 records could not be confirmed to species or sub-species level (where applicable), and may represent additional families, genera or species. Approximately 72% of records not able to be fully identified were recorded in Phase 1. Three uncertain records potentially represent *Eremophila capricornica* (P1), however a conclusive identity was not possible.

No species listed as Threatened flora under either State or Commonwealth legislation were recorded within the Survey Area. Four State-listed Priority flora were recorded during the survey; *Eremophila capricornica* (Priority 1), *Ipomoea racemigera* (Priority 2), *Crotalaria smithiana* (Priority 3) and *Rhagodia* sp. Hamersley (M. Trudgen 17794) (Priority 3), a summary of the Priority Flora within the Survey Area is provided in **Table ES1**.

Five of the flora taxa recorded from the Survey Area are at least 100 km from their nearest known existing records and are therefore considered to represent range extensions: *Acacia minyura, Cyperus macrostachyos, Eragrostis kennedyae, Hypericum gramineum* and *Lobelia heterophylla* subsp. *heterophylla.* These specimens have been vouchered at the Western Australian Herbarium.

Nine introduced flora species (weeds) were recorded during the survey. Weeds were generally most prolific in portions of the Survey Area that correlated with locations of intense pastoral activity. **Cenchrus ciliaris* (Buffel Grass) was a dominant feature of some vegetation types in association with the banks of the Thirteen Creek channel. **Malvastrum americanum* (Spiked Malvastrum) was widespread throughout the Survey Area, especially in association with habitats dominated by Mulga, tussock grasses and drainage lines.

No vegetation types identified and described within the Survey Area were considered analogous to any State or Commonwealth listed Threatened Ecological Communities or Priority Ecological Communities. A total of 16 vegetation types were described and mapped within the Survey Area representing seven broad floristic formations.

Thirteen Creek and Davidson Creek are ephemeral drainage lines which flow to the north following substantial rainfall events; however, they remain dry for most of the year. A series of small ephemeral pools can remain within the channel for extended periods of time after the rainfall events and were evident during both phases of the survey. Thirteen Creek and Davidson Creek merge within the Survey Area and continue as Thirteen Creek for approximately 70 km before joining Caramulla Creek and Jimblebar Creek, upstream of the Fortescue River. In the northern portion of the Survey Area, the main drainage channel divides and dissipates into a broad grassy floodplain towards the northern extent of the Survey Area.

Landform and floristic assemblages within the Survey Area indicates that one vegetation type within the Survey Area represents a groundwater dependent ecosystem (GDE). *Eucalyptus camaldulensis* subsp. *refulgens* is a facultative phreatophyte and was dominant within the riparian vegetation associated with the incised channels within the Survey Area. A second vegetation type which may represent a GDE was typically associated with floodplains of Davidson Creek and consisted of an overstorey of *Eucalyptus victrix* (facultative phreatophyte or vadophyte) and *Corymbia candida* subsp. *candida* (vadophyte).

Vegetation condition within the Survey Area ranged from excellent to poor. Approximately 80% of the Survey Area was mapped as excellent due to the majority of vegetation types exhibiting minor or no evidence of degradation as a result of human influence. Cattle grazing and weed proliferation were the most common forms of impact to the vegetation condition. Fire scars were evident within the Survey Area, with fire having temporarily altered the structure and composition of some portions of the Survey Area.

Table ES1: Summary of key findings of the survey.

Component	Detail	Record Points within the Survey Area		Estimated Abundance of Individuals within the Survey Area^	
		Stantec survey	Total	Stantec survey	Total
Significant flora	*Eremophila capricornica* (P1)	177	213	4,219	5,420
	Ipomoea racemigera (P2)	54	57	913	966
	Crotalaria smithiana (P3)	15	21	124	131
	Rhagodia sp. Hamersley (M. Trudgen 17794) (P3)	291	296	684	694
Total flora recorded	358 confirmed vascular flora from 52 families and 160 genera				
Range extensions	5 taxa represent range extensions as the records are at least 100 km from their nearest known records.				
Vegetation types	16 vegetation types were described and mapped within the Survey Area representing seven broad floristic formations. No vegetation types are analogous to Threatened Ecological Communities or Priority Ecological Communities				
GDEs	2 Vegetation types were indicative of GDEs.				
Vegetation condition	Approximately 80% of the Survey Area was mapped as excellent.				

^*Note: Estimated abundances represent a cumulative total of each individual record of significant flora within the Survey Area.*

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1 Introduction

1.1 Background

BHP Western Australian Iron Ore (BHP WAIO) is investigating areas that may be suitable for receiving dewatering discharge and/or the establishment of a managed aquifer recharge borefield as part of the Eastern Pilbara Regional Surplus Water Project (EPRSWP). One area being considered for investigation is in the vicinity of Thirteen Creek and Davidson Creek, located approximately 67.5 km east of Newman (**Figure 1-1**).

Stantec Australia Pty Ltd (Stantec) was commissioned by BHP WAIO to undertake a detailed flora and vegetation survey (the survey) of the Thirteen Creek and Davidson Creek area (the Survey Area), comprising a total area of 8,736.30 ha (**Figure 1-2**). The results of the survey will be used to inform future environmental approvals for water management in the Thirteen Creek and Davidson Creek area.

1.2 Scope and Objectives

The objective of the survey was to assess and define the flora and vegetation values of the Survey Area through a desktop assessment and field surveys. The scope of works was to undertake:

- a desktop assessment (database searches and literature review) prior to the field survey to:
  - develop a list of flora species and vegetation communities that have been previously recorded in the vicinity of the Survey Area; and
  - assess the likelihood of significant flora species and vegetation communities occurring within the Survey Area.
- a dual-phase detailed flora and vegetation survey to:
  - describe and map the vegetation types and vegetation condition of the Survey Area;
  - develop a list of vascular flora species recorded within the Survey Area;
  - determine the presence of flora and vegetation communities of significance through targeted searches; and
  - determine the presence and abundance of notable weed species, particularly Declared Pests and Weeds of National Significance (WoNS).

All surveys were conducted in accordance with the requirements of relevant statutory legislation, policy and regulatory guidelines. This includes, but is not limited to:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) - Commonwealth;
- *Biodiversity Conservation Act 2016* (BC Act) – Western Australia;
- *Environmental Protection Act 1986* (EP Act) – Western Australia;
- Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessment (IBSA) (EPA 2021a);
- Statement of environmental principles, factors, objectives and aims of EIA (EPA 2021b);
- Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment EPA (2016b);
- Environmental Factor Guideline: Flora and Vegetation (EPA 2016a); and
- Matters of National Environmental Significance – significant impact guidelines – *Environment Protection and Biodiversity Conservation Act 1999* (DotE 2013).

In addition, the surveys and preparation of deliverables were completed in accordance with the following BHP WAIO guidelines:

- Vegetation and Flora Procedure (0124627) (BHP WAIO 2021); and
- Biological Survey Spatial Data Requirements (SPR-IEN-EMS-015) (BHP WAIO 2022).

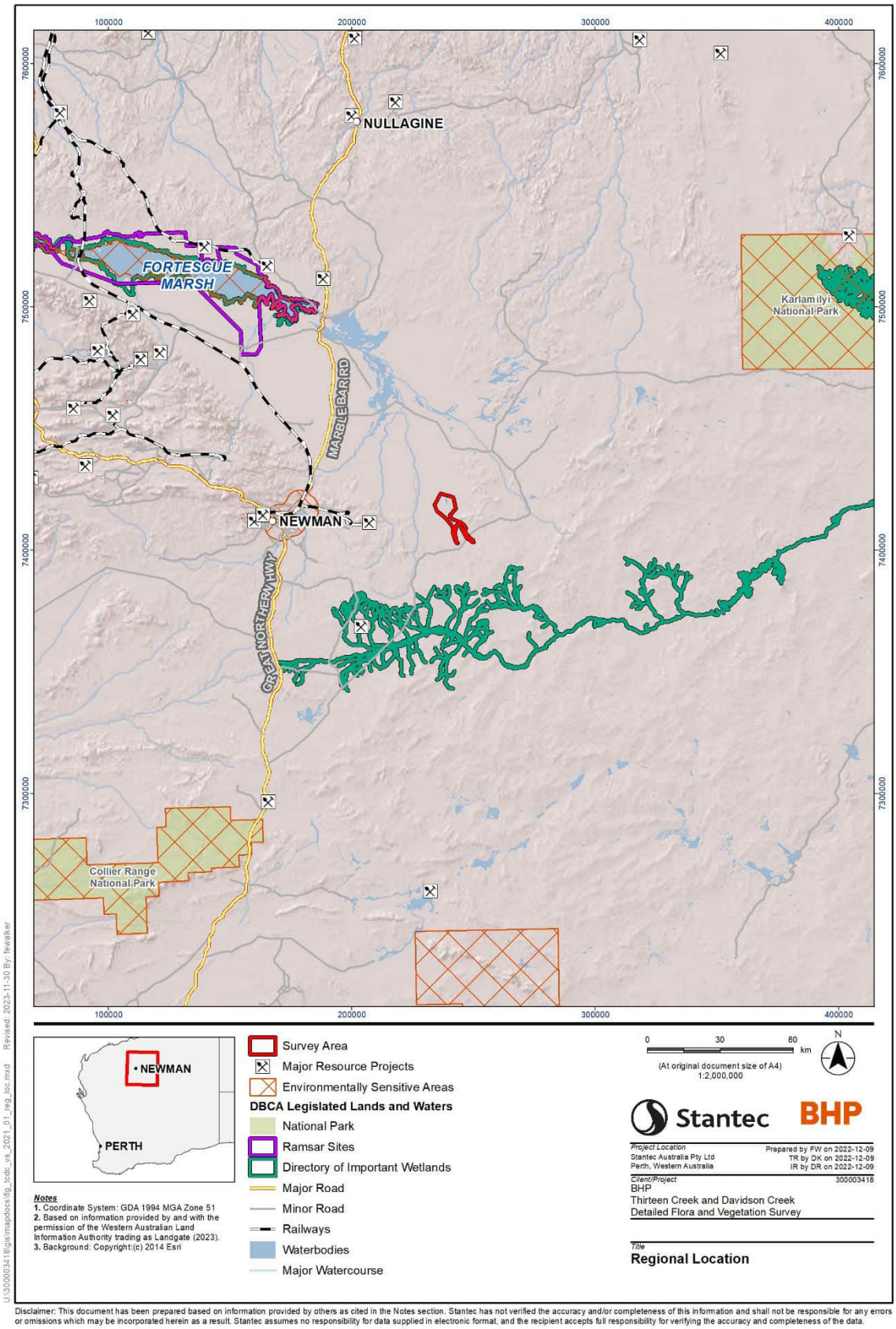


Figure 1-1: Regional location of the Survey Area in the Pilbara region of Western Australia.

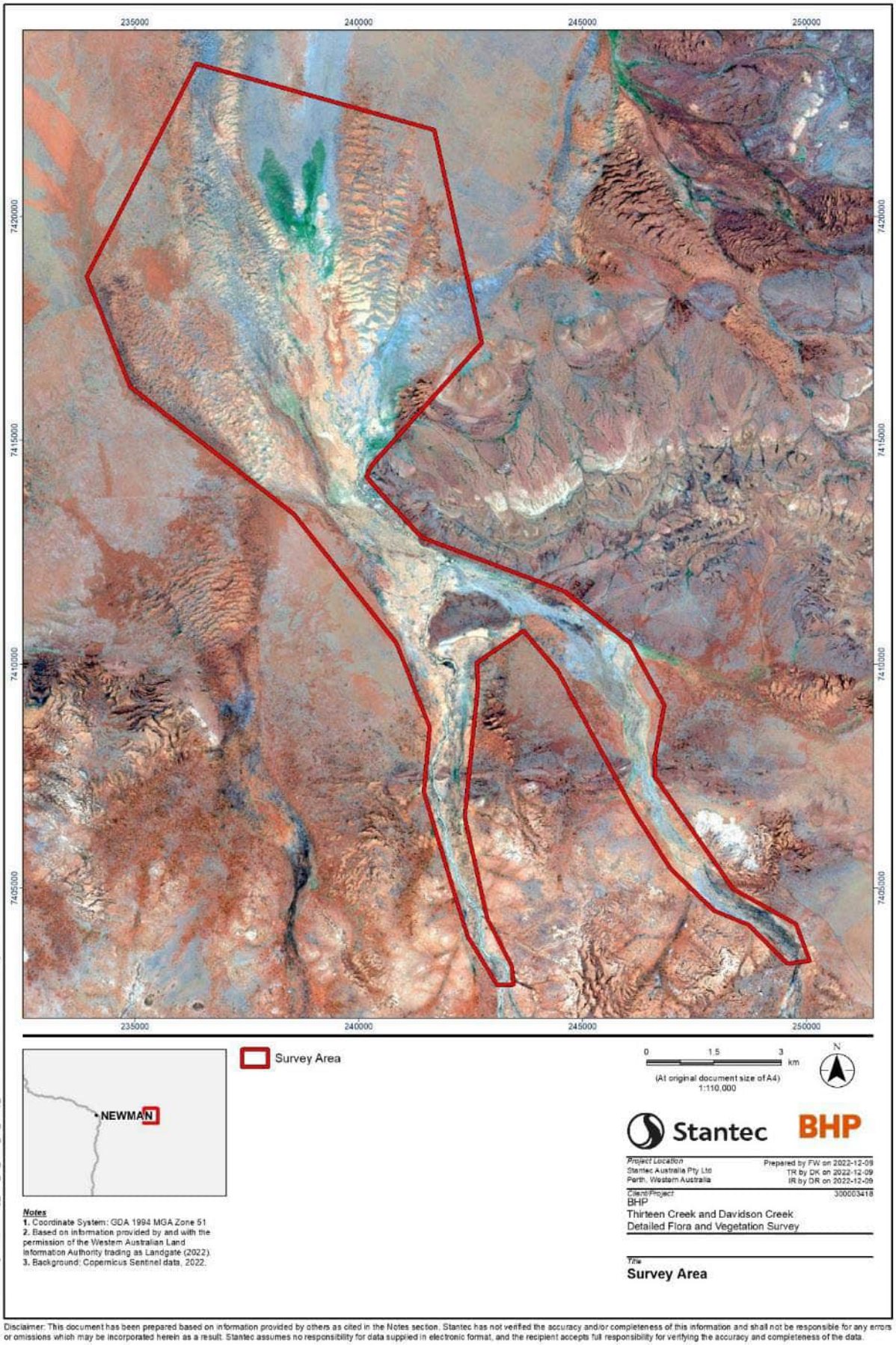


Figure 1-2: Thirteen Creek and Davidson Creek Survey Area.

2 Existing Environment

2.1 Biogeographic Location

The Interim Biogeographic Regionalisation for Australia (IBRA) is a bioregional framework that divides Australia into 89 biogeographic regions and 419 subregions on the basis of climate, geology, landforms, vegetation, and fauna (Thackway and Cresswell 1995). It was developed through collaboration between State and Territory conservation agencies with coordination by the then Commonwealth Department of Environment, Sport & Territories (now Department of Climate Change, Energy, the Environment and Water; DCCEEW). The Survey Area is located within the Pilbara and Gascoyne bioregions and the bioregional boundary is located approximately where Davidson Creek joins Thirteen Creek. The majority of the Survey Area, approximately 5,905 ha (67.6%), occurs within the Fortescue Plains subregion (PIL2) of the Pilbara bioregion, with the remaining approximately 2,831 ha (32.4%) occurring within the Augustus subregion (GAS3) of the Gascoyne bioregion (**Figure 2-1**).

The Pilbara bioregion encompasses approximately 17,850,000 ha in northern Western Australia (McKenzie *et al.* 2009). The PIL2 subregion comprises approximately 11% of the Pilbara bioregion and is characterised by alluvial plains, rivers and drainage lines, marshes and wetlands, grasslands, Mulga woodlands and tributaries associated with the Fortescue River (Kendrick 2001, McKenzie *et al.* 2009). The Fortescue Marsh is located in the PIL2 subregion and is an extensive, episodically inundated wetland, approximately 100 km long and 10 km wide which represents the terminus for the upper Fortescue River (Kendrick 2001). The Fortescue Marsh is the largest wetland in the Pilbara bioregion (Kendrick 2001), and is listed in the Directory of Important Wetlands in Australia (DIWA) as a wetland of national significance (DoAWE 2021). Both Thirteen Creek and Davidson Creek, which flow through the Survey Area, are tributaries of the Upper Fortescue River.

The Gascoyne bioregion occurs directly to the south of the Pilbara bioregion and covers approximately 18,000,000 ha. The GAS3 subregion comprises approximately 20% of the Gascoyne bioregion and is characterised by rugged low Proterozoic sedimentary and granite ranges divided by broad flat valleys with the primary drainage feature being the Gascoyne River (Desmond *et al.* 2001). The northeast of the GAS3 subregion contains the headwater of the Fortescue River. Dominant vegetation includes Mulga woodlands with *Triodia* on shallow stony loams on rises, while the shallow earthy loams over hardpan on the plains are covered by Mulga woodland. Sheep and cattle grazing are the main land uses on pastoral leases, with mining also occurring in the Gascoyne bioregion (Desmond *et al.* 2001).

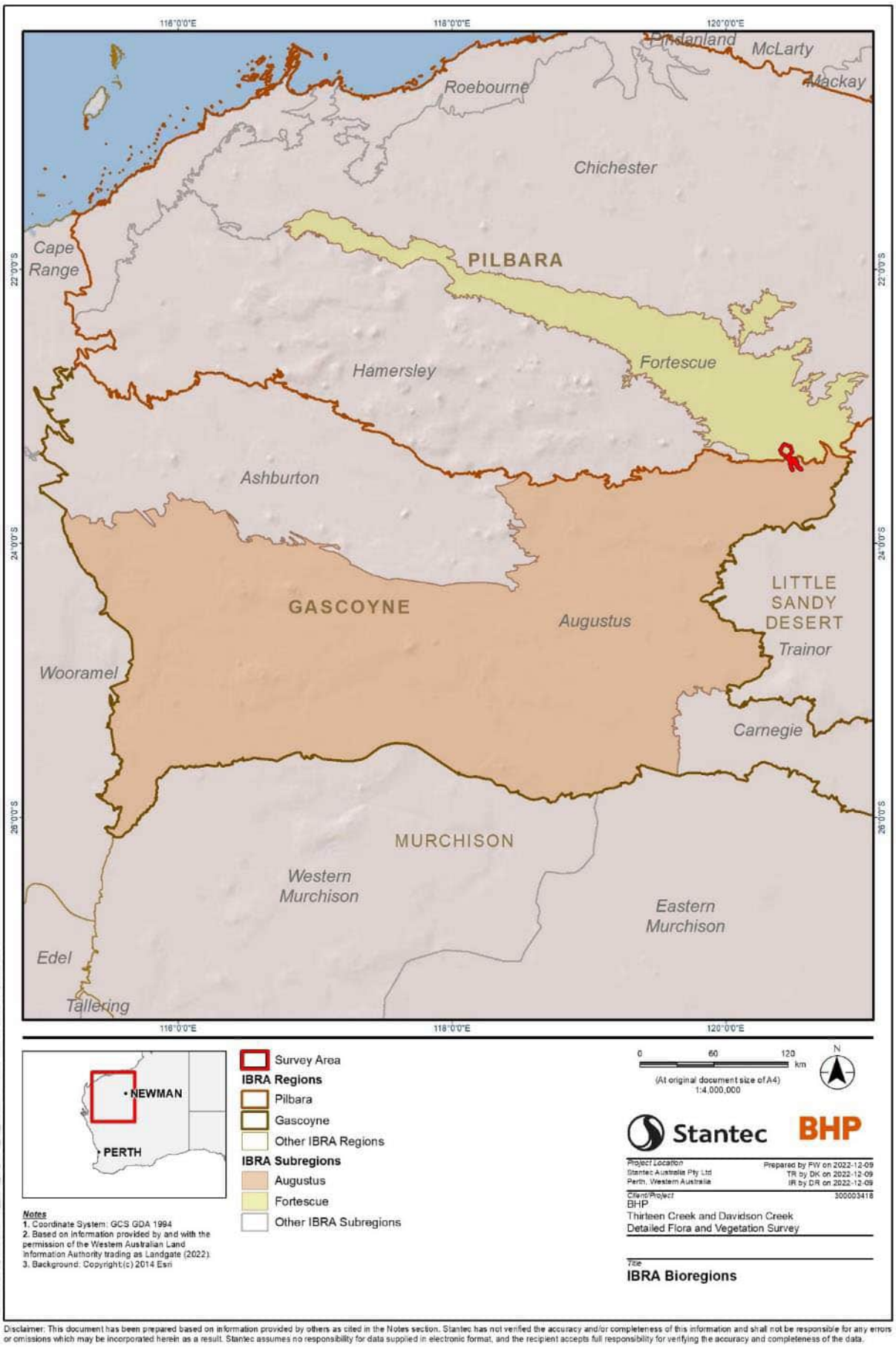


Figure 2-1: The Survey Area in relation to IBRA bioregions and subregions.

2.2 Climate

The climate of the Pilbara bioregion is described as comprising two distinct seasons; a hot wet summer and a mild dry winter. Annual rainfall can range from 350 mm in the northeast to less than 250 mm in the south and east. Annual rainfall can be highly variable, with the eastern Pilbara bioregion mostly influenced by tropical and monsoonal weather systems, while the western Pilbara bioregion is also influenced by southern mid-latitude weather systems such as fronts (Sudmeyer 2016). The PIL2 subregion has a semi-desert tropical climate, with average rainfall of 300 mm, falling mainly in summer as a result of cyclonic events (Kendrick 2001).

The Gascoyne bioregion has an arid climate with predominantly winter rainfall in the west and summer rainfall in the east. Average rainfall for the bioregion is 202 mm. The GAS3 subregion is characterised by a desert climate with most rainfall also falling mainly in summer following cyclonic events (Desmond *et al.* 2001).

The nearest Bureau of Meteorology (BoM) weather station to the Survey Area with relevant long-term and recent climatic data is Newman Aero weather station (No. 007176), located approximately 67 km to the west within the Pilbara bioregion. The mean annual rainfall (between 1971 to 2022) at Newman Aero is 324.4 mm (BoM 2022b), with February usually the wettest month of the year depending on the occurrence of tropical cyclone activity (**Figure 2-2**). Temperature data has been recorded at Newman station from 1996; mean maximum monthly temperatures typically peak at approximately 39°C in December and January and drop to an average of approximately 23°C in June and July. Mean minimum temperatures remain above 24°C during the summer months and drop to below 8°C during winter (BoM 2022b) (**Figure 2-2**).

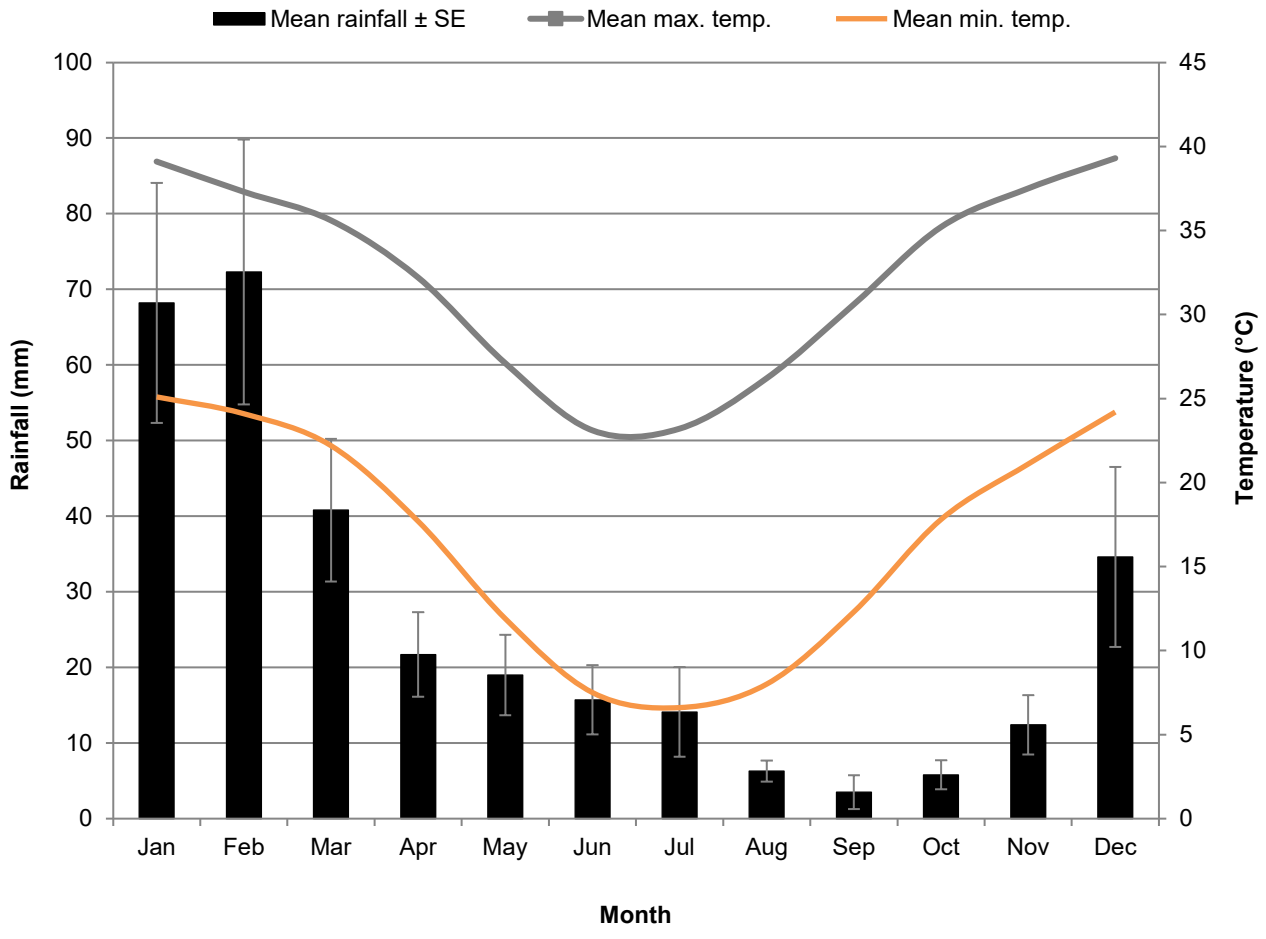


Figure 2-2: Climate data from the Newman Aero weather station (007176).

2.3 Land Systems

Land systems are defined as an area or group of areas throughout which there is a recurring pattern of topography, soils and vegetation (Tille 2006). An understanding of land systems provides an indication of the occurrence and distribution of vegetation types within the Survey Area. A regional land survey was undertaken in the Pilbara bioregion between 1995 and 1999 by the Natural Resources Assessment Group of the Department of Primary Industries and Regional Development (DPIRD) (formerly the Department of Agriculture). The objective of the land survey was to develop a comprehensive description of biophysical resources and assess the vegetation composition and soil condition within the region. This information was used by van Vreeswyk *et al.* (2004) to classify and map the land systems of the Pilbara bioregion according to landform, soil, vegetation, geology and geomorphology.

Eight land systems were identified as occurring within the Survey Area, typically comprising various alluvial and hardpan plains supporting *Eucalyptus* and *Acacia* woodlands and shrublands and tussock grasslands along with major drainage lines and hills and ranges (**Table 2-1**; **Figure 2-3**).

Table 2-1: Land systems and their extent within the Survey Area.

Land System	Description	Extent within Survey Area		Total Extent within Pilbara		Total Extent within Gascoyne	
		ha	%	ha	%	ha	%
Washplain System	Hardpan plains supporting groved Mulga shrublands.	3,778.89	43.26	66,276	0.37	25,328	0.14
Fortescue System	Alluvial plains and flood plains supporting patchy grassy eucalypt and acacia woodlands and shrublands and tussock grasslands.	2,706.35	30.98	48,941	0.27	1389	0.01
Divide System	Gently undulating sandplains with minor dunes, supporting hard spinifex hummock grasslands with numerous shrubs.	1,089.99	12.48	436,649	2.45	391,944	2.17
River System	Narrow, seasonally active flood plains and major river channels supporting moderately close, tall shrublands or woodlands of acacias and fringing communities of eucalypts sometimes with tussock grasses or spinifex.	471	5.39	481,994	2.70	73,008	0.40
Sylvania System	Gritty surfaced plains and low rises on granite supporting *Acacia-Eremophila-Cassia* shrublands.	370.83	4.24	923	0.01	106,693	0.59
Newman System	Rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands.	242.54	2.78	1,994,339	11.19	6,021	0.03
Boolgeeda System	Stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands or Mulga shrublands.	51.14	0.59	961,847	5.40	37,022	0.20
Robertson System	Hills and ranges of sedimentary rocks supporting hard spinifex grasslands.	25.56	0.29	115,237	0.65	3,429	0.02
Total		**8,736.30**	**100**	**4,106,206**	**23.04**	**644,834**	**3.57**

Note: Rounding of decimal places has resulted in minor discrepancies when totaled.

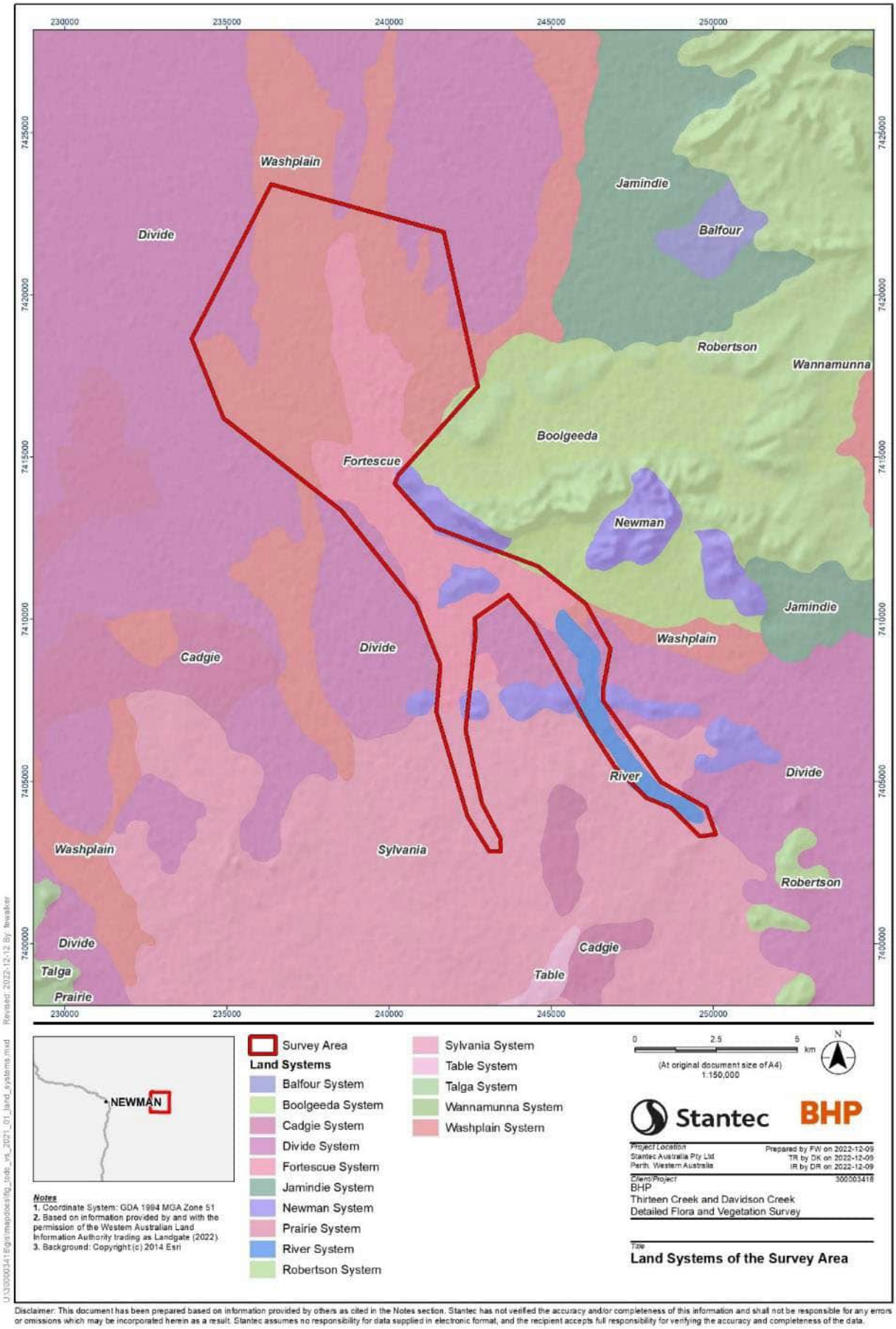


Figure 2-3: Land systems of the Survey Area.

2.4 Pre-European Vegetation

Vegetation mapping of Western Australia was conducted on a broad scale (1:1,000,000 and 1:250,000) by Beard (1975a), who classified vegetation into broad vegetation associations. The vegetation associations were re-assessed by Shepherd *et al.* (2002) to account for clearing in the intensive land use zone, and to divide some larger vegetation units into smaller units. Shepherd *et al.* (2002) developed a series of systems to assist in the removal of mosaic units; however, some mosaics still occur. Vegetation system associations described by Shepherd *et al.* (2002) correspond with that of Beard (1975a) and the Pilbara assessment (Beard 1975b).

The Survey Area intersects seven pre-European vegetation associations typical of the surrounding region (**Table 2-2**; **Figure 2-4**). Fortescue Valley (29), Kumarina Hills (29), and Kumarina Hills (216) together comprise 88.87% of the Survey Area (**Table 2-2; Figure 2-4**). These units are described as low woodlands, open low woodlands, or sparse woodlands of Mulga and associated species (**Table 2-2**). The remaining 11.13% of the Survey Area is comprised of four various hummock grassland associations with scattered shrubs or mallee species such *Triodia* spp., *Acacia* spp., *Grevillea* spp. and *Eucalyptus* spp. (**Table 2-2**; **Figure 2-4**).

The significance of clearing a particular vegetation association can be determined by comparing current and pre-European vegetation extents. A 30% threshold level of the pre-European extent of a vegetation association is designated by the Environmental Protection Authority's (EPA) *Position Statement No. 2* (EPA 2000) as a required retention threshold. Below this threshold, clearing is considered to compromise species diversity at an ecosystem level. The current extent of all pre-European vegetation associations is above the EPA's required retention threshold of 30% across all four scales of assessment (State, Bioregion, Subregion and Local Government Area [LGA]). The current extent of all pre-European vegetation associations is above 90%, with only Kumarina Hills (157) below 99% at the Local Government Scale (**Table 2-3**).

Table 2-2: Pre-European vegetation system associations and extent within the Survey Area.

System (Code)	Description	Extent within Survey Area	
		ha	%
Fortescue Valley (29)	Low woodland, open low woodland or sparse woodland; Mulga and associated species.	5,401.99	61.83
Kumarina Hills (29)	Low woodland, open low woodland or sparse woodland; Mulga and associated species.	2,164.74	24.78
Fortescue Valley (111)	Shrub-steppe; Hummock grassland with scattered shrubs or mallee; *Triodia* spp., *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp.	443.80	5.08
Kumarina Hills (111)	Shrub-steppe; Hummock grassland with scattered shrubs or mallee; *Triodia* spp. *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp.	365.46	4.18
Kumarina Hills (216)	Low woodland, open low woodland or sparse woodland; Mulga and associated species.	197.13	2.26
Kumarina Hills (157)	Grass-steppe; Hummock grassland; *Triodia* spp.	124.80	1.43
Fortescue Valley (199)	Shrub-steppe; Hummock grassland with scattered shrubs or mallee; *Triodia* spp., *Acacia* spp., *Grevillea* spp. *Eucalyptus* spp.	38.39	0.44
Total		**8,736.30**	**100**

Note: Rounding of decimal places has resulted in minor discrepancies when totaled.

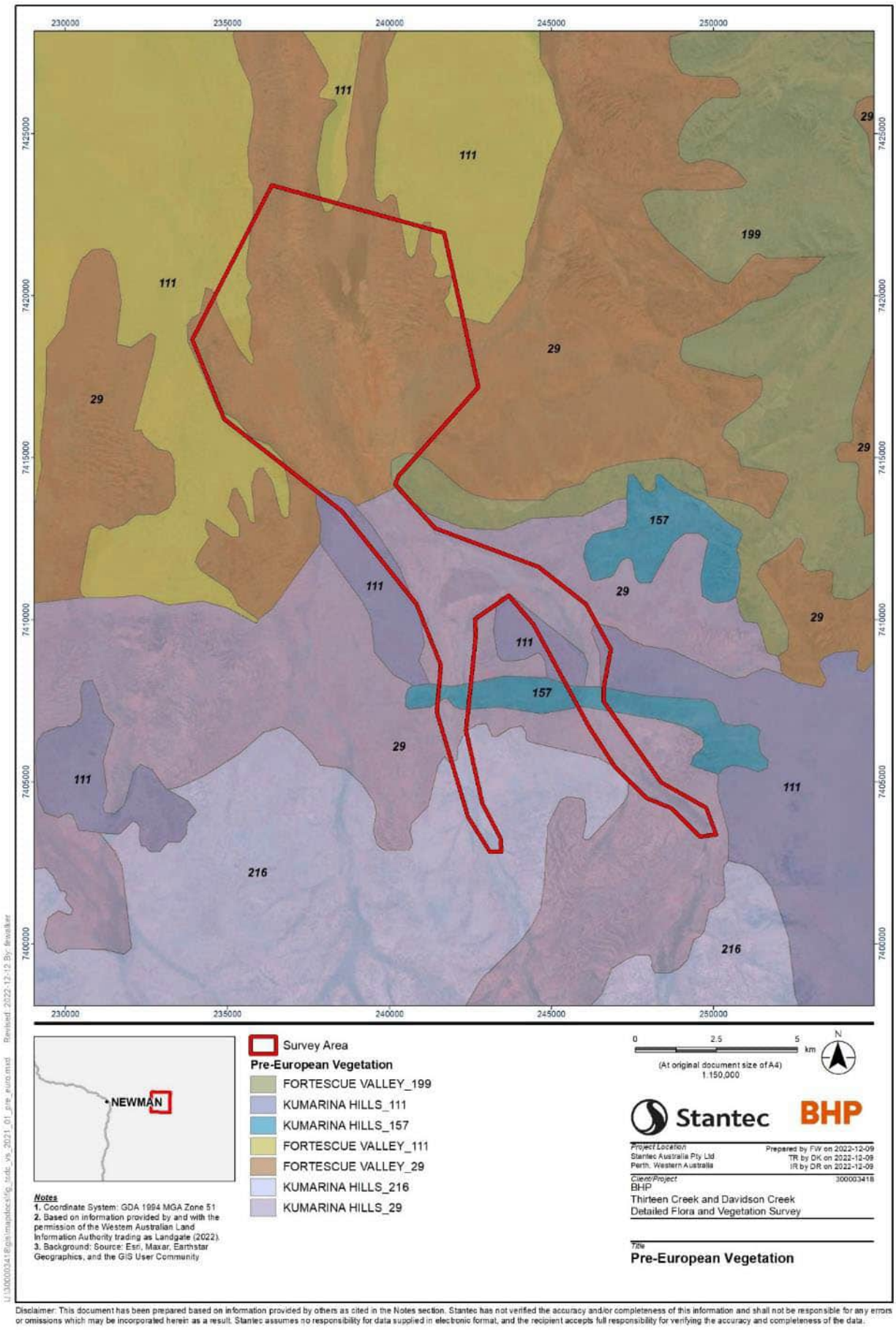


Figure 2-4: Inferred pre-European vegetation mapping of the Survey Area(Shepherd *et al.* 2002).

Table 2-3: Extent of pre-European vegetation system associations remaining across four scales.

System	Scale	Pre-European Extent (ha)	Current Extent[1] (ha)	Proportion Remaining (%)	Current Extent Within the IUCN[2] Class I-IV Reserves (ha)	Proportion of Extent Protected Within IUCN Class I-IV Reserves (%)[3]
Fortescue Valley (29)	State-wide	878,057.75	877,888.55	99.98	2,328.65	0.27
	Bioregion (Pilbara)	877,822.10	877,652.90	99.98	2,328.65	0.27
	Bioregion (Gascoyne)	82.57	82.57	100.00	0	0
	Subregion (PIL2)	872,485.64	872,316.44	99.98	2,303.80	0.26
	Subregion (GAS3)	82.57	82.57	100.00	0	0
	LGA (Shire of East Pilbara)	697,399.52	697,230.32	99.98	0	0
Kumarina Hills (29)	State-wide	784,574.72	784,364.39	99.97	0	0
	Bioregion (Pilbara)	2,706.01	2,689.01	99.37	0	0
	Bioregion (Gascoyne)	780,621.86	780,428.53	99.98	0	0
	Subregion (PIL2)	317.20	317.20	100.00	0	0
	Subregion (GAS3)	780,336.99	780,143.66	99.98	0	0
	LGA (Shire of East Pilbara)	42,853.12	42,644.67	99.51	0	0
Fortescue Valley (111)	State-wide	430,979.79	430,925.25	99.99	7,007.47	1.63
	Bioregion (Pilbara)	430,960.63	430,906.09	99.99	7,007.47	1.63
	Bioregion (Gascoyne)	13.91	13.91	100.00	0	0
	Subregion (PIL2)	430,134.57	430,080.03	99.99	6,857.95	1.59
	Subregion (GAS3)	13.91	13.91	100.00	0	0
	LGA (Shire of East Pilbara)	364,293.91	364,293.91	100.00	0	0
Kumarina Hills (111)	State-wide	76,101.28	76,101.28	100.00	9,903.30	13.01
	Bioregion (Pilbara)	92.49	92.49	100.00	0	0
	Bioregion (Gascoyne)	75,929.35	75,929.35	100.00	9,903.30	13.04
	Subregion (PIL2)	92.49	92.49	100.00	0	0
	Subregion (GAS3)	75,929.35	75,929.35	100.00	9,903.30	13.04
	LGA (Shire of East Pilbara)	15,180.25	15,180.25	100.00	0	0
Kumarina Hills (216)	State-wide	254,360.10	253,135.08	99.52	0	0
	Bioregion (Pilbara)	281.69	281.69	100.00	0	0
	Bioregion (Gascoyne)	254,078.40	252,853.38	99.52	0	0
	Subregion (PIL2)	135.89	135.89	100.00	0	0
	Subregion (GAS3)	254,078.40	252,853.38	99.52	0	0
	LGA (Shire of East Pilbara)	26,399.29	26,101.98	98.87	0	0
Kumarina Hills (157)	State-wide	2,956.50	2,956.50	100.00	0	0
	Bioregion (Pilbara)	281.69	281.69	100.00	0	0
	Bioregion (Gascoyne)	254,078.40	252,853.38	99.52	0	0
	Subregion (PIL2)	54.19	54.19	100.00	0	0
	Subregion (GAS3)	2,902.01	2,902.01	100.00	0	0
	LGA (Shire of East Pilbara)	18,669.43	17,709.55	94.86	0	0
Fortescue Valley (199)	State-wide	45,608.52	45,608.52	100.00	0	0
	Bioregion (Pilbara)	12,680.98	12,680.98	100.00	0	0
	Bioregion (Gascoyne)	1.96	1.96	100.00	0	0
	Subregion (PIL2)	12,680.98	12,680.98	100.00	0	0
	Subregion (GAS3)	1.96	1.96	100.00	0	0
	LGA (Shire of East Pilbara)	12,682.95	12,682.95	100.00	0	0

[1]Statewide vegetation statistics last updated by the Department of Biodiversity, Conservation, and Attractions (DBCA) in 2018.
[2]Include existing National Parks, Nature Reserves, Conservation Parks, 5(g) and Reserves managed by DBCA.
[3]International Union for Conservation of Nature (IUCN).

2.5 Surface Geology and Soils

The surface geology of the Survey Area is comprised of nine units, mapped at a scale of 1:1,000,000 by Geoscience Australia (2012). The dominant geological units in the Survey Area are colluvium 38491, alluvium 38485, and sand plain 38499, which account for approximately 92% of the total Survey Area (**Table 2-4; Figure 2-5**).

The Survey Area occurs at the intersection of the Fortescue Valley, Jigalong Plains, and Bulloo Plains and Hills Soil-landscape Zones of Western Australia (Tille 2006). These zones generally comprise hardpan, alluvial, sandy and stony plains, hills and ranges over sedimentary geology (sandstones) with red shallow loams (often with hardpans), red loamy earths, stony soils, red deep sands and red/brown non-cracking clays (Tille 2006).

Table 2-4: Geological units occurring within the Survey Area.

Name (Code)	Geological Description	Extent within the Survey Area	
		ha	%
colluvium 38491 (Qrc)	Colluvium and/or residual deposits, sheetwash, talus, scree; boulder, gravel, sand; may include minor alluvial or sand plain deposits, local calcrete and reworked laterite	3,643.22	41.7
alluvium 38485 (Qa)	Channel and flood plain alluvium; gravel, sand, silt, clay; may be locally calcreted	3,406.52	38.99
sand plain 38499 (Czs)	Sand or gravel plains; may include some residual alluvium; quartz sand sheets commonly with ferruginous pisoliths or pebbles; local clay, calcrete, laterite, silcrete, silt, colluvium	982.65	11.25
felsic intrusives 74292 (Ag)	Undifferentiated felsic intrusive rocks, including monzogranite, granodiorite, granite, tonalite, quartz monzonite, syenogranite, diorite, monzodiorite, pegmatite. Locally metamorphosed, foliated, gneissic. Local abundant mafic and ultramafic inclusions	285.81	3.27
Brockman Iron Formation (Lchk)	Banded iron-formation, chert, mudstone and siltstone.	160.89	1.84
Boolgeeda Iron Formation (Lchb)	Fine-grained, finely laminated, dark grey-brown to black flaggy iron-formation, minor chert, jaspilite, shale.	102.70	1.18
Stag Arrow Formation (Msms)	Interbedded sandstone, siltstone, shale, conglomerate, dolomite, chert	59.18	0.68
Marra Mamba Iron Formation (Achm)	Chert, ferruginous chert, jaspilite, banded iron-formation, minor shale, siltstone, mudstone.	55.05	0.63
Jeerinah Formation (Awfj)	Shale, sandstone, siltstone, mudstone, dolomite, local microbanded chert, jaspilite, conglomerate; fine-grained massive rhyolite; mafic tuff with local accretionary lapilli and agglomerate; thin basalt/dolerite and andesitic basalt flows.	40.27	0.46
Total		**8,736.30**	**100**

Note: Rounding of decimal places has resulted in minor discrepancies when totaled.

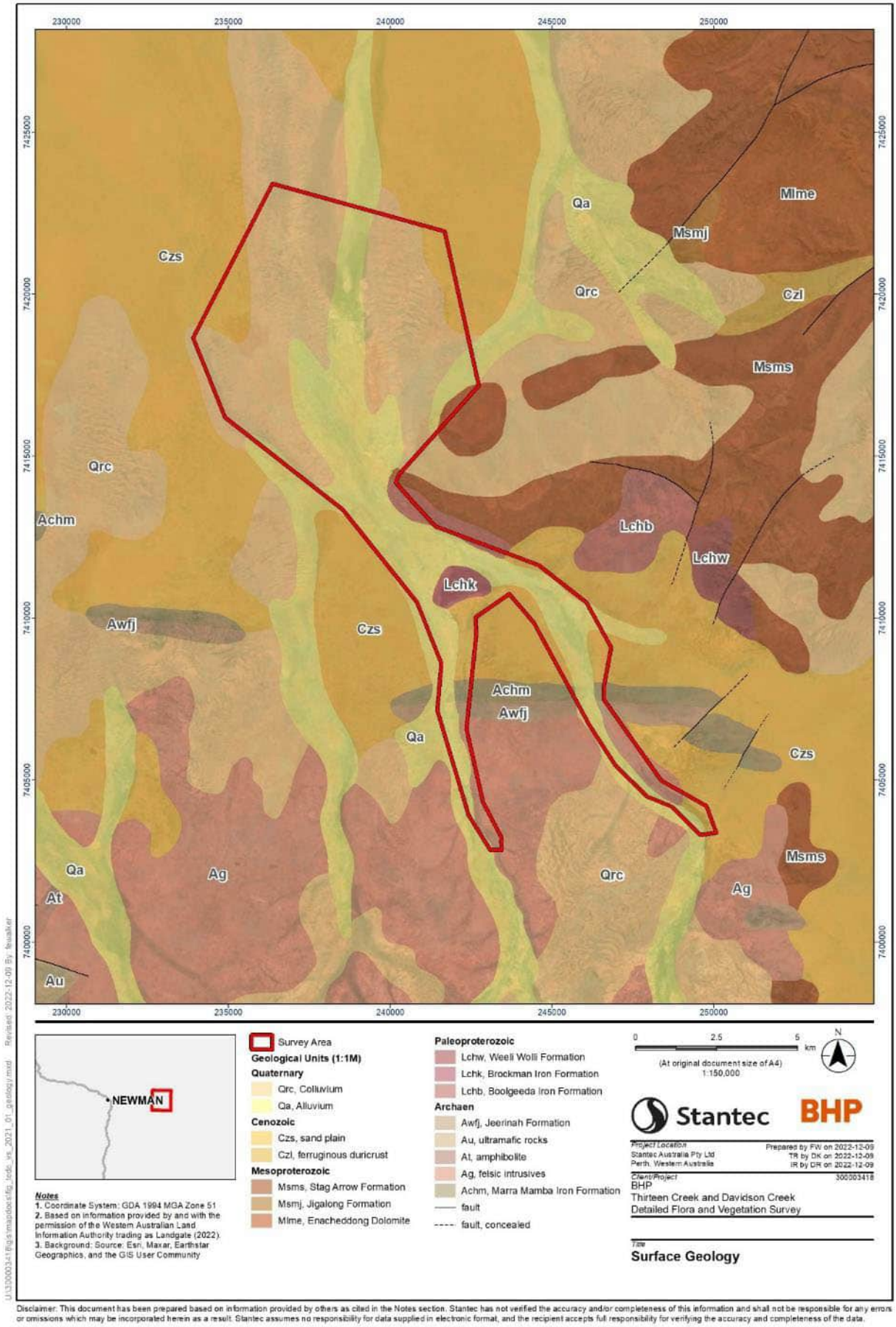


Figure 2-5: Surface geology of the Survey Area.

2.6 Surface Hydrology and Drainage

The Survey Area follows two drainage systems; Thirteen Creek and Davidson Creek and contains numerous minor unnamed tributaries of both systems. (**Figure 2-6**). Both Thirteen Creek and Davidson Creek are ephemeral drainage lines which flow to the north following substantial rainfall events; however, they remain dry for most of the year. Thirteen Creek and Davidson Creek merge within the Survey Area and continue as Thirteen Creek for approximately 70 km before joining Caramulla Creek and Jimblebar Creek, upstream of the Fortescue River (**Figure 2-6**). In the northern portion of the Survey Area, the main drainage channel divides and dissipates into a broad grassy floodplain towards the northern extent of the Survey Area.

Thirteen Creek and Davidson Creek represent some of the most southeastern tributaries of the Upper Fortescue River catchment, with the drainage lines further south forming tributaries of Savory Creek within the Lake Disappointment catchment area (**Figure 2-6**). The broad landforms in the vicinity of the Survey Area has been described by McKenzie *et al.* (2009) as comprising alluvial fans, hardpan plains, flood-out zones and dendritic drainage lines associated with the upper branches of the Fortescue River and its tributaries.

No Wetlands of International Importance (i.e., Ramsar wetlands) or Nationally Important Wetlands occur within the Survey Area. The Fortescue Marsh, the largest and most significant wetland with the Pilbara bioregion, is located approximately 90 km northwest of the Survey Area (**Figure 2-7)**. The Fortescue Marsh represents the terminus for the upper Fortescue catchment area, which contains both Thirteen Creek and Davidson Creek. Several important flora assemblages and vegetation communities are found within and surrounding the Fortescue Marsh. Based on the area's unique and significant species and communities, the Fortescue Marsh will be considered for nomination as a Ramsar wetland (DBCA 2023).

2.7 Groundwater Dependent Ecosystems

Groundwater dependent ecosystems (GDEs) refer to ecosystems that require groundwater to maintain their current composition and functioning, including terrestrial ecosystems that show episodic or seasonal reliance on groundwater, river base flow systems, wetlands, and estuarine ecosystems (BoM 2023a, Murray *et al.* 2003). GDEs may be represented as aquatic ecosystems, subterranean ecosystems or terrestrial ecosystems (which includes all groundwater dependent vegetation; GDV). GDEs are typically characterised by the presence of flora species that rely on groundwater (phreatophytes). Phreatophytes may be classified as either obligate or facultative, depending on their reliance on groundwater (Eamus *et al.* 2016). Key indicator overstorey species of major and moderate drainage and their reliance on groundwater are listed in **Table 2-5**.

Table 2-5: The physiology of key riparian flora and relationships to groundwater dependence.

Species	Typical Riparian habitat	Physiological Type	Reliance on Groundwater
Melaleuca argentea	Major drainage	Obligate phreatophyte	Very high
Sesbania formosa	Major drainage	Obligate phreatophyte	Very high
Eucalyptus camaldulensis	Major drainage	Facultative phreatophyte	High
Eucalyptus victrix	Moderate drainage and/or floodplains	Facultative phreatophyte or vadophyte	Low to moderate
Eucalyptus xerothermica	Moderate drainage and/or floodplains	Facultative phreatophyte or vadophyte	Low to moderate
Corymbia candida	Moderate drainage and/or floodplains	Vadophyte	Low

The Groundwater Dependent Ecosystems Atlas (GDE Atlas) represents a dataset of Australian GDEs to inform groundwater planning and management. Two GDE evaluation types (regional study and national assessment) each list five categories for ecosystem analysis (BoM 2022a):

- known GDE;
- high potential GDE;
- moderate potential GDE;
- low potential GDE; and
- unclassified potential GDE.

Approximately 75% of the Survey Area (6,532 ha) intersects one low potential terrestrial GDE, based on the national assessment, comprising alluvial plains and floodplains supporting patchy grassy woodlands and shrublands and tussock grasslands. Delineated watercourses and GDE Atlas data (BoM 2022a) in the vicinity of the Survey Area are presented in **Figure 2-6**.

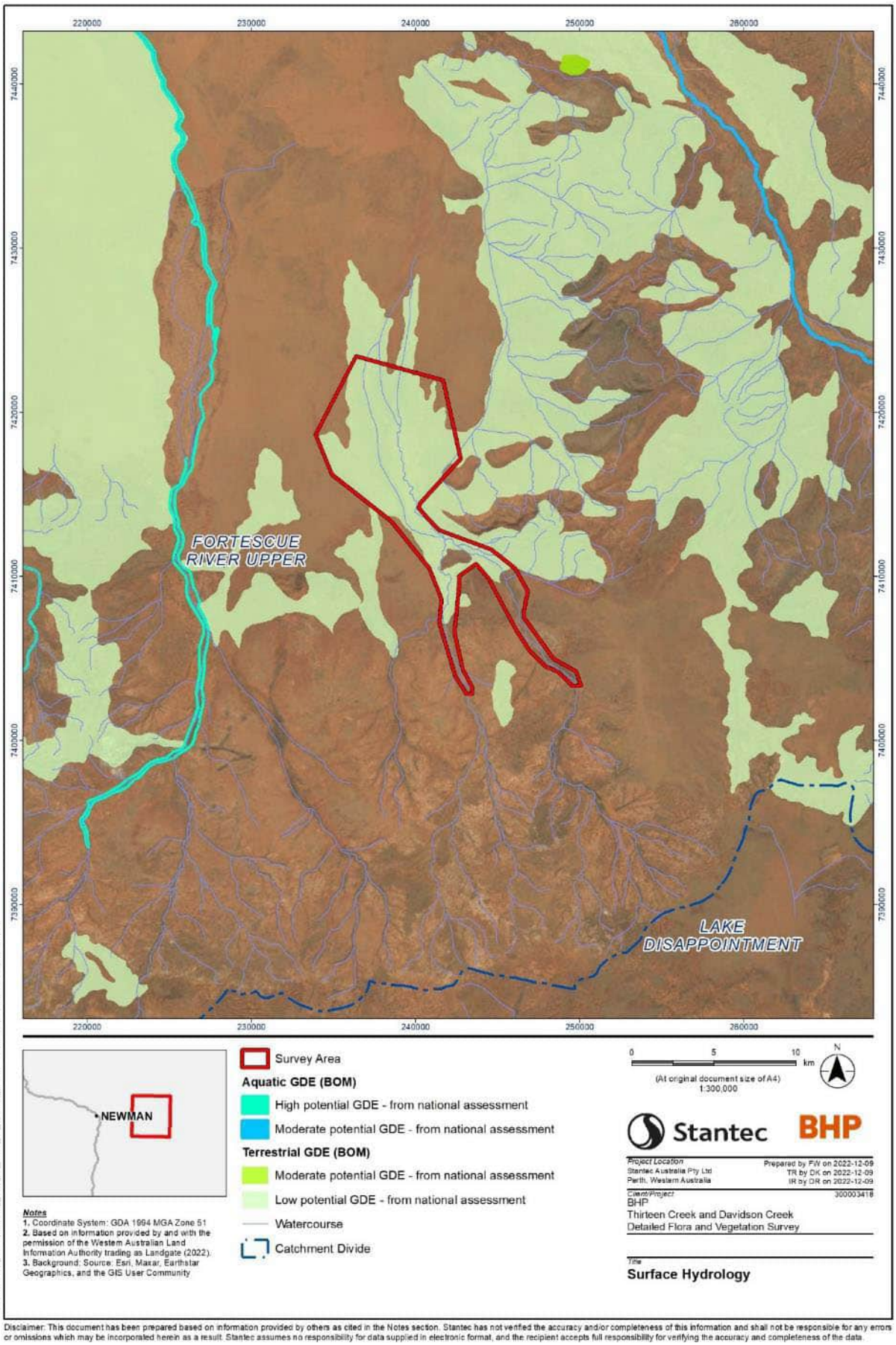


Figure 2-6: Delineated watercourses and GDE classifications (BoM 2022b) within the Survey Area and surrounds.

2.8 Land Use, Tenure, Conservation Reserves and Environmentally Sensitive Areas

The Survey Area occurs within the Shire of East Pilbara and is located on Unallocated Crown Land and Crown Reserve. Land tenure in the East Pilbara consists primarily of pastoral leases, and other crown reserves, such as Aboriginal reserves and leasehold reserves (McKenzie *et al.* 2003). Other major land use categories include national parks and reserves, and unallocated crown land (McKenzie *et al.* 2003). Approximately 45% of the Survey Area intersects one pastoral lease; Ethel Creek Station, which is predominantly used for beef cattle grazing (**Figure 2-7**).

The Survey Area does not intersect any conservation reserves, with the nearest DBCA managed land being Karlamilyi National Park, located approximately 130 km northeast of the Survey Area (**Figure 1-1**). The nearest Indigenous Protected Area is Birriliburu, situated approximately 60 km southeast of the Survey Area (**Figure 2-7**). The nearest Public Drinking Water Source is the Newman Water Reserve, located approximately 37 km west of the Survey Area (Government of Western Australia 2022).

Under Section 51B of the EP Act, Environmentally Sensitive Areas (ESAs) are declared by the Minister for Environment (Government of Western Australia 2017). The aim is to protect these areas from degradation of environmental values which may include Threatened flora, threatened ecological communities (TECs), Bush Forever sites, national parks, or significant wetlands. Criteria for the declaration of ESAs are presented in **Appendix A** and do not include State-listed priority ecological communities (PECs) which are managed by DBCA. No ESAs occur within the Survey Area, with the nearest ESAs being the Ethel Gorge aquifer stygobiont community (State-listed TEC), approximately 48 km west, the Fortescue Marsh, approximately 90 km northwest, and various threatened flora populations, located greater than 40 km from the Survey Area.

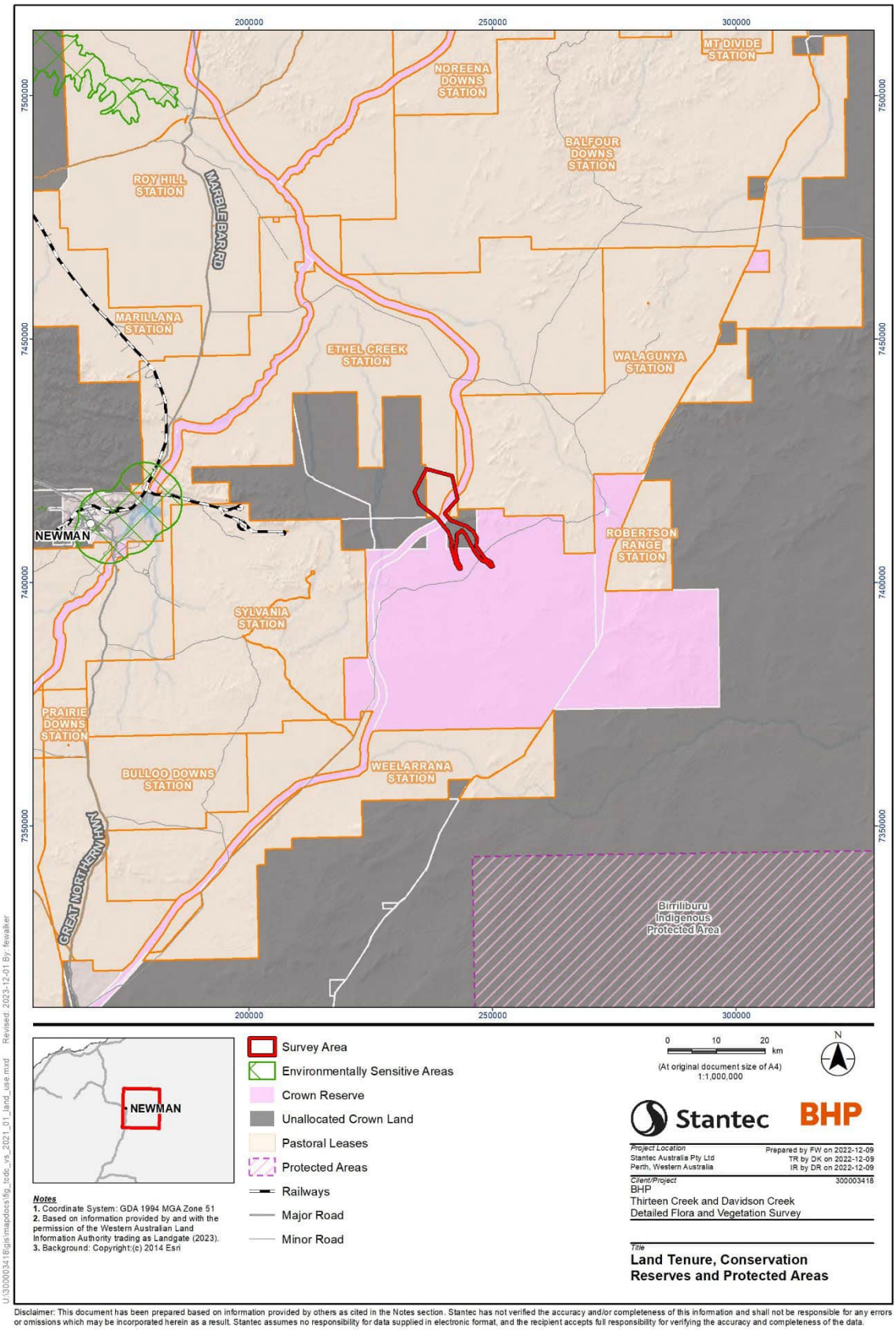


Figure 2-7: Land tenure and Environmentally Sensitive Areas in the vicinity of the Survey Area.

3 Methods

3.1 Desktop Assessment

A desktop assessment, comprising database searches and a literature review, was undertaken prior to the Phase 1 survey to gather contextual information on the Survey Area and to inform a likelihood of occurrence for flora and vegetation within the Survey Area. Significant species and rankings used under the EPBC Act, BC Act, as well as the DBCA Priority list, are defined in **Appendix B**.

3.1.1 Literature Review

Background information relating to the Survey Area and surrounds was compiled, including historic and existing regional vegetation mapping, soil and landform mapping and characteristics, and the IBRA classification system information (Beard 1975a, Shepherd *et al.* 2002, Thackway and Cresswell 1995) (**Section 2**). This was used to provide broad contextual information of the Survey Area for flora and vegetation. The literature review also considered six survey reports of relevance to the Survey Area, comprising:

- Jimblebar *Eremophila capricornica* Targeted Flora Survey (Biologic 2021);
- East Jimblebar & Caramulla Detailed Flora and Vegetation Assessment (Biologic 2019);
- Caramulla Creek Flora and Vegetation Survey (Astron 2019);
- Caramulla Reconnaissance Flora and Vegetation Survey (Onshore Environmental Consultants 2018b);
- Vegetation Survey and Desktop Assessment Caramulla Creek (Onshore Environmental Consultants 2018a); and
- Caramulla Exploration Area Flora and Vegetation Survey and Fauna Assessment (GHD 2009).

These reports are summarised and discussed in **Table 3-1**, and the areas assessed are displayed in **Figure 3-1**. A further two publicly available reports were identified during the desktop assessment and were used for broader contextual information only:

- FerrAus Pilbara Project Flora and Vegetation Survey (G & G Environmental Pty Ltd 2011); and
- Davidson Creek Targeted Priority and Rare Flora Survey (ecologia 2007).

Table 3-1: Summary of previous surveys conducted in the vicinity of the Survey Area.

Report Title (Reference)	Survey Details	Survey Effort	Flora Recorded	Vegetation Types and Vegetation Condition	Species and Communities of Significance	Limitations
Jimblebar *Eremophila capricornica* Targeted Flora Survey Biologic (2021)	Area (ha): hectares not provided; a "Core Study Area" was buffered by 20 km for the purpose of targeted searches Study Type: Targeted flora survey Survey Dates: 9 - 15 July 2020 Seasonal Conditions: Below average rainfall in the five months preceding the survey Distance and direction from the Survey Area: Intersects Survey Area	• Targeted searches	• 1,047 point locations within 21 mapped populations	• Not applicable	• *Eremophila capricornica* (P1)	• Below average rainfall in the five months preceding the survey. • A large proportion of *Eremophila capricornica* (P1) did not bear flowers or fruit; however, it was possible to distinguish *Eremophila capricornica* (P1) from other *Eremophila* species based on the presence of other key morphological features.
East Jimblebar & Caramulla Detailed Flora and Vegetation Assessment Biologic (2019)	Area (ha): 10,318 Study Type: Single season detailed flora and vegetation survey Survey Dates: 7 - 18 April, 2019 Seasonal Conditions: Dry (monthly rainfall preceding the survey was below average in February; however, above average in March) Distance and direction from the Survey Area: 2.4 km west	• 63 quadrats • 14 relevés • An additional 119 sample sites had previously been sampled within the Survey Area	• 221 vascular flora • 37 families • 95 genera	• 46 vegetation types • 13 broad floristic formations • Vegetation ranged from excellent to degraded condition.	• *Eremophila capricornica* (P1) • *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) • *Goodenia nuda* (P4)^ • Four vegetation types potentially representing GDEs. • Three vegetation types described and delineated in association with banded Mulga communities, likely to have some reliance on sheet flow.	• The three months preceding the field survey received well below average rainfall (82.2 mm compared to 180.5 mm), which followed low rainfall typical of the dry season. • In-field flora and collected samples were difficult to identify given the lack of suitable diagnostic material available. • The western third of the Survey Area was not accessed or sampled.
Caramulla Creek Flora and Vegetation Survey Astron (2019)	Area (ha): 16,814 Study Type: Reconnaissance flora and vegetation survey Survey Dates: 22 - 31 October, 2018 Seasonal Conditions: Dry, and outside of the optimal post-wet season for flora and vegetation surveys Distance and direction from the Survey Area: 5.9 km northwest	• 63 relevés	• 197 vascular flora • 40 families • 106 genera	• 27 vegetation types • 13 broad floristic formations • Vegetation ranged from excellent to poor condition.	• *Crotalaria smithiana* (P3) • One additional unconfirmed taxa that may represent significant flora: • *Triodia ?birriliburru* (P3) • Six vegetation types potentially representing GDEs.	• Dry seasonal conditions. Species diversity was lower than would be expected in a survey conducted in the post-wet season. • Recent fire had occurred in some portions of the Survey Area which constrained the interpretation of climax community vegetation types. • Some vegetation mapping was conducted via helicopter or extrapolated. • The availability of suitable diagnostic material to confidently identify species of the Mulga complex was variable, therefore vegetation types were presented as the broader '*Acacia aneura*'.
Reconnaissance Flora and Vegetation Survey Caramulla Onshore Environmental Consultants (2018b)	Area: 12,500 Study Type: Single season reconnaissance flora and vegetation survey Survey Dates: 17 - 21 February, 2018 and 23 June, 2018 Seasonal Conditions: Below average summer rainfall preceded the survey Distance and direction from the Survey Area: Intersects Survey Area	• 115 relevés	• Not provided	• 30 vegetation types • 12 broad floristic formations • Vegetation ranged from excellent to good condition.	• *Eremophila capricornica* (P1) • *Ipomoea racemigera* (P2) • *Crotalaria smithiana* (P3) • *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) • *Goodenia nuda* (P4)^ Two additional 'species of interest': • *Indigofera* sp. indet • *Tephrosia* sp. Willowra (G.M. Chippendale 4809) – this species is now known as *Tephrosia insolens.*	• Access restrictions within the Survey Area, including an absence of vehicle tracks in some sectors of the Survey Area. • Seasonal conditions were considered poor given the below average summer rainfall which preceded the survey.

Report Title (Reference)	Survey Details	Survey Effort	Flora Recorded	Vegetation Types and Vegetation Condition	Species and Communities of Significance	Limitations
Vegetation Survey and Desktop Assessment Caramulla Creek Onshore Environmental Consultants (2018a)	Area (ha): 6,337 Study Type: Single season reconnaissance flora and vegetation survey Survey Dates: 18 - 22 June, 2018 Seasonal Conditions: Below average summer rainfall preceded the survey Distance and direction from the Survey Area: 5.8 km west	• 60 relevés • 6 transects	• Not provided	• 21 vegetation types • 14 broad floristic formations • Vegetation ranged from very good to degraded condition.	• *Eremophila capricornica* (P1) • *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) • Two vegetation types potentially representing GDEs.	• Dry seasonal conditions. • Access was a major constraint; field assessments in the southern half of the Survey Area were limited.
Curramulla Exploration Area Flora and Vegetation Survey and Fauna Assessment GHD (2009)	Area (ha): 5,300 Study Type: Flora and vegetation survey and NVCP assessment Survey Dates: 1 - 8 December, 2008 Seasonal Conditions: Dry, and outside of the optimal post-wet season for flora and vegetation surveys Distance and direction from the Survey Area: Intersects Survey Area	• 26 quadrats • 22 relevés	• 225 vascular flora • 37 families	• 15 vegetation types (an additional community was described as 'Cleared/Degraded Areas'. • Vegetation ranged from pristine to completely degraded condition (using the Bush Forever scale).	• *Crotalaria smithiana* (P3) (P1 at the time of survey)	• Dry seasonal conditions. • Survey undertaken prior to the release of EPA (2016b) Technical Guidance and the BC Act. As such, survey methods were not aligned with current approach. • The EPA (2016b) Technical Guidance requirement for a minimum of three quadrats per vegetation type was not achieved.

^Note: Goodenia nuda was reclassified as "not threatened" from its previous Priority 4 status in 2022.

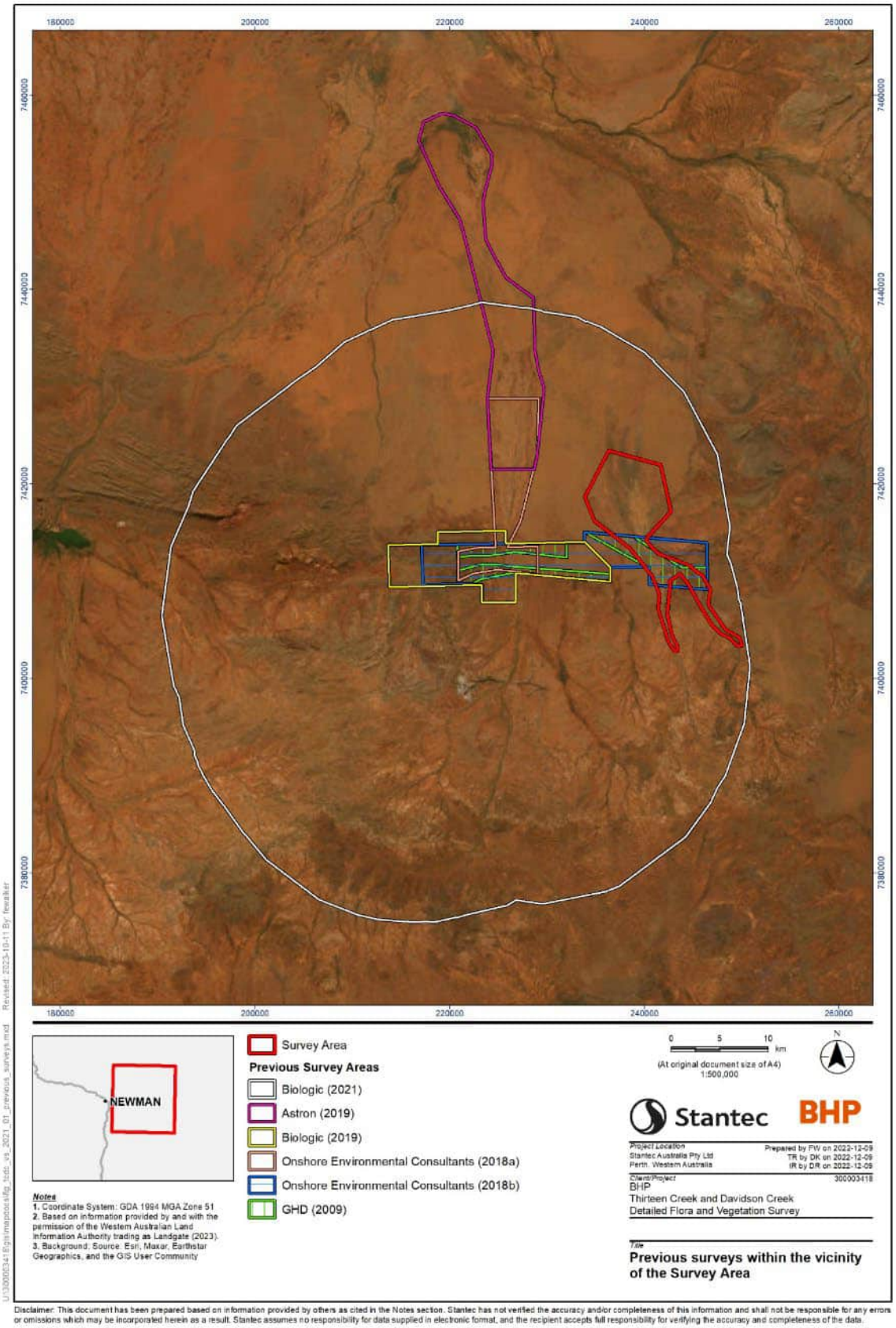


Figure 3-1: Location of previous surveys conducted in the vicinity of the Survey Area.

3.1.2 Database Searches

Database searches were completed to generate a list of vascular flora species and vegetation communities previously recorded within, and in the vicinity of, the Survey Area, with an emphasis on species and communities of significance and introduced species. Search buffers were adjusted for each database depending on the capabilities of each database and the number of records returned from the surrounding region (**Table 3-2**). Six database searches were conducted based on either the Survey Area polygon, a central Survey Area coordinate, or for specific significant species in the surrounding region, and the results are provided in **Appendix C**.

Table 3-2: Database searches conducted for the desktop assessment.

Custodian	Database Name	Buffer (km)	Date of Receipt
DoAWE (2022) (now DCCEEW)	Protected Matters Search Tool	50	24/01/22
DBCA (2022b)	Western Australian Herbarium Specimen Database	30	27/01/22
DBCA (2022c)	Threatened and Priority Flora Database	30	27/01/22
DBCA (2022d)	Threatened & Priority Ecological Communities Database	40	28/01/22
DBCA (2022e)	NatureMap: Mapping Western Australia's Biodiversity	40	01/04/22
ALA (2022)	Atlas of Living Australia: Occurrence Search	50	01/02/22

3.1.3 Likelihood of Occurrence of Significant Flora

Prior to undertaking the field survey, all significant flora species identified from the database searches and literature review were assessed for their likelihood of occurrence within the Survey Area. This assessment was based on the interpretation of habitat types from aerial imagery, known preferred habitat and the nearest known location of each significant species. Each species was categorised according to the criteria presented in **Table 3-3**.

Following the survey, the significant flora identified from the desktop assessment were re-assessed to determine their likelihood of occurrence within the Survey Area based on the suitability of habitat present, and any limitations that may have impacted the detection of the species.

Table 3-3: Criteria used for assessing the likely occurrence of significant flora in the Survey Area.

Likelihood Levels and Criteria
Likelihood: Confirmed
The species has been recorded unambiguously within the Survey Area from: • recent surveys of the Survey Area; • reliable records obtained via database searches; and/or • from a current vouchered specimen at WA Herbarium.
Likelihood: Likely
There is a medium to high likelihood that the species occurs in the Survey Area, as: • the Survey Area occurs within the known distribution of the species; • the Survey Area contains suitable habitat; and/or • the species has been recorded recently nearby.
Likelihood: Possible
There is potential for the species to occur in the Survey Area, as: • the species has not been recorded recently nearby; however: – the species may not have been detectable during current or previous surveys (e.g. rare, patchily distributed, non-optimal survey timing); and/or – the species is known to be cryptic and may not have been detectable despite extensive surveys. • the species has been recorded recently nearby and species presence cannot be ruled out due to factors such as species ecology or distribution; however: – doubt remains over taxonomic identification; – the majority of habitat does not appear suitable; and/or – coordinates are doubtful.

Likelihood Levels and Criteria
Likelihood: Unlikely
The species is unlikely to occur in the Survey Area as: • the species has not been recorded locally, as evidenced by DBCA database searches; • the Survey Area lacks potential habitat having, at best, marginally suitable habitat, and/or being severely degraded; • the species has only been recorded from a few historic record/s and no other collections are documented from the area; and/or • the species has not been recorded in the Survey Area despite adequate survey efforts, such as a standardized methodology or targeted searching within potentially suitable habitat.

3.2 Field Surveys

3.2.1 Survey Timing and Personnel

The Stantec personnel responsible for the flora survey have extensive experience in planning, logistics, significant species and sampling methods employed in the arid zone of WA. Daniel Roocke, an experienced botanist with more than 10 years' experience in undertaking flora and vegetation surveys in the Pilbara, led the planning and implementation of the survey and reporting. All staff who undertook the field surveys are experienced in conducting flora and vegetation assessments. In accordance with EPA (2016b), both phases of the survey were led by a botanist with more than five years' Pilbara botanical experience (**Table 3-4**).

Phase 1 of the survey was conducted during the post-wet season, between 5 and 13 April 2022, while Phase 2 was conducted during the dry season, between 11 and 22 October 2022, inclusive of mobilisation and demobilisation. Subsequent to the surveys conducted in 2022, three additional quadrats were required to be installed to achieve adequate sampling replication within one vegetation type, in order to meet EPA (2016b) Technical Guidance. Therefore, a site visit was conducted by Daniel Roocke and Helen Armstrong on 30 April 2023 (**Table 3-4**). The scheduling of the surveys aligned with recommended timing for conducting botanical surveys in the Pilbara and Gascoyne bioregions (EPA 2016b).

Table 3-4: Botanists responsible for the design and execution of the survey.

Personnel	Survey Role	Qualifications	Years' Experience^	Flora Licence(s)
Phase 1 (post-wet season: April 2022)				
Daniel Roocke	Senior Botanist	BSc. (Botany & Ecology) Certs II, III, IV Horticulture	11	FB62000235 (Flora) TFL 129-1920 (DRF)
Kyle Wood	Botanist	BSc. (Conservation Biology and Environmental Science) Dip. Conservation & Land Mgmt.	3	FB62000230 (Flora) TFL149-2021 (DRF)
Scott Pansini	Botanist	BSc. (Biological Sciences & Conservation and Wildlife Biology) Cert III Environmental Science and Sustainability	3	FB62000122-2 (Flora) TFL 2223-0005 (DRF)
Jonas Mitchell	Botanist	BSc. (Environmental Science & Conservation Biology) MSc. Environmental Mgmt.	2	FB62000315 (Flora) TFL 146-2021 (DRF)
Phase 2 (dry season: October 2022)				
Daniel Roocke	Senior Botanist	BSc. (Botany & Ecology) Certs II, III, IV Horticulture	11	FB62000235 (Flora) TFL 129-1920 (DRF)
Helen Armstrong	Ecologist	BSc. (Marine Science & Ecology and Biodiversity) MSc. (Marine Science)	0	N/A
Scott Pansini	Botanist	BSc. (Biological Sciences & Conservation and Wildlife Biology) Cert III Environmental Science and Sustainability	3	FB62000122-2 (Flora) TFL 2223-0005 (DRF)
Jonas Mitchell	Botanist	BSc. (Environmental Science & Conservation Biology) MSc. Environmental Mgmt.	2	FB62000315 (Flora) TFL 146-2021 (DRF)

Personnel	Survey Role	Qualifications	Years' Experience^	Flora Licence(s)
Site visit – three quadrats (April 2023)				
Daniel Roocke	Senior Botanist	BSc. (Botany & Ecology) Certs II, III, IV Horticulture	12	FB62000235 (Flora) TFL 129-1920 (DRF)
Helen Armstrong	Ecologist	BSc. (Marine Science & Ecology and Biodiversity) MSc. (Marine Science)	0	Not applicable. All samples collected under FB62000235-2

Note: ^ Indicates number of year experience undertaking Pilbara botanical surveys.

3.2.2 Weather

Rainfall recorded at the Newman Aero weather station for the three months preceding Phase 1 of the survey was 126.6 mm, 54.7 mm below the long-term mean rainfall recorded for the same period (BoM 2022b) (**Figure 3-2**). Rainfall recorded in December 2021 and January 2022 was substantially below the monthly mean. However, 73 mm of rainfall was recorded in February 2022 and a further 31.6 mm was recorded one week prior to the Phase 1 survey. Rainfall recorded for the three months preceding Phase 2 of the survey was 34.5 mm above the long-term mean rainfall recorded for the same period (BoM 2022b) (**Figure 3-2**). The majority of this rainfall was recorded from one substantial rainfall event in September, where 52.0 mm was recorded over a two-day period. Prior to September, rainfall in July and August was below the long-term mean, with 0 mm and 2.0 mm recorded, respectively (**Figure 3-2**). Sampling of the three final quadrats needed to meet replication requirements was conducted on 30 April 2023, one month after significant rainfall event across the interior of Western Australia in late March 2023. There was 108.6 mm of rain recorded at the Newman Aero weather station across three days, including 85.6 mm on 30 March 2023 (BoM 2023b).

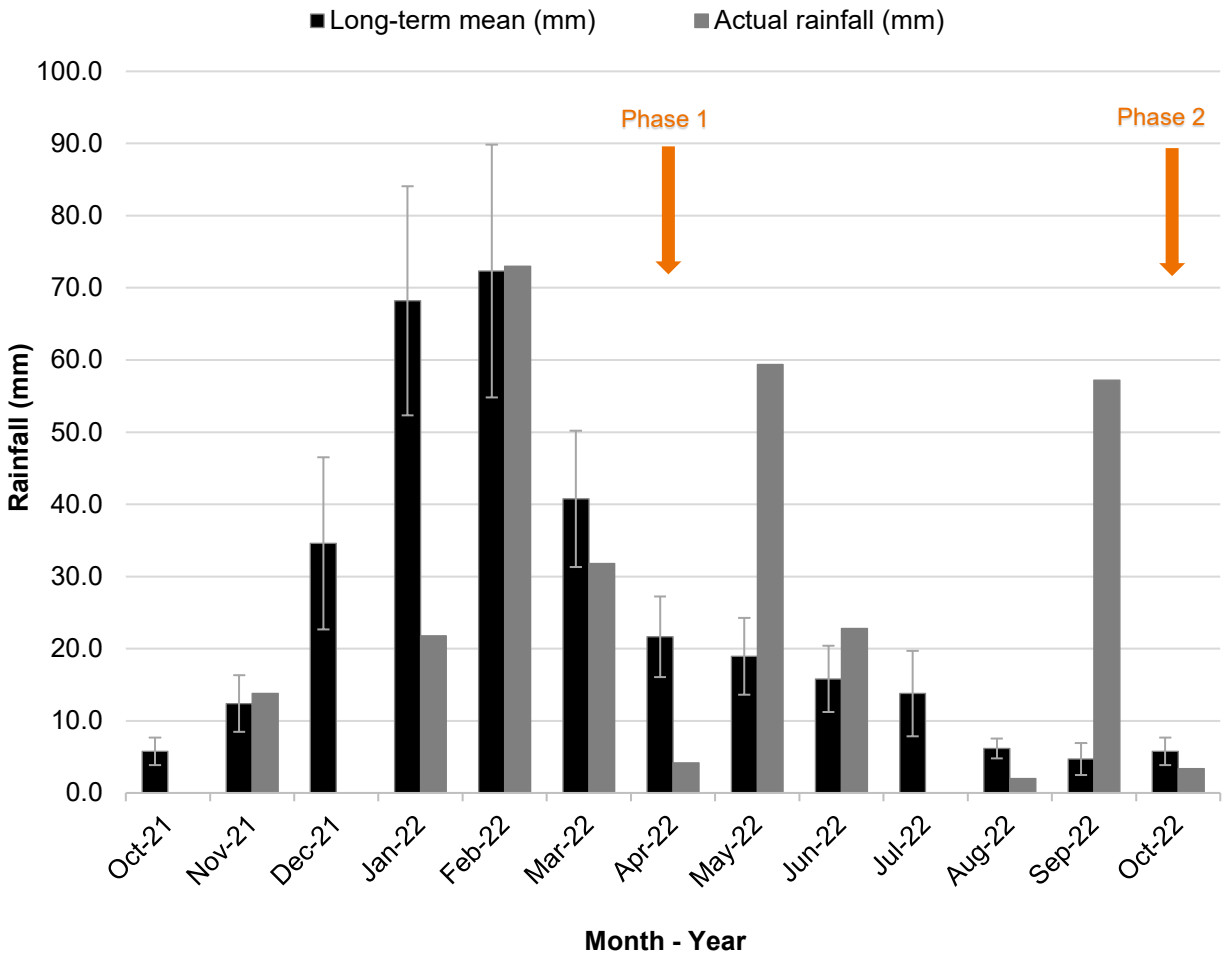


Figure 3-2: Total monthly rainfall data and long-term mean monthly rainfall from the Newman Aero weather station (007176) preceding Phase 1 and Phase 2(BoM 2022b) (orange arrows indicate survey timing).

3.2.3 Survey Design

Prior to the Phase 1 survey, aerial photography and previous vegetation mapping (Astron 2018, Biologic 2019, GHD 2009, Onshore Environmental Consultants 2018b) from within, and adjacent to, the Survey Area was reviewed, in addition to background information sources (Beard 1975a, Desmond *et al.* 2001, Kendrick 2001, Shepherd *et al.* 2002, van Vreeswyk *et al.* 2004).

To assist in the identification of different vegetation types within the Survey Area, object-based image analysis was used to separate different landforms and obvious differences in vegetation patterns into distinct 'objects' in the imagery, using spatial and spectral characteristics of the imagery (e.g. changes in colour, shape and/or texture displayed by vegetation, soil or other ground cover). An unsupervised machine learning approach was then conducted by Stantec using spatial data to group these objects into a set number of distinct potential vegetation types, or 'classes', based on the similarities between them in imagery. The vegetation types were then assigned indicative vegetation codes with consideration of the information available from previous flora and vegetation surveys conducted in the local region for BHP WAIO (Astron 2018, Biologic 2019, GHD 2009, Onshore Environmental Consultants 2018b).

A survey plan was designed based on the results of the desktop assessment to ensure the Survey Area was appropriately assessed in accordance with EPA (2016b), with particular consideration of the requirement to sample at least three quadrats per vegetation type, where practical. Proposed sampling locations were then selected accordingly.

3.2.4 Sampling Techniques

3.2.4.1 Quadrats and Relevés

The surveys were conducted in accordance with the requirements of all necessary statutory legislation and policy, relevant regulatory guidelines, and BHP WAIO policies and procedures. A total of 73 quadrats and were established and sampled to compile a representative species list and to characterise the vegetation types within the Survey Area (**Table 3-5**). Of the 46 quadrats installed and sampled in Phase 1, 29 (61.7%) were resampled in Phase 2, while an additional 24 quadrats were installed in Phase 2 to achieve adequate spatial distribution of quadrats, and to comprehensively inform vegetation type delineation and descriptions. **Table 3-6** lists the quadrats which were re-sampled in Phase 2, in comparison to quadrats sampled in only either Phase 1 or Phase 2. Survey effort is presented in **Figure 3-3**.

Table 3-5: Summary of quadrats and relevés sampled during the survey.

Survey	Number of New Quadrats Installed	Quadrats Resampled that were Sampled During Phase 1	Total Number of Quadrats Sampled	Number of New Relevés Installed and Sampled
Phase 1: April 2022	46	n/a	46	5
Phase 2: October 2022	24	29	53^	22
Site visit: April 2023	3	n/a	3	n/a

Note: ^ represents a combination of quadrats installed during Phase 2 and re-sampling of selected quadrats installed during Phase 1.

Table 3-6: Single season or dual season sampling of quadrats.

Phase(s) Of Sampling	Quadrats	Quadrat ID	
Single	44	Phase 1 only: (17)	TCDC01, TCDC06, TCDC08, TCDC09, TCDC11, TCDC12, TCDC15, TCDC17, TCDC19, TCDC21, TCDC23, TCDC28, TCDC37, TCDC38, TCDC53, TCDC54, TCDC71
		Phase 2 only: (24)	TCDC80, TCDC81, TCDC82, TCDC83, TCDC84, TCDC85, TCDC86, TCDC87, TCDC88, TCDC89, TCDC90, TCDC91, TCDC92, TCDC93, TCDC94, TCDC95, TCDC96, TCDC97, TCDC98, TCDC99, TCDC100, TCDC101, TCDC103, TCDC105
		Site visit 2023 (3)	TCDC111, TCDC112, TCDC113
Dual	29	TCDC02, TCDC03, TCDC04, TCDC05, TCDC07, TCDC10, TCDC16, TCDC18, TCDC20, TCDC22, TCDC26, TCDC27, TCDC29, TCDC30, TCDC31, TCDC33, TCDC35, TCDC36, TCDC39, TCDC41, TCDC50, TCDC51, TCDC52, TCDC58, TCDC61, TCDC66, TCDC68, TCDC73, TCDC75	

Quadrats were established by measuring a square of 50 m x 50 m (2,500 m^2) in accordance with the recommended size for quadrats in Pilbara bioregion (EPA 2016b). The information collected at each quadrat is summarised in **Table 3-7**. Additionally, 27 relevés were used to supplement quadrat sampling and consisted of an unbounded sampling site with a similar total area to quadrats (2,500 m^2). However, given relevés are not permanently marked, no re-sampling of theses sample sites occurred. Furthermore, as per EPA (2016b), when undertaking a detailed survey, quadrats alone should not be relied on to obtain a comprehensive inventory of an area. Therefore, unstructured opportunistic sampling was conducted throughout the Survey Area, where possible, to supplement the suite of flora recorded within quadrats and relevés.

Table 3-7: Summary of data recorded at each quadrat site.

Parameter	Description
Site Code	The unique name assigned to the site that was sampled.
Recorder and Date	The recorder(s) involved in sampling the quadrat/ and date.
Location	Measured using a handheld GPS device (in GDA94 format) from the northwest corner.
Size and Shape	50 m x 50 m for Pilbara Bioregion or shape of equivalent area representing 2,500 m^2.
Soil description	A description of the soil colour and type based on the guide in the Australian Soil and Land Survey Field Handbook (McDonald *et al.* 1998).
Geology type	A description of the outcropping geology (if present) and coarse fragments.
Habitat type	A description of the landform type and aspect.
Disturbances	A list of any disturbances in the quadrat and surrounding area if present.
Time since fire	An estimation of the time since the vegetation was last burnt.
Site photograph	At least one representative photograph taken of the site.
Vascular flora species	A record of each flora species present.
Specimen ID	A unique identifier code assigned to any species that cannot be identified in the field.
Height	The average height of each species (in meters).
Percent foliar cover (PFC)	An estimate of the PFC for each species (%).
Vegetation condition	Assessed according to the vegetation condition scale described by Trudgen (1988), in accordance with EPA (2016b) (**Appendix D**).
Vegetation description	A description of the vegetation in accordance with Level 5 (Vegetation Association) of the National Vegetation Information System (NVIS) hierarchical structure (NVISTWG 2017) based on height and foliar cover of strata (**Appendix E**).

3.2.4.2 Exclusion Areas

Access was not within not permitted where the Jigalong Aboriginal Community agreed exclusion area, and numerous other smaller heritage areas mapped within the southern portions of the Survey Area (**Figure 3-3**). The Jigalong Aboriginal Community agreed exclusion area, represented a linear distance of approximately 4.85 km of Thirteen Creek and approximately 5.10 km of Davidson Creek; and when combined with smaller heritage areas, 724.82 ha (8.3%) of the Survey Area was excluded from on-ground assessments. As no traverses were conducted within these areas; vegetation type and vegetation condition mapping was extrapolated from nearby information and the interpretation of aerial imagery and appropriate geospatial layers. Therefore, the confidence in the mapping within the restricted areas was lower than the mapping conducted for the majority of the Survey Area where access was not restricted.

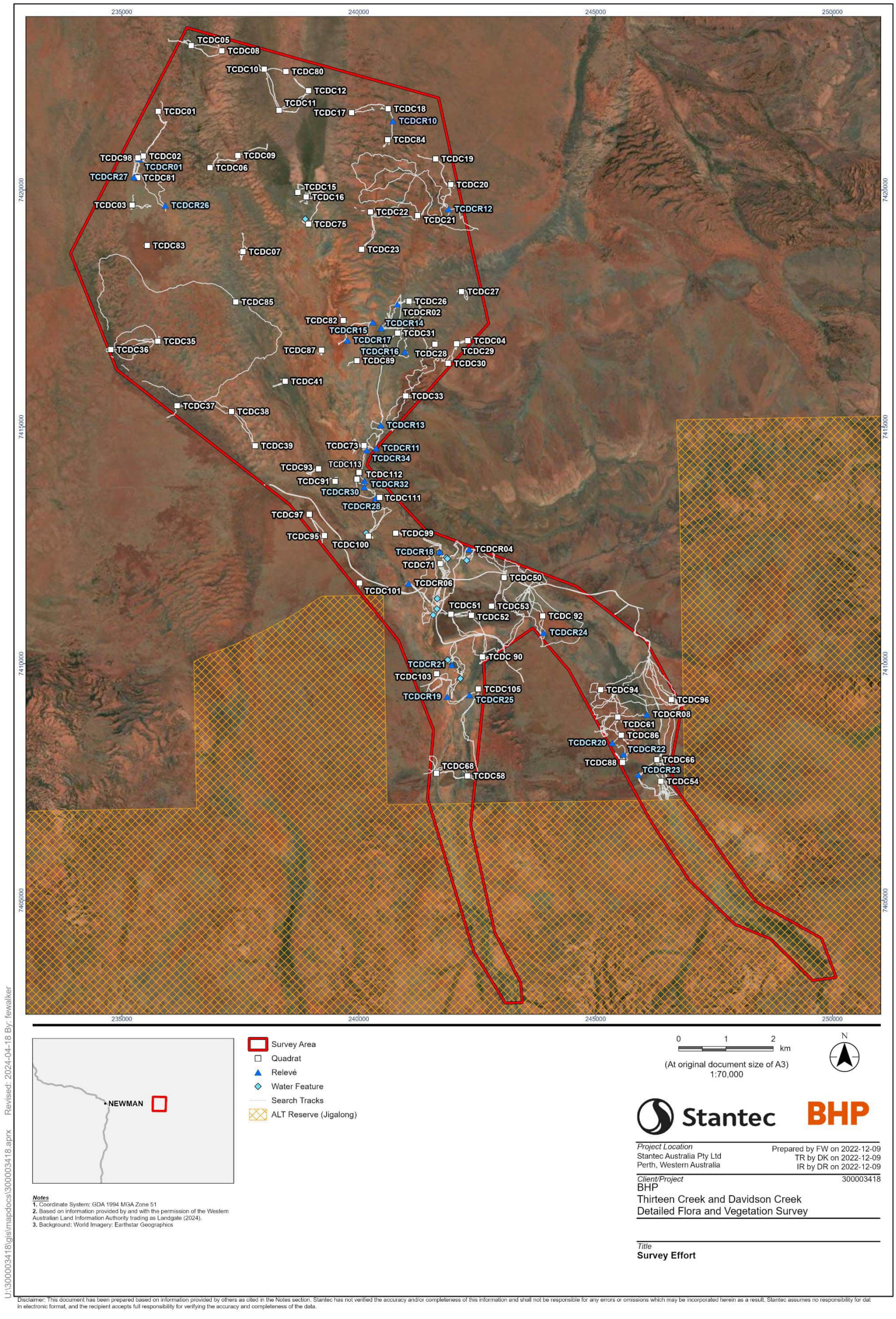


Figure 3-3: Survey effort within the Survey Area.

3.2.4.3 Vegetation Type Mapping

Traverses of the Survey Area were conducted on foot between sampling locations or during helicopter flights to aid in the delineation of the vegetation type boundaries. Vegetation types were described using quadrat data and aligned with Level 5 (Vegetation Association) of the NVIS hierarchical structure (NVISTWG 2017). The EPA (2016b) states that the term "vegetation type" should be used for local scale vegetation units as "vegetation association" is commonly used at the regional scale in Western Australia. Vegetation types were classified according to the Aplin (1979) modification of the vegetation classification system of Specht (1970), and were consistent with the requirements of the BHP Vegetation and Flora Procedure (BHP WAIO 2021) (**Appendix E**). Each vegetation type described within the Survey Area was compared against any known TECs and/or PECs with the potential to occur within the Survey Area to determine if they were analogous.

A landform code precedes a sequence of letters reflecting the dominant plant taxa in each stratum, and these are presented in order of dominance regardless of growth form or strata positioning. Each vegetation type described within the Survey Area were grouped according to 'broad floristic formation' based on the dominant growth form, cover, and height as well as the dominant land cover genus for the dominant stratum (e.g., *Acacia* open scrub).

Mulga (members of the *Acacia aneura* species group) is a taxonomic complex and consists of 12 separate described entities; however, these entities are known to be highly variable morphologically (Maslin *et al.* 2012, Maslin and Reid 2012). For the purpose of defining vegetation types within the Survey Area, Mulga-dominated vegetation was described as '*Acacia aneura* complex' rather than the constituent species. Where possible, the specific species nomenclature, such as *Acacia aneura, Acacia aptaneura*, *Acacia ayersiana*, *Acacia macraneura*, *Acacia minyura*, *Acacia mulganeura, Acacia paraneura,* and *Acacia pteraneura* were retained in individual sample site species lists and the overall species inventory.

3.2.4.4 Vegetation Condition Mapping

Vegetation condition was mapped using a combination of quadrat data and opportunistic observations. Vegetation condition ratings were assigned based on the six categories described by Trudgen (1988), and as prescribed by EPA (2016b) (**Appendix C**).

3.2.4.5 Water Features

When water features were encountered during the survey they were recorded as point data, as prescribed by the BHP Vegetation and Flora Procedure (BHP WAIO 2021). This included documenting the location and attributes for pools of surface water occurring along the ephemeral sandy channel of Thirteen Creek. The following information was recorded for each water feature:

- type, as determined by Lyons (2015);
- size; and
- estimate of permanence.

3.2.4.6 Targeted Flora Searches

The location and habitat preferences of the significant and introduced flora records identified in the desktop assessment (**Section 4.1.1**) were reviewed to assist in identifying vegetation types and habitat within the Survey Area that have the potential to support significant or introduced flora. These areas were then targeted in the field, as a priority, to comprehensively search for the presence and abundance of significant and introduced flora.

For each significant or introduced flora species identified, the following information was recorded:

- co-ordinate locations (provided as points for individual plants or polygons for large populations);
- description of vegetation in which the species is located;
- estimation of number of individuals (count or approximate number determined via area calculation if counting is not possible); and
- a photograph of the plant *in situ* (including the date the photograph was taken) wherever possible.

3.2.4.7 Specimen Identification and Nomenclature

Flora specimens that were not identified in the field were identified at the Western Australian Herbarium (WAH) by Principal Taxonomist Sharnya Yates. Species nomenclature was assigned according to the current listing of scientific names recognised by the WAH. Where specimens were lacking diagnostic characteristics, or were in poor condition, within this report they were assigned the 'sp. indet' epithet, indicating that full identification was not possible, as per the requirements of BHP guidelines (BHP 2021, 2022). Additional information regarding potential nomenclature for many of the unconfirmed taxa has been provided within the geospatial data standards.

One voucher specimen for each population of significant flora, range extension or novel taxa were lodged with the WAH and Threatened and Priority Flora Database (TPFL) report forms were submitted to DBCA detailing each population.

Introduced flora species were compared to the Western Australian Organism List database which lists organisms declared under the *Biosecurity and Agriculture Management Act 2007* and the WoNS maintained by the Commonwealth Government.

3.3 Data Analysis

3.3.1 Sampling Adequacy

The EPA (2016b) recommends the use of species accumulation curves (SACs) to demonstrate whether an area has been adequately sampled. Sampling adequacy is generally based on whether the accumulation of species is approaching the asymptote of the SAC and where further survey effort is unlikely to achieve substantial increases in species richness.

SACs were developed using species presence-absence data from systematic sampling sites (quadrats, relevés) through the EstimateS software package (Colwell 2013). Sample order randomization (100 times) of systematic sampling sites was conducted to create a sample-based rarefaction curve of the mean species accumulation rate. Sample-based extrapolation beyond the observed sampling effort was calculated using the Bernoulli product model in Colwell *et al.* (2012). The 95% confidence intervals were calculated for both the observed and extrapolated SACs using Eq. 6 in Colwell *et al.* (2004) and Eq. 19 in Colwell *et al.* (2012).

Estimations of total species richness were also calculated using three asymptotic richness estimators (Chao2, Jackknife1, and Jackknife2) (Chao 1984, Heltshe and Forrester 1983) for comparable incidence data as recommended in Hortal *et al.* (2006). Bootstrapping was not included in the analysis due to the reported underestimations of species richness in Chiarucci *et al.* (2003) and Hortal *et al.* (2006).

3.3.2 Floristic Composition

Vegetation types were assigned and mapped in the field based on expert knowledge of the Pilbara and Gascoyne bioregions and aerial imagery interpretation. Hierarchical classification (cluster analysis) was undertaken using Primer v7 to:

- demonstrate the relationship between vegetation type structure throughout the Survey Area; and
- provide broader regional context for vegetation documented during the survey.

However, it should be noted that vegetation types were assigned and mapped based *a priori* (based on prior knowledge) and the cluster analysis is explanatory only (Clarke and Gorley 2015). Prior to analysis, the species lists from previous nearby surveys (Biologic (2019), Astron (2019), GHD (2009)) were consolidated to ensure consistency in nomenclature and treatment, as follows:

- Nomenclature updated in accordance with Florabase (WAH 2023).
- Unconfirmed species were excluded from the analysis.
- Where a taxon name could potentially refer to more than one entity across different projects, the taxon was excluded from the analysis (e.g. *Aristida* sp.).
- Species within the *A. aneura* (Mulga) complex in the were grouped as *A. aneura* sens. Lat.
- Parasitic plants were excluded from the analysis (e.g. *Lysiana* and *Amyema*).
- Singletons (species recorded from only one site) were excluded from the analysis.
- All weeds were removed, except if these species were dominant in the vegetation type.

The final dataset comprised a site-by-species matrix of floristic taxa using both presence/absence and PFC data. The Bray-Curtis similarity coefficient was applied to calculate similarities between sites based on community structure and generate a resemblance matrix. The group-average method cluster analysis was used to generate a dendrogram output indicating the similarity between sites based on floristic composition.

The PFC data was square root transformed and then the Bray-Curtis index was applied to calculate similarities between quadrats and generate a resemblance matrix. A cluster analysis was applied, using the group-average linking algorithm, the results of which were presented in the form of a dendrogram. The dendrogram indicated the percentage similarity between quadrats, according to vegetation community structure.

Nonmetric multidimensional scaling (nMDS) was implemented for the analysis of community structure as this technique provides a valuable tool for comparing data between sites and surveys. The results of the nMDS procedure are represented by a plot, grouping sites with similar species composition together and separating sites that are dissimilar.

4 Results and Discussion

4.1 Desktop Assessment

4.1.1 Significant Flora

The desktop assessment identified 48 significant flora which had previously been recorded within 50 km of the Survey Area. These significant flora species, and their Priority classification under the BC Act, include:

- 11 Priority 1 species;
- 5 Priority 2 species;
- 27 Priority 3 species; and
- 5 Priority 4 species.

Based on the criteria in **Table 3-3**, four taxa were confirmed to occur within the Survey Area, one was considered likely to occur, 15 taxa were considered possible to occur, and the remaining 28 taxa were considered unlikely to occur within the Survey Area (**Appendix F**). The one species considered likely to occur within the Survey Area was *Eremophila pilosa* (P1), with database search results indicating that a record occurs approximately 300 m from Survey Area boundary.

Between Phase 1 and Phase 2 of the survey, *Goodenia nuda* was reclassified as 'not threatened' from its previous Priority 4 status (WAH 2022); therefore, records of this species have been omitted from flora of significance within this report. The four Priority species previously confirmed to occur within the Survey Area are:

- 36 records of *Eremophila capricornica* (P1), representing 1,201 individuals;
- three records of *Ipomoea racemigera* (P2), representing 53 individuals;
- six records of *Crotalaria smithiana* (P3), representing 7 individuals; and
- five records of *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3), representing 10 individuals.

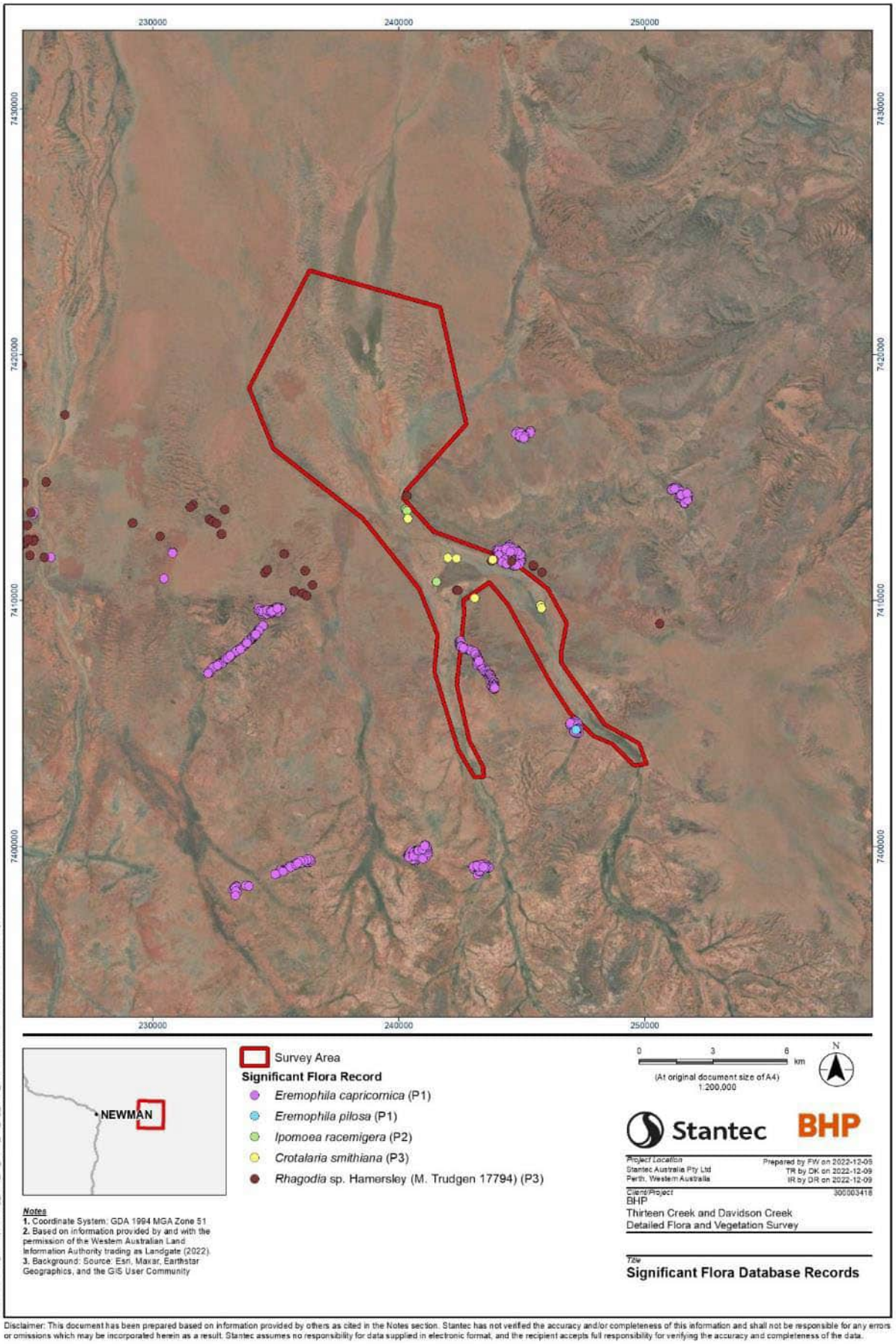
The locations of previously recorded significant flora within the Survey Area and in the local region are displayed on **Figure 4-1**.

4.1.2 Introduced Flora

The literature review identified 11 introduced flora species that were recorded within the respective survey areas that either partially overlap or are within 50 km of the Survey Area (**Table 4-1**). None of these species are considered to be a Declared Pest or a WoNS. A total of 38 introduced flora species are known to occur within the PIL2 subregion and 41 introduced flora species are known to occur within the GAS3 subregion (WAH 2022).

Table 4-1: Introduced flora species previously recorded within, or in the vicinity of the Survey Area.

Species	Common Name
**Aerva javanica*	Kapok Bush
**Bidens bipinnata*	Bipinnate Beggartick
**Cenchrus ciliaris*	Buffel Grass
**Cenchrus setiger*	Birdwood Grass
**Chloris virgata*	Feathertop Rhodes Grass
**Citrullus amarus*	Citron Melon
**Malvastrum americanum*	Spiked Malvastrum
**Setaria verticillata*	Whorled Pigeon Grass
**Sonchus oleraceus*	Common Sowthistle
**Tribulus terrestris*	Caltrop
**Vachellia farnesiana* var. *farnesiana*	Mimosa Bush



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Figure 4-1: Previously recorded significant flora records.

4.1.3 Significant Vegetation

Categorisation of TECs can occur under either Commonwealth (EPBC Act) and/or State legislation (BC Act), while PECs are only listed under State legislation, with definitions presented in **Appendix B**. Within the Pilbara bioregion, there is currently one BC Act-listed TEC and 43 PECs; however, none related specifically to terrestrial vascular flora or vegetation were identified as occurring within 50 km of the Survey Area, based on the results received from DBCA (2022d). Additionally, no TECs or PECs were considered likely to occur based on their key diagnostic characteristics, habitat requirements and known distributions.

4.2 Field Surveys

4.2.1 Flora

4.2.1.1 Floristic Composition

There were 358 fully identified vascular flora from 52 families and 160 genera recorded during the survey; a complete species list is provided in **Appendix G**. Typical of most botanical surveys in the Pilbara and Gascoyne bioregions, the most represented families were Fabaceae (peas), Poaceae (grasses) and Malvaceae (mallows), and the most diverse genus was *Acacia* (**Table 4-2**). A further 100 records were not able to be fully identified to genus, species or sub-species (where applicable), and some of these represent additional families, genera or species. Approximately 72% of records not able to be fully identified were recorded in Phase 1. Three uncertain records potentially represent *Eremophila capricornica* (P1), however a conclusive identity was not possible due to insufficient diagnostic material. Comprehensive datasets from the 73 quadrats and 27 relevés sampled during the surveys are compiled within **Appendix H**, while a site by species matrix is provided in **Appendix I**.

Table 4-2: Most represented families and genera recorded within the Survey Area.

Family	Number of Taxa Recorded within the Survey Area
Fabaceae	66
Poaceae	57
Malvaceae	32
Genus	**Number of Taxa Recorded within the Survey Area**
Acacia	26
Ptilotus	16
Senna	11
Goodenia	10

4.2.1.2 Significant Flora

No species listed as Threatened flora under either State or Commonwealth legislation were recorded within the Survey Area. Four Priority flora species were recorded during the survey; *Eremophila capricornica* (P1), *Ipomoea racemigera* (P2), *Crotalaria smithiana* (P3) and *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) (**Table 4-3**, **Figure 4-2**). Location details, habit descriptions, preferred habitat information and photographs of the Priority flora recorded during the survey are presented in **Appendix J**. Threatened and Priority Flora Report Forms that were compiled and submitted to the DBCA are provided in **Appendix K**. Abundance estimates should be considered indicative, in particular for *Eremophila capricornica* (P1) and *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) within the Survey Area which were more widespread and profuse than could be practically captured during the survey.

To consolidate all Priority flora data within the Survey Area, previously collected data has been incorporated into the results of the survey and presented in **Table 4-3**. Search effort, in the form of GPS tracklogs recorded during the survey, are presented in **Figure 3-3.** In addition, three records potentially represent *Eremophila capricornica* (P1), however a conclusive identity was not possible and these were therefore listed as *Eremophila* sp. indet for this report.

Table 4-3: Significant flora recorded within the Survey Area. Data includes records from the re-sampling of quadrats in Phase 2 which duplicates some records.

Species	Record Points within the Survey Area		Estimated Abundance of Individuals within the Survey Area		Vouchered Specimens (WAH 2022)	Supporting Vegetation Types within the Survey Area# (See Table 4-9 for vegetation detail)	Vegetation Type Extent within the Survey Area (ha)	Vegetation Type Extent within the Survey Area (%)
	Stantec survey	Total+	Stantec survey	Total+				
Eremophila capricornica (P1)	177	213	4,219	5,420	17	FP Aan Erfs and/or SeaoSeah ArcAriEua FP EuaTtAri EvCocc FP Tb AprAancApa HS Tv AprAtru(+/-)Gbr EreCaca MA EuaTtCc Ecr(+/- Ev) Aan SA Tb AanApr/Apa PamuEuaAri SS Aan Cocc EuaAriArhh SS Aan EuaAriArc Seah	7,124.56	81.55
Ipomoea racemigera (P2)	54	57	913	966	15	FP Aan Erfs and/or SeaoSeah ArcAriEua FP EuaAriArc Cocc FP EuaTtAri EvCocc MA EuaTtCc Ecr(+/- Ev) Aan SS Aan EuaAriArc Seah	5,014.68	57.40
Crotalaria smithiana (P3)	15	21	124	131	7^	FP EuaTtAri EvCocc MA EuaTtCc Ecr(+/- Ev) Aan SS Aan EuaAriArc Seah	4,176.53	47.81
Rhagodia sp. Hamersley (M. Trudgen 17794) (P3)	291	296	684	694	72	FP Aan Erfs and/or SeaoSeah ArcAriEua FP ArcEuaErfc Ate Seah FP EuaAriArc Cocc FP EuaTtAri EvCocc FP Tb AprAancApa HS Tv AprAtru(+/-)Gbr EreCaca MA EuaTtCc Ecr(+/- Ev) Aan SA AanAancHall TbAriPamu Inli SA Tb AanApr/Apa PamuEuaAri SA TbAriEua(+/-) Erer HallAan SS Aan Cocc EuaAriArhh SS Aan EuaAriArc Seah	8,525.29	97.58

Note: ^ Includes one record in the Northern Territory.

+ Represents previously collected data in addition to the survey results, with record points closely adjacent to the Survey Area boundary included

The entirety of some vegetation types listed do not represent core habitat for the listed significant flora; in some instances, record points occur near boundaries of vegetation types, or within ecotones.

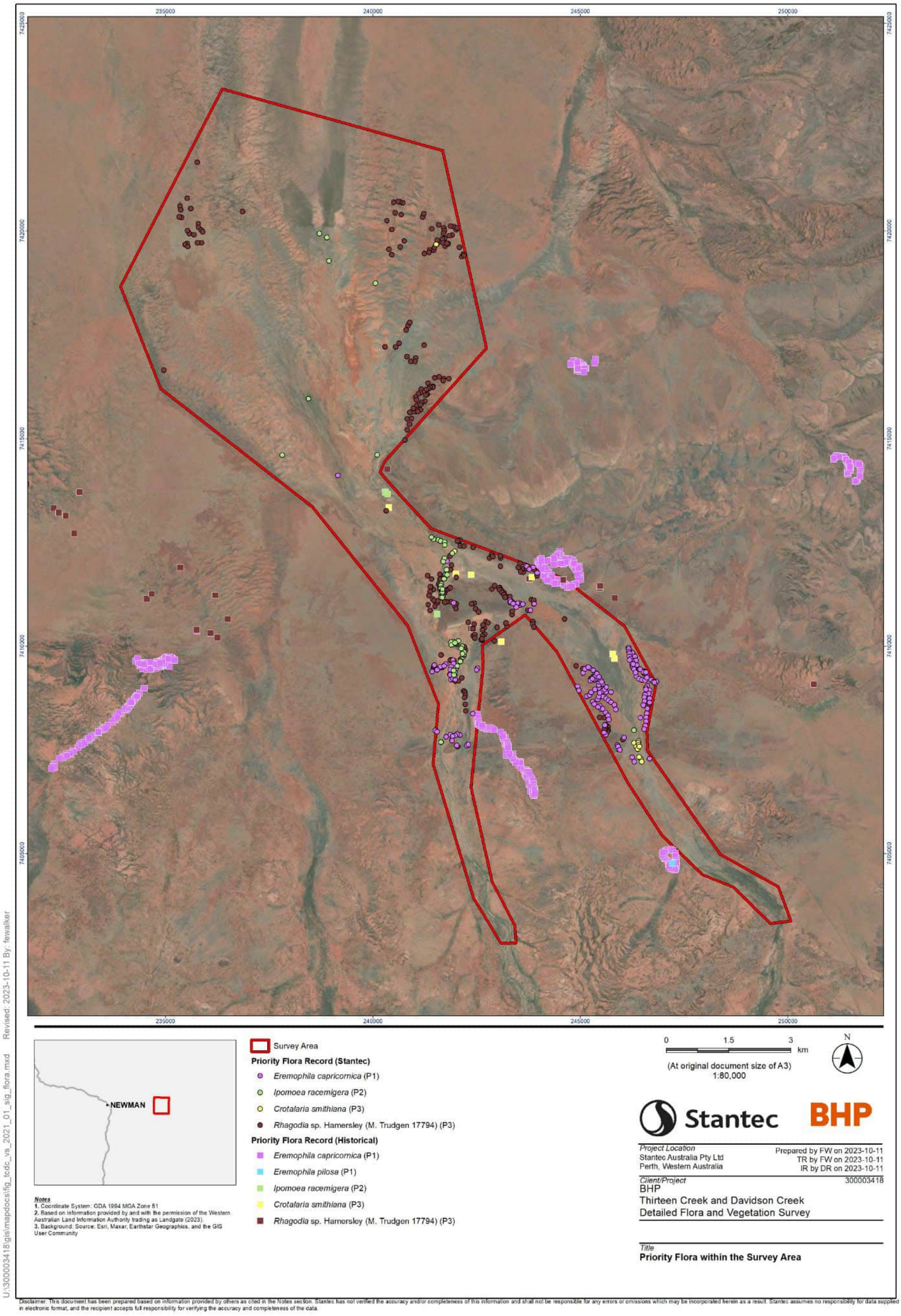


Figure 4-2: Priority Flora records within the Survey Area.

4.2.1.3 Flora of Other Significance

Flora species, subspecies, varieties, hybrids and ecotypes may be considered significant for reasons other than listing as a Threatened or Priority flora species, justified as follows:

- a keystone role in a habitat for Threatened species, or supporting large populations representing a significant proportion of the local regional population of a species;
- relic status;
- anomalous features that indicate a potential new discovery;
- being representative of the range of a species (particularly at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- the presence of restricted subspecies, varieties, or naturally occurring hybrids;
- local endemism/a restricted distribution; and/or
- being poorly reserved.

Five of the flora taxa recorded from the Survey Area are at least 100 km from their nearest known existing records and are therefore considered to represent range extensions (**Table 4-4**). Each of these records were identified from specimens collected during the survey and samples have been vouchered with the WAH.

Three specimens collected during Phase 1 were subsequently identified as *Eragrostis kennedyae* and represent a bioregional extension of the species' range (**Table 4-4**). Vouchered records occur within the Little Sandy Desert bioregion to the northeast of the Survey Area while the majority of the 21 records displayed by the WAH are located in the arid interior of WA, south of the Survey Area (WAH 2022).

One specimen collected during Phase 2 within a quadrat capturing a drainage channel was identified as *Hypericum gramineum*. This species is predominantly found in damp regions of the Southwest and Northern Kimberley. The nearest record is 165 km southwest of the Survey Area (within the Little Sandy Desert bioregion) and has not been found in the Pilbara bioregion previously, therefore this collection represents a bioregional extension of the species' range (**Table 4-4**).

Three Mulga specimens collected during Phase 1 were identified as *Acacia minyura. Acacia minyura* is common across WA, with vouchered records located within seven bioregions (WAH 2022). The majority of records within the Pilbara located in proximity to the eastern boundary of the Karijini National Park, with the closest record being 159 km west of the Survey Area.

One opportunistically collected specimen during Phase 2 was identified as *Lobelia heterophylla* subsp. *heterophylla*, a species that is generally distributed in coastal regions of WA. One previous record occurs within the Pilbara bioregion, located more than 175 km west of the Survey Area (WAH 2022), while there are also records within seven other bioregions including the Carnarvon and Coolgardie bioregions.

The collection of *Cyperus macrostachyos* during Phase 2 represents the southern-most record of this species. The majority of the 44 records displayed on Florabase are located within the Northern Botanical Province, and the specimen collected during the survey is approximately 260 km southwest of the nearest record within the Pilbara bioregion (WAH 2022) (**Table 4-4**).

Table 4-4: Flora collected from the Survey Area that represent range extensions.

Taxon	Nearest Record to Survey Area	Records within the Survey Area	Vouchered Specimens (WAH 2022)	Supporting Vegetation Types within the Survey Area
Acacia minyura	159 km W	6	60	FP Aan Erfs and/or SeaoSeah ArcAriEua FP EuaTtAri EvCocc MA Ecr(+/- Ev) Aan EuaTtCc SS Aan EuaAriArc Seah
Cyperus macrostachyos	260 km NW	4	44^	MA EuaTtCc Ecr(+/- Ev) Aan FP EuaTtAri EvCocc
Eragrostis kennedyae	186 km S	3	21	FP ArcEuaErfc Ate Seah FP EuaTtAri EvCocc OT EfEua AaApAanc Ex
Hypericum gramineum	165 km SW	1	89	MA EuaTtCc Ecr(+/- Ev) Aan
Lobelia heterophylla subsp. *heterophylla*	175 km W	1	17	FP EuaTtAri EvCocc

Note: ^ Includes two records in the Northern Territory.

An unconfirmed flora record of a species in the *Cyperus* genus may potentially represent an additional range extension. There was inadequate diagnostic material available to allow a certain identification of the specimen; therefore, this record has not been included in **Table 4-4**. There is potential for the specimen to be *Cyperus dactylotes*; the nearest record of which is more than 110 km west of the Survey Area (WAH 2022).

Additionally, *Senna artemisioides* subsp. *oligophylla* x *helmsii,* a hybrid form of the subspecies, was identified from two specimens within the Survey Area. This hybrid is considered to be widespread throughout the Pilbara; however, is not listed by the WAH (2022). *Senna artemisioides* subsp. *oligophylla* is a widely distributed subspecies of *Senna artemisioides* that occurs throughout the Pilbara in a range of habitats, including rocky hillsides to deep desert sands and is known to integrate into hybrid swarms (CSIRO Australia 1998).

4.2.1.4 Post-survey Likelihood of Occurrence

Following completion of the survey, the greater understanding of the landforms, soils and habitats of the Survey Area was used to undertake a subsequent likelihood of occurrence assessment of the Survey Area for significant flora. The revised assessment indicated that no additional significant flora taxa were considered likely to occur.

The revised assessment considered three taxa previously classified as likely, to be re-classified as possible: *Eremophila pilosa* (P1), *Vittadinia* sp. Coondewanna Flats (S. van Leeuwen 4684) (P1) and *Euphorbia inappendiculata* var. *inappendiculata* (P2) (**Appendix F**). Forty-one species were assessed as unlikely to occur.

4.2.1.5 Introduced Flora

Nine introduced flora (weeds) species were recorded during the survey (**Table 4-5**), none of which represent WoNS or Declared Pests. The diversity of introduced flora within the Survey Area is considered moderate; however, the suite of weeds recorded during the survey are common across the Pilbara bioregion. The distribution and abundance estimates should be considered indicative, as the actual populations for several weed species within the Survey Area is likely to be higher than what could be practically documented in during the survey.

Weeds were generally most prolific in portions of the Survey Area that correlated with the most intense cattle activity. **Cenchrus ciliaris* (Buffel Grass) was a dominant feature of some vegetation types in association with the banks of the Thirteen Creek channel. **Malvastrum americanum* (Spiked Malvastrum) was widespread throughout the Survey Area, especially in association with habitats dominated by Mulga, tussock grasses and drainage lines. Location details, habit descriptions, preferred habitat information and photographs of the introduced flora recorded during the survey are presented in **Appendix L**.

Table 4-5: Introduced flora recorded within the Survey Area and the prioritization status (DPaW 2013).

Species	Common Name	Number of Records^	Estimated Abundance^	Ecological Impact	Invasiveness
**Aerva javanica*	Kapok Bush	4	49	High	Rapid
**Bidens bipinnata*	Bippinate Beggartick	51	15,716	Unknown	Rapid
**Cenchrus ciliaris*	Buffel Grass	111	56,338	High	Rapid
**Citrullus amarus*	Citron Melon	43	374	Unknown	Moderate
**Malvastrum americanum*	Spiked Malvastrum	145	7,554	High	Rapid
**Setaria verticillata*	Whorled Pigeon Grass	7	95	High	Rapid
**Sonchus oleraceus*	Common Sowthistle	4	147	Low	Rapid
**Tribulus terrestris*	Caltrop	4	65	Unknown	Moderate
**Vachellia farnesiana* var. *farnesiana*	Mimosa Bush	4	9	High	Rapid

Note: ^ Represents data recorded during the Stantec surveys only, and includes records from the re-sampling of quadrats in Phase 2.

4.2.1.6 Species Richness and Survey Intensity

A SAC was calculated to determine whether sampling effort was adequate to describe the species richness of the Survey Area. Based on the 100 systematic sampling sites used in the analysis (73 quadrats, 27 relevés), the SAC is approaching the asymptote of total species richness (**Figure 4-3**). The sample-based extrapolation of the SAC indicates a further 100% increase in sampling effort (200 sampling sites) would only increase the total species richness by 9% (+34 species). The SAC also demonstrates that a 10% increase in sampling effort beyond the current level would result in less than a 2% increase in total species richness (**Figure 4-3**). Beyond 138 sampling sites, the SAC indicates a less than 1% increase in total species richness for every 10% increase in sampling effort.

The three asymptotic richness estimators (Chao2, Jackknife1, and Jackknife2) are provided in **Table 4-6** below. Based on these estimators, it is expected that between 80% and 91% of the total species richness of the Survey Area was captured by systematic sampling sites. While systematic sites represent the primary method used to record species within the Survey Area, supplementary methods such as opportunistic sampling, mapping notes, weed and significant flora searches were also used to record species within the Survey Area. An additional 30 species were recorded using these methods. With these species included, it is expected that between 88% and 99% of the total species richness of the Survey Area was recorded during the survey.

Based on the observed SAC, sample-based extrapolation, and total species richness indicators, any further systematic sampling effort would be unlikely to achieve a substantial increase in total species richness. As such, the survey effort is considered appropriate to adequately describe the species richness of the Survey Area.

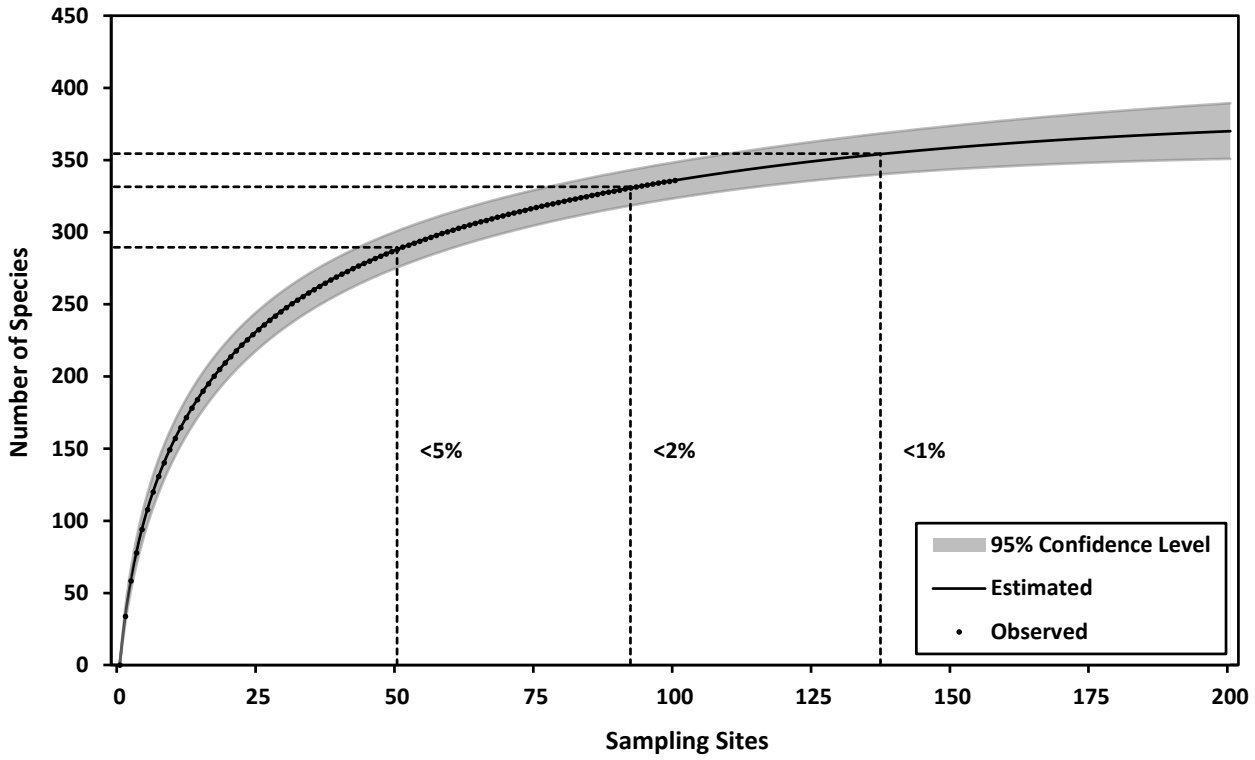


Figure 4-3: SAC of all quadrats and relevés within the Survey Area. The dotted lines represent thresholds where a 10% increase in sampling effort would result in less than 5%, 2%, and 1% increases in total species richness of the Survey Area.

Table 4-6: Total and extrapolated species richness *(following exclusions and mergers for statistical analysis) of the Survey Area, with asymptotic richness estimators for comparable incidence data. Brackets indicates the percentage of the richness estimator recorded during the Survey.

Taxa recorded	Bernoulli model	Chao2	Jackknife1	Jackknife2
336*	370 (91%)	379 (89%)	398 (84%)	418 (80%)

Relative to comparable surveys in the local region of the Survey Area, the species richness documented by the survey is considered high. The species diversity in many quadrats reflected the influence of rainfall events prior to both phases of survey and demonstrates the floristic responsiveness to favourable conditions within the arid zone of WA. During Phase 1 of the survey, more than 50 species were recorded in several quadrats, and occasionally more than 70 species were identified in some quadrats. The 358 fully identified vascular flora, including weeds, recorded during the survey was 62% greater than the Biologic (2019) survey, despite the Thirteen Creek and Davidson Creek Survey Area being smaller (**Table 4-7**). The survey also recorded 63% more species than the GHD (2009) survey, although the Survey Area was larger (**Table 4-7**).

Table 4-7: Species diversity recorded in the Survey Area compared to previous surveys, with respect to seasonal conditions, area (ha) and survey intensity.

Survey (Year)	Area (ha)	Survey Intensity, Timing and Rainfall	Sample Sites	Taxa Recorded
Astron (2019)	16,814	Reconnaissance survey conducted outside of optimal seasonal conditions (October)	63 relevés	197
Biologic (2019)	10,318	Single-phase detailed survey conducted following below-average wet season rainfall	63 quadrats 14 relevés	221
Onshore Environmental Consultants (2018b)	12,500	Reconnaissance survey conducted following below-average wet season rainfall	115 relevés	n/a
GHD (2009)	5,300	Single-phase survey conducted outside of optimal seasonal conditions (December)	26 quadrats 22 relevés	225
This survey (2022/2023)	8,736	Dual-phase detailed survey, both of which followed significant rainfall events in the month preceding the field surveys	73 quadrats 27 relevés	358

4.2.2 Vegetation

4.2.2.1 Broad Floristic Formations

Seven broad floristic formations were recorded within the Survey Area (**Table 4-8**), occurring across a variety of broad habitat types including:

- incised major and moderate drainage channels featuring *Eucalyptus* trees;
- broad drainage channels and floodplains, often supporting *Corymbia candida* subsp. *candida*;
- Mulga and tussock grass-dominated plains;
- hardpan plains;
- minor soak;
- *Triodia*-dominated plains; and
- low rocky hills.

Table 4-8: Broad floristic formations of the Survey Area.

Broad Floristic Formation	Number of Vegetation Types	Typical Habitat(s)
Acacia tall shrubland	2	• Mulga and tussock grass-dominated plains
Acacia tall open shrubland	2	• Mulga and tussock grass-dominated plains, *Triodia*-dominated plains
Aristida tussock grassland	1	• Hardpan plains
Cenchrus tussock grassland	1	• Floodplain supporting *Acacia sclerosperma* subsp. *sclerosperma*
Eriachne tussock grassland	1	• Minor soak
Eulalia tussock grassland	3	• Incised major and moderate drainage channels • Broad drainage channels and floodplains
Triodia open hummock grassland	6	• *Triodia*-dominated plains • Low rocky hills

4.2.2.2 Vegetation Types

A total of 16 vegetation types were recorded during the survey, none of which were considered analogous to a TEC or a PEC (**Table 4-9**). Of the 16 vegetation types, at least three quadrats were assessed in 14, in accordance with EPA (2016b) requirements. The remaining two vegetation types were particularly small features and are discussed further below.

A small area in the northwest of the Survey Area was mapped as a minor soak. The dominant grass species included *Eriachne flaccida* and *Eulalia aurea* and a large, single *Eucalyptus xerothermica* occurred in the centre of the landform; a tree which was uncommon throughout the Survey Area (**Plate 4-1**). Although the dominant grass species were not unusual within the Survey Area, the species assemblage at this location was different to the surrounding vegetation, which was

typically characterised by *Triodia basedowii*, beyond the Mulga communities nearer to the main drainage channel. Given the small and locally restricted nature of this feature (0.88 ha (0.01%) of the Survey Area), only one quadrat was sampled to document the area of interest.

Two small rocky hills occur near the western boundary of the Survey Area, and one quadrat was sampled on each. The vegetation type associated with these hills was characterised by *Grevillea wickhamii* subsp. *hispidula*, *Acacia hilliana* and *Triodia vanleeuwenii*. This vegetation type was mapped as covering 12.96 ha (0.15%) of the Survey Area. No further representations of this vegetation type occur within the Survey Area; therefore, it was not feasible to sample three replicate quadrats.

An additional area of interest with an unusual rocky substrate occurred in the southeast of the Survey Area. A single relevé (TCDCr23) was sampled to document the relatively unique vegetation assemblage, characterised by *Ptilotus obovatus* var. *obovatus*, *Sclerolaena cornishiana, Enneapogon caerulescens* and **Cenchrus ciliaris*. A high abundance of animal burrows and other evidence of fauna activity was also noted. Due to small size of the area (estimated to be approximately 0.26 ha (<0.01%) of the Survey Area), and its anomalous nature, quadrat installation was not considered to be appropriate.

Overall, the vegetation within the Survey Area generally reflected that expected to occur on comparable landforms of the PIL2 and GAS3 subregions. An overview of vegetation type mapping is presented in **Figure 4-4**, and detailed figures are provided in **Appendix J**. The locations of small ephemeral pools that were noted during the survey are also mapped in **Appendix J**.



Plate 4-1: Minor soak landform featuring an individual *Eucalyptus xerothermica* tree, with *Eulalia aurea* and *Eriachne flaccida* at the lower strata.

Table 4-9: Vegetation types recorded within the Survey Area.

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
Acacia tall open shrubland	Code: SS Aan EuaAriArc Seah Description: Tall open shrubland of *Acacia aneura* complex over very open tussock grassland of *Eulalia aurea*, *Aristida inaequiglumis* and *Aristida contorta* over scattered shrubs of *Senna artemisioides* subsp. *helmsii* on sandy/stony plains Associated species: *Acacia aneura, Acacia aptaneura, Acacia minyura, Acacia paraneura, Arivela viscosa, Evolvulus alsinoides* var. *villosicalyx, Gomphrena kanisii, Goodenia nuda, Hakea lorea* subsp. *lorea, Hibiscus burtonii, Paraneurachne muelleri, Portulaca filifolia, Ptilotus obovatus* var. *obovatus, Rutidosis helichrysoides* subsp. *helichrysoides.*	TCDC21 TCDC22 TCDC23 TCDC35 TCDC38 TCDC39 TCDC85 TCDC90 TCDC103	Very good to excellent (cattle grazing, weed infestation)	3,215.71	36.81	
Acacia tall shrubland	Code: SS Aan Cocc EuaAriArhh Description: Tall shrubland of *Acacia aneura* complex with low open woodland of *Corymbia candida* subsp. *candida* over very open tussock grassland of *Eulalia aurea*, *Aristida inaequiglumis* and *Aristida holathera* var. *holathera* on hardpan, sandy/stony plains and floodplains Associated species: *Abutilon macrum, Acacia aneura, Acacia aptaneura, Aristida contorta, Goodenia nuda, Ipomoea muelleri, Ptilotus polystachyus, Sida fibulifera, Senna artemisioides* subsp. *helmsii, Solanum lasiophyllum.*	TCDC27 TCDC33 TCDC36 TCDC37 TCDC80 TCDC93 TCDC99	Very good to excellent	1,431.88	16.39	
Eulalia tussock grassland	Code: FP EuaTtAri EvCocc Description: Tussock grassland of *Eulalia aurea*, *Themeda triandra* and *Aristida inaequiglumis* with low open woodland of *Eucalyptus victrix* and *Corymbia candida* subsp. *candida* on floodplains and broad drainage Associated species: *Aristida contorta, Aristida holathera* var. *holathera, *Cenchrus ciliaris, Chrysopogon fallax, Evolvulus alsinoides* var. *villosicalyx, Gomphrena kanisii, Ipomoea muelleri, Pterocaulon sphacelatum, Rutidosis helichrysoides* subsp. *helichrysoides*, *Solanum lasiophyllum.*	TCDC16 TCDC50 TCDC54 TCDC91 TCDC100	Very good to excellent	813.79	9.32	

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
Acacia tall shrubland	Code: FP Aan Erfs and/or SeaoSeah ArcAriEua Description: Tall shrubland of *Acacia aneura* complex over open shrubland of *Eremophila fraseri* subsp. *fraseri*, and/or *Senna artemisioides* subsp. *helmsii* and *Senna artemisioides* subsp. *oligophylla* over *Aristida contorta*, *Aristida inaequiglumis* and *Eulalia aurea* very open tussock grassland on plains Associated species: *Acacia aneura, Acacia aptaneura, Acacia minyura, Acacia paraneura, Arivela viscosa, Evolvulus alsinoides* var. *villosicalyx, Gomphrena kanisii, Hibiscus burtonii, Isotropis iophyta, Portulaca filifolia, Psydrax latifolia*, *Senna artemisioides* subsp. *helmsii.*	TCDC05 TCDC06 TCDC07 TCDC08 TCDC09 TCDC17 TCDC28	Excellent (cattle grazing)	791.35	9.06	
Aristida tussock grassland	Code: FP ArcEuaErfc Ate Seah Description: Tussock grassland of *Aristida contorta*, *Eulalia aurea* and *Eriachne flaccida* with scattered tall shrubs of *Acacia tetragonophylla* over scattered shrubs of *Senna artemisioides* subsp. *helmsii* on hardpan plains Associated species: *Abutilon macrum, Chrysopogon fallax, Evolvulus alsinoides* var. *villosicalyx, Goodenia lamprosperma, Goodenia nuda, Peplidium aithocheilum.*	TCDC26 TCDC31 TCDC82 TCDC89	Excellent	630.44	7.22	
Acacia tall open shrubland	Code: SA AanAancHall TbAriPamu Inli Description: Tall open shrubland of *Acacia aneura* complex, *Acacia ancistrocarpa* and *Hakea lorea* subsp. *lorea* over very open hummock grassland of *Triodia basedowii* with scattered tussock grasses of *Aristida inaequiglumis* and *Paraneurachne muelleri* with scattered low shrubs of *Indigofera linnaei* on hardpan and sand plains Associated species: *Afrohybanthus aurantiacus, Aristida inaequiglumis, Dicrastylis cordifolia, Eragrostis eriopoda, Eulalia aurea, Euphorbia boophthona, Hakea lorea* subsp. *lorea, Paraneurachne muelleri, Ptilotus astrolasius, Senna artemisioides* subsp. *helmsii, Solanum lasiophyllum, Triodia basedowii.*	TCDC01 TCDC02 TCDC03 TCDC81 TCDC83	Excellent	535.33	6.13	

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
Triodia open hummock grassland	Code: SA Tb AanApr/Apa PamuEuaAri Description: Open hummock grassland of *Triodia basedowii* with tall open shrubland of *Acacia aneura* complex with *Acacia pruinocarpa* and/or *Acacia pachyacra* over scattered tussock grasses of *Paraneurachne muelleri*, *Eulalia aurea* and *Aristida inaequiglumis* on sandy/stony plains Associated species: *Acacia aneura, Acacia aptaneura, Acacia macraneura, Aristida contorta, Aristida holathera* var. *holathera, Eragrostis eriopoda, Eremophila capricornica* (P1), *Euphorbia boophthona, Hakea lorea* subsp. *lorea, Hibiscus burtonii, Hibiscus sturtii* var. *truncatus, Senna artemisioides* subsp. *oligophylla.*	TCDC61 TCDC86 TCDC92 TCDC94 TCDC96 TCDC105	Excellent	408.25	4.67	
Triodia open hummock grassland	Code: HS Tv AprAtru(+/-)Gbr EreCaca Description: Open hummock grassland of *Triodia vanleeuwenii* over tall open shrubland of *Acacia pruinocarpa*, *Acacia trudgeniana* and/or *Grevillea berryana* over scattered low shrubs of *Eremophila exilifolia* and *Calytrix carinata* on hillslopes Associated species: *Acacia pachyacra, Afrohybanthus aurantiacus,* *Eulalia aurea, Gomphrena kanisii, Goodenia triodiophila, Hakea lorea* subsp. *lorea, Halgania solanacea* var. Mt Doreen (G.M. Chippendale 4206), *Hibiscus sturtii* var. *truncatus, Indigofera monophylla, Paraneurachne muelleri*, *Senna artemisioides* subsp. *oligophylla.*	TCDC51 TCDC52 TCDC53 TCDC88	Very good to excellent	223.96	2.56	
Triodia open hummock grassland	Code: SA TbAriEua(+/-) Erer HallAan Description: Open hummock grassland of *Triodia basedowii* with open tussock grassland of *Aristida inaequiglumis* and *Eulalia aurea* and/or *Eragrostis eriopoda* with scattered tall shrubs of *Hakea lorea* subsp. *lorea* and *Acacia aneura* complex on sandplains Associated species: *Acacia aptaneura, Aristida holathera* var. *holathera, Bonamia erecta, Cucumis variabilis, Dicrastylis cordifolia, Kennedia prorepens, Paraneurachne muelleri, Ptilotus astrolasius, Solanum lasiophyllum.*	TCDC04 TCDC19 TCDC20	Excellent	188.14	2.15	

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
Eulalia tussock grassland	Code: MA EuaTtCc Ecr(+/- Ev) Aan Description*:* Tussock grassland of *Eulalia aurea*, *Themeda triandra* and **Cenchrus ciliaris* with open woodland of *Eucalyptus camaldulensis* subsp. *refulgens* and/or *Eucalyptus victrix* over tall open shrubland of *Acacia aneura* on drainage lines Associated species: *Abutilon macrum, Acacia aneura, Acacia aptaneura, Aeschynomene indica, Aristida holathera* var. *holathera, Arivela viscosa, Duperreya commixta, Evolvulus alsinoides* var. *decumbens, Ipomoea racemigera, Nicotiana occidentalis, Portulaca filifolia, Solanum lasiophyllum, Themeda avenacea.*	TCDC15 TCDC66 TCDC68 TCDC71 TCDC73 TCDC75 TCDC87	Poor to excellent (cattle grazing, weed infestation)	147.03	1.68	
Triodia open hummock grassland	Code: SA Tb Dic Hasm Pamu Description: Open hummock grassland of *Triodia basedowii* with low open shrubland of *Dicrastylis cordifolia* and *Halgania solanacea* var. Mt Doreen (G.M. Chippendale 4206) scattered tussock grasses of *Paraneurachne muelleri* on sandplains Associated species: *Acacia pachyacra, Acacia pruinocarpa, Aristida holathera var. holathera, Aristida inaequiglumis, Bonamia erecta, Calandrinia balonensis, Eulalia aurea, Hakea lorea* subsp. *lorea, Indigofera georgei, Scaevola parvifolia* subsp. *pilbarae, Solanum centrale.*	TCDC95 TCDC97 TCDC101	Excellent	138.99	1.59	
Triodia open hummock grassland	Code: FP Tb AprAancApa Description: Open hummock grassland of *Triodia basedowii* with tall open shrubland of *Acacia pruinocarpa*, *Acacia ancistrocarpa* and *Acacia pachyacra* on floodplains and plains Associated species: *Acacia tetragonophylla, Eragrostis eriopoda, Eremophila forrestii* subsp. *forrestii, Eulalia aurea, Euphorbia boophthona, Hakea lorea* subsp. *lorea, Hibiscus sturtii* var. *truncatus, Paraneurachne muelleri, Ptilotus obovatus* var. *obovatus.*	TCDC18 TCDC58 TCDC84	Excellent	92.61	1.06	

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
**Cenchrus* tussock grassland	Code: FP CcTt Ass Ch Rhe Description: Tussock grassland of **Cenchrus ciliaris* and *Themeda triandra* with tall shrubland of *Acacia sclerosperma* subsp. *sclerosperma* with low open woodland of *Corymbia hamersleyana* over scattered shrubs of *Rhagodia eremaea* on floodplains and broad drainage Associated species: *Acacia tetragonophylla*, *Chrysopogon fallax, Dichanthium sericeum* subsp. *polystachyum, Enneapogon caerulescens, Enneapogon polyphyllus, Eremophila forrestii* subsp. *forrestii, Eremophila longifolia, Eulalia aurea, *Malvastrum americanum, Ptilotus obovatus* subsp. *obovatus, Senna artemisioides* subsp. *helmsii, Sida fibulifera.*	TCDC111 TCDC112 TCDC113 TCDCr28 TCDCr30 TCDCr32	Poor to good (cattle grazing, substantial weed infestation)	58.18	0.67	
Eulalia tussock grassland	Code: FP EuaAriArc Cocc Description: Tussock grassland of *Eulalia aurea*, *Aristida inaequiglumis* and *Aristida contorta* with scattered low trees of *Corymbia candida* subsp. *candida* on sandy/stony plains and floodplains Associated species: *Acacia ancistrocarpa, Acacia aptaneura, Acacia tetragonophylla, Bulbostylis barbata, Evolvulus alsinoides* var. *villosicalyx, Goodenia lamprosperma, Hakea lorea* subsp. *lorea, Isotropis iophyta, Pterocaulon sphacelatum.*	TCDC10 TCDC11 TCDC12 TCDC41	Very good to excellent (cattle grazing)	46.81	0.54	
Triodia open hummock grassland	Code: HS Tv Grwh Ahi Description: Open hummock grassland of *Triodia vanleeuwenii* with open shrubland of *Grevillea wickhamii* subsp. *hispidula* over low open shrubland of *Acacia hilliana* on hillslopes Associated species: *Afrohybanthus aurantiacus, Amphipogon sericeus, Calytrix carinata, Eragrostis eriopoda, Eriachne mucronata, Goodenia stobbsiana, Goodenia triodiophila, Hibiscus sturtii* var. *truncatus, Petalostylis cassioides, Ptilotus calostachyus, Seringia exastia.*	TCDC29 TCDC30	Excellent	12.96	0.15	

Broad Floristic Formation	Vegetation Type	Sample Sites	Vegetation Condition	Extent within the Survey Area		Representative Photograph
				Area (ha)	Proportion (%)	
Eriachne tussock grassland	Code: OT EfEua AaApAanc Ex Description: Tussock grassland of *Eriachne flaccida* and *Eulalia aurea* with tall open shrubland of *Acacia aptaneura*, *Acacia paraneura* and *Acacia ancistrocarpa* and scattered low tree of *Eucalyptus xerothermica* on a sandy/stony plain Associated species: *Abutilon macrum, Alternanthera denticulata, Aristida inaequiglumis, Corymbia candida* subsp. *candida, Eragrostis kennedyae*, *Goodenia lamprosperma, Goodenia nuda, Rutidosis helichrysoides* subsp. *helichrysoides.*	TCDC98	Excellent	0.88	0.01	

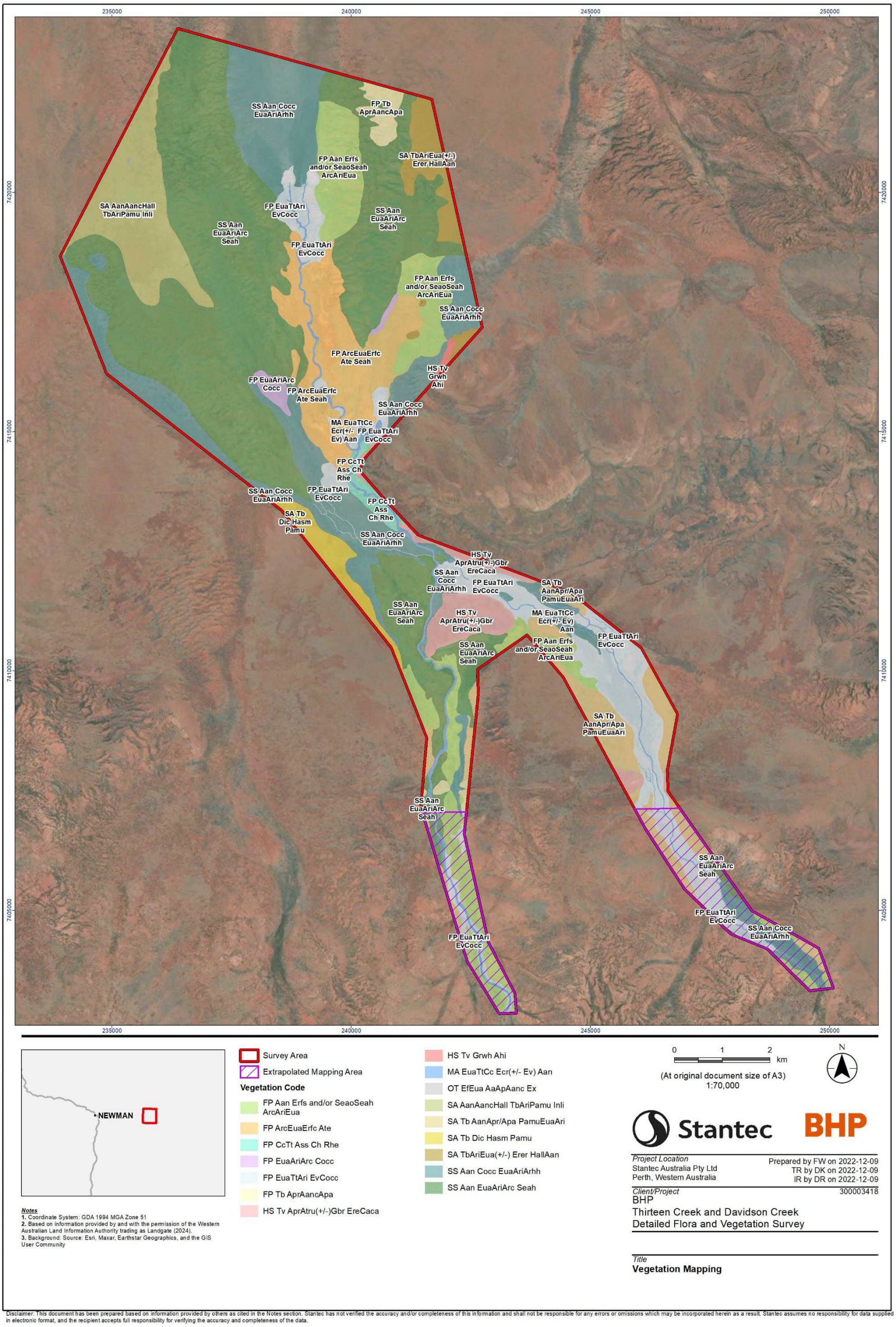


Figure 4-4: Vegetation type mapping within the Survey Area.

4.2.2.3 Floristic Analysis

The dendrograms and nMDS plots generated from the floristic analysis are presented in **Appendix M**. The analysis broadly supported the quadrats used to inform vegetation types within the Survey Area. The floristic composition of quadrats showed a strong grouping of based on landform type. Some intergrading occurred between vegetation units on similar landforms. In particular, floodplain and sandy/stony plain vegetation types often shared many of the same species. Some boundaries between vegetation types were subtle and often not well defined.

In these cases, the floristic analysis provides supplementary value to vegetation mapping, Statistical analysis can be skewed towards grouping quadrats based on their shared species, rather than the primary species that were considered characteristic of each vegetation type. In addition, vegetation that had recently been impacted by fire was a likely source of discrepancy between analysis results and the sample site replication grouping.

Analysis of previous nearby survey data demonstrates the Survey Area had similarities in floristic composition to the Astron (2019) survey area, and to a lesser extent the Biologic (2019) and GHD (2009) survey areas (**Appendix M)**. This is supported by the landforms these survey areas intersect, with the majority of the Astron (2019) survey area occurring on similar drainage lines (Caramulla Creek) and associated floodplains as Thirteen Creek and Davidson Creek, while the Biologic (2019) and GHD (2009) survey areas also intersected large areas of hills and ranges that were not widespread within the Survey Area.

4.2.2.4 Vegetation of Significance

No vegetation types were considered to be analogous to any of the known TECs or a PECs for the wider area. Eight vegetation types supported populations of *Eremophila capricornica* (P1) (**Table 4-3**), with those vegetation types considered to be of high local significance, and typically associated with clay-loam plains or, occasionally, among a rocky ironstone substrate (**Plate 4-2**, **Plate 4-3**).

Five vegetation types supported populations of *Ipomoea racemigera* (P2), two of which are also considered to represent GDV (discussed further in **Section 4.2.2.5**), therefore these are also considered to be of high local significance. The three vegetation types that supported *Crotalaria smithiana* (P3) also supported *Ipomoea racemigera* (P2) (**Table 4-3**).

Rhagodia sp. Hamersley (M. Trudgen 17794) (P3) was recorded within 12 vegetation types within the Survey Area. The 72 vouchered records lodged at the WAH (2023) is a sizeable underestimate of the volume of records of this taxon when considering survey data from across the bioregion held by the internal databases of various proponents that commission flora and vegetation surveys. Vouchered records are widely distributed across the Pilbara bioregion (an east-west range of over 350 km, and a north-south range of over 150 km), and include records within DBCA managed lands such as the Karijini National Park (WAH 2023). The vegetation types that were mapped within the Survey Area which supported *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) are considered to be of moderate local significance, and widely distributed throughout the Pilbara bioregion.

The entirety of some vegetation types listed in **Table 4-3** are not considered to represent core habitat for the listed significant flora; in some instances, record points occur near boundaries of vegetation types, or within ecotones.



Plate 4-2: Typical habitat of *Eremophila capricornica* (P1), consisting of clay-loam soils and vegetation of Mulga, tussock grasses and *Triodia basedowii*.



Plate 4-3: *Eremophila capricornica* (P1) population occurring on rocky substrate also supporting Mulga.

4.2.2.5 Groundwater Dependent Vegetation

One facultative phreatophytic tree species, known to be a key GDV indicator, was recorded within the Survey Area; *Eucalyptus camaldulensis* subsp. *refulgens*. *Eucalyptus camaldulensis* subsp. *refulgens* was a typical dominant feature of the upper strata in one vegetation type (MA EuaTtCc Ecr(+/- Ev) Aan), typically associated with the incised banks and sandy channel of Thirteen Creek (**Plate 4-4**, **Plate 4-5**). Towards the northern extent of the Survey Area, the channel divides and dissipates into a broad grassy floodplain with an absence of *Eucalyptus camaldulensis* subsp. *refulgens*.

In addition, *Eucalyptus victrix* also featured in one vegetation type (FP EuaTtAri EvCocc) within the Survey Area in conjunction with *Corymbia candida* subsp. *candida* (vadophyte). This vegetation type was typically associated with floodplains of Davidson Creek and may have a lower dependence on groundwater compared to phreatophytes. In low numbers, *Eucalyptus victrix* is potentially more accurately operating as a vadophyte; however, higher density populations of the species can be categorised as facultative phreatophytes (Rio Tinto 2018). The vadose zone is the unsaturated zone above the water table, in which the pores between soil particulates are only partially filled with water. Vadose water can comprise either percolating rainwater or discharging groundwater (Nevill et al. 2010). The vadose zone can also be recharged by surface flows, often a result of rainwater and runoff. Vadophytes have a low dependence on groundwater and primarily use water held in this vadose zone (Sommer and Froend 2010); however, some vadophytes also require increased persistence in the availability of soil moisture to meet their environmental water requirements (Harter and Hopmans 2004).

Eucalyptus victrix can access groundwater when the depth to groundwater is shallow (O'Grady 2009). While they are a relatively drought-tolerant species, individuals that are accustomed to accessing adequate groundwater resources can decline in condition when groundwater becomes limited, particularly when there is a decline in the typical depth to groundwater and their rate of decline exceeds their ability to adapt. The combined extent of the vegetation types in which *Eucalyptus camaldulensis* subsp. *refulgens* or *Eucalyptus victrix/ Corymbia candida* subsp. *candida* were dominant within the upper strata was 960.82 ha (11%) of the Survey Area (**Table 4-10**).



Plate 4-4: The broad, sandy channel of Thirteen Creek with GDV indicator species *Eucalyptus camaldulensis* subsp. *refulgens* dominant amongst the vegetation.



Plate 4-5: Narrow, incised channel of Thirteen Creek with GDV indicator species *Eucalyptus camaldulensis* subsp. *refulgens* dominant amongst the vegetation.

Table 4-10: GDV types within the Survey Area.

Vegetation Type	Extent within the Survey Area	
	Area (ha)	Proportion (%)
MA EuaTtCc Ecr(+/- Ev) Aan	147.03	1.68
FP EuaTtAri EvCocc	813.79	9.32
Total	**960.82**	**11.00**

4.2.2.6 Mulga (*Acacia aneura* complex)

Mulga was common across the majority of the Survey Area and occurred in groves and in distinct banding patterns within the Survey Area (**Plate 4-6**). Mulga-dominated vegetation types were mapped across 6,382.51 ha (73%) of the Survey Area, typically associated with clay-loam plains. Kendrick (2001) listed several 'Ecosystems at Risk' for the PIL2 subregion, which includes the 'grove-intergrove Mulga communities at southern end of northern apron of Hamersley Range'. Patches of dense Mulga act as a sink for water and nutrients by intercepting sheet flow[1] run-off, thereby increasing soil moisture and nutrients which create localised fertile patches that increases floristic diversity and vegetation density (Astron 2010). Substantial increases or decreases to the volume and/or rate of sheet flow may impact on Mulga communities.

Of the eight land systems mapped within the Survey Area, only the Fortescue land system is likely to support sheet flow (van Vreeswyk *et al.* 2004). The Fortescue land system is mapped across approximately 31% of the Survey Area. Three Mulga-dominated vegetation types (**Table 4-11**) comprising 5,438.94 (62%) of the Survey Area occurred in varying degrees of banding patterns and are considered to be representative of the Ecosystem at Risk as described by Kendrick (2001). The majority of the distinctly banded Mulga within the Survey Area was located away from the main channel and banks of Thirteen Creek and the Davidson Creek drainage systems.



Plate 4-6: Mulga community within the Survey Area.

[1] *Sheet flow is an overland flow or downslope movement of water taking the form of a thin film over a relatively smooth surface where it is not concentrated into channels larger than rills Miller, J. T., Andrew, R. A. and Maslin, B. R. (2002) Towards an understanding of variation in the Mulga complex (Acacia aneura and relatives). Conservation Science Western Australia 4(3): pg. 19-35., as cited in Astron, Environmental Services. (2010) Risk Assessment of Rail Corridor - Potential Impacts on Sheet Flora Dependent Vegetation. Unpublished report prepared for Oakajee Port and Rail Pty Ltd..*

Table 4-11: Vegetation types within the Survey Area analogous to the 'grove-intergrove Mulga communities' Ecosystem at Risk.

Vegetation Type	Extent within the Survey Area	
	Area (ha)	Proportion (%)
SS Aan EuaAriArc Seah	3,215.71	36.81
SS Aan Cocc EuaAriArhh	1,431.88	16.39
FP Aan Erfs and/or SeaoSeah ArcAriEua	791.35	9.06
Total	**5,438.94**	**62.26**

4.2.2.7 Vegetation Condition

Vegetation condition within the Survey Area ranged from excellent to poor, with the majority of the Survey Area (approximately 80%) mapped as excellent condition (**Table 4-12**). Cattle grazing and weed proliferation were the most common forms of disturbance to the vegetation and were generally more notable in close proximity to drainage lines within the Survey Area. Across the majority of the Survey Area, the structure and composition of flora and vegetation had not been permanently altered or degraded as a result of human influence. An overview of vegetation condition mapping is presented in **Figure 4-5**, and detailed figures are provided in **Appendix L**.

Fire scars were evident within the Survey Area (**Figure 4-6**) and caused minor variability in the structure and composition of some portions of the Survey Area. Some vegetation towards the northern extent of the Survey Area had been burnt in between Phase 1 and Phase 2, including occasional quadrats (**Plate 4-7**). Relationships between fire and the ecosystems of arid and semi-arid Australia over millennia has been extensively studied (Gill *et al.* 1999, Nano *et al.* 2012, Parsons and Gosper 2011, Turner *et al.* 2008), and the fire history and patterns observed in the Survey Area do not suggest a frequency or intensity other than what would be expected to naturally occur.

Table 4-12: Vegetation condition of the Survey Area.

Condition (EPA 2016b, Trudgen 1988)	Extent within the Survey Area	
	Area (ha)	Proportion (%)
Excellent	6,988.34	79.99
Very good	1,630.65	18.67
Good	40.33	0.46
Poor	76.98	0.88
Degraded	0	0
Completely degraded	0	0



Plate 4-7: Quadrat TCDC10, photographed during Phase 2, with evidence of recent fire.

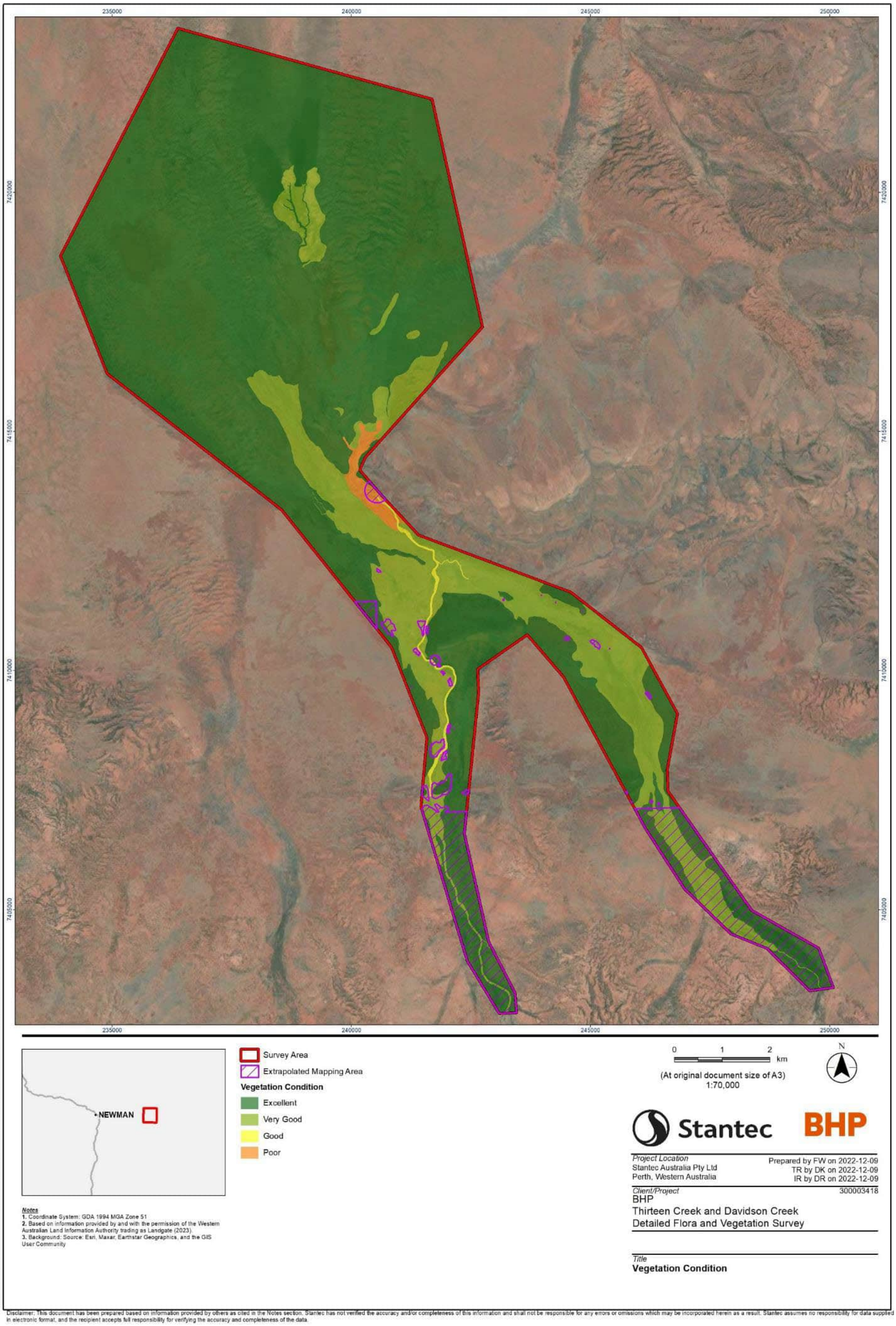


Figure 4-5: Vegetation condition mapping within the Survey Area.

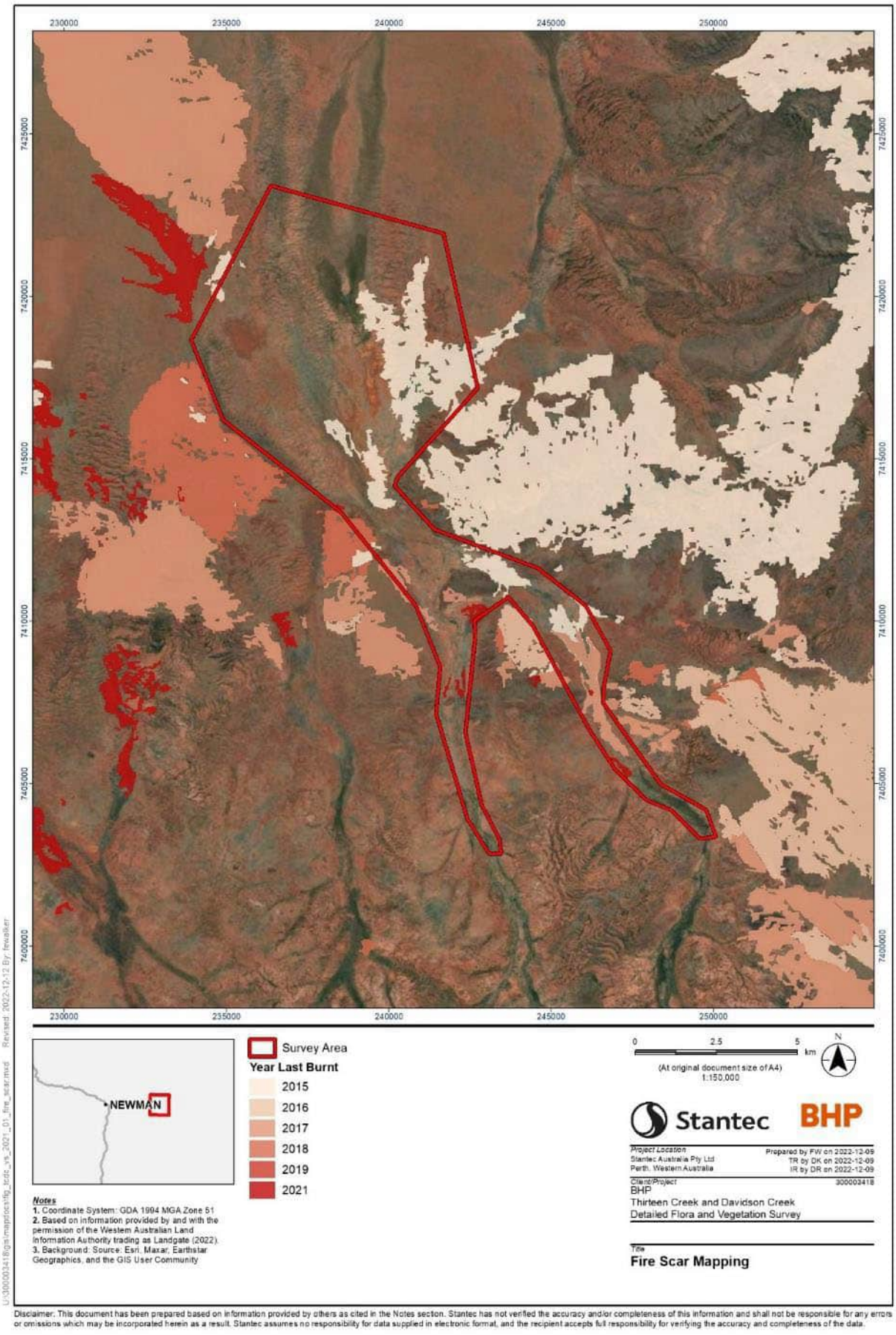


Figure 4-6: Recent fire extent mapping (2015-2021) in the vicinity of the Survey Area (DBCA 2022a).

5 Limitations and Constraints

There are several possible limitations and constraints that can affect the adequacy of flora and vegetation surveys. Following the completion of the survey and the preparation of this report, a review of limiting factors was conducted, as summarised in **Table 5-1**.

Table 5-1: Potential limitations and constraints associated with the survey.

Factor	Constraint	Comments
Competency and experience of consultants	No	The field personnel responsible for undertaking the survey have considerable experience in conducting environmental surveys for the purpose of environmental impact assessment. Specifically, senior botanist and field survey lead, Daniel Roocke, has over 10 years' experience in the Pilbara, including being familiar with the flora and vegetation of the local region. Daniel's experience meets the expectations of the EPA (2016b), whereby the survey lead must have at least five years of bioregional experience. Daniel was supported by qualified and suitably experienced personnel, including Principal Taxonomist Sharnya Yates who conducted specimen identification.
Scope	No	The scope of works was well defined, and the objectives of the survey were clear and understood. Several portions in the south of the Survey Area did not receive on-ground assessment due to heritage reasons. As such, mapping within portions of the Survey Area was extrapolated, given traverses were not possible.
Proportion of species identified	No	There was a high degree of floristic diversity recorded during the survey and the suite of species was considered to be representative of what would be expected of a survey at this location. The 358 fully identified vascular flora species recorded during the survey is 62% greater than the Biologic (2019) survey and 63% greater than the GHD (2009) survey. A further 100 records were not able to be fully identified and there is potential for several of these to represent additional families, genera or species. Three unconfirmed records potentially represent *Eremophila capricornica* (P1), however a conclusive identity was not possible. Approximately 72% of records not able to be fully identified were recorded in Phase 1.
Information sources (e.g. historic or recent)	No	Broad scale historic information was available and reviewed as part of the desktop assessment (Beard 1975a, Desmond *et al.* 2001, Kendrick 2001, Shepherd *et al.* 2002, van Vreeswyk *et al.* 2004). Several flora and vegetation surveys have previously occurred either within, or in proximity to the Survey Area. The reports and data were assessed during the literature review to inform the significant flora likelihood assessment and potential landforms and vegetation types within the Survey Area. A portion of the GHD (2009) survey area overlapped with the 2022 Survey Area, and significant flora records from Biologic (2021) targeted searches were located within the 2022 Survey Area. As such, the previous data and outcomes were incorporated into the results where appropriate.
Completeness and intensity	No	Survey intensity was considered adequate to document the flora and vegetation values within the Survey Area. Some distinct vegetation types within the Survey Area were relatively small and locally restricted in their representation. The quadrats adequately document the landforms and species assemblages on these occasions. However, it was impractical and not appropriate to install three replicate quadrats for two defined vegetation types. Across the portions of the Survey Area which were not traversed, vegetation type and vegetation condition mapping was conducted as a desktop exercise by extrapolating from nearby information and interpretation of aerial imagery and appropriate geospatial layers. Therefore, the confidence in the mapping within the restricted areas was lower than the mapping conducted for the majority of the Survey Area. Furthermore, it is likely additional populations or individuals of the four recorded Priority flora within the Survey Area occur. These species were more widespread than could be practically documented during the survey; however, the locations, where they are mapped, adequately inform the supporting vegetation types and habitat preferences.

Factor	Constraint	Comments
Timing / weather / season / cycle	No	Phase 1 and Phase 2 of the survey were scheduled in accordance with the optimal seasons for flora and vegetation surveys as prescribed by EPA (2016b). A total of 126.6 mm of rain was recorded at the Newman Aero weather station during the three months preceding Phase 1 of the survey, 54.7 mm below the long-term mean for the same period; however, a considerable diversity of ephemeral and herbaceous species were present and readily identifiable. Furthermore, surface water pools were regularly noted within the Survey Area and the vegetation generally appeared lush and healthy. Rainfall recorded in the three months preceding Phase 2 of the survey was 34.5 mm above the long-term mean rainfall for the same period. As such, the seasonal conditions were considered above average and were not a limiting factor for the survey.
Disturbance	No	Relatively small portions of the Survey Area had been burnt in the months between Phase 1 and Phase 2, including at some quadrats. Overall, disturbance did not limit the field survey team(s) ability to address the scope and objectives of the survey, or prevent accessed to the Survey Area.
Resources	No	Resources were sufficient to complete the scope of works. All tools, equipment and materials were available to achieve the aims and objectives of the survey.
Remoteness / access problems	No	Conventional vehicle access was not available for the majority of the Survey Area. Therefore, the Survey Area was primarily accessed by helicopter for this assessment. While some logistical constraints and lost time existed for the helicopter access, this approach enabled thorough coverage of the Survey Area.

6 Summary

BHP WAIO is investigating areas that may be suitable for receiving dewatering discharge and/or the establishment of a borefield as part of the EPRSWP project. One area being considered for investigation is in the vicinity of Thirteen Creek and Davidson Creek, located approximately 67.5 km east of Newman. A detailed flora and vegetation survey of the Survey Area comprising a total area of 8,736.30 ha was conducted over two phases in 2022; 5 to 13 April and 11 to 22 October. Both phases followed rainfall events in the preceding month which provided good seasonal conditions.

Thirteen Creek and Davidson Creek are ephemeral drainage lines which flow to the north following substantial rainfall events; however, they remain dry for most of the year. A series of small ephemeral pools can remain within the channel for extended periods of time after the rainfall events and were evident during both phases of the survey. Thirteen Creek and Davidson Creek merge within the Survey Area and continue as Thirteen Creek for approximately 70 km before joining Caramulla Creek and Jimblebar Creek, upstream of the Fortescue River. In the northern portion of the Survey Area, the main drainage channel divides and dissipates into a broad grassy floodplain towards the northern extent of the Survey Area.

Within the majority of the Survey Area, Thirteen Creek featured incised banks and a sandy channel characterised by *Eucalyptus camaldulensis* subsp. *refulgens* and riparian vegetation typical of drainage systems of the region. In the southern-most portion of the Survey Area, Davidson Creek also features a single channel; however, it diverges into a network of less substantial incised banks and channels, surrounded by a broad floodplain comprised of clay soils and characterised by *Corymbia candida* subsp. *candida*, *Eucalyptus victrix*, and a suite of tussock grasses and herbs. Thirteen Creek and Davidson Creek merge within the central portion of the Survey Area and continue northward as Thirteen Creek, although the sandy channel divides and dissipates into a broad grassy floodplain towards the northern extent of the Survey Area. This drainage eventually connects with Caramulla Creek and Jimblebar Creek, upstream of the Fortescue River.

A total of 73 quadrats and 27 relevés were sampled during the survey to document a representative species inventory and to inform vegetation type mapping and vegetation condition mapping with the Survey Area. Furthermore, opportunistic sampling and targeted searches were conducted throughout the Survey Area where possible, to supplement the suite of flora recorded within quadrats and relevés.

There were 358 fully identified vascular flora from 52 families and 160 genera recorded during the survey with the most represented families being Fabaceae, Poaceae and Malvaceae; the most diverse genus was *Acacia*. There were 100 records which could not be confirmed to species or sub-species/variety level (where applicable), and there is potential for several of these to represent additional families, genera or species. Approximately 72% of records not able to be fully identified were recorded in Phase 1. Three records potentially represent *Eremophila capricornica* (P1), however a conclusive identity was not possible. Based on the SACs, it is expected that between 88% and 99% of the total species richness of the Survey Area was recorded during the survey.

No species listed as Threatened flora under either State or Commonwealth legislation were recorded within the Survey Area. Four State-listed Priority flora were recorded during the survey; *Eremophila capricornica* (P1), *Ipomoea racemigera* (P2), *Crotalaria smithiana* (P3) and *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3).

Nine introduced flora species (weeds) were recorded during the survey. Weeds were generally most prolific in portions of the Survey Area that correlated with intensive cattle activity. **Cenchrus ciliaris* (Buffel Grass) was a dominant feature of some vegetation types in association with the banks of the Thirteen Creek channel. **Malvastrum americanum* (Spiked Malvastrum) was widespread throughout the Survey Area, especially in association with habitats dominated by Mulga, tussock grasses and drainage lines.

No vegetation types identified and described within the Survey Area were considered analogous to any TEC or PEC listed under the BC Act or EPBC Act. There were 16 vegetation types described and mapped within the Survey Area representing seven broad floristic formations. Three Mulga-dominated vegetation types, comprising 5,438.94 (62%) of the Survey Area, occurred in varying degrees of banding patterns and are considered to be representative of an Ecosystem at Risk.

Landform and floristic assemblages within the Survey Area indicates one vegetation type (MA EuaTtCc Ecr(+/- Ev) Aan) within the Survey Area represents a GDE. *Eucalyptus camaldulensis* subsp. *refulgens* is a facultative phreatophyte and was dominant within the riparian vegetation associated with the incised channels within the Survey Area. A second vegetation type (FP EuaTtAri EvCocc) which may represent a GDE was typically associated with floodplains of Davidson Creek and consisted of an overstorey of *Eucalyptus victrix* and *Corymbia candida* subsp. *candida.*

Vegetation condition within the Survey Area ranged from excellent to poor. Approximately 80% of the Survey Area was mapped as excellent due to the majority of vegetation types exhibiting minor or no evidence of degradation as a result of human influence. Cattle grazing and weed proliferation were the most common forms of impact to the vegetation condition. Fire scars were evident within the Survey Area and had temporarily altered the structure and composition of some portions of the Survey Area.

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Appendices

We design with community in mind

Appendix A Environmentally Sensitive Areas

Under Section 51B of the *Environmental Protection Act (1986)*, Environmentally Sensitive Areas (ESAs) are declared by the Minister for Environment The following areas are declared to be ESAs:

- a declared World Heritage property as defined in section 13 of the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth;
- an area that is included on the Register of the National Estate, because of its natural heritage value, under the Australian Heritage Council Act 2003 of the Commonwealth;
- a defined wetland and the area within 50 metres of the wetland. Defined wetlands include Ramsar wetlands, conservation category wetlands and nationally important wetlands;
- the area covered by vegetation within 50 metres of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located;
- the area covered by a threatened ecological community;
- a Bush Forever site listed in "Bush Forever" Volumes 1 and 2 (2000), published by the Western Australia Planning Commission, except to the extent to which the site is approved to be developed by the Western Australia Planning Commission;
- the areas covered by the Environmental Protection (Gnangara Mound Crown Land) Policy 1992;
- the areas covered by the Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002;
- the areas covered by the lakes to which the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 applies; and
- protected wetlands as defined in the Environmental Protection (Southwest Agricultural Zone Wetlands) Policy 1998.

Appendix B Codes and Terms used to Describe Species of Significance, and Introduced Flora Categories and Classifications

Flora and certain ecological communities may be accorded legislative protection by being listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or the *Biodiversity Conservation Act 2016* (WA) (BC Act), or by being listed on the Department of Biodiversity, Conservation, and Attractions Priority List. This Appendix presents a summary of the different rankings and listings used to describe conservation status. Some categories, such as 'extinct', 'extinct in the wild' and 'conservation dependent' (EPBC Act) are not presented here, as the table includes only the information needed to fully understand the codes presented in the preceding report. Refer to the relevant legislation for a full description of all codes in use, as well as their associated criteria.

The Environmental Factor Guideline for Flora and Vegetation (EPA 2016a) states that flora and vegetation may be considered significant for a range of reasons, including, but not limited to the following:

- **Flora:** being identified as threatened or priority species; locally endemic or associated with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems); new species or anomalous features that indicate a potential new species; representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range); unusual species, including restricted subspecies, varieties or naturally occurring hybrids; relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.
- **Vegetation:** being identified as threatened or priority ecological communities; restricted distribution; degree of historical impact from threatening processes; a role as a refuge; providing an important function required to maintain ecological integrity of a significant ecosystem.

Definitions of codes and terms used to describe species and communities of significance are provided in the following tables.

Categories used under the EPBC Act.

Status	Code	Description
Critically Endangered	CR	Taxa that are facing an extremely high risk of extinction in the wild in the immediate future
Endangered	EN	Taxa that are facing a very high risk of extinction in the wild in the near future
Vulnerable	VU	Taxa that are facing a high risk of extinction in the wild in the medium-term future

Schedules and Codes used under the BC Act.

Status	Code	Schedule	Description
Critically Endangered	CR	S1	Taxa that are rare or likely to become extinct, as critically endangered taxa
Endangered	EN	S2	Taxa that are rare or likely to become extinct, as endangered taxa
Vulnerable	VU	S3	Taxa that are rare or likely to become extinct, as vulnerable taxa
Presumed Extinct	EX	S4	Taxa that are presumed to be extinct

Definitions and Criteria for Priority species.

Status	Code	Description
Priority 1	P1	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
Priority 2	P2	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
Priority 3	P3	Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
Priority 4	P4	(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Definitions and Criteria for Presumed Totally Destroyed, Critically Endangered, Endangered and Vulnerable Ecological Communities.

Status	Code	Description
Presumed Totally Destroyed	PD	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future. An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant and either of the following applies (A or B): A) Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats or B) All occurrences recorded within the last 50 years have since been destroyed
Critically Endangered	CR	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated. An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting any one or more of the following criteria (A, B or C): A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and either or both of the following apply (i or ii): i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years); ii) modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the community is unlikely to be capable of being substantially rehabilitated. B) Current distribution is limited, and one or more of the following apply (I, ii, iii) i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 10 years); ii) here are few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes; iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes . C) The ecological community exists only as highly modified occurrences that may be capable of being rehabilitated if such work begins in the immediate future (within approximately 10 years).
Endangered	EN	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in an area and/or was originally of limited distribution and is in danger of significant modification throughout it range or severe modification or destruction over most of its range in the near future An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B, or C): A) Geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement and either or both of the following apply (i or ii): i) the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years);

Status	Code	Description
		ii) modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated. B) Current distribution is limited, and one or more of the following apply (I, ii, iii) i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years); ii) There are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes; iii) There may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes. C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).
Vulnerable	VU	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range. An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium (within approximately 50 years) to long-term future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B or C): A) The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated. B) The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations. C) The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long-term future because of existing or impending threatening processes.

Definitions and Criteria for Priority Ecological Communities

Status	Code	Description
Priority 1	P1	Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.
Priority 2	P2	Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200 ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.
Priority 3	P3	a) Communities that are known from several to many occurrences, a significant number or area of which are not under threat or habitat destruction or degradation b) communities known forma few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; c) communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system bit are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stick, and inappropriate fire regimes d) Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them
Priority 4	P4	a) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands. b) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. c) Ecological communities that have been removed from the list of threatened communities during the past five years
Priority 5	P5	Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years

Range extension classification: The extension of the known range of distribution for flora recorded during the surveys were subdivided into the following categories within this report, according to the criteria below:

- **Bioregional Extensions:** the taxon has not been previously recorded in the IBRA bioregion from which the specimen was recorded, and;
- **Range Extension:** the records within the Study Area are at least 100 km from the existing distribution based on lodged records; and

Introduced flora: Weed species are classified at both a state and federal level. The Australian Weeds Strategy identified 32 'Weeds of National Significance' (WONS), and although non-statutory, the weeds listed have the potential to substantially impact primary industry, environmental, and/or social values.

The Western Australian Department of Primary Industries regulates introduced flora under the *Biosecurity and Agriculture Management Act 2007*. Species listed under this act are allocated one of three declared pest categories which define the required level of management. Declared pest species under this act can be assigned to one of three control categories, while prohibited organisms can be assigned as only a C1 or C2 control category

Control categories of declared pests

Category	Definition
C1 Exclusion	Organisms that should be excluded from part or all of Western Australia: Pests that are not established in Western Australia and control measures are to be taken, in order to prevent them entering and establishing in the State.
C2 Eradication	Organisms that should be eradicated from part or all of Western Australia: Pests that are present in Western Australia in low enough numbers, or limited areas that their eradication is still a possibility.
C3 Management	Organisms that should have some form of management applied that will alleviate the harmful impact of the organism: Pests that are established in Western Australia, but it is feasible or desirable to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in numbers or density or contain the spread of the pest.

Many of the commonly occurring weed species in the Pilbara region have been classified based on their potential for ecological impact and invasiveness traits (DPaW 2013, 2014).

Ecological impact and invasiveness descriptions used to inform rankings

Component	Description	Scale
Ecological impact	Impact of species within the region, from low impact (causes minimal disruption to ecological processes or loss of biodiversity) to high (causes acute disruption of ecological processes, dominates and/or significantly alters vegetation structure, composition and function of ecosystems).	Low Medium High Unknown
Invasiveness	Rate of spread of a weed in native vegetation, encompassing factors of establishment, reproduction and long distance dispersal (>100 m).	Slow Moderate Rapid Unknown

Weed Prioritisation

A suite of introduced taxa have been identified by Parks and Wildlife as 'Priority Alerts' for the Pilbara region, including **Azadirachta indica, *Calotropis procera, *Chloris gayana, *Clitoria ternatea, *Cryptostegia grandiflora, *Cylindropuntia* spp.*, *Euphorbia tirucalli, *Jatropha gossypifolia, *Lantana camara, *Moringa oleifera, *Ricinus communis, *Schinus molle* var. *areira, *Vachellia nilotica* and **Washingtonia robusta*.

Appendix C Database Search Results

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
Acanthaceae	*Dicladanthera forrestii*							X	X
	Dipteracanthus australasicus subsp. *australasicus*								X
	Rostellularia adscendens var. *clementii*							X	X
	Rostellularia adscendens var. *latifolia*	P3				X			
Aizoaceae	*Trianthema cusackianum*							X	X
	Trianthema glossostigmum							X	X
	Trianthema triquetrum							X	X
	Trianthema turgidifolium							X	X
Amaranthaceae	*Alternanthera angustifolia*							X	X
	Alternanthera denticulata							X	X
	Alternanthera nana								X
	Alternanthera nodiflora							X	
	Amaranthus centralis	P3			X	X			
	Amaranthus undulatus								X
	Gomphrena canescens subsp. *canescens*							X	X
	Gomphrena cunninghamii							X	X
	Gomphrena kanisii							X	X
	Gomphrena lanata							X	X
	Gomphrena sordida								X
	Ptilotus aervoides							X	X
	Ptilotus aphyllus							X	X
	Ptilotus astrolasius							X	X
	Ptilotus auriculifolius							X	
	Ptilotus calostachyus							X	X
	Ptilotus clementii								X
	Ptilotus exaltatus							X	X
	Ptilotus gaudichaudii							X	X
	Ptilotus gomphrenoides							X	X
	Ptilotus helipteroides							X	X
	Ptilotus obovatus var. *obovatus*							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Ptilotus polystachyus							X	X
	Ptilotus roei							X	X
	Ptilotus rotundifolius							X	X
	Ptilotus schwartzii var. *schwartzii*							X	X
	Ptilotus stipitatus							X	X
Apiaceae	*Daucus glochidiatus*							X	
Apocynaceae	*Cynanchum floribundum*							X	X
	Gymnanthera cunninghamii	P3			X	X			
	Vincetoxicum lineare							X	X
Araliaceae	*Trachymene oleracea* subsp. *oleracea*							X	X
Asteraceae	*Bidens bipinnata*		*					X	X
	Bidens pilosa		*					X	
	Blumea tenella							X	X
	Brachyscome ciliaris								X
	Calocephalus beardii								X
	Calocephalus knappii								X
	Calocephalus pilbarensis							X	X
	Calotis hispidula							X	X
	Calotis multicaulis							X	X
	Centipeda crateriformis subsp. *crateriformis*								X
	Centipeda minima subsp. *macrocephala*							X	X
	Centipeda thespidioides							X	X
	Chrysocephalum apiculatum subsp. *pilbarense*							X	X
	Chrysocephalum eremaeum							X	X
	Chrysocephalum gilesii							X	X
	Chrysocephalum pterochaetum							X	X
	Gnephosis arachnoidea							X	X
	Helichrysum oligochaetum	P1			X	X			
	Iotasperma sessilifolium	P3				X			
	Minuria cunninghamii								X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Minuria integerrima							X	X
	Myriocephalus oldfieldii								X
	Olearia stuartii							X	X
	Peripleura arida							X	
	Peripleura virgata								X
	Pluchea dentex							X	X
	Pluchea dunlopii							X	X
	Pluchea ferdinandi-muelleri								X
	Pluchea rubelliflora							X	X
	Podolepis eremaea							X	X
	Pseudognaphalium luteoalbum							X	X
	Pterocaulon sphacelatum							X	X
	Pterocaulon sphaeranthoides							X	X
	Rhodanthe charsleyae							X	X
	Rhodanthe floribunda							X	X
	Rhodanthe sterilescens							X	X
	Rhodanthe stricta							X	
	Roebuckiella similis							X	X
	Rutidosis helichrysoides subsp. *helichrysoides*							X	X
	Schoenia cassiniana							X	X
	Senecio hamersleyensis								X
	Siemssenia capillaris							X	X
	Sonchus oleraceus		*					X	
	Streptoglossa bubakii							X	X
	Streptoglossa decurrens								X
	Streptoglossa liatroides							X	X
	Streptoglossa macrocephala							X	X
	Streptoglossa sp. Cracking clays (S. van Leeuwen et al. PBS 7353)	P3				X			
	Vittadinia sp. Coondewanna Flats (S. van Leeuwen 4684)	P3				X			X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
Boraginaceae	*Euploca cunninghamii*								X
	Euploca glandulifera							X	X
	Euploca heterantha								X
	Halgania erecta							X	X
	Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)							X	X
	Halgania solanacea var. solanacea ms							X	
	Trichodesma zeylanicum var. *zeylanicum*							X	X
Brassicaceae	*Lemphoria andraeana*							X	
	Lepidium catapycnon	P4			X	X			
	Lepidium echinatum							X	X
	Lepidium muelleri-ferdinandii								X
	Lepidium oxytrichum							X	X
	Lepidium pedicellosum							X	X
	Lepidium phlebopetalum							X	X
	Lepidium pholidogynum								X
	Lepidium platypetalum							X	X
	Stenopetalum anfractum							X	X
	Stenopetalum decipiens							X	X
	Stenopetalum nutans							X	X
Campanulaceae	*Wahlenbergia tumidifructa*							X	X
Capparaceae	*Capparis spinosa* var. *nummularia*							X	X
Caryophyllaceae	*Polycarpaea corymbosa* var. *corymbosa*							X	X
	Polycarpaea holtzei								X
	Polycarpaea longiflora							X	X
Casuarinaceae	*Allocasuarina decaisneana*							X	X
Celastraceae	*Stackhousia* sp. swollen gynophore (W.R. Barker 2041)							X	
Chenopodiaceae	*Atriplex bunburyana*								X
	Atriplex lindleyi subsp. *conduplicata*	P3				X			
	Atriplex semilunaris							X	X
	Dysphania cristata							X	

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Dysphania glomulifera subsp. *eremaea*							X	X
	Dysphania kalpari							X	X
	Dysphania melanocarpa							X	X
	Dysphania rhadinostachya subsp. *inflata*							X	X
	Dysphania rhadinostachya subsp. *rhadinostachya*							X	X
	Enchylaena tomentosa var. *tomentosa*							X	X
	Maireana amoena							X	X
	Maireana carnosa							X	X
	Maireana eriosphaera								X
	Maireana georgei								X
	Maireana melanocoma							X	X
	Maireana planifolia							X	
	Maireana platycarpa							X	X
	Maireana pyramidata								X
	Maireana thesioides							X	X
	Maireana tomentosa subsp. *tomentosa*							X	X
	Maireana triptera							X	X
	Maireana villosa							X	X
	Rhagodia eremaea							X	X
	Rhagodia sp. Hamersley (M. Trudgen 17794)	P3				X	X	X	X
	Salsola australis							X	
	Sclerolaena beaugleholei								X
	Sclerolaena bicornis var. *bicornis*							X	X
	Sclerolaena convexula							X	X
	Sclerolaena cornishiana							X	X
	Sclerolaena costata							X	X
	Sclerolaena cuneata							X	X
	Sclerolaena densiflora							X	X
	Sclerolaena eriacantha							X	X
	Sclerolaena gardneri								X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Sclerolaena lanicuspis								X
	Sclerolaena minuta							X	X
	Sclerolaena tetragona							X	X
	Sclerolaena uniflora								X
	Tecticornia globulifera	P1				X			
	Tecticornia medusa	P3				X			
	Tecticornia sp. Yoothapina Station (A.A. Mitchell 883)							X	X
Cleomaceae	*Areocleome oxalidea*							X	X
	Arivela viscosa							X	X
Colchicaceae	*Wurmbea deserticola*								X
Commelinaceae	*Commelina ensifolia*								X
Convolvulaceae	*Bonamia erecta*							X	X
	Bonamia rosea								X
	Convolvulus clementii								X
	Duperreya commixta								X
	Evolvulus alsinoides var. *decumbens*							X	X
	Evolvulus alsinoides var. *villosicalyx*							X	X
	Ipomoea calobra								X
	Ipomoea coptica								X
	Ipomoea lonchophylla								X
	Ipomoea muelleri							X	X
	Ipomoea plebeia							X	
	Ipomoea polymorpha							X	X
	Ipomoea racemigera	P2				X	X	X	X
Cucurbitaceae	*Citrullus amarus*		*					X	X
	Cucumis argenteus							X	
	Cucumis melo							X	
	Cucumis picrocarpus								X
	Cucumis variabilis								X
Cyperaceae	*Bulbostylis barbata*							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Bulbostylis turbinata							X	X
	Cyperus betchei subsp. *commiscens*							X	X
	Cyperus bifax							X	X
	Cyperus concinnus							X	X
	Cyperus dactylotes							X	X
	Cyperus difformis							X	X
	Cyperus iria							X	X
	Cyperus ixiocarpus							X	X
	Cyperus leptocarpus							X	X
	Cyperus pygmaeus								X
	Cyperus rigidellus								X
	Cyperus squarrosus							X	X
	Cyperus vaginatus							X	X
	Eleocharis pallens							X	X
	Fimbristylis dichotoma							X	X
	Fimbristylis elegans							X	X
	Fimbristylis eremophila							X	X
	Fimbristylis microcarya							X	X
	Fimbristylis simulans							X	X
	Isolepis congrua								X
	Schoenoplectiella dissachantha							X	X
	Schoenoplectiella laevis							X	X
Droseraceae	*Drosera finlaysoniana*							X	X
Elatinaceae	*Bergia pedicellaris*							X	X
Euphorbiaceae	*Euphorbia australis* var. *subtomentosa*							X	X
	Euphorbia biconvexa								X
	Euphorbia boophthona							X	X
	Euphorbia coghlanii							X	X
	Euphorbia inappendiculata var. *inappendiculata*	P2				X			X
	Euphorbia myrtoides								X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Euphorbia parvicaruncula	P1			X	X			
	Euphorbia porcata							X	X
	Euphorbia tannensis subsp. *eremophila*							X	
	Euphorbia vaccaria var. *vaccaria*								X
Fabaceae	*Acacia abrupta*							X	
	Acacia adoxa var. *adoxa*								X
	Acacia adsurgens								X
	Acacia ancistrocarpa							X	X
	Acacia aneura							X	X
	Acacia aptaneura							X	X
	Acacia arida								X
	Acacia ayersiana							X	X
	Acacia balsamea							X	X
	Acacia bivenosa							X	X
	Acacia bromilowiana	P4			X	X			
	Acacia catenulata subsp. *occidentalis*							X	X
	Acacia citrinoviridis							X	X
	Acacia clelandii							X	X
	Acacia coriacea subsp. *pendens*							X	X
	Acacia corusca	P1				X		X	X
	Acacia dictyophleba							X	X
	Acacia distans								X
	Acacia eriopoda							X	X
	Acacia hilliana							X	X
	Acacia inaequilatera							X	X
	Acacia kempeana							X	X
	Acacia ligulata							X	X
	Acacia macraneura							X	X
	Acacia maitlandii							X	X
	Acacia marramamba							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Acacia melleodora							X	X
	Acacia monticola								X
	Acacia mulganeura							X	X
	Acacia orthocarpa							X	X
	Acacia pachyacra							X	X
	Acacia pachycarpa							X	
	Acacia paraneura							X	X
	Acacia pruinocarpa							X	X
	Acacia pteraneura							X	X
	Acacia pyrifolia var. *morrisonii*							X	X
	Acacia ramulosa var. *linophylla*							X	X
	Acacia rhodophloia							X	X
	Acacia sclerosperma subsp. *sclerosperma*							X	X
	Acacia sericophylla							X	X
	Acacia sibilans							X	X
	Acacia sibirica							X	X
	Acacia sp. Jimblebar (S. van Leeuwen 1342)							X	X
	Acacia sp. Ripon Hills (B.R. Maslin 8460)							X	X
	Acacia subcontorta							X	X
	Acacia subtiliformis	P3			X	X			
	Acacia synchronicia							X	X
	Acacia tenuissima							X	X
	Acacia tetragonophylla							X	X
	Acacia trudgeniana							X	X
	Acacia tumida var. *pilbarensis*								X
	Acacia walkeri							X	X
	Acacia wanyu								X
	Aenictophyton reconditum subsp. *macrophyllum*								X
	Aeschynomene indica							X	X
	Cajanus marmoratus							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Crotalaria novae-hollandiae subsp. *novae-hollandiae*							X	
	Crotalaria smithiana	P3				X	X	X	X
	Cullen cinereum								X
	Glycine canescens							X	X
	Gompholobium polyzygum							X	X
	Indigofera colutea							X	
	Indigofera georgei							X	X
	Indigofera gilesii	P3				X			
	Indigofera linifolia							X	X
	Indigofera linnaei							X	X
	Indigofera monophylla							X	X
	Indigofera trita							X	
	Isotropis atropurpurea								X
	Isotropis iophyta							X	X
	Isotropis parviflora	P2				X			X
	Jacksonia aculeata								X
	Kennedia prorepens							X	X
	Leptosema chambersii							X	X
	Lotus cruentus								X
	Mirbelia viminalis							X	X
	Neptunia dimorphantha							X	X
	Petalostylis cassioides							X	X
	Rhynchosia minima							X	
	Senna artemisioides							X	X
	Senna artemisioides subsp. *filifolia*								X
	Senna artemisioides subsp. *helmsii*							X	X
	Senna artemisioides subsp. *oligophylla*							X	X
	Senna glutinosa subsp. *glutinosa*							X	X
	Senna glutinosa subsp. *pruinosa*							X	X
	Senna glutinosa subsp. *x luerssenii*							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Senna hamersleyensis								X
	Senna notabilis							X	X
	Senna oligoclada							X	
	Senna sericea							X	X
	Senna sp. Meekatharra (E. Bailey 1-26)								X
	Senna stricta							X	X
	Senna symonii							X	X
	Sesbania cannabina							X	
	Swainsona decurrens							X	X
	Swainsona formosa							X	
	Swainsona leeana								X
	Swainsona oroboides							X	X
	Swainsona thompsoniana	P3				X			
	Tephrosia insolens								X
	Tephrosia rosea var. *clementii*							X	X
	Tephrosia sp. Newman (A.A. Mitchell PRP 29)							X	X
	Tephrosia sp. Northern (K.F. Kenneally 11950)							X	X
	Tephrosia sp. NW Eremaean (S. van Leeuwen et al. PBS 0356)							X	X
	Tephrosia supina							X	
	Vigna lanceolata var. *lanceolata*							X	X
Frankeniaceae	*Frankenia setosa*							X	X
Goodeniaceae	*Brunonia australis* var. A Kimberley Flora (K.F. Kenneally 5452)							X	X
	Dampiera atriplicina	P3			X	X			X
	Dampiera candicans							X	X
	Dampiera cinerea							X	X
	Goodenia armitiana							X	X
	Goodenia azurea subsp. *hesperia*							X	
	Goodenia berringbinensis	P4				X			X
	Goodenia capillosa							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Goodenia connata							X	X
	Goodenia forrestii							X	
	Goodenia glabrata							X	X
	Goodenia hartiana	P2			X	X		X	X
	Goodenia lamprosperma							X	X
	Goodenia maideniana								X
	Goodenia microptera							X	X
	Goodenia modesta	P3			X	X			
	Goodenia mueckeana							X	X
	Goodenia muelleriana							X	X
	Goodenia nuda				X	X	X	X	X
	Goodenia pascua								X
	Goodenia prostrata							X	X
	Goodenia sp. East Pilbara (A.A. Mitchell PRP 727)	P3			X	X			
	Goodenia sp. Sandy Creek (R.D. Royce 1653)								X
	Goodenia stobbsiana							X	
	Goodenia tenuiloba							X	X
	Goodenia triodiophila							X	X
	Goodenia vilmoriniae							X	X
	Scaevola browniana subsp. *browniana*							X	X
	Scaevola parvifolia subsp. *pilbarae*							X	X
	Scaevola spinescens							X	X
Gyrostemonaceae	*Codonocarpus cotinifolius*							X	X
Haloragaceae	*Gonocarpus ephemerus*							X	X
	Haloragis gossei var. *gossei*							X	X
Hydrocharitaceae	*Vallisneria* sp. Weelarrana (M.N. Lyons & S.D. Lyons 3050)	P1				X			
Juncaginaceae	*Triglochin nana*							X	
Lamiaceae	*Clerodendrum tomentosum* var. *tomentosum*								X
	Dicrastylis cordifolia							X	X
	Dicrastylis exsuccosa							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Newcastelia cladotricha							X	X
	Newcastelia hexarrhena							X	X
	Newcastelia spodiotricha							X	
	Pityrodia augustensis	T		X					
	Prostanthera wilkieana							X	X
Lauraceae	*Cassytha capillaris*							X	X
Loranthaceae	*Amyema fitzgeraldii*							X	X
	Amyema hilliana								X
	Amyema sanguinea var. *pulchra*								X
Lythraceae	*Ammannia multiflora*							X	X
Malvaceae	*Abutilon amplum*							X	
	Abutilon cryptopetalum								X
	Abutilon fraseri subsp. *fraseri*							X	X
	Abutilon lepidum							X	
	Abutilon macrum							X	X
	Abutilon malvifolium								X
	Abutilon oxycarpum subsp. Prostrate (A.A.Mitchell PRP 1266)								X
	Androcalva luteiflora							X	X
	Corchorus crozophorifolius							X	X
	Corchorus lasiocarpus subsp. *lasiocarpus*							X	X
	Corchorus sidoides subsp. *sidoides*							X	X
	Corchorus tridens							X	
	Gossypium australe							X	X
	Gossypium hirsutum		*					X	X
	Hibiscus arenicola							X	X
	Hibiscus brachychlaenus								X
	Hibiscus burtonii							X	X
	Hibiscus campanulatus	P1						X	
	Hibiscus coatesii							X	X
	Hibiscus sp. Gurinbiddy Range (M.E. Trudgen MET 15708)	P2				X		X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Hibiscus sturtii var. *campylochlamys*							X	X
	Hibiscus sturtii var. *platychlamys*							X	X
	Hibiscus sturtii var. *truncatus*							X	X
	Hibiscus verdcourtii								X
	Lawrencia densiflora								X
	Malvastrum americanum		*					X	X
	Melhania oblongifolia								X
	Seringia exastia					X		X	X
	Seringia nephrosperma							X	X
	Sida arenicola							X	
	Sida brownii							X	X
	Sida calyxhymenia							X	
	Sida cardiophylla							X	X
	Sida ectogama							X	X
	Sida fibulifera							X	X
	Sida kingii							X	X
	Sida platycalyx							X	X
	Sida sp. Barlee Range (S. van Leeuwen 1642)	P4				X			
	Sida sp. dark green fruits (S. van Leeuwen 2260)							X	X
	Sida sp. Excedentifolia (J.L. Egan 1925)								X
	Sida sp. Golden calyces glabrous (H.N. Foote 32)							X	
	Sida sp. Shovelanna Hill (S. van Leeuwen 3842)								X
	Sida sp. Kathleen Springs (A.C. Beauglehole 26934)							X	
	Triumfetta chaetocarpa								X
	Triumfetta maconochieana								X
	Waltheria virgata								X
Marsileaceae	*Marsilea costulifera*								X
	Marsilea exarata								X
Molluginaceae	*Trigastrotheca molluginea*							X	X
Montiaceae	*Calandrinia balonensis*							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Calandrinia ptychosperma							X	X
	Calandrinia reticulata							X	X
	Calandrinia schistorhiza							X	X
	Calandrinia stagnensis							X	X
Moraceae	*Ficus brachypoda*							X	X
Myrtaceae	*Aluta maisonneuvei* subsp. *maisonneuvei*							X	X
	Calytrix carinata							X	X
	Corymbia aspera								X
	Corymbia candida subsp. *candida*							X	X
	Corymbia deserticola subsp. *deserticola*							X	X
	Corymbia ferriticola								X
	Corymbia hamersleyana							X	X
	Eucalyptus camaldulensis subsp. *refulgens*							X	X
	Eucalyptus gamophylla							X	X
	Eucalyptus kingsmillii								X
	Eucalyptus leucophloia subsp. *leucophloia*							X	X
	Eucalyptus repullulans							X	X
	Eucalyptus rowleyi	P3				X			
	Eucalyptus socialis subsp. *eucentrica*							X	X
	Eucalyptus trivalva								X
	Eucalyptus victrix							X	X
	Lamarchea sulcata								X
	Melaleuca glomerata								X
	Melaleuca interioris								X
Nyctaginaceae	*Boerhavia coccinea*							X	X
Orobanchaceae	*Buchnera linearis*							X	X
Phrymaceae	*Peplidium aithocheilum*							X	
	Peplidium maritimum								X
	Peplidium muelleri								X
Phyllanthaceae	*Cathetus virgatus*								X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Dendrophyllanthus erwinii							X	X
	Nellica maderaspatensis							X	X
	Synostemon rhytidospermus							X	X
Plantaginaceae	*Stemodia grossa*							X	
	Stemodia sp. Battle Hill (A.L. Payne 1006)	P1				X			
	Stemodia viscosa							X	X
Poaceae	*Acrachne racemosa*							X	X
	Alloteropsis cimicina							X	X
	Amphipogon caricinus var. *caricinus*							X	
	Amphipogon sericeus							X	X
	Aristida contorta							X	X
	Aristida holathera var. *holathera*							X	X
	Aristida hygrometrica								X
	Aristida inaequiglumis							X	X
	Aristida jerichoensis var. *subspinulifera*	P3				X		X	X
	Aristida latifolia								X
	Bothriochloa ewartiana							X	X
	Cenchrus ciliaris		*					X	X
	Cenchrus setiger		*						X
	Chloris pectinata								X
	Chloris pumilio							X	X
	Chloris virgata		*						X
	Chrysopogon fallax							X	X
	Cymbopogon ambiguus							X	X
	Cymbopogon obtectus							X	X
	Cynodon prostratus							X	X
	Dactyloctenium radulans							X	X
	Dichanthium sericeum							X	X
	Digitaria brownii								X
	Digitaria longiflora							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Diplachne fusca subsp. *muelleri*							X	X
	Elytrophorus spicatus							X	X
	Enneapogon caerulescens							X	X
	Enneapogon polyphyllus							X	
	Enneapogon robustissimus							X	X
	Enteropogon ramosus							X	X
	Eragrostis crateriformis	P3				X			
	Eragrostis cumingii							X	X
	Eragrostis dielsii							X	X
	Eragrostis elongata							X	X
	Eragrostis eriopoda							X	X
	Eragrostis falcata								X
	Eragrostis lacunaria							X	X
	Eragrostis leptocarpa							X	X
	Eragrostis olida							X	X
	Eragrostis pergracilis							X	X
	Eragrostis speciosa							X	X
	Eragrostis tenellula							X	X
	Eragrostis xerophila							X	X
	Eriachne aristidea							X	X
	Eriachne benthamii							X	
	Eriachne flaccida								X
	Eriachne lanata							X	X
	Eriachne mucronata							X	X
	Eriachne obtusa								X
	Eriachne pulchella subsp. *dominii*								X
	Eriachne pulchella subsp. *pulchella*								X
	Eriochloa procera							X	X
	Eriochloa pseudoacrotricha								X
	Eulalia aurea							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Heteropogon contortus							X	X
	Iseilema dolichotrichum								X
	Iseilema membranaceum							X	X
	Iseilema vaginiflorum							X	X
	Monachather paradoxus							X	X
	Panicum australiense var. *australiense*							X	X
	Panicum decompositum							X	X
	Panicum laevinode								X
	Paractaenum refractum							X	X
	Paraneurachne muelleri							X	X
	Paspalidium basicladum								X
	Paspalidium clementii							X	X
	Paspalidium rarum								X
	Paspalidium reflexum								X
	Perotis rara							X	X
	Polypogon monspeliensis		*						X
	Schizachyrium fragile								X
	Setaria dielsii							X	X
	Setaria surgens								X
	Setaria verticillata		*						X
	Sporobolus actinocladus							X	X
	Sporobolus australasicus							X	X
	Themeda sp. Hamersley Station (M.E. Trudgen 11431)	P3				X			
	Themeda triandra							X	
	Tragus australianus							X	X
	Triodia angusta								X
	Triodia basedowii							X	X
	Triodia birriliburu	P3				X			
	Triodia melvillei							X	X
	Triodia pungens								X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Triodia schinzii							X	X
	Triodia sp. Mt Ella (M.E. Trudgen 12739)	P3				X		X	X
	Triodia vanleeuwenii							X	X
	Triodia wiseana								X
	Tripogonella loliiformis							X	X
	Triraphis mollis							X	X
	Urochloa occidentalis var. *occidentalis*							X	X
	Whiteochloa cymbiformis								X
	Xerochloa barbata							X	X
Polygalaceae	*Comesperma sabulosum*	P3			X	X			
	Polygala glaucifolia							X	X
Polygonaceae	*Polygonum plebeium*								X
	Rumex vesicarius		*						X
Portulacaceae	*Portulaca conspicua*							X	X
	Portulaca filifolia								X
	Portulaca oleracea							X	X
Primulaceae	*Samolus* sp. Fortescue Marsh (A. Markey & R. Coppen FM 9702)	P1				X			X
Proteaceae	*Grevillea eriostachya*							X	X
	Grevillea juncifolia subsp. *juncifolia*							X	X
	Grevillea striata							X	X
	Grevillea wickhamii subsp. *hispidula*							X	X
	Hakea lorea subsp. *lorea*							X	X
	Hakea preissii								X
	Hakea rhombales							X	X
Pteridaceae	*Cheilanthes austrotenuifolia*								X
	Cheilanthes lasiophylla								X
	Cheilanthes sieberi subsp. *sieberi*								X
Rhamnaceae	*Cryptandra monticola*								X
	Ventilago viminalis							X	X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
Rubiaceae	*Dolichocarpa crouchiana*							X	
	Psydrax latifolia							X	
	Psydrax suaveolens							X	X
	Scleromitrion galioides							X	X
	Spermacoce brachystema							X	X
	Synaptantha tillaeacea var. *tillaeacea*							X	X
Santalaceae	*Anthobolus leptomerioides*							X	X
	Exocarpos sparteus							X	X
	Santalum lanceolatum							X	X
	Santalum spicatum							X	X
Sapindaceae	*Diplopeltis stuartii* var. *stuartii*							X	X
	Dodonaea coriacea							X	X
	Dodonaea petiolaris							X	
	Dodonaea rigida							X	
	Dodonaea viscosa							X	
Scrophulariaceae	*Eremophila capricornica*	P1			X	X	X	X	X
	Eremophila clarkei							X	X
	Eremophila compacta subsp. *compacta*							X	X
	Eremophila cuneifolia							X	X
	Eremophila enata								X
	Eremophila exilifolia							X	X
	Eremophila forrestii subsp. *forrestii*							X	X
	Eremophila forrestii subsp. inland (A.A. Mitchell PRP 1175)							X	X
	Eremophila fraseri subsp. *fraseri*							X	X
	Eremophila galeata								X
	Eremophila jucunda subsp. *jucunda*							X	X
	Eremophila jucunda subsp. *pulcherrima*							X	X
	Eremophila lanceolata							X	X
	Eremophila latrobei subsp. *filiformis*							X	X
	Eremophila latrobei subsp. *glabra*							X	

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
	Eremophila latrobei subsp. *latrobei*								X
	Eremophila longifolia							X	X
	Eremophila maculata subsp. *brevifolia*							X	X
	Eremophila magnifica subsp. *magnifica*	P4				X			
	Eremophila magnifica subsp. *velutina*	P3				X			
	Eremophila margarethae								X
	Eremophila naaykensii	P3				X			
	Eremophila oppositifolia subsp. *angustifolia*							X	X
	Eremophila pilosa	P1			X	X		X	
	Eremophila rhegos	P1				X			
	Eremophila rigida	P3				X			
	Eremophila sp. Little Sandy Desert (A.A. Mitchell PRP 1263)							X	X
	Eremophila spongiocarpa	P3				X			
	Eremophila tietkensii					X			
	Eremophila youngii subsp. *lepidota*	P4				X		X	X
Solanaceae	*Nicotiana benthamiana*								X
	Nicotiana ingulba							X	X
	Nicotiana occidentalis							X	
	Nicotiana rosulata							X	X
	Nicotiana simulans								X
	Solanum austropiceum								X
	Solanum centrale							X	X
	Solanum chippendalei								X
	Solanum cleistogamum							X	X
	Solanum diversiflorum							X	X
	Solanum elatius							X	X
	Solanum horridum							X	
	Solanum lasiophyllum							X	X
	Solanum morrisonii								X
	Solanum nigrum		*						X

Family	Species	Listing	Introduced	PMST[1]	TPFL[2]	WAHERB[3]	BHP	NM[4]	ALA[5]
Stylidiaceae	*Stylidium humphreysii*								X
Violaceae	*Afrohybanthus aurantiacus*							X	X
Xanthorrhoeaceae	*Xanthorrhoea thorntonii*								X
Zygophyllaceae	*Tribulus astrocarpus*							X	X
	Tribulus eichlerianus								X
	Tribulus hirsutus							X	X
	Tribulus macrocarpus							X	X
	Tribulus occidentalis							X	X
	Tribulus suberosus							X	X
	Tribulus terrestris		*						X

Appendix D Vegetation Condition Scale

Developed by Trudgen (1988), and as prescribed by EPA (2016b).

Rating	Description
Excellent	Pristine or nearly so; no obvious signs of damage caused by the activities of humans of European descent.
Very Good	Some relatively slight signs of damage caused by the activities of humans of European descent. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds or occasional vehicle tracks.
Good	More obvious signs of damage caused by the activities of humans of European descent, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or by selective logging. Weeds as above, possibly plus some more aggressive ones such as *Cenchrus* spp.
Poor	Still retains basic vegetation structure or ability to regenerate to it after very obvious impacts of activities of humans of European descent, such as grazing, partial clearing (chaining) or frequent fires. Weeds as above, probably plus some more aggressive ones such as *Cenchrus* spp.
Degraded	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species including very aggressive species.
Completely Degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Adapted from Trudgen (1988), as presented in (EPA 2016b).

Appendix E National Vegetation Information System Vegetation Structural Classification

NVIS Vegetation Hierarchy

Hierarchical Level	Title	Description
1	Class	Dominant growth form for the structurally dominant stratum.
2	Structural formation	Dominant growth form, cover and height (in the standardised notation of Table 7) for the structurally dominant stratum.
3	Broad floristic formation	Dominant genus (or genera) plus growth form, cover and height (in the standardised notation of Table 7) for the structurally dominant stratum.
4	Sub-formation	Dominant genus (or genera) plus growth form, cover and height (in the standardised notation of Table 7) for each of the three main strata. (i.e. Upper, Mid and Ground)
5	Association	Dominant growth form, height, cover and species (to a maximum of 3 species) for each of the three main strata. (i.e. Upper, Mid and Ground)
6	Sub-Association	Dominant growth form, height, cover and species (to a maximum of 5 species) for each of the substrata.

Vegetation Classification System (Specht 1970) as modified by (Aplin 1979).

Height Class	Canopy Cover (%)				
	100 – 70%	70 – 30%	30 – 10%	10 – 2%	<2%
Trees > 30 m	Tall Closed Forest	Tall Open Forest	Tall Woodland	Tall Open Woodland	Scattered Tall Trees
Trees 10-30 m	Closed Forest	Open Forest	Woodland	Open Woodland	Scattered Trees
Trees < 10 m	Low Closed Woodland	Low Open Forest	Low Woodland	Low Open Woodland	Scattered Low Trees
Mallee	Closed Mallee	Mallee	Open Mallee	Very Open Mallee	Scattered Mallees
Shrubs > 2 m	Closed Scrub	Open Scrub	High Shrubland	High open Shrubland	Scattered Tall Shrubs
Shrubs 1-2 m	Closed Heath	Open Heath	Shrubland	Open Shrubland	Scattered Shrubs
Shrubs < 1 m	Low Closed Heath	Low Open Heath	Low Shrubland	Low Open Shrubland	Scattered Low Shrubs
Hummock Grasses	Closed Hummock Grassland	Hummock Grassland	Open Hummock Grassland	Very Open Hummock Grassland	Scattered Hummock Grasses
Tussock Grass	Closed Tussock Grassland	Tussock Grassland	Open Tussock Grassland	Very Open Tussock Grassland	Scattered Tussock Grass
Bunch Grass	Closed Bunch Grassland	Bunch Grassland	Open Bunch Grassland	Very Open Bunch Grassland	Scattered Bunch Grass
Sedges	Closed Sedges	Sedges	Open Sedges	Very Open Sedges	Scattered Sedges
Herbs	Closed Herbs	Herbs	Open Herbs	Very Open Herbs	Scattered Herbs

Appendix F Significant Flora Likelihood of Occurrence Assessment

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
Acacia corusca		1	Red-brown sandy-loam soils on hill crests, ridges, slopes and minor drainage lines upon low, subdued and undulating stony hills	April to August	30	WAH (2022) NatureMap (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area is within the range of this species and does contain some suitable habitat, however if present in the Survey Area, it is likely that this perennial shrub would have been detectable at the time of the survey.
Eremophila capricornica		1	Hardpan plains	Unknown	0	Biologic (2019) Biologic (2021) Onshore (2018) TPFL (2022) WAH (2022) NatureMap (2022)	**Confirmed** – Species previously recorded within the Survey Area.	**Confirmed:** Recorded within the Survey Area during the current survey.
Eremophila pilosa		1	Mulga and Mallee woodlands on red-brown clays of sandy plains	June to August	0.31	TPFL (2022) WaHerb (2022) NatureMap (2022)	**Likely** – species previously recorded in close proximity to the Survey Area and suitable habitat is present.	**Possible:** The Survey Area is within the range of this species and does contain suitable habitat. If present in the Survey Area this species may have gone undetected due to the small (0.8 m) and sometimes compact habit of this species.
Eremophila rhegos		1	Skeletal stony loam over granite.	September	82	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Euphorbia parvicaruncula		1	duplex soils and rock outcrops	Unknown	68	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Helichrysum oligochaetum		1	Red clay. Alluvial plains.	August to November	65	TPFL (2022) WAH (2022)	**Possible** – suitable habitat may occur; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area is within the range of this species and does contain some suitable habitat, however if present in the Survey Area, this erect annual herb (0.25 m) would have been detectable at the time of the survey.
***Samolus* sp. Fortescue Marsh (A. Markey & R. Coppen FM 9702)**		1	Alluvial areas and red loamy soils	Unknown	48	WAH (2022)	**Possible** – suitable habitat may occur; previous record a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a moderate distance from the Survey Area.
***Stemodia* sp. Battle Hill (A.L. Payne 1006)**		1	Cracking clay. Floodplain.	Unknown	69	WAH (2022)	**Possible** – suitable habitat may occur; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does contain some suitable habitat, however if present in the survey area, it is likely this low shrub would

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
								have been detectable at the time of the survey.
Tecticornia globulifera		1	Saline flats	August	91	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Vallisneria* sp. Weelarrana (M.N. Lyons & S.D. Lyons 3050)**		1	Saline flats	Unknown	91	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Vittadinia* sp. *Coondewanna Flats (S. van Leeuwen 4684)		1	Major drainage/ floodplain in valley between ranges. Flat/plain to very broad open drainage depression, sandy clay	May & July	38	WAH (2022) Astron (2018) Onshore (2018)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Possible:** The Survey Area is within the range of this species and does contain suitable habitat. If present in the Survey Area this low annual herb (0.3 m) may have gone undetected as the survey was conducted outside of the known flowering period.
Euphorbia inappendiculata* var. *inappendiculata		2	Flat/Plain, Cracking clay floodplain. Clay soils.	August	36	WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Possible:** The Survey Area is within the range of this species and does contain suitable habitat. If present in the Survey Area, this low annual herb (0.1 m) may have gone undetected due to its small growth habit.
Goodenia hartiana		2	Sand. Sand dune swales, sandhills.	Unknown	24	TPFL (2022) WAH (2022) NatureMap (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Hibiscus* sp. Gurinbiddy Range (M.E. Trudgen MET 15708)**		2	Incised gully high in rocky range, Loamy skeletal soils.	March-August	88	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Ipomoea racemigera		2	Drainage line, flats with silty loam soil.	April & June	0	Onshore (2018) WAH (2022) NatureMap (2022)	**Confirmed** – Species previously recorded within the Survey Area.	**Confirmed:** Recorded within the Survey Area during the current survey.
Isotropis parviflora		2	Valley slope of ironstone plateau.	March	41	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a moderate distance from the Survey Area.
Acacia subtiliformis		3	On rocky calcrete plateau.	June	87	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
							significant distance from the Survey Area.	significant distance from the Survey Area.
Amaranthus centralis		3	Plain/Alluvial flat, Granite outcrop. Silty sand amongst granite boulders.	May	39	TPFL (2022) WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain some suitable habitat, however if present in the survey area, it is likely this annual herb would have been detectable at the time of the survey.
Aristida jerichoensis var. subspinulifera		3	Flat to open depressions, hardpan plains	March-May, July & September	36	WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain some suitable habitat, however if present in the survey area, it is likely this annual grass would have been detectable at the time of the survey.
Atriplex lindleyi* subsp. *conduplicata		3	Crabhole plains.	Unknown	56	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Comesperma sabulosum		3	Dune crest & adjacent slopes, gentle slopes, red sand.	Unknown	84	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Crotalaria smithiana		3	Regeneration site on floodplain.	June	0	Astron (2018) GHD (2009) Onshore (2018) WAH (2022) NatureMap (2022)	**Confirmed** – Species previously recorded within the Survey Area.	**Confirmed:** Recorded within the Survey Area during the current survey.
Dampiera atriplicina		3	Red sand. Sand ridges.	May or July	47	TPFL (2022) WaHerb (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a moderate distance from the Survey Area.
Eragrostis crateriformis		3	Clayey loam or clay. Creek banks, depressions and run-on flats.	January to May or July	59	WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain some suitable habitat, however if present in the survey area, it is likely this annual grass would have been detectable at the time of the survey.
Eremophila magnifica* subsp. *velutina		3	Skeletal soils over ironstone. Summits.	August-September	72	WAH (2022)	**Unlikely** – no optimal habitat occurs within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a moderate distance from the Survey Area.
Eremophila rigida		3	Red sand alluvium. Hardpan plains, stony clay depressions.	September	68	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur	**Unlikely:** The Survey Area does not contain suitable

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
							within the Survey Area; previous records a significant distance from the Survey Area.	habitat for this species; previous records a significant distance from the Survey Area.
Eremophila naaykensii		3	Summit of hill, high in landscape, steep rock slopes and scree, skeletal brown-red soil over massive banded ironstone of the Brockman Iron Formation. Rocky hill slopes, hill crests and upper hill slopes.	June, August & September	63	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Eremophila spongiocarpa		3	Weakly saline alluvial plain on margins of marsh.	May or September	51	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Eucalyptus rowleyi		3	Red sandy loams on plains and flood-out plains	November to June	60	WAH (2022)	**Unlikely** – outside species known range and previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area is outside the range of this species and if it were present in the Survey Area, it is likely this tall mallee (3-5 m) would have been detectable at the time of the survey.
Goodenia modesta		3	Red loam, sand.	January to December	49	TPFL (2022) WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this perennial herb would have been detectable at the time of the survey. Previous records a moderate distance from the Survey Area.
***Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727)**		3	Red-brown clay soil, calcrete pebbles. Low undulating plain, swampy plains.	February-May & August-October	59	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Gymnanthera cunninghamii		3	Sandy soils, scree slopes. Areas of permanent and semi-permanent water courses.	January-December	55	TPFL (2022) WAH (2022)	**Possible** – suitable habitat may occur; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this perennial shrub (1-2 m) would have been detectable at the time of the survey. Previous records a significant distance from the Survey Area.
Indigofera gilesii		3	Pebbly loam. Amongst boulders & outcrops, hills	May or August	79	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
Iotasperma sessilifolium		3	Cracking clay, black loam. Edges of waterholes, plains	July-September	56	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Rhagodia* sp. Hamersley (M. Trudgen 17794)**		3	Plain/Undulating plain of red / brown sandy clay soil over ironstone, floodplain, Alluvial plain, Minor drainage	March, May, September & November	0	Biologic (2019) Onshore (2018) WAH (2022) NatureMap (2022)	**Confirmed** – Species previously recorded within the Survey Area.	**Confirmed:** Recorded within the Survey Area during the current survey.
Rostellularia adscendens* var. *latifolia		3	Ironstone soils. Near rocky creeks, rocky hills.	April-May	84	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Sida* sp. Barlee Range (S. van Leeuwen 1642)**		3	Skeletal red soils pockets. Steep slope.	August	88	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Streptoglossa* sp. Cracking clays (S. van Leeuwen et al. PBS 7353)**		3	Alluvial areas and red loamy soils	Unknown	78	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Swainsona thompsoniana		3	Bank slope, Broad flat clay pan drain, Flat open plain, Red-brown cracking clay.	March, April June, August & September	70	WAH (2022)	**Possible** – suitable habitat may occur; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this annual herb would have been detectable at the time of the survey. Previous records a significant distance from the Survey Area.
Tecticornia medusa		3	Saline flats	July to November	89	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
***Themeda* sp. Hamersley Station (M.E. Trudgen 11431)**		3	Red Clay. Clay pan, grass plain.	August	51	WAH (2022)	**Possible** – suitable habitat may occur; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this perennial grass would have been detectable at the time of the survey. Previous records a significant distance from the Survey Area.
Triodia birriliburu		3	Sand dunes	Unknown	47	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a

Scientific Name	EPBC	WA	Broad Habitat	Flowering Period	Nearest Record (km)	Database/s Survey Report	Pre-survey	Post-survey
							moderate distance from the Survey Area.	moderate distance from the Survey Area.
Triodia sp. Mt Ella (M.E. Trudgen 12739)		3	Light orange-brown, pebbly loam. Amongst rocks & outcrops on hills and gully slopes.	Unknown	31	WAH (2022) NatureMap (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a moderate distance from the Survey Area.
Acacia bromilowiana		4	Red skeletal stony loam, orange-brown pebbly, gravel loam, laterite, banded ironstone, basalt. Rocky hills, breakaways, scree slopes, gorges, creek beds.	July to August	79	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Eremophila magnifica* subsp. *magnifica		4	Skeletal soils over ironstone. Rocky screes.	August-November	72	WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous records a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.
Eremophila youngii subsp. ***lepidota***		4	Flats, plains, floodplains, sometimes semi-saline clay flats.	January, March, June, August, September	30	WAH (2022) NatureMap (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this spreading shrub (0.2-1.3 m) would have been detectable at the time of the survey. Previous records a moderate distance from the Survey Area.
Goodenia berringbinensis		4	Red sandy loam. Along watercourses.	October	42	WAH (2022)	**Possible** – suitable habitat may occur; previous records a moderate distance from the Survey Area.	**Unlikely:** The Survey Area does contain suitable habitat for this species, however if present, this ascending annual herb (0.1-0.3 m) would have been detectable at the time of the survey. Previous records a moderate distance from the Survey Area.
Lepidium catapycnon		4	Skeletal soils. Hillsides.	October	76	TPFL (2022) WAH (2022)	**Unlikely** – no optimal habitat is likely to occur within the Survey Area; previous record a significant distance from the Survey Area.	**Unlikely:** The Survey Area does not contain suitable habitat for this species; previous records a significant distance from the Survey Area.

Appendix G Inventory of Vascular Flora Recorded

Family	Taxon	Significance	Introduced
Acanthaceae	*Dicladanthera forrestii*		
Aizoaceae	*Trianthema glossostigmum*		
	Trianthema pilosum		
	Trianthema triquetrum		
Amaranthaceae	*Aerva javanica*		*
	Alternanthera angustifolia		
	Alternanthera denticulata		
	Alternanthera nana		
	Alternanthera nodiflora		
	Amaranthus undulatus		
	Gomphrena cunninghamii		
	Gomphrena kanisii		
	Ptilotus aervoides		
	Ptilotus astrolasius		
	Ptilotus axillaris		
	Ptilotus calostachyus		
	Ptilotus carinatus		
	Ptilotus clementii		
	Ptilotus exaltatus		
	Ptilotus fusiformis		
	Ptilotus gaudichaudii		
	Ptilotus gomphrenoides		
	Ptilotus helipteroides		
	Ptilotus obovatus var. obovatus		
	Ptilotus polystachyus		
	Ptilotus rotundifolius		
	Ptilotus schwartzii var. schwartzii		
	Ptilotus sp. indet		
	Ptilotus xerophilus		
Apocynaceae	*Leichhardtia australis*		
	Vincetoxicum lineare		
Araliaceae	*Trachymene oleracea* subsp. *oleracea*		
Asteraceae	Asteraceae sp. indet		
	Bidens bipinnata		*
	Blumea tenella		
	Brachyscome iberidifolia		
	Calocephalus beardii		
	Calocephalus knappii		
	Calotis plumulifera		
	Centipeda minima subsp. *macrocephala*		
	Centipeda thespidioides		
	Chrysocephalum apiculatum subsp. *pilbarense*		
	Chrysocephalum gilesii		
	Indet. sp.		
	Myriocephalus oldfieldii		

Family	Taxon	Significance	Introduced
	Pluchea dentex		
	Pluchea dunlopii		
	Pluchea rubelliflora		
	Pluchea sp. indet		
	Pterocaulon sp. indet		
	Pterocaulon sphacelatum		
	Pterocaulon sphaeranthoides		
	Rhodanthe charsleyae		
	Rhodanthe floribunda		
	Roebuckiella similis		
	Rutidosis helichrysoides subsp. *helichrysoides*		
	Schoenia cassiniana		
	Sonchus oleraceus		*
	Streptoglossa bubakii		
	Streptoglossa cylindriceps		
	Streptoglossa decurrens		
	Streptoglossa sp. indet		
Boraginaceae	*Euploca cunninghamii*		
	Euploca sp. indet		
	Euploca tanythrix		
	Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)		
	Halgania solanacea var. *solanacea*		
	Halgania solanacea var. indet		
	Trichodesma zeylanicum var. *zeylanicum*		
Brassicaceae	*Lepidium echinatum*		
	Lepidium phlebopetalum		
	Lepidium pholidogynum		
	Lepidium sp. indet		
Byblidaceae	*Byblis pilbarana*		
Campanulaceae	*Lobelia heterophylla* subsp. *heterophylla*		
	Lobelia sp. indet		
	Wahlenbergia tumidifructa		
Capparaceae	*Capparis lasiantha*		
Caryophyllaceae	*Polycarpaea corymbosa* var. *corymbosa*		
	Polycarpaea holtzei		
Celastraceae	*Macgregoria racemigera*		
	Stackhousia muricata		
Chenopodiaceae	Chenopodiaceae sp. indet		
	Chenopodium gaudichaudianum		
	Dysphania melanocarpa forma leucocarpa		
	Dysphania rhadinostachya subsp. *inflata*		
	Dysphania rhadinostachya subsp. *rhadinostachya*		
	Dysphania sp. indet		
	Enchylaena tomentosa var. *tomentosa*		
	Maireana melanocoma		

Family	Taxon	Significance	Introduced
	Maireana planifolia		
	Maireana sp. indet		
	Maireana villosa		
	Rhagodia eremaea		
	Rhagodia sp. Hamersley (M. Trudgen 17794)	P3	
	Salsola australis		
	Sclerolaena convexula		
	Sclerolaena cornishiana		
	Sclerolaena costata		
Cleomaceae	*Areocleome oxalidea*		
	Arivela viscosa		
Commelinaceae	*Commelina ensifolia*		
Convolvulaceae	Convolvulaceae sp. indet		
	Bonamia erecta		
	Bonamia media		
	Bonamia pilbarensis		
	Convolvulus clementii		
	Duperreya commixta		
	Evolvulus alsinoides var. *decumbens*		
	Evolvulus alsinoides var. *villosicalyx*		
	Ipomoea calobra		
	Ipomoea coptica		
	Ipomoea diamantinensis		
	Ipomoea muelleri		
	Ipomoea polymorpha		
	Ipomoea racemigera	P2	
	Ipomoea sp. indet		
Cucurbitaceae	*Citrullus amarus*		*
	Cucumis argenteus		
	Cucumis sp. indet		
	Cucumis variabilis		
Cyperaceae	*Bulbostylis barbata*		
	Cyperaceae sp. indet		
	Cyperus ixiocarpus		
	Cyperus macrostachyos		
	Cyperus sp. indet		
	Cyperus vaginatus		
	Fimbristylis dichotoma		
	Fimbristylis eremophila		
	Fimbristylis littoralis		
	Fimbristylis microcarya		
	Fimbristylis sp. indet		
Elatinaceae	*Bergia pedicellaris*		
Euphorbiaceae	*Euphorbia australis* var. indet		
	Euphorbia australis var. *hispidula*		

Family	Taxon	Significance	Introduced
	Euphorbia australis var. sub*tomentosa*		
	Euphorbia biconvexa		
	Euphorbia boophthona		
	Euphorbia ferdinandi var. *ferdinandi*		
	Euphorbia porcata		
	Euphorbia sp. indet		
	Euphorbia tannensis subsp. *eremophila*		
Fabaceae	*Acacia adoxa* var. *adoxa*		
	Acacia ancistrocarpa		
	Acacia aneura		
	Acacia aptaneura		
	Acacia ayersiana		
	Acacia catenulata subsp. *occidentalis*		
	Acacia coriacea subsp. *pendens*		
	Acacia dictyophleba		
	Acacia hilliana		
	Acacia inaequilatera		
	Acacia kempeana		
	Acacia macraneura		
	Acacia maitlandii		
	Acacia marramamba		
	Acacia melleodora		
	Acacia minyura		
	Acacia pachyacra		
	Acacia paraneura		
	Acacia paraneura x sp. indet		
	Acacia pruinocarpa		
	Acacia pyrifolia var. *pyrifolia*		
	Acacia rhodophloia		
	Acacia sclerosperma subsp. *sclerosperma*		
	Acacia sericophylla		
	Acacia sibirica		
	Acacia sp. indet		
	Acacia sp. (anuera complex)		
	Acacia tetragonophylla		
	Acacia trudgeniana		
	Aeschynomene indica		
	Alysicarpus muelleri		
	Crotalaria medicaginea var. *neglecta*		
	Crotalaria smithiana	P3	
	Cullen lachnostachys		
	Cullen pogonocarpum		
	Cullen sp. indet		
	Fabaceae sp. indet		
	Glycine canescens		

Family	Taxon	Significance	Introduced
	Gompholobium polyzygum		
	Indigofera boviperda subsp. *boviperda*		
	Indigofera colutea		
	Indigofera georgei		
	Indigofera linifolia		
	Indigofera linnaei		
	Indigofera monophylla		
	Indigofera sp. indet		
	Isotropis atropurpurea		
	Isotropis iophyta		
	Kennedia prorepens		
	Lotus cruentus		
	Petalostylis cassioides		
	Rhynchosia minima		
	Senna artemisioides subsp. ×*artemisioides*		
	Senna artemisioides subsp. *filifolia*		
	Senna artemisioides subsp. *helmsii*		
	Senna artemisioides subsp. *oligophylla*		
	Senna artemisioides subsp. *oligophylla x helmsii*		
	Senna artemisioides subsp. *oligophylla* x indet		
	Senna glaucifolia		
	Senna glaucifolia x indet		
	Senna glutinosa subsp. ×*luerssenii*		
	Senna glutinosa subsp. *glutinosa*		
	Senna glutinosa subsp. *pruinosa*		
	Senna notabilis		
	Senna sp. indet		
	Senna stricta		
	Sesbania cannabina		
	Swainsona kingii		
	Swainsona oroboides		
	Tephrosia rosea var. *clementii*		
	Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)		
	Tephrosia sp. indet		
	Tephrosia sp. Newman (A.A. Mitchell PRP 29)		
	Tephrosia supina		
	Vachellia farnesiana var. *farnesiana*		*
	Vigna sp. Hamersley Clay (A.A. Mitchell PRP 113)		
Goodeniaceae	*Brunonia australis*		
	Dampiera candicans		
	Goodenia sp. indet		
	Goodenia armitiana		
	Goodenia azurea subsp. *hesperia*		
	Goodenia lamprosperma		
	Goodenia microptera		

Family	Taxon	Significance	Introduced
	Goodenia nuda		
	Goodenia prostrata		
	Goodenia scaevolina		
	Goodenia stobbsiana		
	Goodenia triodiophila		
	Goodenia vilmoriniae		
	Indet sp.		
	Scaevola parvifolia subsp. indet		
	Scaevola parvifolia subsp. *pilbarae*		
	Scaevola sericophylla		
	Scaevola sp. indet		
	Scaevola spinescens		
Gyrostemonaceae	*Codonocarpus cotinifolius*		
Haloragaceae	*Gonocarpus ephemerus*		
	Haloragis gossei var. *gossei*		
Hypericaceae	*Hypericum gramineum*		
Lamiaceae	*Clerodendrum tomentosum* var. *?lanceolatum*		
	Dicrastylis cordifolia		
Loranthaceae	*Amyema fitzgeraldii*		
	Amyema miquelii		
	Amyema sp. indet		
Malvaceae	*Abutilon amplum*		
	Abutilon cunninghamii		
	Abutilon fraseri subsp. *fraseri*		
	Abutilon lepidum		
	Abutilon macrum		
	Abutilon otocarpum		
	Abutilon sp. indet		
	Abutilon oxycarpum subsp. Prostrate (A.A. Mitchell PRP 1266)		
	Corchorus lasiocarpus subsp. *lasiocarpus*		
	Corchorus sidoides subsp. *sidoides*		
	Corchorus sp. indet		
	Corchorus tridens		
	Gossypium australe		
	Gossypium robinsonii		
	Hibiscus burtonii		
	Hibiscus coatesii		
	Hibiscus sp. indet		
	Hibiscus sp. Gardneri (A.L. Payne PRP 1435)		
	Hibiscus sturtii var. indet		
	Hibiscus sturtii var. *campylochlamys*		
	Hibiscus sturtii var. *platychlamys*		
	Hibiscus sturtii var. *truncatus*		
	Malvaceae sp. indet		
	Malvastrum americanum		*

Family	Taxon	Significance	Introduced
	Melhania oblongifolia		
	Seringia exastia		
	Sida arenicola		
	Sida cardiophylla		
	Sida echinocarpa		
	Sida ectogama		
	Sida fibulifera		
	Sida platycalyx		
	Sida sp. indet		
	Sida sp. L (A.M. Ashby 4202)		
	Sida sp. Pilbara (A.A. Mitchell PRP 1543)		
	Sida sp. spiciform panicles (E. Leyland s.n. 14/8/90)		
	Triumfetta chaetocarpa		
	Waltheria indica		
Marsileaceae	*Marsilea exarata*		
	Marsilea hirsuta		
Molluginaceae	*Trigastrotheca molluginea*		
Montiaceae	*Calandrinia balonensis*		
	Calandrinia pumila		
	Calandrinia sp. indet		
Myrtaceae	*Calytrix carinata*		
	Corymbia candida subsp. *candida*		
	Corymbia deserticola subsp. *deserticola*		
	Corymbia hamersleyana		
	Corymbia sp. indet		
	Eucalyptus camaldulensis subsp. *refulgens*		
	Eucalyptus victrix		
	Eucalyptus xerothermica		
	Melaleuca lasiandra		
Nyctaginaceae	*Boerhavia coccinea*		
	Boerhavia repleta		
	Boerhavia schomburgkiana		
	Boerhavia sp. indet		
Oleaceae	*Jasminum didymum* subsp. *lineare*		
Orobanchaceae	*Buchnera linearis*		
	Striga squamigera		
Phrymaceae	*Peplidium aithocheilum*		
Phyllanthaceae	*Cathetus* sp. indet		
	Dendrophyllanthus erwinii		
	Nellica maderaspatensis		
	Synostemon rhytidospermus		
Plantaginaceae	*Stemodia viscosa*		
Poaceae	*Amphipogon sericeus*		
	Aristida contorta		
	Aristida holathera var. *holathera*		

Family	Taxon	Significance	Introduced
	Aristida inaequiglumis		
	Aristida sp. indet		
	Bothriochloa ewartiana		
	Cenchrus ciliaris		*
	Chloris pectinata		
	Chloris pumilio		
	Chrysopogon fallax		
	Cymbopogon ambiguus		
	Cymbopogon obtectus		
	Cynodon convergens		
	Dactyloctenium radulans		
	Dichanthium sericeum subsp. *humilius*		
	Dichanthium sericeum subsp. *polystachyum*		
	Dichanthium sericeum subsp. *sericeum*		
	Digitaria brownii		
	Enneapogon caerulescens		
	Enneapogon polyphyllus		
	Enneapogon robustissimus		
	Eragrostis cumingii		
	Eragrostis elongata		
	Eragrostis eriopoda		
	Eragrostis kennedyae		
	Eragrostis pergracilis		
	Eragrostis setifolia		
	Eragrostis sp. indet		
	Eragrostis tenellula		
	Eriachne sp. indet		
	Eriachne aristidea		
	Eriachne flaccida		
	Eriachne mucronata		
	Eriachne obtusa		
	Eriachne pulchella subsp. *pulchella*		
	Eulalia aurea		
	Iseilema sp. indet		
	Iseilema vaginiflorum		
	Monachather paradoxus		
	Panicum decompositum		
	Panicum sp. indet		
	Paraneurachne muelleri		
	Paspalidium clementii		
	Paspalidium rarum		
	Perotis rara		
	Poaceae sp. indet		
	Setaria dielsii		
	Setaria sp. indet		

Family	Taxon	Significance	Introduced
	Setaria surgens		
	Setaria verticillata		*
	Sporobolus australasicus		
	Themeda avenacea		
	Themeda triandra		
	Tragus australianus		
	Triodia basedowii		
	Triodia pungens		
	Triodia schinzii		
	Triodia sp. indet		
	Triodia vanleeuwenii		
	Tripogonella loliiformis		
	Triraphis mollis		
	Urochloa occidentalis var. *ciliata*		
	Urochloa occidentalis var. *occidentalis*		
	Urochloa piligera		
	Urochloa subquadripara		
Polygalaceae	*Polygala glaucifolia*		
	Polygala isingii		
	Polygala sp. indet		
Portulacaceae	*Portulaca filifolia*		
	Portulaca oleracea		
Proteaceae	*Grevillea berryana*		
	Grevillea wickhamii subsp. *hispidula*		
	Hakea chordophylla		
	Hakea lorea subsp. *lorea*		
Pteridaceae	*Cheilanthes* sp. indet		
	Cheilanthes sieberi subsp. *sieberi*		
Rubiaceae	*Psydrax latifolia*		
	Psydrax rigidula		
	Psydrax suaveolens		
	Synaptantha tillaeacea var. *tillaeacea*		
Santalaceae	*Anthobolus leptomerioides*		
	Exocarpos sparteus		
	Santalum spicatum		
Sapindaceae	*Dodonaea pachyneura*		
	Dodonaea petiolaris		
	Dodonaea sp. indet		
Scrophulariaceae	*Eremophila capricornica*	P1	
	Eremophila exilifolia		
	Eremophila forrestii subsp. *forrestii*		
	Eremophila fraseri subsp. *fraseri*		
	Eremophila lanceolata		
	Eremophila latrobei subsp. indet		
	Eremophila latrobei subsp. *filiformis*		

Family	Taxon	Significance	Introduced
	Eremophila latrobei subsp. *latrobei*		
	Eremophila longifolia		
	Eremophila sp. indet		
Solanaceae	*Nicotiana occidentalis*		
	Solanum centrale		
	Solanum lasiophyllum		
Stylidiaceae	Indet sp.		
	Stylidium desertorum		
Violaceae	*Afrohybanthus aurantiacus*		
Zygophyllaceae	*Tribulus astrocarpus*		
	Tribulus macrocarpus		
	Tribulus sp. indet		
	Tribulus suberosus		
	Tribulus terrestris		*

Appendix H Quadrat Site Data

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Site Type	Site Name	Dimensions
Quadrat	TCDC02	50m x 50m
	Phase 1	Phase 2
Date	4/7/2022	10/12/2022
Described by	Jonas Mitchell, Daniel Roocke	Jonas Mitchell, Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	235455	mE	Soil Texture	Sandy Clay
Northing	7420715	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Hardpan Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia ancistrocarpa* and *Hakea loreus* subsp. *loreus* tall open shrubland over *Triodia basedowii* open hummock grassland over *Aristida inaequiglumis* and *Paraneurachne muelleri* scattered tussock grasses	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon otocarpum				2TCDCQ02-10	0.4	0.1
Acacia ancistrocarpa		2.2	1		2.2	1
Acacia aneura	=TCDC01	4	1	2TCDCQ02-01	4	1
Acacia pruinocarpa		2.1	0.1		2.1	0.1
Afrohybanthus aurantiacus		0.4	0.1		0.4	0.1
Aristida contorta	TCDC02 - 01	0.1	0.1		0.1	0.1
Aristida holathera var. *holathera*	=TCDC01	0.2	0.1		0.2	0.1
Aristida inaequiglumis		0.3	1		0.4	1
Bonamia erecta				2TCDCQ02-05	0.4	0.1
Calandrinia balonensis				2TCDCQ02-12	0.2	0.1
Cucumis variabilis		1.5	0.1		1.9	0.1
Dicrastylis cordifolia		0.5	0.1		0.5	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Eragrostis eriopoda		0.3	0.1		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.3	0.1			
Eremophila sp. indet	TCDC02 - 04	0.5	0.1			
Eulalia aurea		0.3	0.1		0.3	0.1
Euphorbia boophthona	=TCDC18	0.3	0.1		0.5	0.1
Euploca sp. indet		0.2	0.1			
Gomphrena kanisii		0.1	0.1	TCDCQ02-08	0.2	0.1
Goodenia nuda				2TCDCQ02-09	0.2	0.1
Goodenia sp. indet		0.2	0.1			
Hakea lorea subsp. *lorea*		3	1		3	1
Halgania solanacea var. *Mt Doreen (G.M. Chippendale 4206*	TCDC02 - 03	0.4	0.1	2TCDCQ02-06	0.4	0.1
Hibiscus burtonii	=TCDC17	0.3	0.1			
Hibiscus sturtii var. *truncatus*	TCDC02 - 02	0.2	0.1		0.3	0.1
Indet. sp.					0.3	0.1
Maireana villosa				2TCDCQ02-07	0.1	0.1
Paraneurachne muelleri		0.2	0.1		0.2	0.5
Pterocaulon sp. indet		0.5	0.1			
Pterocaulon sphaeranthoides					0.2	0.1
Ptilotus astrolasius		0.3	0.5		0.3	0.5
Ptilotus obovatus var. *obovatus*					0.5	0.1
Ptilotus xerophilus				2TCDCQ02-03	0.1	0.1
Senna artemisioides subsp. *helmsii*					1.4	0.1
Senna artemisioides subsp. *oligophylla*					1.2	0.1
Senna artemisioides subsp. *oligophylla* x indet	=TCDC01	0.4	0.1	TCDCQ02-11	0.1	0.1
Senna notabilis		0.4	0.1		0.5	0.1
Sida cardiophylla				2TCDCQ02-04	0.4	0.1
Sida platycalyx				2TCDCQ02-02	0.2	0.1
Sida sp. indet		0.1	0.1			
Solanum lasiophyllum		0.1	0.1		0.3	0.1

Streptoglossa decurrens		0.4	0.1		0.4	0.1
Trichodesma zeylanicum var. *zeylanicum*		1.3	0.1			
Triodia basedowii		0.3	22		0.3	22

Site Type	Site Name	Dimensions
Quadrat	TCDC03	50m x 50m
	Phase 1	Phase 2
Date	4/7/2022	10/12/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	235214	mE	Soil Texture	Sandy Clay
Northing	7419680	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Sand Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				

Condition		Vegetation Description
Vegetation Condition	Excellent	*Acacia ?aptaneura, Acacia ancistrocarpa, Hakea loreus* subsp. *loreus tall shrub* over *Ptilotus astrolasius, Kennedia prorepens* low open shrubland over *Triodia basedowii* open hummock grassland over *Aristida inaequiglumis* scattered tussock grasses
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.3	1		2.3	3
Acacia aneura	=TCDC01	4	8			
Acacia aptaneura				TCDCQ03-02	4	8
Afrohybanthus aurantiacus		0.4	0.5		0.4	0.5
Aristida contorta	=TCDC02	0.1	0.1		0.2	0.1
Aristida inaequiglumis		0.5	1		0.5	1
Boerhavia coccinea					0.05	0.1
Bonamia erecta	=TCDC18	0.2	0.1		0.2	0.1
Corymbia hamersleyana		5	0.5		5	0.5
Dicrastylis cordifolia		0.1	0.1		0.3	0.1
Eragrostis eriopoda		0.3	0.1		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.5	0.1		1.5	0.1
Eremophila longifolia		1.2	0.1		1.2	0.1
Eulalia aurea		0.4	0.1		0.5	0.1
Evolvulus alsinoides var. *villosicalyx*		0.2	0.1			
Gomphrena kanisii					0.1	0.1
Goodenia microptera				TCDCQ03-01	0.1	0.1
Hakea chordophylla		1.6	0.1		1.9	0.1
Hakea lorea subsp. *lorea*		2.8	1		2.8	1
Hibiscus burtonii	=TCDC17	0.1	0.1		0.2	0.1
Hibiscus sturtii var. *platychlamys*	TCDC03 - 01	0.5	0.1		0.5	0.1
Kennedia prorepens	=TCDC18	0.4	1		0.4	1
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Ptilotus astrolasius		0.4	1		0.4	3
Ptilotus calostachyus		0.9	0.1		0.3	0.1
Ptilotus polystachyus					0.4	0.1
Senna artemisioides subsp. *helmsii*					0.1	0.1
Senna artemisioides subsp. *oligophylla* x indet	=TCDC01	1.8	0.1		1.8	0.1
Solanum lasiophyllum		0.2	0.1		0.2	0.1
Trichodesma zeylanicum var. *zeylanicum*		1.1	0.1		0.5	0.1
Triodia basedowii					0.3	18

Site Type	Site Name	Dimensions
Quadrat	TCDC04	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/16/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	242306	mE	Soil Texture	Sandy Clay Loam
Northing	7416819	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Sand Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Hakea loreus* subsp. *loreus* scattered tall shrubs over *Senna artemisioides* subsp. *helmsii* and *Senna artemidioides* subsp. *oligophylla* scattered shrubs over *Eragrostis eriopoda* open tussock grassland with *Triodia basedowii* very open hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia dictyophleba	TCDC04 - 04	1.2	0.1		1.2	0.1
Acacia pachyacra		1.8	0.1		1.8	0.1
Afrohybanthus aurantiacus		0.3	0.1		0.3	0.1
Aristida contorta	=TCDC26	0.2	0.5		0.2	0.1
Aristida holathera var. *holathera*	=TCDC07	0.3	0.5		0.3	0.5
Aristida inaequiglumis		0.4	1		0.4	0.5
Bonamia erecta	=TCDC18	0.3	0.1		0.3	0.1
Corymbia hamersleyana					2.9	0.5
Corymbia sp. indet	TCDC04 - 02	3	0.5			
Cucumis variabilis		1.5	0.1		1.5	0.1
Dicrastylis cordifolia		0.4	0.1		0.4	0.1
Eragrostis eriopoda		0.4	15		0.4	15
Eulalia aurea		0.4	1		0.4	0.5
Euphorbia boophthona	=TCDC18	0.3	0.1			
Gomphrena kanisii		0.2	0.1		0.2	0.1
Hakea lorea subsp. *lorea*		1.8	1		2.5	0.5
Haloragis gossei var. *gossei*					0.2	0.1
Indigofera georgei				2TCDC04-02	0.5	0.1
Kennedia prorepens	=TCDC18	0.6	0.1			
Maireana planifolia	TCDC04 - 06	1.1	0.1		1.1	0.1
Paraneurachne muelleri		0.3	0.1		0.3	0.5
Ptilotus astrolasius		0.3	0.1		0.3	0.1
Scaevola parvifolia subsp. *pilbarae*		0.3	0.1			
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.4	0.5		1.4	0.5
Senna artemisioides subsp. *oligophylla*		0.5	0.5		0.5	0.5
Sida arenicola	TCDC04 - 05	0.6	0.1	2TCDC04-03	0.7	0.1
Sida cardiophylla				2TCDC80-02	0.1	0.1
Sida sp. indet		0.5	0.1			
Solanum lasiophyllum		0.3	0.1		0.3	0.1
Tephrosia sp. indet		0.5	0.1		0.1	0.1
Tephrosia supina	TCDC04 - 01	0.3	0.1	2TCDC04-01	0.1	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.1	0.1			
Triodia basedowii		0.3	8		0.3	8

Site Type	Site Name	Dimensions
Quadrat	TCDC05	50m x 50m
	Phase 1	Phase 2
Date	4/6/2022	10/12/2022
Described by	Kyle Wood, Scott Pansini	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	236462	mE	Soil Texture	Clay Loam
Northing	7423050	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia aptaneura* tall shrubland over *Senna artemisioides* subsp. *oligophylla* scattered shrubs over *Eremophila fraseri* subsp. *fraseri* low scattered shrubs over *Aristida contorta, Eulalia aurea, Eriachne ? flaccida, Chrysopogon fallax* tussock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q05 - 10	0.6	1			
Acacia aptaneura	TCDC Q05 - 01	5.1	11		7	11
Aristida contorta	TCDC Q05 - 02	0.3	50		0.3	33
Aristida inaequiglumis		0.8	1		0.3	0.1
Arivela viscosa		0.5	1		0.4	0.1
Boerhavia sp. indet	TCDC Q05 - 16	0.2	1			
Bulbostylis barbata	TCDC Q05 - 09	0.1	1			
Chrysopogon fallax					0.2	1
Cucumis argenteus		0	1			
Cucumis variabilis				2TCDCQ05-03	0.5	0.1
Eragrostis setifolia				2TCDCQ05-02	0.2	0.1
Eragrostis sp. indet	TCDC Q05 - 03	0.3	1			
Eremophila fraseri subsp. *fraseri*		1.1	2		0.9	1
Eriachne sp. indet	TCDC Q05 - 04	0.3	1		0.3	1
Eulalia aurea		0.5	5		0.5	5
Evolvulus alsinoides var. *villosicalyx*	TCDC Q05 - 14	0.2	1		0.2	0.1
Gomphrena kanisii	TCDC Q05 - 06	0.3	1		0.2	0.1
Goodenia nuda				=TCDC80-01	0.2	0.1
Goodenia sp. indet	TCDC Q05 - 05	0.2	1			
Hibiscus burtonii				=TCDC80-05	0.3	0.1
Hibiscus sp. indet				2TCDCQ05-01	0.4	0.1
Ipomoea calobra				=2TCDC10-05	0.2	0.1
Ipomoea muelleri	TCDC Q05 - 08	0	1		0	0.1
Isotropis iophyta	TCDC Q05 - 07	0.5	1		0.4	0.1
Portulaca filifolia	TCDC Q05 - 13	0.3	1		0.3	0.1
Psydrax latifolia		0.5	1		0.5	0.1
Pterocaulon sphacelatum		0.5	1		0.5	0.1
Ptilotus sp. indet	TCDC Q05 - 11	0.3	1			
Rutidosis helichrysoides subsp. *helichrysoides*				2TCDCQ05-04	0.2	0.1
Senna artemisioides subsp. *helmsii*					0.6	0.1
Senna artemisioides subsp. *oligophylla*		1.1	2		1.1	1
Sida fibulifera					0.2	0.1
Sida sp. indet	TCDC Q05 - 12	0.3	1			

Site Type	Site Name	Dimensions
Quadrat	TCDC07	50m x 50m
	Phase 1	Phase 2
Date	4/7/2022	10/12/2022
Described by	Jonas Mitchell, Daniel Roocke	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	237557	mE	Soil Texture	Clay Loam
Northing	7418698	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia paraneura, Acacia* sp. tall shrubland over *Senna artemisioides* subsp. *helmsii* open shrubland over *Eulalia aurea, Aristida contorta, Enneapogon polyphyllus* open tussock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Fire scar,Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon fraseri subsp. *fraseri*	2TCDCQ07-04	0.2	0.1			
Abutilon macrum	TCDC07 - 05	0.2	0.1			
Acacia aneura	2TCDC2Q07-06	4	1			
Acacia paraneura	2TCDCQ07-07	3	15			
Afrohybanthus aurantiacus		0.1	0.1			
Aristida contorta		0.2	3			
Aristida holathera var. *holathera*	TCDC07 - 11	0.4	0.1			
Aristida inaequiglumis		0.3	0.5			
Arivela viscosa		0.6	0.1			
Asteraceae sp. indet		0.1	0.1			
Bidens bipinnata		0.1	0.1			
Boerhavia schomburgkiana		0.1	0.1			
Bonamia media		0.1	0.1			
Bonamia pilbarensis	TCDC07 - 08	0.1	0.1			
Cheilanthes sieberi subsp. *sieberi*		0.1	0.1			
Chrysopogon fallax		0.4	0.5			
Cucumis variabilis		0.4	0.1			
Dodonaea sp. indet		0.1	0.1			
Enneapogon polyphyllus	TCDC07 - 03	0.1	1			
Eremophila fraseri subsp. *fraseri*		1.1	0.1			
Eriachne sp. indet	2TCDCQ07-02	0.3	0.1			
Eulalia aurea		0.4	4			
Euphorbia biconvexa	=TCDCr01	0.1	0.1			
Euploca cunninghamii	TCDC07 - 09	0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1			
Fimbristylis sp. indet	=Jm01	0.1	0.1			
Gomphrena kanisii	TCDC07 - 10	0.2	0.1			
Goodenia nuda		0.2	0.5			
Hakea lorea subsp. *lorea*		0.5	0.1			
Hibiscus burtonii		0.3	0.1			
Hibiscus sturtii var. *truncatus*		0.3	0.1			
Indigofera georgei	=TCDC81	0.5	0.1			
Indigofera linnaei	2TCDCQQ07-05	0.1	0.1			
Ipomoea diamantinensis	=Dr02	0.2	0.1			
Ipomoea muelleri		0.1	0.1			
Iseilema vaginiflorum	TCDC07 - 14	0.1	0.1			
Isotropis iophyta		0.5	0.1			
Marsilea hirsuta		0.1	0.1			
Paspalidium rarum	TCDC07 - 13	0.1	0.1			
Perotis rara		0.1	0.5			
Polycarpaea corymbosa var. *corymbosa*		0.1	0			
Portulaca filifolia	=Dr01	0.1	0.1			

Psydrax latifolia		2.3	0.1			
Pterocaulon sp. indet		0.2	0.1			
Pterocaulon sphaeranthoides		1.1	0.1			
Ptilotus gaudichaudii	2TCDCQ07-03	0.1	0.1			
Ptilotus sp. indet	TCDC07 - 09	0.1	0.1			
Rutidosis helichrysoides subsp. *helichrysoides*	2TCDCQ07-01	0.2	0.1			
Senna artemisioides subsp. *helmsii*	TCDC07 - 02	1.4	3			
Senna artemisioides subsp. *oligophylla*		1.5	0.1			
Sesbania cannabina		0.3	0.1			
Sida fibulifera		0.1	0.5			
Sida platycalyx	TCDC07 - 12	0.1	0.1			
Trianthema triquetrum		0.1	0.1			
Trichodesma zeylanicum var. *zeylanicum*		0.8	0.1			

Site Type	Site Name	Dimensions
Quadrat	TCDC10	50m x 50m
	Phase 1	Phase 2
Date	4/6/2022	10/12/2022
Described by	Scott Pansini, Kyle Wood	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	238007	mE	Soil Texture	Clay Loam
Northing	7422551	mS	Soil Colour	Red/Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Sandy/Stony Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Corymbia candida* subsp. *candida* scattered trees over *Acacia aptaneura* scattered shrubs over *Eriachne ? flaccida, Eulalia aurea* open tussock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia ancistrocarpa	TCDC Q10 - 07	1.8	1			
Acacia aptaneura	=q05-01	1.5	1		1.5	1
Acacia tetragonophylla		0.3	1		0.1	0.1
Aristida contorta		0.2	40			
Aristida inaequiglumis		0.8	1			
Asteraceae sp. indet	TCDC Q10 - 04	0.3	1	2TCDCQ10-02	0.3	0.1
Bulbostylis barbata	=q05-09	0.1	1			
Chrysopogon fallax					0.1	0.1
Corymbia candida subsp. *candida*		10	1		10.5	1
Cucumis variabilis	TCDC Q10 - 02	0.1	1			
Eriachne flaccida				2TCDCQ10-04	0.1	0.1
Eriachne sp. indet	TCDC Q10 - 06	0.3	1	2TCDCQ10-01	0.3	15
Eulalia aurea		0.4	10		0.4	8
Evolvulus alsinoides var. *villosicalyx*	TCDC Q10 - 02	0.2	1			
Gomphrena kanisii	=q05-06	0.1	1			
Goodenia lamprosperma	TCDC Q10 - 01	0.2	1		0.2	0.1
Goodenia nuda				2TCDCQ10-03	0.1	0.1
Goodenia sp. indet	=q05-03	0.3	1			
Indet. sp.	TCDC Q10 - 05	0.1	1		0.1	0.1
Ipomoea calobra				2TCDCQ10-05	0.1	0.1
Ipomoea muelleri	=q05-08	0.1	1			
Marsilea hirsuta					0.05	0.1
Portulaca filifolia	=q05-13	0.1	1			
Pterocaulon sphacelatum		0.4	1			
Sida platycalyx	=q08-12	0.1	1			
Sida sp. indet	=q05-12	0.1	1	2TCDCQ10-06	0.1	0.1
Themeda triandra		0.6	1			

Site Type	Site Name	Dimensions
Quadrat	TCDC16	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/13/2022
Described by	Scott Pansini	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	238893	mE	Soil Texture	Clay Loam
Northing	7419851	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Low (1-20°)		Rock Size	
Aspect	North		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Very Good		*Eucalyptus victrix* scattered low trees over *Eulalia aurea, Themeda triandra, *Cenchrus ciliaris, Eriachne ?flaccida, Aristida inaequiglumis, Dichanthium sericeum* subsp. *polystachyum*tussock grassland over *Rutidosis helichrysoides* subsp. *helichrysoides* scattered herbs	
Disturbance Type	Cattle grazing, Weed invasion			
Fire Age (years)	Old (6+yrs)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon sp. indet					0.1	0.1
Acacia ancistrocarpa		1.4	0.1		1.3	0.1
Acacia tetragonophylla		1.3	0.5		3	0.5
Aeschynomene indica	=sp02 ?	0.3	0.5		0.1	0.1
Alternanthera nana	TCDC Q16 - 17	0.1	0.1			
Aristida contorta		0.2	0.1		0.2	0.1
Aristida inaequiglumis	=q09-01	1.2	1		0.6	1
Blumea tenella	=q15-14	0.1	0.1			
Boerhavia coccinea	TCDC Q16 - 10	0.2	0.1			
Boerhavia sp. indet	=q05-01	0.1	0.1			
Buchnera linearis				2TCDCQ16-17	0.2	0.1
Bulbostylis barbata	TCDC Q16 - 04	0.1	0.1		0.1	0.1
Byblis pilbarana				2TCDCQ16-15	0.1	0.1
Calandrinia sp. indet	TCDC Q16 - 18	0.02	0.1	2TCDCQ16-11	0.02	0.1
Calocephalus knappii				2TCDCQ16-04	0.1	0.1
Calotis plumulifera				2TCDCQ16-07	0.1	0.1
Cenchrus ciliaris		0.5	4		1	5
Chrysopogon fallax					0.3	0.1
Citrullus amarus	=q15-11	0.1	0.1			
Corymbia deserticola subsp. *deserticola*	TCDC Q16 - 08	3	0.5		4	0.5
Crotalaria medicaginea var. *neglecta*					0.2	0.1
Crotalaria smithiana	TCDC Q16 - 16	0.1	0.1	2TCDCQ16-20	0.1	0.1
Dichanthium sericeum subsp. *polystachyum*				2TCDCQ16-01	0.3	1
Eragrostis cumingii	TCDC Q16 - 03	0.1	0.1	2TCDCQ16-03	0.1	0.1
Eriachne aristidea	TCDC Q16 - 12	0.3	0.1	2TCDCQ16-09	0.3	0.1
Eriachne obtusa	TCDC Q16 - 07	0.4	0.1			
Eriachne sp. indet	=q10-06	0.4	1		0.4	1
Eucalyptus victrix		5	1		5	1.5
Eulalia aurea		0.6	35		0.6	33
Euphorbia australis var. indet				2TCDCQ16-08	0.1	0.1
Euphorbia boophthona					0.1	0.1
Euphorbia sp. indet		0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1		0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1			
Goodenia lamprosperma	=q10-01	0.1	0.1		0.1	0.1
Goodenia sp. indet	=q05-05	0.1	0.1			
Gossypium australe	=sp06	0.4	0.1		0.4	0.1
Indet. sp.	TCDC Q16 - 14	0.02	0.1	2TCDCQ16-23	0.3	0.1
Indigofera colutea	TCDC Q16 - 06	0.1	0.1		0.1	0.1
Indigofera linifolia	TCDC Q16 - 13	0.1	0.1	2TCDCQ16-19	0.1	0.1
Indigofera linnaei	=q15-12	0.1	1			
Ipomoea coptica	TCDC Q16 - 05	0.3	0.1			

Ipomoea muelleri				2TCDCQ16-18	0.2	0.1
Ipomoea polymorpha	TCDC Q16 - 09	0.1	0.1			
Ipomoea racemigera	=q15-15	0	0.1			
Lotus cruentus				2TCDCQ16-06	0.1	1
Malvastrum americanum	TCDC Q16 - 15	0.4	0.1		0.4	0.1
Marsilea hirsuta					0.05	0.1
Nicotiana occidentalis			0	2TCDCQ16-22	0.5	0.1
Panicum decompositum	=q15-10	0.9	0.1		0.7	0.1
Peplidium aithocheilum				2TCDCQ16-10	0.1	0.1
Perotis rara	=q08-04	0.1	0.1			
Polygala glaucifolia				2TCDCQ16-13	0.1	0.1
Portulaca oleracea		0.01	0.1			
Pterocaulon sp. indet	=q15-16	0.02	0.1			
Pterocaulon sphacelatum		0.6	0.1		0.6	0.1
Ptilotus sp. indet		0.02	0.1			
Rhodanthe charsleyae				2TCDCQ16-16	0.2	0.1
Rhynchosia minima		0.1	0.1		0.2	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	TCDC Q16 - 02	0.3	0.1		0.4	1.5
Solanum lasiophyllum		0.2	0.1		0.2	0.1
Tephrosia sp. indet				2TCDCQ16-14	0.2	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	TCDC Q16 - 01	0.1	1			
Tephrosia supina	TCDC Q16 - 11	0.2	0.1	2TCDCQ16-05	0.2	0.1
Themeda triandra		1.3	20		0.7	25
Wahlenbergia tumidifructa				2TCDCQ16-02	0.3	0.1

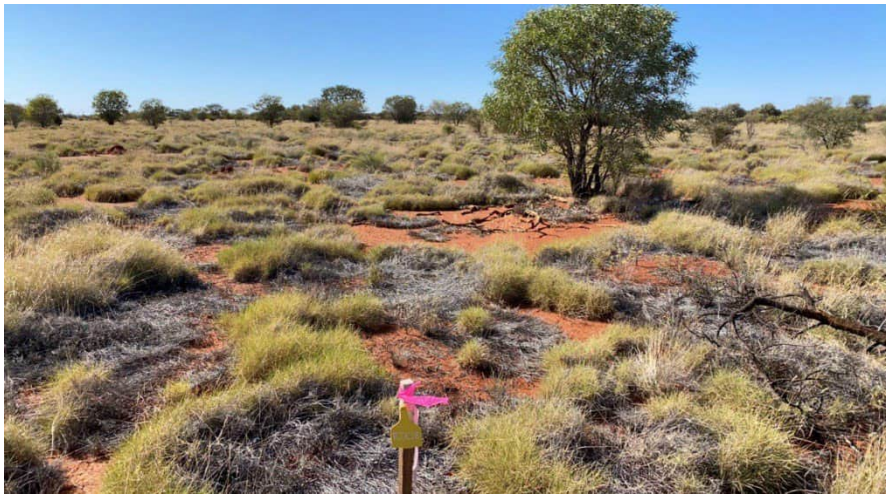
Site Type	Site Name	Dimensions
Quadrat	TCDC18	50m x 50m
	Phase 1	Phase 2
Date	4/6/2022	10/14/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	240621	mE	Soil Texture	Sandy Clay
Northing	7421716	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia pruinocarpa* and *Hakea loreus* subsp. *loreus* tall open shrubland over *Kennedia prorepens* low scattered shrubs over *Triodia basedowii* open hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia pachyacra		1.9	1		1.9	0.5
Acacia pruinocarpa		4.5	4		4.5	3
Acacia tetragonophylla		2.1	1		2.1	0.5
Anthobolus leptomerioides	TCDC18 - 02	1.7	1			
Aristida holathera var. *holathera*				2TCDC18-03	0.2	0.1
Aristida inaequiglumis					0.5	0.1
Bonamia erecta	TCDC18 - 07	0.1	1		0.5	0.1
Chrysopogon fallax		0.4	1			
Dichanthium sericeum subsp. *humilius*		0.4	1			
Dicrastylis cordifolia		0.4	1		0.4	0.1
Eragrostis eriopoda		0.2	1		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.1	1		1.1	0.1
Eulalia aurea		0.5	1		0.5	0.1
Euphorbia boophthona	TCDC18 - 05	0.2	1		0.5	0.1
Hakea lorea subsp. *lorea*		3.2	1		3.2	0.5
Hibiscus sturtii var. *truncatus*				2TCDC18-01	0.2	0.1
Kennedia prorepens	TCDC18 - 03	0.4	1.5		0.4	1.5
Malvaceae sp. indet					0.1	0.1
Paraneurachne muelleri		0.3	1		0.3	0.1
Psydrax rigidula	TCDC18 - 6	0.4	1			
Ptilotus carinatus		0.1	1			
Ptilotus obovatus var. *obovatus*	TCDC18 - 01	0.4	1		0.4	0.1
Scaevola parvifolia subsp. indet	TCDC18 - 08	0.1	1			
Scaevola parvifolia subsp. *pilbarae*				2TCDC18-04	0.3	0.1
Senna artemisioides subsp. *oligophylla*					0.3	0.1
Senna sp. indet		0.1	1			
Seringia exastia		0.2	1			
Sida cardiophylla				2TCDC18-02	0.4	0.1
Sida sp. indet	TCDC18 - 04	0.4	1			
Solanum centrale					0.2	0.1
Streptoglossa decurrens		0.7	1		0.8	0.1
Tephrosia sp. indet					0.3	0.1
Tribulus macrocarpus	=TCDC17	0.1	1			
Triodia basedowii		0.3	35		0.3	27

Site Type	Site Name	Dimensions
Quadrat	TCDC20	50m x 50m
	Phase 1	Phase 2
Date	4/6/2022	10/14/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	241943	mE	Soil Texture	Sandy Clay Loam
Northing	7420113	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Sand Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Hakea loreus* subsp. *loreus* and *Acacia aptaneura* scattered tall shrubs over *Kennedia prorepens* low scattered shrubs over *Triodia basedowii* open hummock grassland with *Paraneurachne muelleri* and *Aristida inaquilglumis* scattered tussock grasses	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.1	1		2.1	0.1
Acacia aptaneura	=TCDC19	3	1		3	0.5
Aristida contorta					0.1	0.1
Aristida holathera var. *holathera*		0.1	1			
Aristida inaequiglumis		0.3	1		0.3	0.5
Arivela viscosa		0.3	1			
Bonamia erecta	=TCDC18	0.1	1		0.1	0.1
Bonamia media		0.1	1			
Calandrinia balonensis	TCDC20 - 02	0.3	1		0.3	0.1
Corchorus sp. indet		0.4	1			
Cucumis variabilis		1.1	1		0.7	0.1
Cymbopogon ambiguus	TCDC20 - 06	0.4	1		0.3	0.1
Dicrastylis cordifolia		0.3	1		0.3	0.1
Eragrostis eriopoda		0.2	1		0.2	0.1
Eulalia aurea		0.3	1		0.5	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	1			
Gomphrena kanisii		0.1	1		0.2	0.1
Hakea chordophylla		1.8	1		1.8	0.1
Hakea lorea subsp. *lorea*		3.5	1		3.5	1
Hibiscus sturtii var. *truncatus*				=2TCDC18-01	0.2	0.1
Kennedia prorepens	=TCDC18	0.3	1		0.3	1
Malvaceae sp. indet		0.2	1			
Paraneurachne muelleri		0.3	1		0.3	1
Ptilotus astrolasius		0.4	1		0.4	0.1
Ptilotus sp. indet		0.3	1	=2TCDC20-01	0.3	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)	TCDC20 - 05	1.8	1		2.2	0.1
Scaevola sp. indet		0.2	1			
Senna artemisioides subsp. *helmsii*					0.2	0.1
Senna artemisioides subsp. oligophylla x helmsii	TCDC20 - 03	1.7	1		1.7	0.1
Sida cardiophylla				=2TCDC18-02	0.3	0.1
Sida echinocarpa					0.3	0.1
Sida platycalyx					0.1	0.1
Sida sp. indet	TCDC20 - 01	0.2	1			
Triodia basedowii		0.3	33		0.3	29

Site Type	Site Name	Dimensions
Quadrat	TCDC22	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/14/2022
Described by	Scott Pansini	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	240250	mE	Soil Texture	Clay Loam
Northing	7419536	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Sandy/Stony Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia ayersiana, Acacia aptaneura* and *Acacia ?pteraneura* tall open shrubland over *Senna artemisioides* subsp. *helmsii, Senna artemisiodes* subsp. *oligophylla* scattered shrubs over *Eulalia aurea, Aristida inaequiglumis, Aristida contorta* open tussock grassland	
Disturbance Type	Cattle grazing			
Fire Age (years)	Old (6+yrs)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=q05-15	0.2	0.1		0.6	0.1
Acacia aneura	=q09-03	2.5	0.1	2TCDC22-04	2.5	0.5
Acacia aptaneura					2.1	1
Acacia ayersiana	TCDC Q22 - 01	3	3		4	3
Acacia tetragonophylla		0.6	0.1		0.6	0.1
Aristida contorta	=q05-02	0.3	1		0.3	1
Aristida inaequiglumis	=q09-01	1.2	3		0.9	1
Arivela viscosa		0.5	0.1		0.3	0.1
Boerhavia sp. indet	=q05-16	0.1	0.1		0.05	0.1
Cheilanthes sp. indet	=q11-05	0.02	0.1			
Chrysopogon fallax					0.2	0.1
Cymbopogon ambiguus					0.3	0.1
Enneapogon polyphyllus	=q08-06	0.1	0.1		0.1	0.1
Eremophila lanceolata				2TCDC22-03	0.1	0.1
Eulalia aurea		0.3	4		0.3	17
Gomphrena kanisii	=q05-06	0.2	0.1		0.2	0.1
Goodenia nuda				=2TCDC10-03	0.1	0.1
Hakea chordophylla					0.7	0.1
Hakea lorea subsp. *lorea*		0.9	0.1		0.9	0.1
Hibiscus burtonii					0.4	0.1
Indigofera sp. indet	TCDC Q22 - 02	0.2	0.1			
Ipomoea muelleri	=q05-08	0.1	0.1			
Ipomoea sp. indet	=q06-09	0.1	0.1		0.1	0.1
Isotropis iophyta	=q05-07	0.3	0.1		0.6	0.1
Maireana sp. indet	Q06-05	0.2	0.1	2TCDC22-01	0.2	0.1
Paraneurachne muelleri					0.3	0.1
Pterocaulon sphacelatum		0.5	0.1		0.3	0.1
Ptilotus obovatus var. *obovatus*		0.3	0.1		0.4	0.1
Ptilotus polystachyus					0.1	0.1
Ptilotus schwartzii var. *schwartzii*		0.3	0.1			
Ptilotus sp. indet				=2TCDC20-01	0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*					0.3	0.1
Senna artemisioides subsp. *helmsii*		1.4	1		1.4	1
Senna artemisioides subsp. *oligophylla*		1.8	2		1.8	0.5
Senna sp. indet					0.3	0.1
Sida fibulifera					0.2	0.1
Sida platycalyx	=q08-12	0.2	0.1		0.2	0.1
Sida sp. indet	=q05-12	0.2	0.1			
Sida sp. L (A.M. Ashby 4202)				2TDC22-02	0.1	0.1
Solanum lasiophyllum		0.1	0.1		0.1	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC26	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/15/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	241063	mE	Soil Texture	Sandy Clay
Northing	7417651	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Aristida contorta, Eriachne flaccida* and *Eulalia aurea* tussock grassland over *Ptilotus polystachyus* scattered herbs	
Disturbance Type	None discernible			
Fire Age (years)	Moderate (3-5yrs)			
Fire Notes	Fire scar,Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Alternanthera nana				=2TCDC31-02	0.1	0.1
Areocleome oxalidea		0.1	0.1			
Aristida contorta	TCDC26 - 01	0.2	65		0.2	55
Aristida holathera var. *holathera*	=TCDC07	0.3	7			
Arivela viscosa		0.1	0.1			
Chrysopogon fallax		0.3	0.1		0.3	0.1
Eriachne flaccida	TCDC26 - 03	0.2	1		0.2	13
Eriachne pulchella subsp. *pulchella*				2TCDC26-02	0.1	0.1
Eulalia aurea		0.4	0.5		0.4	0.5
Euphorbia ferdinandi var. *ferdinandi*	TCDC26 - 05	0.1	0.1			
Euphorbia sp. indet		0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1			
Goodenia lamprosperma	=TCDCr01	0.1	0.1		0.1	0.1
Goodenia nuda	=TCDC07	0.1	0.1		0.1	0.1
Goodenia sp. indet				2TCDC26-01	0.2	0.1
Peplidium aithocheilum	TCDC26 - 04	0.01	0.1	=2TCDC16-10	0.1	0.1
Ptilotus polystachyus		0.2	0.1		0.4	1
Rhodanthe charsleyae				=2TCDC16-16	0.2	0.1
Senna artemisioides subsp. *helmsii*		1.1	0.5		1.3	0.5
Sesbania cannabina		0.2	0.1			
Sida fibulifera		0.2	0.1		0.2	0.1
Streptoglossa bubakii					0.1	0.1
Streptoglossa decurrens					0.1	0.1
Trichodesma zeylanicum var. *zeylanicum*					0.1	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC27	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/15/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	242171	mE	Soil Texture	Sandy Clay
Northing	7417855	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Hardpan Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				

Condition		Vegetation Description
Vegetation Condition	Excellent	*Corymbia candida* subsp. *candida* scattered low trees over *Acacia aneura* tall open shrubland over *Eulalia aurea*, *Eriachne flaccida*, *Aristida contorta* open tussock grassland
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=TCDC07	0.4	0.1		0.4	0.1
Acacia aneura	TCDC27 - 01	2.5	3			
Acacia aptaneura				2TCDC27-03	3.2	3
Acacia tetragonophylla		1.4	0.1		1.4	0.1
Aristida contorta					0.3	1
Aristida holathera var. *holathera*		0.2	3			
Aristida inaequiglumis		0.4	0.1		0.4	0.1
Bidens bipinnata		0.1	0.1			
Chrysocephalum apiculatum subsp. *pilbarense*	TCDC27 - 04	0.3	0.1			
Chrysocephalum gilesii	TCDC27 - 02	0.2	0.1			
Chrysopogon fallax		0.4	0.1		0.4	0.1
Corymbia candida subsp. *candida*	=TCDCr02-01	9	1.5		9	1.5
Cucumis variabilis		0.2	0.1			
Eriachne flaccida	TCDC27 - 03	0.3	7		0.3	0.1
Eulalia aurea		0.4	8		0.4	10
Euphorbia biconvexa				2TCDC27-02	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1		0.1	0.1
Gomphrena kanisii		0.2	0.1		0.1	0.1
Goodenia lamprosperma	=TCDCr01	0.2	0.1		0.2	0.1
Goodenia nuda	=TCDC07	0.1	0.1		0.1	0.1
Ipomoea sp. indet	=TCDC28	0.2	0.1	2TCDC?27-01	0.2	0.1
Isotropis iophyta	=JM02	0.4	0.1		0.4	0.1
Panicum decompositum		0.2	0.1			
Peplidium aithocheilum	=TCED26	0.1	0.1	=2TCDC16-10	0.1	0.1
Portulaca filifolia	=DR01	0.2	0.1			
Pterocaulon sp. indet		0.1	0.1		0.3	0.1
Rutidosis helichrysoides subsp. *helichrysoides*					0.2	0.1
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.2	0.1		1.2	0.1
Senna artemisioides subsp. *oligophylla*		0.2	0.1			
Sida fibulifera		0.2	0.1			
Sida sp. L (A.M. Ashby 4202)				=2TCDC22-02	0.2	0.1
Solanum lasiophyllum		0.1	0.1			

Site Type	Site Name	Dimensions
Quadrat	TCDC29	100m x 25m
	Phase 1	Phase 2
Date	4/9/2022	10/16/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	242066	mE	Soil Texture	Sandy Clay Loam
Northing	7416752	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Hillslope		Rock Type	Granite like
Slope	Low (1-20°)		Rock Size	Small rocks (11-20cm)
Aspect	North		Abundance (%)	Very common
Bare Ground (%)			Exposed Bedrock (%)	Major (50-70%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Grevillea wickhamii* subsp. *hispidula* tall open shrubland over *Acacia hilliana* low shrubland over *Triodia vanleeuwenii* open hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia hilliana		0.3	15		0.3	15
Afrohybanthus aurantiacus		0.4	0.1		0.4	0.1
Amphipogon sericeus	=TCDC30	0.1	0.1		0.2	0.1
Aristida holathera var. *holathera*	TCDC29 - 02	0.1	0.1			
Aristida sp. indet		0.2	0			
Calytrix carinata	=TCDC30	0.2	0.1		0.3	0.1
Corymbia hamersleyana					1.5	0.1
Eragrostis eriopoda		0.3	0.1		0.3	0.1
Eremophila sp. indet	TCDC29 - 04	0.2	0.1			
Eriachne mucronata		0.2	0.1			
Fimbristylis sp. indet	TCDC29 - 01	0.1	0.1			
Goodenia stobbsiana		0.1	0.1		0.1	0.1
Goodenia triodiophila					0.1	0.1
Grevillea wickhamii subsp. *hispidula*		2.1	9		2.1	9
Hibiscus sturtii var. *truncatus*				2TCDC29-01	0.3	0.1
Malvaceae sp. indet		0.1	0.1			
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Petalostylis cassioides		0.4	0.5	2TCDC29-02	0.5	0.5
Poaceae sp. indet	=TCDC30	0.3	0.1	2TCDC29-05	0.3	0.1
Ptilotus calostachyus		0.9	0.1		0.7	0.1
Scaevola sericophylla				2TCDC29-04(03)	0.4	0.1
Seringia exastia		0.5	0.5	2TCDC29-04	0.6	0.1
Triodia schinzii		0.3	0.5		0.3	0.5
Triodia vanleeuwenii		0.2	23		0.2	23

Site Type	Site Name	Dimensions
Quadrat	TCDC30	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/16/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	241889	mE	Soil Texture	Sandy Clay Loam
Northing	7416338	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Hillslope		Rock Type	Kind of granite
Slope	Low (1-20º)		Rock Size	Small rocks (11-20cm)
Aspect	South-west		Abundance (%)	Very common
Bare Ground (%)			Exposed Bedrock (%)	Major (50-70%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Grevillea wickhamii* subsp. *hispidula* shrubland over *Acacia hilliana* low open shrubland over *Triodia vanleeuwenii* open hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon sp. indet		0.1	0.1			
Acacia adoxa var. *adoxa*		0.2	1		0.2	0.5
Acacia hilliana		0.2	8		0.2	5
Acacia marramamba				TCDC30-01	0.3	0.1
Acacia sp. indet		0.3	0.1			
Afrohybanthus aurantiacus		0.3	0.1		0.3	0.1
Amphipogon sericeus	TCDC30 - 01	0.1	0.1		0.3	0.1
Aristida contorta					0.1	0.1
Aristida sp. indet		0.2	0.1			
Bulbostylis barbata		0.1	0.1			
Calytrix carinata	TCDC30 - 02	0.3	0.1		0.3	0.1
Dicrastylis cordifolia		0.3	0.1		0.3	0.1
Eragrostis eriopoda					0.3	0.1
Eragrostis sp. indet	TCDC30 - 04	0.1	0.1			
Eremophila sp. indet		0.2	0.1		0.1	0.1
Eriachne mucronata		0.3	0.1	=2TCDC29-05	0.3	0.1
Euploca sp. indet		0.1	0.1			
Goodenia stobbsiana		0.2	0.1		0.2	0.1
Goodenia triodiophila					0.2	0.1
Grevillea wickhamii subsp. *hispidula*		1.9	11		1.9	15
Halgania solanacea var. *solanacea*		0.4	0.1			
Hibiscus sturtii var. *truncatus*				=2TCDC29-01	0.2	0.1
Paraneurachne muelleri		0.1	0.1		0.3	0.1
Petalostylis cassioides				=2TCDC29-02	0.5	0.5
Poaceae sp. indet	TCDC30 - 03	0.1	0.1			
Ptilotus calostachyus		1.1	0.1		0.8	0.1
Scaevola sericophylla				=2TCDC29-03	0.2	0.1
Senna glutinosa subsp. ×*luerssenii*					1	0.1
Seringia exastia	TCDC30 - 05	0.5	1.5	=2TCDC29-04	0.4	0.5
Tribulus suberosus		0.3	0.5			
Triodia vanleeuwenii		0.2	12		0.2	15

Site Type	Site Name	Dimensions
Quadrat	TCDC31	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/15/2022
Described by	Jonas Mitchell, Daniel Roocke	Jonas Mitchell, Daniel Roocke

Location (UTM) zone 51K			Soils	
Easting	240820	mE	Soil Texture	Sandy Clay
Northing	7416976	mS	Soil Colour	Brown
Site Characteristics			**Coarse Surface Particles**	
Landform	Hardpan Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia tetragonophylla* scattered tall shrubs over *Senna artemisioides* subsp. *helmsii* and *Senna glaucifolia* open shrubland over *Aristida contorta, Eulalia aurea, Eriachne flaccida* tussock grassland	
Disturbance Type	None discernible, Cattle tracks/scat			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Fire scar,Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=TCDC07	0.5	0.1		0.2	0.1
Abutilon sp. indet		0.1	0.1			
Acacia tetragonophylla		5	1.5		5	1.5
Alternanthera nana				2TCDC31-02	0.1	0.1
Areocleome oxalidea		0.1	0.1			
Aristida contorta	=TCDC26	0.1	40		0.3	40
Aristida holathera var. *holathera*	=TCDC07	0.3	22			
Boerhavia schomburgkiana	=TCDC07	0.1	0.1		0.1	0.1
Calocephalus knappii				=2TCDC75-08	0.1	0.1
Chloris pumilio	TCDC31 - 01	0.1	0.1			
Chrysopogon fallax		0.2	0.1		0.3	0.1
Cucumis variabilis		0.1	0.1		0.1	0.1
Eragrostis kennedyae	TCDC31 - 02	0.2	0.1		0.2	0.5
Eragrostis sp. indet	TCDC31 - 05	0.3	0.1			
Eragrostis tenellula				2TCDC31-04	0.2	0.5
Eremophila fraseri subsp. *fraseri*		1.1	0.1		1.1	0.1
Eriachne flaccida	=TCDC26	0.2	0.1		0.2	0.5
Eulalia aurea		0.4	0.5		0.4	1
Euphorbia ferdinandi var. *ferdinandi*	=TCDC26	0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1			
Gomphrena kanisii					0.1	0.1
Goodenia lamprosperma	=TCDCr01	0.3	0.1			
Goodenia nuda	=TCDC07	0.1	0.1		0.2	0.1
Goodenia prostrata				2TCDC31-01	0.1	0.1
Ipomoea muelleri		0.1	0.1		0.1	0.1
Iseilema vaginiflorum		0.1	0.1			
Peplidium aithocheilum	=TCDC26	0.1	0.1	=2TCDC16-10	0.1	0.1
Portulaca filifolia	=Dr01	0.1	0.1		0.1	0.1
Ptilotus polystachyus					0.2	0.1
Ptilotus sp. indet				=2TCDC20-01	0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)					0.1	0.1
Senna artemisioides subsp. *helmsii*	=TCDC07	1.1	1.5		1.5	2
Senna glaucifolia	TCDC31 - 03	1.1	0.5		1.1	0.5
Sesbania cannabina		0.5	0.1		0.1	0.1
Sida fibulifera		0.2	0.1		0.2	0.1
Sida sp. L (A.M. Ashby 4202)				=2TCDc22-02	0.2	0.1
Streptoglossa decurrens		0.1	0.1		0.1	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC33	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/16/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	240991	mE	Soil Texture	Sandy Clay
Northing	7415649	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Very Good		*Corymbia candida* subsp. *candida* open woodland over *Acacia ?ayersiana* and *Acacia aptaneura* tall shrubland over *Rhagodia* sp. Hamersley (M. Trudgen 17794) scattered shrubs over *Maireana melanocoma* scattered low shrubs over *Aristida inaequiglumis, Aristida holathera* var. *holathera,* and *Enneapogon polyphyllus* very open tussock grassland over *Boerhavia coccinea* and *Hibiscus burtonii* scattered herbs.	
Disturbance Type	Cattle grazing, Weed invasion, Rubbish/Litter			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Fire scar			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon lepidum		0.2	0.1			
Abutilon sp. indet					0.2	0.1
Acacia aneura	TCDC33 - 04	7	13		7	20
Acacia aptaneura	TCDC33 - 03	4	12		4	9
Acacia coriacea subsp. *pendens*	TCDC33 - 11	3.1	0.5			
Acacia rhodophloia		2.2	0.1		2.3	0.1
Acacia sclerosperma subsp. *sclerosperma*					5	0.1
Acacia tetragonophylla					1.9	0.1
Afrohybanthus aurantiacus		0.2	0.1		0.2	0.1
Areocleome oxalidea					0.1	0.1
Aristida contorta					0.2	2
Aristida holathera var. *holathera*	=TCDC07	0.3	0.1		0.3	0.5
Aristida inaequiglumis		0.4	1		0.6	3
Arivela viscosa		0.2	0.1		0.2	0.1
Bidens bipinnata		0.1	0.1			
Boerhavia coccinea	TCDC33 - 01	0.1	1.5		0.1	0.1
Brachyscome iberidifolia				2TCDC33-06	0.1	0.1
Bulbostylis barbata				2TCDC33-03	0.1	0.1
Calytrix carinata		0.1	0.1			
Cenchrus ciliaris					0.2	0.1
Chloris pectinata	TCDC33 - 05	0.2	0.1			
Chloris pumilio	TCDC33 - 09	0.6	0.1			
Chrysopogon fallax					0.2	0.1
Corchorus sp. indet	TCDC33 - 08	0.4	0.1		0.2	0.1
Corymbia candida subsp. *candida*	TCDC33 - 10	12	2.5		12	2.5
Cucumis variabilis		0.2	0.1		1	0.1
Dactyloctenium radulans		0.1	0.1			
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Enchylaena tomentosa var. *tomentosa*		0.2	1			
Enneapogon polyphyllus	=TCDC07	0.2	0.5		0.2	0.5
Eragrostis cumingii	TCDC33 - 06	0.2	0.1		0.1	0.1
Eragrostis eriopoda		0.3	0.1		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1.1	0.1		1.1	0.1
Eremophila latrobei subsp. *filiformis*		1.7	0.1		1.7	0.1
Eriachne pulchella subsp. *pulchella*	TCDC33 - 07	0.1	0.1			
Eulalia aurea		0.4	0.1		0.4	0.1
Euphorbia biconvexa	=TCDCr01	0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*		0.3	0.1		0.3	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1			
Gomphrena cunninghamii	TCDC33 - 02	0.1	0.1			
Gomphrena kanisii		0.1	0.1		0.2	0.1
Goodenia prostrata				2TCDC33-01	0.1	0.1

Grevillea berryana				2TCDC33-04	3.9	0.1
Haloragis gossei var. *gossei*					0.2	0.1
Hibiscus burtonii	=TCDC17	0.5	0.1		0.5	1
Hibiscus sturtii var. *truncatus*	TCDC33 - 12	0.1	0.1			
Ipomoea polymorpha	TCDC33 - 09	0.1	0.1			
Ipomoea sp. indet	=TCDC28	1.9	0.1			
Maireana melanocoma				2TCDC33-02	0.3	1
Malvastrum americanum		0.3	0.1			
Monachather paradoxus				2TCDC33-05	0.5	0.5
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Perotis rara		0.1	0.1			
Poaceae sp. indet	TCDC33 - 12	0.2	0.1			
Portulaca filifolia					0.1	0.1
Portulaca oleracea		0.1	0.1		0.05	0.1
Psydrax latifolia		1.5	0.1		1.5	0.1
Pterocaulon sp. indet					0.1	0.1
Ptilotus exaltatus					0.2	0.1
Ptilotus polystachyus					0.2	0.1
Ptilotus sp. indet		0.1	0.1			
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.2	1		5	0.5
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.6	0.5		1.6	0.1
Senna artemisioides subsp. *oligophylla*		0.1	0.1			
Senna notabilis		0.1	0.1			
Sida fibulifera		0.2	0.5		0.2	0.1
Sida platycalyx		0.2	0.1			
Sida sp. indet					0.2	0.1
Sporobolus australasicus		0.1	0.1			
Tephrosia rosea var. *clementii*	TCDC33 - 16	0.1	0.1		0.1	0.1
Tephrosia supina	=TCDC29	0.1	0.5		0.1	0.1
Themeda triandra		0.5	0.1		0.5	0.1
Trianthema pilosum	TCDC33 - 13	0.1	0.1			
Trianthema triquetrum		0.1	0.1		0.05	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.6	0.1		1.4	0.1
Triodia basedowii		0.3	0.1			
Triodia pungens	TCDC33 - 14	0.3	0.1		0.3	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC35	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/13/2022
Described by	Scott Pansini	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	235760	mE	Soil Texture	Clay Loam
Northing	7416807	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Sandy/Stony Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				

Condition		Vegetation Description
Vegetation Condition	Excellent	*Acacia aneura high* open shrubland over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Eulalia aurea*, *Aristida inaequiglumis*, *Aristida contorta* very open tussock grassland
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=q05-15	0.3	0.1			
Abutilon sp. indet					0.3	0.1
Acacia aneura	=q36-03	2.5	5		3	5
Afrohybanthus aurantiacus		0.1	0.1			
Aristida contorta	=q05-02	0.3	1		0.3	1
Aristida holathera var. *holathera*					0.3	0.1
Aristida inaequiglumis		0.8	2		0.8	2.5
Arivela viscosa		0.5	0.1		0.4	0.1
Bidens bipinnata		0.1	0.1			
Boerhavia coccinea	=q16-10	0.1	0.1		0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	0.1		0.1	0.1
Cucumis variabilis	=q10-03	0.1	0.1		1.5	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Enneapogon polyphyllus	=q08-06	0.2	0.1		0.2	0.1
Eragrostis setifolia		0.3	0.1		0.3	0.1
Eremophila forrestii subsp. *forrestii*		0.4	0.1		1.1	0.1
Eremophila lanceolata				2TCDCQ35-03	0.2	0.1
Eriachne aristidea				=TCDC83-06	0.1	0.1
Eriachne obtusa	=q16-07	0.4	0.1			
Eriachne pulchella subsp. *pulchella*					0.1	0.1
Eulalia aurea		0.3	2		0.3	2.5
Evolvulus alsinoides var. *villosicalyx*	=q10-02	0.1	0.1		0.1	0.1
Gomphrena kanisii	=q05-06	0.2	0.1		0.2	0.1
Goodenia nuda				=TCDC83-03	0.1	0.1
Goodenia prostrata				2TCDCQ35-01	0.1	0.1
Goodenia sp. indet	=Q05-05	0.3	0.1			
Hakea lorea subsp. *lorea*		3	0.5		3	0.5
Hibiscus burtonii					0.4	0.1
Ipomoea muelleri	=q05-08	0.1	0.1		0.1	0.1
Isotropis iophyta	=q05-07	0.5	0.1		0.5	0.1
Maireana sp. indet	=q23-02	0.3	0.1			
Maireana villosa				=2TCDCQ02-07	0.4	0.1
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Portulaca filifolia	=q05-13	0.1	0.1			
Psydrax latifolia		1.3	0.1		1.3	0.1
Ptilotus aervoides				=2JM01	0.1	0.1
Ptilotus astrolasius					0.3	0.1
Ptilotus gaudichaudii					0.1	0.1
Ptilotus helipteroides					0.2	0.1
Ptilotus obovatus var. *obovatus*	TCDC Q35 - 03	0.2	0.1		0.3	0.1
Ptilotus polystachyus					0.4	0.1
Ptilotus schwartzii var. *schwartzii*		0.1	0.1			

Rutidosis helichrysoides subsp. *helichrysoides*				=2TCDCQ07-01	0.2	0.1
Senna artemisioides subsp. *helmsii*		1.8	1		1.8	1.5
Senna artemisioides subsp. *oligophylla*		0.3	0.1			
Senna glaucifolia					0.4	0.1
Sida fibulifera					0.2	0.1
Sida platycalyx	=q08-12	0.1	0.1		0.1	0.1
Sida sp. indet	=q05-12	0.1	0.1			
Solanum lasiophyllum		0.1	0.1		0.1	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	TCDC Q35 - 01	0.2	0.1		0.2	0.1
Tragus australianus				2TCDCQ35-02	0.1	0.1
Trichodesma zeylanicum var. *zeylanicum*		1	0.1			
Triodia basedowii					0.3	0.1
Triodia sp. indet	TCDC Q35 - 02	0.3	0.1			

Site Type	Site Name	Dimensions
Quadrat	TCDC36	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/13/2022
Described by	Scott Pansini	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	234766	mE	Soil Texture	Clay Loam
Northing	7416630	mS	Soil Colour	Red

Site Characteristics		Coarse Surface Particles	
Landform	Sandy/Stony Plain	Rock Type	None discernible
Slope	Flat (0°)	Rock Size	
Aspect	N/A	Abundance (%)	None
Bare Ground (%)		Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present			

Condition		Vegetation Description
Vegetation Condition	Excellent	*Corymbia candida* subsp. *candida* scattered low trees over *Acacia aneura high* open shrubland over *Eulalia aurea, Aristida inaequiglumis, Aristida contorta, Digitaria brownii* open tussock grassland over *Goodenia nuda* scattered herbs
Disturbance Type	Cattle grazing	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q36 - 02	0.3	0.1		0.6	0.1
Acacia aneura	TCDC Q36 - 03	3	10		3	10
Aristida contorta	=q05-02	0.3	2		0.3	2
Aristida holathera var. *holathera*	TCDC Q36 - 04	0.4	0.1		0.4	0.1
Aristida inaequiglumis	TCDC Q36 -	0.8	2		0.7	2.5
Arivela viscosa		0.1	0.1		0.3	0.1
Asteraceae sp. indet	=q10-04	0.2	0.1			
Boerhavia schomburgkiana					0.1	0.1
Boerhavia sp. indet	=q05-16	0.1	0.1			
Chrysocephalum gilesii	TCDC Q36 - 05	0.2	0.1		0.2	0.1
Chrysopogon fallax					0.9	0.1
Corymbia candida subsp. *candida*	TCDC Q36 - 01	6	2		6	1.5
Cucumis argenteus		0.1	0.1		0.3	0.1
Dendrophyllanthus erwinii				2TCDCQ36-02	0.1	0.1
Digitaria brownii				2TCDCQ36-04	0.5	1
Enneapogon polyphyllus	=q08-06	0.2	0.1			
Eragrostis setifolia		0.3	0.1		0.3	0.1
Eriachne aristidea				=TCDC83-06	0.2	0.1
Eriachne sp. indet	=q10-06	0.2	0.1	=2TCDCQ07-02	0.2	0.1
Eulalia aurea		0.3	15		0.5	15
Euphorbia biconvexa					0.3	0.1
Euphorbia sp. indet		0.2	0.1			
Evolvulus alsinoides var. *villosicalyx*	=q10-02	0.1	0.1		0.1	0.1
Fimbristylis microcarya				2TCDCQ36-03	0.4	0.1
Gomphrena kanisii	=q05-06	0.2	0.1		0.2	0.1
Goodenia nuda				=TCDC83-03	0.2	1
Goodenia sp. indet	=q05-05	0.2	1			
Hibiscus burtonii					0.2	0.1
Ipomoea muelleri	=q05-08	0.1	0.1		0.4	0.1
Isotropis iophyta	=q05-07	0.1	0.1		0.4	0.1
Paraneurachne muelleri		0.2	0.1		0.3	0.1
Peplidium aithocheilum				2TCDCQ36-01	0.1	0.1
Perotis rara	=q08-04	0.1	0.1			
Ptilotus gaudichaudii					0.1	0.1
Ptilotus obovatus var. *obovatus*					0.1	0.1
Ptilotus polystachyus					0.4	0.1
Ptilotus schwartzii var. *schwartzii*		0.2	0.1			
Rhodanthe charsleyae				2TCDCQ36-05	0.1	0.1
Rhodanthe floribunda				2TCDCQ36-06	0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*				=2TCDCQ07-01	0.5	0.1
Schoenia cassiniana				2TCDCQ36-07	0.1	0.1
Senna glaucifolia					0.4	0.1

Senna notabilis					0.1	0.1
Sida fibulifera					0.2	0.1
Sida platycalyx	=q08-12	0.1	0.1			
Solanum lasiophyllum					0.1	0.1
Streptoglossa bubakii					0.1	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC39	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/14/2022
Described by	Scott Pansini	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	237815	mE	Soil Texture	Loam
Northing	7414600	mS	Soil Colour	Red

Site Characteristics		Coarse Surface Particles	
Landform	Sandy/Stony Plain	Rock Type	None discernible
Slope	Low (1-20º)	Rock Size	
Aspect	South-east	Abundance (%)	None
Bare Ground (%)		Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present			

Condition		Vegetation Description
Vegetation Condition	Excellent	*Acacia* sp. *(anuera complex), Acacia ?pteraneura* tall open scrub over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Sida platycalyx* low scattered shrubs over *Aristida contorta, Eulalia aurea, Aristida inaequiglumis* open tussock grassland
Disturbance Type	Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q39 - 06	0.4	0.1		0.4	0.1
Abutilon oxycarpum subsp. *Prostrate (A.A. Mitchell PRP 1266)*				2TCDCQ39-09	0.1	0.1
Acacia ancistrocarpa		1.2	0.1		1.2	0.1
Acacia aneura	=q38-02	1.8	3	2TCDCQ39-01	2.1	3
Acacia dictyophleba	TCDC Q39 - 05	0.8	0.1		1.3	0.1
Acacia sericophylla	TCDC Q39 - 04	2.1	0.1		2.1	0.1
Aristida contorta	=q05-02	0.2	15		0.3	15
Aristida inaequiglumis	=q?	0.8	3		0.8	3
Arivela viscosa		0.3	0.5		0.5	0.5
Asteraceae sp. indet	=q10-04	0.2	0.1			
Boerhavia sp. indet	=q05-16	0.1	0.1	2TCDCQ39-10	0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	1		0.1	0.5
Buchnera linearis				2TCDCQ39-12	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1		0.1	0.1
Cenchrus ciliaris					0.4	0.1
Cheilanthes sp. indet	=q11-05	0.1	0.1			
Chrysocephalum gilesii	=q36-05	0.2	0.1			
Chrysopogon fallax					0.3	0.1
Cucumis variabilis				2TCDCQ39-05	0.6	0.1
Dactyloctenium radulans		0.1	0.1			
Enneapogon polyphyllus	=q08-06	0.3	0.5		0.3	0.5
Enneapogon robustissimus	TCDC Q39 - 07	0.9	0.1		0.9	0.1
Eragrostis setifolia					0.2	0.1
Eremophila forrestii subsp. *forrestii*		0.4	0.1		0.4	0.1
Eremophila lanceolata				=2TCDCQ35-03	0.1	0.1
Eriachne aristidea				=TCDC83-06	0.1	0.1
Eulalia aurea		0.3	6		0.4	6
Euphorbia australis var. *subtomentosa*	=sp15	0.1	0.1		0.1	0.1
Euphorbia biconvexa				2TCDCQ39-15	0.3	0.1
Euphorbia sp. indet	TCDC Q39 - 02	0.2	0.1			
Euploca sp. indet		0.1	0.1			
Evolvulus alsinoides var. *villosicalyx*					0.1	0.1
Gomphrena kanisii	=q05-06	0.2	0.1		0.2	0.1
Goodenia nuda				=tcdc83-03	0.1	0.1
Goodenia prostrata				=2TCDCQ35-01	0.1	0.1
Goodenia sp. indet	=q05-05	0.2	0.1			
Gossypium australe	=sp?	1.2	0.1		1.7	0.1
Hibiscus burtonii					0.4	0.1
Hibiscus sturtii var. *campylochlamys*				2TCDCQ39-08	0.3	0.1
Indigofera georgei				2TCDCQ39-07	0.4	0.1
Indigofera linnaei	=q15-12	0.1	0.1			
Ipomoea muelleri	=q05-05	0.1	0.1		0.1	0.1

Ipomoea racemigera	=q15-15	0.1	0.1			
Isotropis iophyta	=q05-07	0.4	0.1		0.6	0.1
Paraneurachne muelleri		0.2	0.1		0.4	0.1
Perotis rara	=q08-04	0.2	0.1			
Pluchea dunlopii				2TCDCQ39-11	0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1		0.1	0.1
Pterocaulon sphacelatum		0.8	0.1		0.4	0.1
Ptilotus helipteroides					0.1	0.1
Rhodanthe charsleyae				=2tcdcq36-05	0.1	0.1
Rhodanthe floribunda				2TCDCQ39-13	0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*				=2TCDCQ07-01	0.2	0.1
Sclerolaena convexula				2TCDCQ39-04	0.1	0.1
Sclerolaena cornishiana	=q23-01	0.2	0.1	2TCDCQ39-03	0.2	0.1
Senna artemisioides subsp. *helmsii*		0.9	2		1.1	1
Senna artemisioides subsp. *oligophylla*		0.7	0.1		1.5	0.1
Sida fibulifera					0.1	0.1
Sida platycalyx	=q08-12	0.1	2		0.2	1.5
Sida sp. indet				2TCDCQ39-14	0.3	0.1
Solanum lasiophyllum		0.2	0.1		0.2	0.1
Streptoglossa decurrens		0.2	0.1		0.4	0.1
Tephrosia sp. indet	TCDC Q39 - 03	0.3	0.1	2TCDCQ39-06	0.8	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	=q35-01	0.2	0.1		0.2	0.1
Themeda triandra		0.8	0.1			
Tribulus sp. indet	=sp?	0.02	0.1			
Tripogonella loliiformis	=q38-01	0.1	0.1			

Site Type	Site Name	Dimensions
Quadrat	TCDC41	50m x 50m
	Phase 1	Phase 2
Date	4/9/2022	10/14/2022
Described by	Scott Pansini	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	238447	mE	Soil Texture	Clay Loam
Northing	7415961	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Low (1-20º)		Rock Size	
Aspect	South		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Corymbia candida* subsp. *candida* scattered low trees over *Themeda triandra, Eulalia aurea* tussock grassland and *Goodenia lamprosperma* very open herbland.	
Disturbance Type	Cattle grazing			
Fire Age (years)	Moderate (3-5yrs)			
Fire Notes	Fire scar			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum				2TCDCQ41-01	0.1	0.1
Abutilon oxycarpum subsp. *Prostrate (A.A. Mitchell PRP 1266)*				=2tcdcq39	0.1	0.1
Acacia aneura		0.9	0.1		0.5	0.1
Acacia tetragonophylla		0.2	0.1		0.2	0.1
Aeschynomene indica	=sp01	0.2	0.1			
Alternanthera nana				2TCDCQ41-06	0.1	0.1
Aristida holathera var. *holathera*					0.1	0.1
Aristida inaequiglumis		0.9	1		0.5	0.1
Arivela viscosa		0.1	0.1			
Asteraceae sp. indet	=q10-04	0.2	0.1			
Bidens bipinnata		0.1	0.1			
Boerhavia coccinea	=q16-10	0.1	0.1		0.1	0.1
Bonamia pilbarensis					0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1		0.1	0.1
Chrysocephalum gilesii	=q36-05	0.2	0.1			
Convolvulus clementii				2TCDCQ41-02	0.1	0.1
Corchorus tridens	TCDC Q41 - 05	0.1	0.1			
Corymbia candida subsp. *candida*	TCDC Q41 - 01	6	1.5		6	1.5
Dendrophyllanthus erwinii	=q15-17	0.1	0.1			
Dysphania rhadinostachya subsp. *inflata*				2TCDCQ41-07	0.1	0.1
Enneapogon polyphyllus					0.1	0.1
Eriachne flaccida				2TCDCQ41-04	0.1	0.1
Eriachne sp. indet	=q10-06	0.3	0.1	=2tcdc07-02	0.3	0.1
Eulalia aurea		0.3	30		0.3	25
Euphorbia biconvexa				=2tcdcq39	0.1	0.1
Euphorbia sp. indet	=q39-02	0.2	0.1		0.2	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1		0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1		0.1	0.1
Goodenia lamprosperma	=q10-01	0.2	5		0.2	0.5
Goodenia nuda				=TCDC83-03	0.1	0.5
Goodenia sp. indet	=q05-05	0.3	0.1			
Hakea lorea subsp. *lorea*		1.5	0.1		0.7	0.1
Hibiscus sturtii var. *truncatus*					0.1	0.1
Indet. sp.	TCDC Q41 - 03	0.1	0.1	=2JM	0.1	0.1
Indigofera linnaei	=q15-12	0.1	0.1		0.1	0.1
Ipomoea muelleri	=q05-08	0.1	0.1		0.1	0.1
Ipomoea racemigera	=q15-15	0	0.1		0.1	0.1
Isotropis iophyta					0.2	0.1
Malvastrum americanum					0.3	0.1
Panicum decompositum	=q15-10	0.4	0.1		0.4	0.1
Peplidium aithocheilum	TCDC Q41 - 02	0.1	0.1	2TCDCQ41-05	0.1	0.1
Pluchea dentex					0.1	0.1

Pluchea dunlopii				=2TCDCQ39	0.1	0.1
Pterocaulon sphacelatum		0.4	0.1		0.4	0.1
Ptilotus xerophilus				2TCDCQ41-03	0.2	0.1
Rhynchosia minima					0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*				=2TCDCQ07-01	0.3	0.5
Senna notabilis		0.1	0.1		0.1	0.1
Sida platycalyx	=q08-12	0.1	0.1			
Sida sp. indet	TCDC Q41 - 04	0.1	0.1	=2tcdcq39	0.1	0.1
Solanum lasiophyllum		0.1	0.1		0.1	0.1
Streptoglossa bubakii					0.1	0.1
Themeda triandra		1.1	45		1.1	35
Tripogonella loliiformis	=q38-01	0.1	0.1			

Site Type	Site Name	Dimensions
Quadrat	TCDC50	50m x 50m
	Phase 1	Phase 2
Date	4/13/2022	10/19/2022
Described by	Jonas Mitchell, Daniel Roocke	Jonas Mitchell, Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	243069	mE	Soil Texture	Sandy Clay
Northing	7411816	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Drainage Area/Floodplain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Corymbia candida* subsp. *candida* and *Eucalyptus victrix* low open woodland over *Eulalia aurea, Eriachne flaccida* and *Themeda triandra* open tussock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Old (6+yrs)			
Fire Notes	Fire scar,Dead branches			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=TCDC07	0.5	0.1		0.5	0.1
Abutilon sp. indet		0.3	0.1			
Acacia sp. indet		0.1	0.1			
Acacia tetragonophylla		1.1	0.1		1.1	0.1
Alternanthera denticulata					0.1	0.1
Aristida contorta					0.2	0.1
Aristida holathera var. *holathera*		0.2	1			
Aristida inaequiglumis					0.8	0.1
Arivela viscosa		0.4	0.1			
Boerhavia schomburgkiana					0.1	0.1
Boerhavia sp. indet		0.1	0.1			
Chrysopogon fallax		0.3	0.1		0.3	0.1
Corymbia candida subsp. *candida*	TCDC50 - 04	8	2		8	2
Dichanthium sericeum subsp. *polystachyum*	TCDC50 - 03	0.4	0.1			
Enneapogon polyphyllus	=TCDC07	0.1	0.1		0.1	0.1
Eragrostis kennedyae	TCDC50 - 01	0.3	5			
Eriachne flaccida	TCDC50 - 02	0.2	5		0.2	5
Eucalyptus victrix		9	1		9	1
Eulalia aurea		0.3	20		0.3	20
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1			
Gomphrena kanisii		0.1	0.1		0.1	0.1
Goodenia lamprosperma	=TCDCr01	0.2	0.1		0.2	0.1
Goodenia nuda				=tcdc83-03	0.1	0.1
Hakea lorea subsp. *lorea*		0.8	0.1			
Indigofera sp. indet		0.1	0.1			
Ipomoea muelleri		0.1	0.1			
Malvastrum americanum		0.3	0.1			
Panicum sp. indet		0.4	0			
Pterocaulon sp. indet		0.5	0.1			
Pterocaulon sphaeranthoides					0.5	0.1
Ptilotus astrolasius					0.1	0.1
Ptilotus calostachyus		0.6	0.1			
Rutidosis helichrysoides subsp. *helichrysoides*				=2rcdcq07-01	0.1	0.1
Senna artemisioides subsp. *oligophylla*		0.2	0.1		0.2	0.1
Sida fibulifera		0.1	0.1		0.1	0.1
Solanum lasiophyllum		0.1	0			
Streptoglossa sp. indet		0.5	0			
Themeda avenacea					0.9	0.1
Themeda triandra		0.5	1.5		0.5	1.5

Site Type	Site Name	Dimensions
Quadrat	TCDC51	50m x 50m
	Phase 1	Phase 2
Date	4/12/2022	10/19/2022
Described by	Jonas Mitchell, Daniel Roocke	Jonas Mitchell, Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	241947	mE	Soil Texture	Sandy Clay Loam
Northing	7411044	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Hillslope		Rock Type	Ironstone
Slope	Low (1-20°)		Rock Size	Gravel (1-4cm)
Aspect	North		Abundance (%)	Common
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia pruinocarpa* and *Acacia trudgeniana* tall open shrubland over *Eremophila exilifolia* low scattered shrubs over *Triodia vanleeuwenii* open hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=TCDC52	0.3	0.1		0.3	0.1
Abutilon sp. indet		0.1	0.1			
Acacia pachyacra		0.7	0.1		0.7	0.1
Acacia pruinocarpa		3.1	2.5		3.1	2.5
Acacia rhodophloia		2.9	0.1		2.9	0.1
Acacia sibirica	=TCDC52	1.1	0.1		1.1	0.1
Acacia tetragonophylla		1.9	0.1		1.9	0.1
Acacia trudgeniana	=TCDCr04	2.5	1.5		2.5	1.5
Afrohybanthus aurantiacus		0.5	0.5		0.5	0.5
Alternanthera denticulata					0.2	0.1
Aristida inaequiglumis					0.7	0.1
Calytrix carinata	=TCDC30	0.6	0.1		0.6	0.1
Corchorus sidoides subsp. *sidoides*		0.3	0.1			
Dicrastylis cordifolia		0.3	0.1			
Duperreya commixta		0.3	0.1		0.3	0.1
Enchylaena tomentosa var. *tomentosa*		0.4	0.1		0.4	0.1
Enneapogon polyphyllus					0.1	0.1
Eremophila capricornica					0.3	0.1
Eremophila exilifolia		0.9	0.5		0.9	0.5
Eremophila latrobei subsp. *latrobei*	TCDC51 - 01	1.7	0.1		1.7	0.1
Eulalia aurea		0.4	0.1		0.4	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1			
Gomphrena kanisii		0.2	0.1		0.1	0.1
Goodenia triodiophila		0.2	0.1		0.2	0.1
Grevillea berryana	TCDC51 - 02	0.9	0.1		0.9	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)					0.3	0.1
Hibiscus sturtii var. *campylochlamys*	=TCDC52	0.2	0.1			
Hibiscus sturtii var. *truncatus*					0.4	0.1
Indigofera monophylla		0.2	0.1		0.2	0.1
Maireana villosa				=2tcdc02-07	0.1	0.1
Malvaceae sp. indet		0.6	0.1			
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Paspalidium clementii					0.3	0.1
Portulaca filifolia	=DR01	0.1	0.1			
Psydrax rigidula	=TCDC18	1.6	0.5		1.6	0.5
Ptilotus astrolasius		0.2	0.1		0.2	0.1
Ptilotus calostachyus		0.9	0.1		0.9	0.1
Ptilotus exaltatus					0.1	0.1
Ptilotus obovatus var. *obovatus*					0.4	0.1
Ptilotus polystachyus					0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.8	0.1		1.8	0.1

Senna artemisioides subsp. *oligophylla*		1.4	0.1		1.4	0.1
Senna glutinosa subsp. ×*luerssenii*		1.3	0.1		1.3	0.1
Seringia exastia		0.3	0.1			
Sida arenicola					0.2	0.1
Sida fibulifera		0.2	0.1			
Stackhousia muricata					0.1	0.1
Trianthema glossostigmum	TCDC51 - 03	0.1	0.1		0.1	0.1
Trichodesma zeylanicum var. *zeylanicum*		1.1	0.1			
Triodia vanleeuwenii		0.2	25		0.2	25

Site Type	Site Name	Dimensions
Quadrat	TCDC52	50m x 50m
	Phase 1	Phase 2
Date	4/12/2022	10/19/2022
Described by	Jonas Mitchell, Daniel Roocke	Jonas Mitchell, Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	242378	mE	Soil Texture	Sandy Clay Loam
Northing	7411017	mS	Soil Colour	Orange
Site Characteristics			**Coarse Surface Particles**	
Landform	Hillslope		Rock Type	Ironstone
Slope	Flat (0°)		Rock Size	Gravel (1-4cm)
Aspect	South		Abundance (%)	Common
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Very Good		*Acacia pruinocarpa, Acacia trudgeniana* tall open shrubland over *Eremophila exilifolia* low scattered shrubs over *Triodia vanleeuwenii* open hummock grassland	
Disturbance Type	Cattle grazing, Cattle bones, cow pats			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC52 - 09	0.3	0.1		0.2	0.1
Abutilon sp. indet		0.1	0.1			
Acacia pachyacra		1.5	0.5		1.5	0.5
Acacia pruinocarpa		2.5	2.5		2.5	2.5
Acacia sibirica	TCDC52 - 11	1.1	0.1		1.1	0.1
Acacia tetragonophylla		1.3	0.1		1.3	0.1
Acacia trudgeniana	=TCDCr04	2.1	1		2.1	1
Afrohybanthus aurantiacus		0.4	0.1		0.4	0.1
Alternanthera denticulata					0.1	0.1
Amphipogon sericeus					0.3	0.1
Aristida holathera var. *holathera*	=TCDC07	0.2	0.1		0.2	0.1
Aristida inaequiglumis		0.5	0.1		0.6	0.1
Arivela viscosa		0.2	0.1			
Blumea tenella					0.1	0.1
Boerhavia schomburgkiana	=TCDC33	0.1	0.1		0.1	0.1
Bonamia media		0.1	0.1			
Bonamia pilbarensis					0.1	0.1
Bulbostylis barbata					0.1	0.1
Calocephalus beardii				=2jm02	0.1	0.1
Calytrix carinata	=TCDC30	0.5	0.1		0.5	0.1
Chloris pumilio	=TCDC33	0.3	0.1			
Dactyloctenium radulans		0.1	0.1			
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Enchylaena tomentosa var. *tomentosa*		0.2	0.1			
Enneapogon polyphyllus	=TCDC07	0.1	0.1		0.1	0.1
Eragrostis eriopoda		0.3	0.1		0.3	0.1
Eremophila exilifolia	TCDC52 - 07	0.9	1.5		0.9	1.5
Eremophila latrobei subsp. *latrobei*					0.4	0.1
Eulalia aurea		0.2	0.1			
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.5			
Gompholobium polyzygum		0.4	0.1			
Gomphrena cunninghamii	=TCDC33	0.1	0.1			
Gomphrena kanisii		0.2	0.1		0.1	0.1
Goodenia stobbsiana					0.3	0.1
Goodenia triodiophila		0.2	0.1		0.2	0.1
Hakea lorea subsp. *lorea*		1.1	0.5		0.9	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)					0.3	0.1
Hibiscus burtonii	TCDC52 - 08	0.3	0.1		0.3	0.1
Hibiscus sturtii var. *campylochlamys*	TCDC52 - 04	0.1	0.1			
Hibiscus sturtii var. *truncatus*					0.2	0.1
Indet. sp.	TCDC52 - 06	0.3	0.1		2.2	0.5

Indigofera linnaei	TCDC52 - 05	0.2	0.1		0.2	0.1
Indigofera monophylla		0.2	0.1		0.1	0.1
Ipomoea polymorpha					0.1	0.1
Maireana planifolia					0.1	0.1
Paraneurachne muelleri		0.3	0.1		0.3	0.1
Paspalidium clementii	TCDC52 - 03	0.1	0.1		0.1	0.1
Perotis rara		0.1	0.1			
Portulaca filifolia	=DR01	0.2	0.1		0.2	0.1
Portulaca oleracea		0.1	0.1		0.1	0.1
Psydrax rigidula	=TCDC18	1.9	0.5			
Ptilotus astrolasius		0.3	0.1		0.3	0.1
Ptilotus calostachyus		1.1	0.1		1.1	0.1
Rhagodia eremaea					0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.1	0.1		1.3	0.1
Rutidosis helichrysoides subsp. *helichrysoides*				=2tcdcq07-01	0.1	0.1
Scaevola parvifolia subsp. *pilbarae*					0.1	0.1
Sclerolaena convexula	TCDC52 - 02	0.1	0.1		0.1	0.1
Sclerolaena cornishiana	TCDC52 - 01	0.2	0.1		0.2	0.1
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.2	0.1		1.2	0.1
Senna artemisioides subsp. *oligophylla*					0.2	0.1
Senna glaucifolia					0.1	0.1
Senna glaucifolia x indet	TCDC52 - 10	0.9	0.1			
Senna glutinosa subsp. ×*luerssenii*		1.1	0.1		1.1	0.1
Seringia exastia		0.3	0.1		0.4	0.1
Sida arenicola					0.5	0.1
Sida fibulifera		0.1	0.1		0.1	0.1
Sida sp. Pilbara (A.A. Mitchell PRP 1543)					0.6	0.1
Solanum lasiophyllum		0.2	0.1		0.2	0.1
Tephrosia sp. indet		0.1	0.1			
Trianthema glossostigmum					0.1	0.1
Tribulus suberosus					0.3	0.1
Trigastrotheca molluginea		0.1	0.1		0.1	0.1
Triodia vanleeuwenii		0.3	18		0.3	25

Site Type	Site Name	Dimensions
Quadrat	TCDC58	50m x 50m
	Phase 1	Phase 2
Date	4/12/2022	4/12/2022
Described by	Scott Pansini	Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	242297	mE	Soil Texture	Clay Loam
Northing	7407630	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Hillslope		Rock Type	Ironstone
Slope	Low (1-20º)		Rock Size	Gravel (1-4cm)
Aspect	North		Abundance (%)	Very common
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia pruinocarpa, Acacia ancistrocarpa* tall shrubland over *Triodia basedowii* hummock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.2	1		2.2	1
Acacia pachyacra	TCDC Q58 - 06	1.9	0.1		1.9	0.1
Acacia pruinocarpa		2.5	1		2.5	1
Acacia tetragonophylla		0.8	0.1		0.8	0.1
Afrohybanthus aurantiacus		0.1	0.1		0.1	0.1
Amphipogon sericeus		0.3	0.1			
Aristida inaequiglumis		0.5	0.1			
Asteraceae sp. indet	=q10-04	0.1	0.1			
Calytrix carinata		1.1	0.5	TCDC Q58 - 01	0.4	0.1
Corymbia hamersleyana		3	0.1		3	0.1
Cucumis variabilis		0.1	0.1	=q10-03	0.1	0.1
Eremophila capricornica	=kw04	0.4	0.1		0.4	0.1
Eremophila latrobei subsp. indet		1.1	0.1			
Eremophila sp. indet	TCDC Q58 - 05	0.8	0.1			
Eriachne mucronata		0.3	0.1			
Eulalia aurea		0.2	0.1		0.2	0.1
Euphorbia boophthona		0.3	0.1			
Exocarpos sparteus		1.5	0.1		1.5	0.1
Goodenia stobbsiana		0.1	0.1		0.1	0.1
Goodenia triodiophila		0.3	0.1			
Grevillea berryana	TCDC Q58 - 07	2.5	0.1		2.5	0.1
Hakea lorea subsp. *lorea*		1.8	0.1		1.8	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)		0.4	0.1			
Hibiscus sturtii var. *truncatus*		0.3	0.1			
Paraneurachne muelleri		0.3	0.1			
Ptilotus calostachyus		0.4	0.5		0.4	0.5
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.1	0.1		1.1	0.1
Senna artemisioides subsp. *helmsii*		0.9	0.1		0.9	0.1
Senna glaucifolia	TCDC Q58 - 09	1.2	0.1		1.9	0.1
Senna glutinosa subsp. ×*luerssenii*		1.5	0.1		1.5	0.1
Seringia exastia	TCDC Q58 - 04	0.3	0.1			
Sida arenicola		0.9	0.1	TCDC Q58-08	0.9	0.1
Sida sp. indet	TCDC Q58 - 03	0.2	0.1			
Solanum centrale	=tcdc95??	0.1	0.1			
Trianthema glossostigmum		0.02	0.1	TCDC Q58 - 02	0.02	0.1
Tribulus suberosus		0.1	0.1			
Triodia basedowii		0.2	40		0.2	40

Site Type	Site Name	Dimensions
Quadrat	TCDC61	50m x 50m
	Phase 1	Phase 2
Date	4/12/2022	10/18/2022
Described by	Jonas Mitchell, Daniel Roocke	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K			Soils	
Easting	245466	mE	Soil Texture	Sandy Clay Loam
Northing	7408871	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Sand Plain		Rock Type	None discernible
Slope	Flat (0°)		Rock Size	
Aspect	N/A		Abundance (%)	None
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Excellent		*Acacia macraneura* and *Hakea loreus* sbsp. *loreus high* open shrubland over *Eremophila Capricornia* scattered low shrubs over *Triodia basedowii* very open hummock grassland over *Eulalia aurea, Aristida inaequiglumis, paranuachne mullerii* very open tussock grassland	
Disturbance Type	None discernible			
Fire Age (years)	Unknown (no evidence)			
Fire Notes	N/A			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Acacia macraneura	TCDC61 - 02	3.2	4		2.5	3
Acacia melleodora		0.4	0.1		0.4	0.1
Acacia pachyacra		2.5	1		2.5	0.5
Afrohybanthus aurantiacus		0.4	0.1		0.4	0.1
Aristida contorta					0.2	0.1
Aristida holathera var. *holathera*	=TCDC07	0.3	0.5		0.3	0.5
Aristida inaequiglumis		0.4	1		0.4	1
Bonamia erecta		0.3	0.1		0.2	0.1
Bonamia media		0.1	0.1		0.1	0.1
Brunonia australis				2TCDCQ61-03	0.2	0.1
Calocephalus knappii				=2TCDC75-01	0.1	0.1
Chrysopogon fallax					0.2	0.1
Corymbia candida subsp. *candida*	=TCDCr01	3.1	0.1		3.1	0.1
Corymbia hamersleyana		0.9	0.1		0.9	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Eragrostis eriopoda		0.2	0.1		0.2	0.1
Eremophila capricornica	TCDC61 - 02	0.4	0.5	2TCDCQ61-05	0.6	0.5
Eremophila fraseri subsp. *fraseri*		1.1	0.1		1.1	0.1
Eulalia aurea		0.4	7		0.4	7
Euphorbia boophthona		0.1	0.1		0.5	0.1
Gomphrena kanisii		0.2	0.1		0.3	0.1
Goodenia microptera				2TCDCQ61-02	0.1	0.1
Goodenia sp. indet		0.1	0.1			
Hakea lorea subsp. *lorea*		1.2	0.5		4.5	0.5
Haloragis gossei var. *gossei*					0.1	0.1
Hibiscus burtonii	=TCDC17	0.6	0.1		0.3	0.1
Hibiscus sturtii var. *truncatus*				=2TCDC18-01	0.2	0.1
Ipomoea sp. indet					0.1	0.1
Paraneurachne muelleri		0.3	0.5		0.3	0.5
Ptilotus calostachyus		1.1	0.1			
Ptilotus exaltatus					0.1	0.1
Ptilotus polystachyus					0.1	0.1
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.1	0.1		1.1	0.1
Senna artemisioides subsp. *oligophylla*		0.9	0.1		0.1	0.1
Senna glaucifolia				2TCDCQ61-04	0.5	0.1
Sida cardiophylla				2TCDCQ61-01	0.4	0.5
Sida fibulifera		0.1	0.1		0.1	0.1
Sida sp. indet	TCDC61 - 01	0.4	0.5			
Solanum lasiophyllum		0.3	0.1		0.3	0.1
Themeda triandra					0.2	0.1
Trachymene oleracea subsp. *oleracea*					0.1	0.1
Tribulus macrocarpus					0.1	0.1

Triodia basedowii		0.3	2.5		0.3	2.5
Triodia schinzii		0.4	0.1		0.4	0.1

Quadrat	TCDC66	50m x 50m		
	Phase 1	Phase 2		
Date	4/12/2022	10/20/2022		
Described by	Scott Pansini	Scott Pansini		
Location (UTM) zone 51K			Soils	
Easting	246295	mE	Soil Texture	Sandy Loam
Northing	7407971	mS	Soil Colour	Red
Site Characteristics			Coarse Surface Particles	
Landform	Major Drainage Line		Rock Type	Quartz
Slope	Low (1-20º)		Rock Size	Gravel (1-4cm)
Aspect	South		Abundance (%)	Moderate
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			Vegetation Description	
Vegetation Condition	Excellent		*Eucalyptus camaldulensis* subsp. *refulgens*, *Eucalyptus victrix* low woodland over *Themeda triandra*, *Eulalia aurea* open tussock grassland	
Disturbance Type	Cattle grazing			
Fire Age (years)	Recent (0-2yrs)			
Fire Notes	Fire scar,Dead branches			
Site Photograph Phase 1			Site Photograph Phase 2	





Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon otocarpum				2TCDCQ66-01	0.3	0.1
Acacia aneura		0.5	0.1		0.5	0.1
Aeschynomene indica	=sp01	0.2	0.1		0.2	0.1
Alternanthera nana	=kw06	0.1	0.1		0.1	0.1
Aristida contorta		0.2	0.1		0.2	0.1
Aristida holathera var. *holathera*	TCDC Q66 - 03	0.2	0.1		0.2	0.1
Aristida inaequiglumis		0.9	0.1		0.9	0.1
Arivela viscosa		0.1	0.1		0.1	0.1
Asteraceae sp. indet	=q10-04	0.1	0.1	=2tcdcq07-01	0.2	0.1
Bidens bipinnata					0.1	0.1
Blumea tenella	=q15-14	0.2	0.1		0.2	0.1
Boerhavia coccinea	=q16-10	0.1	0.1		0.1	0.1
Bonamia pilbarensis					0.1	0.1
Bulbostylis barbata					0.1	0.1
Cathetus sp. indet	TCDC Q66 - 05	0.2	0.1			
Cenchrus ciliaris		0.3	0.1		0.3	0.1
Centipeda minima subsp. *macrocephala*				=tcdc87-03	0.1	0.1
Chrysopogon fallax					0.3	0.1
Citrullus amarus	=q15-11	0.1	0.1			
Corchorus tridens	=q75-02	0.1	0.1			
Crotalaria smithiana	TCDC Q66 - 08	0.2	0.1			
Cyperus ixiocarpus	TCDC Q66 - 06	0.4	0.1		0.4	0.1
Dactyloctenium radulans		0.1	0.1		0.1	0.1
Dendrophyllanthus erwinii	=q15-17	0.02	0.1		0.1	0.1
Digitaria brownii	=q68-12	0.1	0.1		0.5	0.1
Enneapogon polyphyllus	=q08-06	0.2	0.1		0.2	0.1
Eragrostis elongata	=q68-07	0.4	0.1		0.4	0.1
Eriachne flaccida					0.2	0.1
Eucalyptus camaldulensis subsp. *refulgens*	=q73-03	6	5		6	5
Eucalyptus victrix		5	1		5	1
Eulalia aurea		0.5	1		0.5	1
Euphorbia australis var. *subtomentosa*	TCDC Q66 - 01	0.1	0.1			
Euphorbia biconvexa				=2tcdcq39-15	0.2	0.1
Euphorbia boophthona					0.4	0.1
Euphorbia sp. indet	=q39-02	0.2	0.1			
Euploca sp. indet	=q?	0.1	0.1			
Euploca tanythrix	=q73-19	0.1	0.1			
Evolvulus alsinoides var. *decumbens*	=q73-05	0.1	0.1		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*	=q10-02	0.1	0.1		0.1	0.1
Glycine canescens	=q68-04	0	0.1		0.1	0.1
Goodenia lamprosperma	=q10-01	0.3	0.1		0.3	0.1
Goodenia nuda				=tcdc83-03	0.2	0.1

Goodenia sp. indet	=q05-05	0.2	0.1			
Gossypium australe	=sp?	1.1	0.1		1.1	0.1
Hibiscus sp. indet					0.2	0.1
Indigofera linifolia	TCDC Q66 - 04	0.1	0.1		0.1	0.1
Indigofera linnaei	=q15-12	0.1	0.1		0.1	0.1
Ipomoea coptica	TCDC Q66 - 07	0	0.1		0.1	0.1
Ipomoea muelleri	=q?	0.1	0.1		0.1	0.1
Ipomoea polymorpha					0.1	0.1
Ipomoea racemigera	=q75-07	0.1	0.1			
Isotropis iophyta	=q05-07	0.5	0.1		0.5	0.1
Nellica maderaspatensis					0.1	0.1
Nicotiana occidentalis					0.3	0.1
Panicum decompositum	=q?	0.3	0.1		0.5	0.1
Perotis rara	=q08-04	0.1	0.1			
Pluchea dentex					0.4	0.1
Portulaca filifolia		0.1	0.1			
Pterocaulon sphacelatum		0.5	0.1		0.5	0.1
Rhodanthe charsleyae				=2tcdcq36-05	0.1	0.1
Rhynchosia minima		0.1	0.1			
Sida fibulifera					0.1	0.1
Sida platycalyx	=q08-12	0.1	0.1			
Sida sp. indet	=q?	0.1	0.1			
Solanum lasiophyllum		0.6	0.1		0.6	0.1
Sporobolus australasicus		0.2	0.1			
Stemodia viscosa	=q68-08	0.1	0.1		0.1	0.1
Tephrosia sp. indet	=q63-06	0.2	0.1			
Tephrosia supina	TCDC Q66 - 09	0.1	0.1			
Themeda avenacea	=sp?	1.4	0.1			
Themeda triandra		0.9	15		1.1	15
Trianthema pilosum	=q73-18	0.1	0.1			
Vincetoxicum lineare	=q68-15	0.1	0.1			
Wahlenbergia tumidifructa	=q73-08	0.1	0.1		0.1	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC68	50m x 50m
	Phase 1	Phase 2
Date	4/12/2022	10/19/2022
Described by	Scott Pansini	Scott Pansini

Location (UTM) zone 51K			Soils	
Easting	241641	mE	Soil Texture	Sandy Loam
Northing	7407684	mS	Soil Colour	Red
Site Characteristics			**Coarse Surface Particles**	
Landform	Major Drainage Line		Rock Type	Quartz
Slope	Low (1-20º)		Rock Size	Gravel (1-4cm)
Aspect	South		Abundance (%)	Rare
Bare Ground (%)			Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present				
Condition			**Vegetation Description**	
Vegetation Condition	Good		*Eucalyptus camaldulensis* subsp. *refulgens* and *Corymbia hamersleyana* open woodland over *Acacia ? pteraneura, Acacia aneura high* shrubland over *Pluchea dentex, Tephrosia* sp. low shrubland over *Themeda triandra* and **Cenchrus ciliaris* very open tussock grassland	
Disturbance Type	Cattle grazing, Weed invasion			
Fire Age (years)	Moderate (3-5yrs)			
Fire Notes	Dead branches,Fire scar			

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	=q73-13	0.2	0.1			
Abutilon macrum				=q39-06	0.1	0.1
Abutilon macrum				=q05-15	0.1	0.1
Acacia aneura	TCDC Q68 - 03	4	1			
Acacia aneura	TCDC Q68 - 16	0.8	0.1			
Acacia aneura				=q?	3	4
Acacia aneura				=q15-01	4	4
Acacia aneura				=tcdc87-05	3	4
Acacia aneura					4	1
Aeschynomene indica	=sp01	0.2	0.1			
Afrohybanthus aurantiacus		0.1	0.1			
Alternanthera denticulata	=q15-05	0.1	0.1			
Aristida holathera var. *holathera*		0.3	0.1	=q35-04	0.3	0.1
Aristida inaequiglumis		1.2	0.1		1.2	0.1
Arivela viscosa		0.1	0.1		0.1	0.1
Bergia pedicellaris	TCDC Q68 - 10	0.1	0.1			
Bidens bipinnata		0.1	0.1		0.1	0.1
Blumea tenella		0.4	0.5	=q15-14	0.4	0.5
Boerhavia coccinea		0.1	0.1	=q16-10	0.1	0.1
Boerhavia sp. indet	=q05-16	0.1	0.1			
Bonamia pilbarensis	=q75-13	0.1	0.1		0.1	0.1
Buchnera linearis	=jm?	0.1	0.1			
Byblis pilbarana	TCDC Q68 - 09	0.1	0.1		0.1	0.1
Cenchrus ciliaris		0.3	4		0.3	4
Centipeda minima subsp. *macrocephala*	=tcdc87-03	0.1	0.1			
Cheilanthes sieberi subsp. *sieberi*		0.1	0.1	=q75-02	0.1	0.1
Chloris pumilio	TCDC Q68 - 13	0.1	0.1			
Chrysopogon fallax		1.4	0.1			
Citrullus amarus		0.1	0.1	=q63-15	0.1	0.1
Corchorus tridens	=q75-02	0.1	0.1			
Corymbia hamersleyana		6	1		6	1
Cucumis variabilis		0.1	0.1	=q10-03	0.1	0.1
Cyperus macrostachyos	=2tcdc87-09	0.9	0.1			
Cyperus sp. indet	TCDC Q68 - 21	0.2	0.1	=q75-11	0.9	0.1
Dactyloctenium radulans		0.1	0.1			
Dendrophyllanthus erwinii	=q15-17	0.1	0.1			
Digitaria brownii	TCDC Q68 - 12	0.7	0.1		0.7	0.1
Duperreya commixta	=q73-09	0.1	0.1		0.1	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1			
Enneapogon polyphyllus		0.2	0.1			
Eragrostis cumingii	TCDC Q68 – 11	0.1	0.1			
Eragrostis elongata	TCDC Q68 - 07	0.4	0.1		0.4	0.1

Eragrostis setifolia		0.3	0.1			
Eremophila capricornica		0.3	0.1			
Eremophila exilifolia	=sp?	0.1	0.1			
Eremophila sp. indet	TCDC Q68 - 01	0.3	0.1			
Eriachne aristidea	=tcdc83-06	0.2	0.1			
Eucalyptus camaldulensis subsp. *refulgens*		15	5	=q73-03	15	5
Eulalia aurea		0.4	0.1		0.4	0.1
Euphorbia biconvexa		0.1	0.1			
Euphorbia boophthona		0.2	0.1			
Euphorbia sp. indet	=q	0.1	0.1			
Euploca cunninghamii		0.1	0.1			
Euploca sp. indet		0.2	0.1			
Evolvulus alsinoides var. *decumbens*		0.1	0.1	=q73-05	0.2	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1	=q05-14	0.1	0.1
Fimbristylis dichotoma	=q11-01	0.1	0.1			
Glycine canescens		0.1	0.1	TCDC Q68-04	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1		0.1	0.1
Goodenia nuda	=tcdc83-03	0.1	0.1			
Hibiscus coatesii		0.4	0.1			
Hibiscus sp. Gardneri (A.L. Payne PRP 1435)	TCDC Q68 - 19	0.9	0.1		0.9	0.1
Indet. sp.	=tcdc89-07	0.1	0.1			
Indigofera monophylla		0.2	0.1			
Ipomoea calobra	=2jm10	0.1	0.1			
Ipomoea muelleri		0.1	0.1		0.1	0.1
Ipomoea polymorpha	TCDC Q68 - 18	0.1	0.1		0.1	0.1
Ipomoea racemigera	=q75-07	0.1	0.1			
Isotropis iophyta		0.4	0.1	=q05-07	0.4	0.1
Jasminum didymum subsp. *lineare*	=q73-01	0.1	0.1			
Leichhardtia australis	TCDC Q68 - 14	0.1	0.1			
Lobelia sp. indet		0.3	0.1			
Malvastrum americanum		0.2	0.1			
Nicotiana occidentalis		0.3	0.1			
Paraneurachne muelleri		0.2	0.1			
Paspalidium rarum	TCDC Q68 - 06	0.1	0.1		0.5	0.1
Perotis rara	=q08-04	0.1	0.1			
Pluchea dentex		0.7	0.1			
Polygala glaucifolia	TCDC Q68 - 20	0.02	0.1			
Portulaca filifolia	=q05-13	0.1	0.1		0.1	0.1
Portulaca oleracea	TCDC Q68 - 05	0.1	0.1			
Pterocaulon sphacelatum		0.2	0.1		0.2	0.1
Ptilotus exaltatus		0.1	0.1			
Ptilotus helipteroides		0.1	0.1			
Ptilotus polystachyus		0.3	0.1			
Ptilotus xerophilus	=2tcdc41-03	0.1	0.1			

Rhodanthe charsleyae	=2tcdc36-05?	0.1	0.1			
Rhynchosia minima		0.1	0.1		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=2tcdcq07-01	0.1	0.1			
Salsola australis		0.1	0.1			
Senna artemisioides subsp. *filifolia*	=q73-10	1.5	0.1		1.5	0.1
Senna artemisioides subsp. *helmsii*		0.2	0.1		0.1	0.1
Senna artemisioides subsp. *oligophylla*		0.3	0.1		0.3	0.1
Sida fibulifera		0.1	0.1	TCDC Q68-02	0.1	0.1
Sida platycalyx		0.2	0.1			
Sida sp. indet	=q05-12	0.1	0.1			
Solanum lasiophyllum		0.2	0.1		0.2	0.1
Sporobolus australasicus		0.1	0.1			
Stemodia viscosa	TCDC Q68-08	0.1	0.1		0.1	0.1
Synostemon rhytidospermus	=tcdc91-04	0.1	0.1			
Tephrosia sp. indet	=q73-06	0.3	1	=tcdc83-01	0.1	0.1
Themeda avenacea	=sp?	1.8	0.1		1.8	0.1
Themeda triandra		0.9	3		0.9	3
Trachymene oleracea subsp. *oleracea*		0.2	0.1			
Tribulus sp. indet	TCDC Q68 - 17	0.03	0.1			
Trichodesma zeylanicum var. *zeylanicum*					0.2	0.1
Tripogonella loliiformis	=q38-01	0.1	0.1			
Vincetoxicum lineare	TCDC Q68-15	0.1	0.1		0.1	0.1
Wahlenbergia tumidifructa					0.1	0.1
Waltheria indica	=q75-06	0.3	0.1	0.3	0.1	

Site Type	Site Name	Dimensions
Quadrat	TCDC73	50m x 50m
	Phase 1	Phase 2
Date	4/11/2022	10/15/2022
Described by	Scott Pansini	Scott Pansini, Jonas Mitchell

Location (UTM) zone 51K			Soils	
Easting	240113	mE	Soil Texture	Sandy Clay Loam
Northing	7414603	mS	Soil Colour	Red

Site Characteristics		Coarse Surface Particles	
Landform	Major Drainage Line	Rock Type	Quartz
Slope	Low (1-20°)	Rock Size	Gravel (1-4cm)
Aspect	South-west	Abundance (%)	Moderate
Bare Ground (%)		Exposed Bedrock (%)	Negligible (<5%)
Surface Water Present			

Condition		Vegetation Description
Vegetation Condition	Poor	*Eucalyptus camaldulensis* subsp. *refulgens* open woodland over *Gossypium australe* scattered shrubs over *Tephrosia* sp. low open shrubland over **Cenchrus ciliaris* and *Themeda triandra* open tussock grassland
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches	

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q73 - 13	0.4	0.1		0.6	0.1
Acacia aneura	=q15-01	0.9	0.1	2TCDCQ73-05	2.2	0.1
Acacia pyrifolia var. *pyrifolia*		1.9	0.1		1.9	0.1
Acacia tetragonophylla		0.5	0.1		1.5	0.1
Aerva javanica		0.5	0.1		0.9	0.1
Aeschynomene indica	=sp01	0.2	0.1		0.2	0.1
Afrohybanthus aurantiacus					0.1	0.1
Alternanthera nana				=2TCDCQ41-06	0.1	0.1
Aristida contorta					0.2	0.1
Aristida holathera var. *holathera*	=q36-04	0.8	0.1		0.3	0.1
Aristida inaequiglumis	=q?	0.9	0.5		0.9	0.5
Arivela viscosa		0.4	0.1		0.4	0.1
Bidens bipinnata		0.1	0.1		0.1	0.1
Blumea tenella	=q15-14	0.2	0.1		0.2	0.1
Boerhavia coccinea	=q05-16	0.1	0.1		0.1	0.1
Boerhavia repleta	TCDC Q73 - 20	01	0.1			
Bonamia pilbarensis	=q75-13	0.1	0.1		0.1	0.1
Calocephalus beardii				=2jm02	0.1	0.1
Cenchrus ciliaris		0.3	5		0.3	9
Cheilanthes sieberi subsp. *sieberi*	=q75-12	0.1	0.1			
Chrysopogon fallax					1.2	0.1
Citrullus amarus	TCDC Q73 - 15	0.1	0.1		0.1	0.1
Convolvulus clementii				=2tcdcq41-02	0.1	0.1
Corchorus lasiocarpus subsp. *lasiocarpus*		0.2	0.1			
Corchorus sidoides subsp. *sidoides*				2TCDCQ73-03	0.2	0.1
Corchorus tridens	=q75-02	0.1	0.1			
Crotalaria medicaginea var. *neglecta*				2TCDCQ73-07	0.1	0.1
Cucumis variabilis	=q10-03	0.1	0.1			
Cynodon convergens		0.1	0.1			
Dactyloctenium radulans		0.1	0.1			
Dendrophyllanthus erwinii	=q15-17	0.1	0.1			
Duperreya commixta	TCDC Q73 - 09	0.1	0.1		3	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*					0.1	0.1
Enneapogon polyphyllus					0.1	0.1
Enneapogon robustissimus	=q39-07	0.9	0.1			
Eragrostis setifolia		0.2	0.1		0.4	0.1
Eremophila longifolia		0.2	0.1			
Eucalyptus camaldulensis subsp. *refulgens*	TCDC Q73 - 03	17	9		17	9
Eulalia aurea		0.4	0.1		0.4	0.1
Euphorbia australis var. *subtomentosa*				2TCDCQ73-04	0.1	0.1
Euphorbia biconvexa	TCDC Q73 - 22	0.1	0.1	=2tcdcq39-15	0.1	0.1
Euphorbia sp. indet	TCDC Q73 - 02	0.1	0.1			

Euphorbia tannensis subsp. *eremophila*	TCDC Q73 - 17	0.2	0.1		0.2	0.1
Euploca tanythrix	TCDC Q73 - 19	0.1	0.1			
Evolvulus alsinoides var. *decumbens*	TCDC Q73 -05	0.3	0.1		0.3	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1		0.1	0.1
Glycine canescens				=tcdc87-06	0.3	0.1
Gomphrena kanisii	=q05-06	0.1	0.1		0.1	0.1
Goodenia lamprosperma	TCDC Q73 - 21	0.3	0.1		0.3	0.1
Goodenia nuda				=tcdc83-03	0.1	0.1
Gossypium australe	TCDC Q73 - 04	1.3	2		1.3	1.5
Indigofera linnaei	=q15-12	0.1	0.1			
Ipomoea muelleri	=q05-08	0.1	0.1		0.1	0.1
Ipomoea racemigera	=q15-15	0.1	0.1			
Isotropis iophyta	TCDC Q73 - 11	1.5	0.1		0.9	0.1
Jasminum didymum subsp. *lineare*	TCDC Q73 - 01	1.6	0.1		1.6	0.1
Malvastrum americanum		0.2	0.1		0.2	0.5
Pluchea dentex					0.6	0.1
Polycarpaea holtzei					0.1	0.1
Polygala isingii					0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1		0.1	0.1
Portulaca oleracea		0.1	0.1			
Pterocaulon sphacelatum		0.2	0.5		0.5	0.5
Ptilotus helipteroides					0.1	0.1
Ptilotus obovatus var. *obovatus*		0.5	0.1		0.5	0.1
Rhynchosia minima		0.1	0.1			
Rutidosis helichrysoides subsp. *helichrysoides*				=2tcdcq07-01	0.2	0.1
Salsola australis					0.1	0.1
Sclerolaena costata				2TCDCQ73-01	0.1	0.1
Senna artemisioides subsp. *filifolia*	TCDC Q73 - 10	1.3	0.1		1.3	0.1
Senna artemisioides subsp. *oligophylla*		0.5	0.1			
Senna notabilis		0.1	0.1		0.1	0.1
Sida platycalyx	=q08-12	0.1	0.1			
Sida sp. indet				=2TCDCQ39-14	0.1	0.1
Sida sp. spiciform panicles (E. Leyland s.n. 14/8/90)	=q75-05	0.8	0.1		1.3	0.1
Solanum lasiophyllum		0.4	0.1		0.4	0.1
Streptoglossa bubakii					0.1	0.1
Synaptantha tillaeacea var. *tillaeacea*	TCDC Q73 - 07	0.1	0.1			
Tephrosia sp. indet	TCDC Q73 - 06	0.5	4	2TCDCQ73-02	0.5	4
Themeda avenacea	=sp?	2.1	0.1		2.1	0.1
Themeda triandra		0.9	2		0.9	2
Trianthema pilosum	TCDC Q73 - 18	0.1	0.1			
Trichodesma zeylanicum var. *zeylanicum*		1.8	0.1		1.8	0.1
Triodia pungens	TCDC Q73 - 12	0.5	0.1		0.5	0.1
Triodia sp. indet					0.1	0.1
Tripogonella loliiformis	=q38-01	0.1	0.1			

Urochloa occidentalis var. *occidentalis*	TCDC Q73 - 16	0.1	0.1			
Wahlenbergia tumidifructa	TCDC Q73 - 08	0.3	0.1		0.3	0.1

Site Type	Site Name	Dimensions
Quadrat	TCDC75	50m x 50m
	Phase 1	Phase 2
Date	4/8/2022	10/13/2022
Described by	Scott Pansini	Daniel Roocke, Helen Armstrong

Location (UTM) zone 51K		
Easting	238942	mE
Northing	7419280	mS

Site Characteristics	
Landform	Drainage Area/Floodplain
Slope	Low (1-20º)
Aspect	North-east
Bare Ground (%)	
Surface Water Present	

Condition	
Vegetation Condition	Excellent
Disturbance Type	Cattle grazing
Fire Age (years)	Unknown (no evidence)
Fire Notes	Fire scar

Soils	
Soil Texture	Sandy Loam
Soil Colour	Red

Coarse Surface Particles	
Rock Type	None discernible
Rock Size	
Abundance (%)	None
Exposed Bedrock (%)	Negligible (<5%)

Vegetation Description

Eucalyptus camaldulensis subsp. *refulgens* open woodland over *Acacia aptaneura, Acacia paraneura, Acacia* sp. *(anuera complex) tall* scattered shrubs over *Themeda triandra, Eulalia aurea, *Cenchrus ciliaris* tussock grassland

Site Photograph Phase 1



Site Photograph Phase 2



Taxon	Phase 1			Phase 2		
	Collection code	Height (m)	Cover (%)	Collection code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q75 - 10	0.3	0.1		0.3	0.1
Acacia aneura	=q09-03	0.3	1	2TCDCQ75-11	2	0.5
Acacia aptaneura				2TCDCQ75-12	2.5	0.5
Acacia minyura	=q06-06	1.9	0.5			
Acacia paraneura				2TCDCQ75-04	4	0.5
Acacia tetragonophylla		0.5	0.1			
Aeschynomene indica	=sp02	0.2	0.1	2TCDCQ75-09	0.2	0.1
Alternanthera denticulata	=q15-05	0.2	0.1		0.3	0.1
Aristida contorta	=q05-02	0.2	0.1		0.3	0.1
Aristida holathera var. *holathera*	TCDC Q75 - 09	0.9	0.1		0.6	0.1
Aristida inaequiglumis	=q09-01	0.9	0.1		1	0.1
Arivela viscosa		0.3	0.1			
Bidens bipinnata		0.1	0.1		0.1	0.1
Blumea tenella	=q15-14	0.3	0.1			
Boerhavia sp. indet					0.05	0.1
Bonamia pilbarensis	TCDC Q75 - 13	0.05	0.1		0.05	0.1
Bulbostylis barbata	=q16-04	0.1	0.1			
Calandrinia sp. indet	=q16-18	0.05	0.1			
Calocephalus knappii				=2TCDC16-04	0.1	0.1
Calotis plumulifera				=2TCDC16-07	0.1	0.1
Cenchrus ciliaris		0.3	0.1		0.5	1
Centipeda minima subsp. *macrocephala*	=q15-04	0.1	0.1			
Cheilanthes sieberi subsp. *sieberi*	TCDC Q75 - 12	0.1	0.1		0.1	0.1
Chrysopogon fallax					0.5	0.1
Citrullus amarus	=q15-11	0.1	0.1	2TCDCQ75-05	0.1	0.1
Convolvulaceae sp. indet				2TCDCQ75-06	0.1	0.1
Corchorus tridens	TCDC Q75 - 02	0.1	0.1			
Crotalaria medicaginea var. *neglecta*	TCDC Q75 - 01	0.3	0.5			
Cucumis variabilis	=sp13?	0.3	0.1		0.6	0.1
Cymbopogon ambiguus					0.6	0.1
Cyperus sp. indet	TCDC Q75 - 11	1.1	0.1		1.1	0.1
Dichanthium sericeum subsp. *polystachyum*				=2TCDC16-01	0.4	0.1
Eragrostis cumingii	=q16-03	0.1	0.1			
Eragrostis elongata				2TCDCQ75-02	0.2	0.1
Eragrostis sp. indet	=q09-03	0.2	0.1		0.1	0.1
Eriachne aristidea				=2TCDC16-12	0.4	0.1
Eriachne obtusa	=q16-07	0.3	0.1			
Eucalyptus camaldulensis subsp. *refulgens*		15	6		12	6
Eulalia aurea		0.6	5		0.6	7
Euphorbia australis var. indet				=2TCDC16-08	0.1	0.1
Euphorbia sp. indet	TCDC Q75 - 08	0.2	0.1		0.1	0.1
Evolvulus alsinoides var. *decumbens*	=q15-07	0.1	0.1		0.1	0.1
Glycine canescens					2	0.1

Gomphrena kanisii					0.1	0.1
Goodenia lamprosperma					0.2	0.1
Gossypium australe	=sp08?	0.9	0.1		0.3	0.1
Grevillea wickhamii subsp. *hispidula*					1.5	0.1
Hakea lorea subsp. *lorea*		0.5	0.1			
Indet. sp.	TCDC Q75 - 03	0.1	0.1			
Indigofera linnaei	=q15-12	0.2	0.1		0.1	0.1
Ipomoea coptica	=q15-07	0.2	0.1			
Ipomoea muelleri	=sp02	0.1	0.1	=2TCDC16-21	0.1	0.1
Ipomoea polymorpha	TCDC Q75 - 04	0.1	0.1			
Ipomoea racemigera	TCDC Q75 - 07	0.1	0.1			
Isotropis iophyta	=kw02	0.6	0.1		0.7	0.1
Malvastrum americanum		0.3	0.1		0.3	0.5
Nellica maderaspatensis					0.1	0.1
Nicotiana occidentalis	=q15-06	0.2	0.1	=2TCDC16-22	0.2	0.1
Panicum decompositum	=q15-10	0.8	0.1			
Peplidium aithocheilum				=2TCDC16-10	0.05	0.1
Perotis rara	=q08-04	0.1	0.1			
Pluchea rubelliflora					0.5	0.1
Portulaca filifolia	=q05-13	0.1	0.1			
Portulaca oleracea		0.02	0.1			
Pterocaulon sp. indet		0.1	0.1			
Pterocaulon sphacelatum		0.2	0.1		0.1	0.1
Rhynchosia minima		0.2	0.5		0.2	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=q16-02	0.2	0.1		0.5	0.1
Senna artemisioides subsp. *oligophylla*		0.1	0.1			
Sida fibulifera					0.1	0.1
Sida sp. spiciform panicles (E. Leyland s.n. 14/8/90)	TCDC Q75 - 05	1.2	0.1		1.5	0.1
Solanum lasiophyllum					0.4	0.1
Stemodia viscosa				=DRopp01	0.1	0.1
Tephrosia rosea var. *clementii*				2TCDCQ75-01	0.3	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	=q16-01	0.1	0.1	=2TCDC16-05	0.1	0.1
Themeda avenacea	=sp?	1.9	0.1			
Themeda triandra		1.3	60		1.3	45
Trichodesma zeylanicum var. *zeylanicum*		0.4	0.1		0.1	0.1
Wahlenbergia tumidifructa				=2TCDC16-02	0.1	0.1
Waltheria indica	TCDC Q75 - 06	0.6	0.1		0.6	0.1

Site Type	Site Name	Date
Quadrat	TCDC01	4/7/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	235769	mE
Northing	7421661	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ancistrocarpa, Acacia ?aptaneura* and *Acacia ?mulganeura* tall open shrubland over *Indigofera linnaei* scattered low shrubs over *Triodia basedowii* very open hummock grassland with *Aristida inaequiglumis* and *Eulalia aurea* very open tussock grassland and *Ptilotus astrolasius* scattered herbs.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		3.1	2
Acacia aneura	TCDC01 - 02	3.5	2
Acacia aneura	TCDC01 - 03	4.5	1
Acacia pruinocarpa		5	0.5
Afrohybanthus aurantiacus		0.3	0.1
Aristida holathera var. *holathera*	TCDC01 - 09	0.3	0.1
Aristida inaequiglumis	TCDC01 - 01	0.3	4
Arivela viscosa		0.5	0.1
Chrysopogon fallax		0.4	0.1
Dicrastylis cordifolia		0.3	0.1
Eragrostis eriopoda		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1.3	0.1
Eulalia aurea		0.4	1
Euphorbia boophthona	=TCDC18	0.3	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Hakea lorea subsp. *lorea*		2.5	0.5
Halgania sp. indet	TCDC01 - 08	0.2	0.1
Hibiscus burtonii	=TCDC17	0.3	0.1
Kennedia prorepens	=TCDC18	0.9	1
Paraneurachne muelleri		0.3	0.1
Ptilotus astrolasius		0.3	1
Rhagodia sp. Hamersley (M. Trudgen 17794)	TCDC01 - 06	1.1	0.1
Senna artemisioides subsp. *helmsii*	TCDC01 - 05	1.1	0.1
Senna artemisioides subsp. *oligophylla* x indet	TCDC01 - 04	1.5	0.5
Sida sp. indet	TCDC01 - 07	1.2	0.1
Sida sp. indet		0.1	0.1
Solanum lasiophyllum		0.2	0.1
Streptoglossa decurrens		0.2	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.4	0.1
Triodia basedowii		0.3	5

Site Type	Site Name	Date
Quadrat	TCDC06	4/7/2022
Dimensions	50m x 50m	
Described by	Scott Pansini	
Location (UTM) zone 51K		
Easting	236859	mE
Northing	7420471	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Low (1-20º)	
Aspect	North-east	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red/Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ?aneura* tall open shrubland over *Eremophila fraseri* subsp. *fraseri* and *Senna artemisioides* subsp. *helmsii* open shrubland over *Aristida inaequiglumis, Aristida contorta* and *Eulalia aurea* very open hummock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=q05-15	0.2	0.1
Abutilon macrum	TCDC Q06 - 02	0.6	0.1
Acacia aneura	TCDC Q06 - 01	6	6
Acacia minyura	TCDC Q06 - 06	0.4	0.1
Acacia tetragonophylla		1.5	0.1
Aristida contorta	=05-02	0.2	2
Aristida inaequiglumis		1.2	2
Arivela viscosa		0.5	0.1
Asteraceae sp. indet	=q10-04	0.3	0.1
Boerhavia sp. indet	=q08-13	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Cheilanthes sp. indet	=q11-05	0.1	0.1
Chenopodiaceae sp. indet	TCDC Q06 - 03	0.1	0.1
Cucumis argenteus		0.1	0.1
Enneapogon polyphyllus	=q08-06	0.2	0.1
Eremophila fraseri subsp. *fraseri*		1.2	1
Eremophila latrobei subsp. *filiformis*	=q08-07	2	0.1
Eriachne sp. indet	=q10-06	0.4	0.1
Eriachne sp. indet	=q10-06	0.3	0.1
Eulalia aurea		0.5	2
Euphorbia sp. indet	TCDC Q06 - 04	0.1	0.1
Euploca sp. indet	TCDC Q06 - 08	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1
Fimbristylis dichotoma	=q11-01	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1
Goodenia sp. indet	=q05-05	0.2	0.1
Ipomoea muelleri	=q05-08	0.1	0.1
Ipomoea muelleri	=sp01	0.1	0.1
Ipomoea sp. indet	TCDC Q06 - 09	0.1	0.1
Isotropis iophyta	=q05-06	0.4	0.1
Maireana sp. indet	TCDC Q06 -05	0.9	0.1

Perotis rara	=q08-04	0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1
Portulaca oleracea		0.02	0.1
Pterocaulon sphacelatum		0.5	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)	TCDC Q06 -10	1.2	0.1
Senna artemisioides subsp. *helmsii*		1.4	1
Senna artemisioides subsp. *oligophylla*		1.1	0.1
Sida platycalyx	=q08-12	0.1	0.1
Sida sp. indet	=q05-12	0.2	0.1
Solanum lasiophyllum		0.1	0.1
Tribulus sp. indet	TCDC Q06 - 07	0.01	0.1

Site Type	Site Name	Date
Quadrat	TCDC08	4/6/2022
Dimensions	50m x 50m	
Described by	Kyle Wood, Scott Pansini	
Location (UTM) zone 51K		
Easting	237112	mE
Northing	7422939	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia deserticola* subsp. *deserticola, Acacia ?pteraneura* and *Acacia ayersiana* low open woodland over *Senna artemisioides* subsp. *helmsii* and *Senna artemisioides* subsp. *oligophylla* open shrubland over *Aristida inaequiglumis, Aristida contorta* and *Enneapogon polyphyllus* very open tussock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC Q08 - 09	3.1	2
Acacia aneura	TCDC Q08 - 02	5	5
Acacia aneura	TCDC Q08 - 11	0.5	1
Acacia aneura	TCDC Q08 - 01	0.5	1
Acacia ayersiana	TCDC Q08 - 08	2.5	1
Acacia tetragonophylla		1.4	1
Aristida contorta	=Q05-02	0.3	1
Aristida inaequiglumis		0.9	1
Arivela viscosa		0.3	1
Boerhavia sp. indet	TCDC Q08 - 13	0.1	1
Bulbostylis barbata	=Q05-09	0.1	1
Corymbia deserticola subsp. *deserticola*		3.1	1
Enneapogon polyphyllus	TCDC Q08 - 06	0.2	1
Eremophila latrobei subsp. *filiformis*	TCDC Q08 - 07	1.5	1
Eulalia aurea		0.5	1
Gomphrena kanisii	=Q05-06	0.4	1
Hakea lorea subsp. *lorea*		0.5	1
Hibiscus burtonii	TCDC Q08 - 03	0.4	1
Paraneurachne muelleri	TCDC Q08 - 10	0.4	1
Perotis rara	TCDC Q08 - 04	0.1	1
Portulaca filifolia	=Q05-13	0.3	1
Ptilotus sp. indet	=Q05-11	0.5	1
Senna artemisioides subsp. *helmsii*		1.2	2
Senna artemisioides subsp. *oligophylla*		1.5	1
Senna glaucifolia	TCDC Q08 - 05	1.5	1
Sida platycalyx	TCDC Q08 - 12	0.2	1
Sida sp. indet	=Q05-12	0.2	1

Site Type	Site Name	Date
Quadrat	TCDC09	4/7/2022
Dimensions	50m x 50m	
Described by	Scott Pansini	
Location (UTM) zone 51K		
Easting	237448	mE
Northing	7420728	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Low (1-20º)	
Aspect	North-east	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible, Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Silty Clay Loam	
Soil Colour	Red/Brown	
Rock Type	Siltstone/Mudstone	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Rare	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ?aneura* tall open shrubland over *Acacia minyura, Eremophila fraseri* subsp. *fraseri* and *Senna artemisioides* subsp. *oligophylla* open shrubland over *Aristida contorta* and *Aristida inaequiglumis* very open tussock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=q05-15	0.4	0.1
Abutilon macrum	=q06-02	0.4	0.1
Acacia aneura	TCDC Q9 - 03	2.5	0.1
Acacia aneura	=q06-01	6	7
Acacia minyura	=q06-06	1.1	2
Acacia tetragonophylla		1.2	0.1
Aristida contorta	=05-02	0.2	4
Aristida inaequiglumis	TCDC Q9 -01	0.8	1
Arivela viscosa		0.5	0.1
Eragrostis cumingii		0.3	0.1
Eragrostis sp. indet	TCDC Q9 - 04	0.4	0.1
Eremophila fraseri subsp. *fraseri*		1.2	3
Eremophila latrobei subsp. *filiformis*	=q08-07	1.5	0.1
Eriachne aristidea	TCDC Q9 - 02	0.2	0.1
Eriachne sp. indet	=q10-06	0.2	0.1
Eulalia aurea		0.4	0.1
Euphorbia sp. indet	=q06-04	0.1	0.1
Euploca sp. indet	=q06-08	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-04?	0.1	0.1
Fimbristylis dichotoma	=q11-01	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1
Goodenia sp. indet	=q05-05	0.1	0.1
Indet. sp.		0.05	0.1
Ipomoea sp. indet	=q06-09	0	0.1
Isotropis iophyta	=q05-07	0.5	0.1
Maireana sp. indet	=q06-05	0.4	0.1
Paraneurachne muelleri		0.3	0.1
Perotis rara	=q08-04	0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1
Psydrax latifolia		2.1	0.1
Rhagodia eremaea		1.1	0.1

Senna artemisioides subsp. *oligophylla*		1.8	2
Senna artemisioides subsp. *oligophylla*		1.6	1
Sida sp. indet	=05-12	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC100	10/21/2022
Dimensions	100m x 25m	
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	240205	mE
Northing	7412690	mS
Site Characteristics		
Landform	Medium Drainage Line	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus victrix* and *Corymbia candida* subsp. *candida* low open woodland over *Acacia aptaneura, Hakea loreus* subsp. *loreus* tall shrubland over *Themeda triandra, *Cenchrus ciliaris, Aristida holathera* var. *holathera, Eragrostis setifolia, Aristida inaequiglumis closed* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.3	0.1
Acacia aneura		2.8	0.1
Acacia aneura		1.3	0.1
Acacia aptaneura	TCDC100-07	5	4
Acacia sericophylla	TCDC100-06	2.2	0.1
Aeschynomene indica		0.5	0.1
Alternanthera denticulata		0.1	0.1
Amyema fitzgeraldii		4	0.1
Aristida contorta		0.2	0.1
Aristida holathera var. *holathera*		0.3	1.5
Aristida inaequiglumis		0.5	1
Blumea tenella		0.1	0.1
Bonamia pilbarensis		0.1	0.1
Buchnera linearis	=2jm	0.1	0.1
Buchnera linearis	=2tcdcq39-12	0.1	0.1
Cenchrus ciliaris		0.3	3
Centipeda minima subsp. *macrocephala*	=tcdc87-03	0.1	0.1
Centipeda thespidioides	TCDC100-04	0.1	0.1
Cheilanthes sieberi subsp. *sieberi*		0.1	0.1
Chrysopogon fallax		0.7	0.1
Corymbia candida subsp. *candida*		5	1
Cyperus macrostachyos	=tcdc87-09	1.3	0.1
Dichanthium sericeum subsp. *sericeum*		0.2	0.1
Digitaria brownii		1.1	0.1
Enneapogon polyphyllus		0.2	0.1
Eragrostis elongata	TCDC100-05	0.2	0.1
Eragrostis setifolia		0.4	1
Eragrostis tenellula	TCDC100-03	0.2	0.1
Eragrostis tenellula	TCDC100-01	0.1	0.1
Eremophila fraseri subsp. *fraseri*		1.1	0.1
Eriachne flaccida		0.2	0.1

Eucalyptus victrix		10	4
Evolvulus alsinoides var. *decumbens*		0.2	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Glycine canescens		0.6	0.1
Gomphrena kanisii		0.2	0.1
Goodenia lamprosperma		0.4	0.1
Goodenia nuda	=tcdc83-03	0.2	0.1
Hakea lorea subsp. *lorea*		5	1
Hibiscus burtonii		0.5	0.1
Hibiscus sturtii var. *platychlamys*	TCDC100-02	0.5	0.1
Ipomoea muelleri		0.1	0.1
Iseilema vaginiflorum		0.2	0.1
Isotropis iophyta		0.4	0.1
Peplidium aithocheilum	=2tcdcq31-05	0.1	0.1
Pluchea dentex		0.3	0.5
Portulaca filifolia		0.2	0.1
Pterocaulon sphacelatum		0.5	0.1
Ptilotus exaltatus		0.2	0.1
Ptilotus gaudichaudii		0.1	0.1
Ptilotus helipteroides		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.9	0.1
Ptilotus polystachyus		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.3	0.1
Sclerolaena costata		0.2	0.1
Senna artemisioides subsp. *helmsii*		1.4	0.1
Senna artemisioides subsp. *oligophylla*		0.6	0.1
Senna glaucifolia		0.5	0.1
Setaria dielsii		0.2	0.1
Sida fibulifera		0.1	0.1
Sida platycalyx		0.2	0.1
Solanum lasiophyllum		0.3	0.1
Stemodia viscosa		0.2	0.1
Tephrosia rosea var. *clementii*	=2tcdcq39-06	0.4	0.1
Themeda avenacea		1.9	0.1

Themeda triandra		0.8	12
Trichodesma zeylanicum var. *zeylanicum*		1.5	0.1
Wahlenbergia tumidifructa		0.2	0.1
Waltheria indica		0.3	0.1

Site Type	Site Name	Date
Quadrat	TCDC101	10/16/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	240015	mE
Northing	7411703	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Loamy Sand	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Dicrastylis cordifolia, Halgania solanacea* var. Mt Doreen (G.M. Chippendale 4206) low shrubland over *Triodia basedowii open hummock grassland*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia pachyacra	=tcdc81-02	1.3	0.1
Acacia pruinocarpa		1.2	0.1
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.8	0.5
Aristida inaequiglumis		0.7	0.1
Bonamia erecta		0.2	0.1
Calandrinia balonensis	=tcdc97-02	0.1	0.1
Dicrastylis cordifolia		0.4	1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis setifolia		0.4	0.1
Eremophila forrestii subsp. *forrestii*		0.3	0.1
Eulalia aurea		0.8	0.1
Gomphrena kanisii		0.2	0.1
Goodenia triodiophila	=tcdc97-01	0.1	0.1
Hakea lorea subsp. *lorea*		2.1	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)		0.5	1
Hibiscus burtonii		0.3	0.1
Indigofera georgei	=tcdc81-03	0.3	0.1
Paraneurachne muelleri		0.4	0.5
Ptilotus astrolasius		0.4	0.1
Scaevola parvifolia subsp. *pilbarae*		0.2	0.1
Senna artemisioides subsp. *helmsii*		0.4	0.1
Senna artemisioides subsp. *oligophylla*		0.3	0.1
Sida cardiophylla	=2tcdc02-04	1.1	0.1
Solanum centrale	=tcdc95-01	0.1	0.1
Solanum lasiophyllum		0.2	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)		0.1	0.1
Triodia basedowii		0.3	11

Site Type	Site Name	Date
Quadrat	TCDC103	10/18/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	241643	mE
Northing	7409782	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia paraneura, Acacia ?aptaneura*tall open shrubland over *Senna artemisioides* subsp. *helmsii, Acacia tetragonophylla* and *Senna glaucifolia* open shrubland over *Aristida contorta, Aristida inaequiglumis* and *Eulalia aurea* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC103-01	4	3.5
Acacia paraneura	=tcdc87-05	5	4
Acacia tetragonophylla		1.9	0.5
Aristida contorta		0.2	5
Aristida holathera var. *holathera*		0.2	0.1
Aristida inaequiglumis		0.4	1
Boerhavia repleta	=tcdc91-03	0.1	0.1
Bonamia pilbarensis		0.1	0.1
Bulbostylis barbata		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cheilanthes sieberi subsp. *sieberi*	=tcdc87-01	0.1	0.1
Chrysopogon fallax		0.2	0.1
Citrullus amarus		0.1	0.1
Digitaria brownii	=2tcdcq36-04	0.4	0.1
Duperreya commixta		1.8	0.1
Enneapogon polyphyllus		0.2	0.1
Eragrostis setifolia		0.3	0.1
Eremophila lanceolata	=2tcdcq35-03	0.3	0.1
Eulalia aurea		0.4	0.5
Euphorbia tannensis subsp. *eremophila*		0.1	0.1
Evolvulus alsinoides var. *decumbens*		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=tcdc83-03	0.1	0.1
Goodenia prostrata	=2tcdcq35-01	0.1	0.1
Hakea lorea subsp. *lorea*		1.9	0.1
Hibiscus burtonii		0.6	0.1
Paraneurachne muelleri		0.3	0.1
Portulaca filifolia		0.1	0.1
Ptilotus helipteroides		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.4	0.1

Ptilotus polystachyus		0.1	0.1
Rhagodia eremaea		0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.7	0.1
Salsola australis		0.1	0.1
Sclerolaena convexula	=2tcdcq39-04	0.1	0.1
Sclerolaena cornishiana		0.2	0.1
Senna artemisioides subsp. *helmsii*		1.5	6
Senna glaucifolia		1.2	0.5
Sida platycalyx		0.2	0.1
Solanum lasiophyllum		0.5	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	TCDC103-02	0.1	0.1
Triodia basedowii		0.3	0.1

Site Type	Site Name	Date
Quadrat	TCDC105	10/18/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	242523	mE
Northing	7409461	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Low (1-20º)	
Aspect	South-west	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia paraneura, Acacia* sp. *(anuera complex), Acacia pruinocarpa* tall shrubland over *Triodia basedowii* open hummock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.4	0.1
Acacia aneura	TCDC105-01	3.5	2.5
Acacia pachyacra	=tcdc81-02	0.7	0.1
Acacia paraneura		3.5	7
Acacia pruinocarpa		2.5	1
Acacia tetragonophylla		1.5	0.5
Aristida contorta		0.1	0.1
Aristida inaequiglumis		0.6	0.1
Bulbostylis barbata		0.1	0.1
Calandrinia balonensis	=tcdc93??	0.2	0.1
Chrysopogon fallax		0.4	0.1
Digitaria brownii	=2tcdcq36-04	0.4	0.1
Eragrostis setifolia		0.2	0.1
Eremophila capricornica	=2spp11	0.4	0.5
Eremophila lanceolata	=2tcdcq35-03	0.2	0.1
Eulalia aurea		0.3	0.1
Euphorbia boophthona		0.3	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Hakea chordophylla		0.9	0.1
Hakea lorea subsp. *lorea*		0.6	0.1
Hibiscus burtonii		0.3	0.1
Hibiscus sturtii var. *truncatus*		0.2	0.1
Maireana villosa	=2tcdcq02-07	0.1	0.1
Monachather paradoxus	TCDC105-02	0.3	0.1
Paraneurachne muelleri		0.5	0.1
Ptilotus gaudichaudii		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.1	0.1
Ptilotus polystachyus		0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.9	0.1
Senna artemisioides subsp. *helmsii*		1.5	0.5

Senna artemisioides subsp. *oligophylla*		1.9	0.5
Senna glaucifolia		1.8	0.1
Sida platycalyx		0.2	0.1
Triodia basedowii		0.3	18

Site Type	Site Name	Date
Quadrat	TCDC11	4/6/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Kyle Wood	
Location (UTM) zone 51K		
Easting	238317	mE
Northing	7421683	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Pristine	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Fire scar	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida Scattered* low *trees* over *Hakea loreus* subsp. *loreus Scattered tall shrubs* over *Acacia aptaneura* and *Acacia ancistrocarpa Scattered shrubs* over *Aristida contorta* and *Eulalia aurea Tussock grassland.*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		1.7	1
Acacia aptaneura	=q05-01	1.8	1
Acacia tetragonophylla		0.5	1
Aristida contorta	=q05-02	0.2	35
Aristida inaequiglumis		0.8	1
Arivela viscosa		0.6	1
Asteraceae sp. indet	TCDC q11 - 02	0.1	1
Asteraceae sp. indet	=q10-04	0.4	1
Bulbostylis barbata	=q05-09	0.1	1
Cathetus sp. indet	TCDC q11 - 04	0.1	1
Cheilanthes sp. indet	TCDC q11 - 05	0.1	1
Corymbia candida subsp. *candida*		5	1
Eriachne sp. indet	=q10-06	0.2	1
Eulalia aurea		0.5	4
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	1
Fimbristylis dichotoma	TCDC q11 - 01	0.2	1
Goodenia lamprosperma	=q10-01	0.2	1
Hakea lorea subsp. *lorea*		2.5	1
Isotropis iophyta	=q05-07	0.4	1
Pterocaulon sphacelatum		0.2	1
Senna artemisioides subsp. *helmsii*		0.2	1
Sida sp. indet	=q05-12	0.1	1
Solanum lasiophyllum		0.2	1
Themeda triandra		0.6	1

Site Type	Site Name	Date
Quadrat	TCDC111	4/30/2023
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	240443	mE
Northing	7413507	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Poor	
Disturbance Type	Cattle grazing,Weed invasion, Frequent fire	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Brown	
Rock Type	Calcrete	
Coarse Surface Particles		
Average Size (mm)	Small rocks (11-20cm)	
Abundance (%)	Common	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* scattered low trees over *Acacia sclerosperma* subsp. *sclerosperma* tall open shrubland over *Rhagodia eremaea, Senna artemisioides* subsp. *helmsii* open shrubland over **Cenchrus ciliaris* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia sclerosperma subsp. *sclerosperma*		4	9
Acacia tetragonophylla		2	0.1
Aristida contorta		0.2	0.1
Arivela viscosa		0.1	0.1
Bidens bipinnata		0.3	0.5
Boerhavia coccinea		0.01	0.1
Boerhavia schomburgkiana	TCDC101-03	0.1	0.1
Cenchrus ciliaris		0.4	65
Corymbia hamersleyana		4	0.1
Corymbia hamersleyana	TCDC101-06	9	1.5
Cucumis variabilis		0.2	0.1
Dactyloctenium radulans		0.1	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.2	0.1
Enneapogon caerulescens	TCDC101-01	0.2	0.1
Enneapogon polyphyllus		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1.8	0.5
Eremophila longifolia		2.2	0.1
Euphorbia biconvexa	TCDC101-04	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.05	0.1
Gomphrena kanisii		0.3	0.1
Hibiscus sp. indet		0.2	0.1
Malvastrum americanum		0.1	0.1
Poaceae sp. indet		0.1	0.1
Portulaca oleracea		0.01	0.1
Ptilotus obovatus var. *obovatus*		0.8	0.5
Ptilotus sp. indet		0.1	0.1
Rhagodia eremaea		1.9	1
Salsola australis		0.2	0.1
Sclerolaena convexula	TCDC101-05	0.4	0.1
Senna artemisioides subsp. *filifolia*		1.1	0.1
Senna artemisioides subsp. *helmsii*		1.9	1

Senna artemisioides subsp. *oligophylla*		0.3	0.1
Setaria surgens	TCDC101-02	0.2	0.1
Sida fibulifera		0.1	0.1
Solanum lasiophyllum		0.3	0.1
Sporobolus australasicus		0.1	0.1
Tribulus terrestris		0.5	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.05	0.1

Site Type	Site Name	Date
Quadrat	TCDC112	4/30/2023
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	239964	mE
Northing	7413894	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Poor	
Disturbance Type	Weed invasion, Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None_discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus victrix, Corymbia hamersleyana* low woodland over *Acacia sclerosperma* subsp. *sclerosperma, Acacia* sp. tall shrubland over *Rhagodia eremaea, Senna glaucifolia* open shrubland over *Sclerolaena cornishiana* scattered low shrubs over **Cenchrus ciliaris, Themeda triandra* and *Chrysopogon fallax* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon amplum		0.2	0.1
Abutilon sp. indet		0.3	0.1
Acacia ancistrocarpa		1.5	0.1
Acacia sclerosperma subsp. *sclerosperma*		4.5	22
Acacia sp. indet	TCDC102-08	4	2
Acacia tetragonophylla		1.2	0.1
Amaranthus undulatus		0.3	0.1
Amyema fitzgeraldii		6	0.1
Areocleome oxalidea		0.01	0.1
Aristida contorta		0.2	0.1
Arivela viscosa		0.1	0.1
Bidens bipinnata		0.2	0.1
Boerhavia coccinea		0.1	0.1
Cenchrus ciliaris		0.5	12
Chrysopogon fallax		0.5	0.5
Corymbia hamersleyana	=TCDC101-06	9	10
Cucumis variabilis		1.5	0.1
Dactyloctenium radulans		0.1	0.1
Duperreya commixta		2	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.05	0.1
Eragrostis setifolia	TCDC102-05	0.3	0.1
Eragrostis sp. indet		0.01	0.1
Eucalyptus victrix		8	8
Eulalia aurea		0.2	0.1
Euphorbia australis var. *hispidula*	EC DR check	0.01	0.1
Euphorbia biconvexa		0.1	0.1
Euphorbia boophthona		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.2	0.1
Gomphrena kanisii		0.1	0.1
Gossypium australe		0.7	0.1
Hakea lorea subsp. *lorea*		2.1	0.5

Hibiscus burtonii		0.4	0.1
Ipomoea sp. indet		0.1	0.1
Lepidium phlebopetalum	TCDC102-02	0.1	0.1
Malvastrum americanum		0.1	0.5
Paraneurachne muelleri		0.3	0.1
Paspalidium clementii	TCDC102-03	0.1	0.1
Portulaca oleracea		0.01	0.1
Pterocaulon sp. indet		0.01	0.1
Ptilotus exaltatus		0.2	0.1
Ptilotus obovatus var. *obovatus*		0.6	0.5
Rhagodia eremaea		1.6	1
Rhynchosia minima		0.05	0.1
Salsola australis		0.2	0.1
Sclerolaena convexula	TCDC101-05	0.2	0.1
Sclerolaena cornishiana	TCDC102-01	0.3	1.5
Senna artemisioides subsp. *helmsii*		0.4	0.1
Senna artemisioides subsp. *oligophylla*		0.8	0.5
Senna glaucifolia		1.3	1.5
Sida fibulifera		0.1	0.1
Solanum lasiophyllum		0.4	0.1
Sporobolus australasicus		0.5	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	TCDC102-06	0.2	0.1
Themeda triandra		0.4	1
Tragus australianus	TCDC102-04	0.2	0.1
Tribulus terrestris		0.01	0.1
Urochloa occidentalis var. *ciliata*	TCDC102-07	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC113	4/30/2023
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	240006	mE
Northing	7414036	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Poor	
Disturbance Type	Weed invasion, Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None_discernible	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* low woodland over *Acacia sclerosperma* subsp. *sclerosperma, Eremophila longifolia, Rhagodia eremaea* tall shrubland over *Ptilotus obovatus* var. *obovatus* and **Malvastrum americanum* low open shrubland over **Cenchrus ciliaris, Eulalia aurea, Themeda triandra* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon amplum		0.6	0.1
Abutilon otocarpum		0.4	0.1
Acacia sclerosperma subsp. *sclerosperma*		4	10
Amaranthus undulatus		0.1	0.1
Anthobolus leptomerioides		1.2	0.1
Aristida contorta		0.2	0.1
Arivela viscosa		0.1	0.1
Bidens bipinnata		0.2	0.1
Boerhavia coccinea		0.01	0.1
Boerhavia schomburgkiana	=TCDC101-03	0.01	0.1
Bonamia pilbarensis		0.05	0.1
Capparis lasiantha		0.9	0.1
Cenchrus ciliaris		0.6	35
Chrysopogon fallax		0.3	0.1
Corymbia hamersleyana	=TCDC101	9.5	13
Cucumis variabilis		0.3	0.1
Dactyloctenium radulans		0.1	0.1
Dicladanthera forrestii		0.2	0.1
Duperreya commixta		1.8	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Dysphania sp. indet		0.05	0.1
Enneapogon caerulescens		0.3	0.1
Enneapogon polyphyllus		0.4	0.1
Eremophila longifolia		3.8	6
Eulalia aurea		0.6	12
Euphorbia australis var. *hispidula*	=EC	0.01	0.1
Euphorbia biconvexa		0.05	0.1
Euphorbia boophthona		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.1	0.1
Gossypium australe		2	0.1

Hakea lorea subsp. *lorea*		4.5	0.5
Indigofera boviperda subsp. *boviperda*		0.1	0.1
Ipomoea sp. indet		0.3	0.1
Jasminum didymum subsp. *lineare*		1	0.1
Malvastrum americanum		0.4	0.5
Panicum decompositum		0.6	0.1
Perotis rara		0.1	0.1
Portulaca oleracea		0.01	0.1
Pterocaulon sp. indet		0.05	0.1
Ptilotus exaltatus		0.2	0.1
Ptilotus gomphrenoides	TCDC103-05	0.1	0.1
Ptilotus obovatus var. *obovatus*		0.8	8
Ptilotus polystachyus	TCDC103-04	0.2	0.1
Rhagodia eremaea		2.3	1
Rhynchosia minima		0.05	0.1
Salsola australis		0.4	0.1
Sclerolaena convexula	=TCDC101-05	0.2	0.1
Sclerolaena cornishiana	=TCDC102-01	0.3	0.1
Senna artemisioides subsp. *filifolia*		1.7	0.1
Senna artemisioides subsp. *helmsii*		1.8	0.1
Senna artemisioides subsp. *oligophylla*		0.9	0.1
Senna glaucifolia		1.5	0.5
Setaria surgens	=TCDC101-02	0.2	0.1
Sida fibulifera		0.1	0.1
Solanum lasiophyllum		0.2	0.1
Sporobolus australasicus		0.1	0.1
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)		0.5	0.1
Themeda triandra		0.5	6
Tribulus terrestris		0.05	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.1	0.1
Urochloa occidentalis var. *ciliata*	=TCDC102	0.1	0.1
Urochloa subquadripara	TCDC103-01	0.2	0.1
Urochloa subquadripara	TCDC103-03	0.2	0.1

Site Type	Site Name	Date
Quadrat	TCDC12	4/6/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Kyle Wood	
Location (UTM) zone 51K		
Easting	238940	mE
Northing	7422099	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Bare ground,Dead branches	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red/Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida Scattered* low *trees* over *Hakea loreus* subsp. *loreus Scattered tall trees* over *Aristida contorta* and *Eulalia aurea Tussock grassland.*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia tetragonophylla		0.5	0.1
Aristida contorta	=q05-02	0.3	40
Aristida inaequiglumis		0.8	0.1
Asteraceae sp. indet	=q10-04	0.2	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Corymbia candida subsp. *candida*		5	1
Cucumis argenteus		0.1	0.1
Eulalia aurea		0.5	2
Goodenia lamprosperma	=q10-01	0.1	0.1
Hakea lorea subsp. *lorea*		3	1
Isotropis iophyta	=q05-07	0.4	0.1
Pterocaulon sphacelatum		0.2	0.1
Sida platycalyx	=q08-12	0.2	0.1

Site Type	Site Name	Date
Quadrat	TCDC15	4/7/2022
Dimensions	50m x 50m	
Described by	Scott Pansini	
Location (UTM) zone 51K		
Easting	238715	mE
Northing	7419945	mS
Site Characteristics		
Landform	Medium Drainage Line	
Slope	Low (1-20°)	
Aspect	North-east	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Silty Clay Loam	
Soil Colour	Red/Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus camaldulensis* subsp. *refulgens, Corymbia candida* low *closed* woodland over *Eulalia aurea, Themeda triandra closed* tussock grassland over

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	TCDC Q15 - 08	0.2	0.1
Acacia aneura	TCDC Q15 - 01	2.2	0.1
Aeschynomene indica	=sp02	0.1	0.1
Alternanthera denticulata	TCDC Q15 -05	0.1	0.1
Arivela viscosa		0.1	0.1
Bidens bipinnata		0.2	0.1
Blumea tenella	TCDC Q15 - 14	0.1	0.1
Boerhavia sp. indet	=q05-16	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Centipeda minima subsp. *macrocephala*	TCDC Q15 - 04	0.1	0.1
Citrullus amarus	TCDC Q15 - 11	0.03	0.1
Corymbia candida subsp. *candida*		7	1
Cucumis argenteus		0.1	0.1
Cucumis sp. indet	TCDC Q15 - 13	0.1	0.1
Cyperaceae sp. indet	TCDC Q15 - 18	0.6	0.1
Dendrophyllanthus erwinii		0.1	0.1
Duperreya commixta	TCDC Q15 - 02	0.1	0.1
Eragrostis sp. indet	=sp09-04	0.8	0.1
Eragrostis tenellula	TCDC Q15 - 03	0.1	0.1
Eriachne sp. indet	=q10-06	0.1	0.1
Eucalyptus camaldulensis subsp. *refulgens*		8	11
Eulalia aurea		1.1	75
Euphorbia sp. indet	=q06-03	0.1	0.1
Evolvulus alsinoides var. *decumbens*	TCDC Q15 - 07	0.1	0.1
Indet. sp.	TCDC Q15 -09	0.1	0.1
Indigofera linnaei	TCDC Q15 - 12	0.1	0.1
Ipomoea racemigera	TCDC Q15 - 15	0.1	0.1
Nicotiana occidentalis		0.3	0.1
Panicum decompositum	TCDC Q15 - 10	0.9	0.1
Portulaca filifolia	=q05-13	0.1	0.1
Portulaca oleracea		0.02	0.1

Pterocaulon sp. indet	TCDC Q15 - 16	0.05	0.1
Ptilotus sp. indet		1.2	0.1
Solanum lasiophyllum		0.4	0.1
Themeda triandra		1.3	15

Site Type	Site Name	Date
Quadrat	TCDC17	4/6/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	239850	mE
Northing	7421634	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible, Old fire scars and burnt woody debris	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ?catenulata* subsp. *occidentalis, Acacia ?paraneura* and *Acacia* sp. *(anuera complex)* tall shrubland over *Eremophila fraseri* subsp. *fraseri, Eremophila forrestii* subsp. *forrestii* and *Senna artemisioides* subsp. *helmsii* open shrubland over *Sida fibulifera* scattered low shrubs over *Eulalia aurea* and *Chrysopogon fallax* open hummock grassland with *Triodia basedowii* scattered hummock grasses.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC17 - 07	1.8	1
Acacia aneura	TCDC17 - 09	3.5	1
Acacia aneura	TCDC17 - 03	2.5	5
Acacia minyura	TCDC17 - 02	1.2	1
Acacia sp. indet	TCDC17 - 05	5	6
Aristida holathera var. *holathera*		0.3	1
Aristida inaequiglumis		0.3	1
Arivela viscosa		0.3	1
Bidens bipinnata		0.1	1
Boerhavia coccinea		0.1	1
Cheilanthes sieberi subsp. *sieberi*		0.1	1
Chrysopogon fallax		0.5	1
Cucumis variabilis		0.1	1
Dodonaea sp. indet		0.3	1
Enneapogon polyphyllus	TCDC17 - 10	0.1	1
Eremophila forrestii subsp. *forrestii*		1.4	1
Eremophila fraseri subsp. *fraseri*		1.7	1
Eremophila latrobei subsp. *latrobei*		0.2	1
Eriachne aristidea	TCDC17 - 01	0.2	1
Eulalia aurea		0.4	9
Evolvulus alsinoides var. *villosicalyx*		0.1	1
Fimbristylis sp. indet	TCDC17 - 11	0.1	1
Gomphrena kanisii		0.3	1
Goodenia nuda	TCDC17 - 12	0.3	1
Goodenia sp. indet		0.1	1
Hakea lorea subsp. *lorea*		0.4	1
Hibiscus burtonii	TCDC17 - 04	0.5	1
Ipomoea sp. indet	TCDC17 - 06	0.2	1
Jasminum didymum subsp. *lineare*		0.1	1
Maireana sp. indet		0.3	1
Paraneurachne muelleri		0.3	1

Paspalidium rarum	TCDC17 - 13	0.1	1
Perotis rara		0.1	1
Psydrax latifolia		0.6	1
Pterocaulon sp. indet		0.5	1
Rutidosis helichrysoides subsp. *helichrysoides*	TCDC17 - 08	0.4	1
Senna artemisioides subsp. ×*artemisioides*		1.4	1
Senna artemisioides subsp. *helmsii*		1.7	1
Senna artemisioides subsp. *oligophylla* x indet	TCDC17 - 14	0.4	1
Senna notabilis		0.1	1
Senna sp. indet		0.4	1
Sida fibulifera		0.2	1.5
Solanum lasiophyllum		0.2	1
Streptoglossa decurrens		0.4	1
Tribulus macrocarpus	TCDC17 - 15	0.1	1
Triodia basedowii		0.3	1

Site Type	Site Name	Date
Quadrat	TCDC19	4/6/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	241624	mE
Northing	7420658	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aptaneura* and *Hakea loreus* subsp. *loreus* scattered tall shrubs over *Indigofera linnaei* scattered low shrubs over *Triodia basedowii* open hummock grassland and *Aristida inaequiglumis* and *Eulalia aurea* open tussock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		1.5	1
Acacia aptaneura	TCDC19 - 03	4.5	1
Aristida holathera var. *holathera*		0.1	1
Aristida inaequiglumis		0.4	12
Boerhavia sp. indet		0.1	1
Bonamia erecta	=TCDC18	0.4	1
Cucumis variabilis		1.1	1
Dicrastylis cordifolia		0.1	1
Eragrostis eriopoda		0.3	1
Eulalia aurea		0.4	1
Evolvulus alsinoides var. *villosicalyx*		0.1	1
Goodenia microptera	TCDC19 - 02	0.2	1
Hakea lorea subsp. *lorea*		2.1	1
Kennedia prorepens	=TCDC18	0.4	1
Malvaceae sp. indet		0.1	1
Paraneurachne muelleri		0.3	1
Poaceae sp. indet	TCDC19 - 04	0.1	1
Poaceae sp. indet	TCDC19 - 01	0.3	1
Ptilotus astrolasius		0.3	1
Sida echinocarpa	TCDC19 - 05	1.5	1
Solanum lasiophyllum		0.1	1
Streptoglossa sp. indet		0.9	1
Tribulus macrocarpus	=TCDC17	0.1	1
Triodia basedowii		0.4	27

Site Type	Site Name	Date
Quadrat	TCDC21	4/9/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	241245	mE
Northing	7419460	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aneura* tall shrubland over *Senna artemisioides* subsp. *helmsii* and *Eremophila forrestii* subsp. *forrestii Scattered shrubs* over *Aristida inaequiglumis, Eragrostis eriopoda* and *Enneapogon polyphyllus Very* open tussock grassland with *Sida platycalyx Scattered herbs.*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa	TCDC21 - 01	2.1	0.5
Acacia aneura	TCDC21 - 03	2.8	11
Aristida contorta	=TCDC26	0.2	1
Aristida holathera var. *holathera*	=TCDC07	0.3	1
Aristida inaequiglumis		0.4	2
Arivela viscosa		0.3	0.1
Boerhavia schomburgkiana	TCDC21 - 05	0.1	0.5
Cucumis variabilis		0.3	0.1
Enchylaena tomentosa var. *tomentosa*		0.5	0.1
Enneapogon polyphyllus	=TCDC07	0.1	2
Eragrostis eriopoda		0.3	2
Eremophila forrestii subsp. *forrestii*		1.5	0.5
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Hakea lorea subsp. *lorea*		0.6	0.1
Hibiscus burtonii	=TCDC17	0.3	0.1
Ipomoea sp. indet	=TCDC28	0.1	0.1
Malvaceae sp. indet		0.3	0.1
Paraneurachne muelleri		0.1	0.1
Portulaca filifolia	=DR01	0.1	0.1
Pterocaulon sphacelatum	TCDC21 - 04	1.5	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		0.6	0.1
Sclerolaena cornishiana	TCDC21 - 06	0.2	0.1
Sclerolaena cornishiana	TCDC21 - 07	0.1	0.1
Senna artemisioides subsp. *helmsii*	TCDC21 - 02	1.7	1
Sida fibulifera		0.2	0.1
Sida platycalyx	TCDC21 - 08	0.3	1
Sida sp. indet		0.1	0.1
Solanum lasiophyllum		0.2	0.1
Tribulus macrocarpus	TCDC21 - 09	0.1	0.1
Tribulus sp. indet		0.1	0.1

Triodia basedowii		0.3	0.1

Site Type	Site Name	Date
Quadrat	TCDC23	4/8/2022
Dimensions	50m x 50m	
Described by	Scott Pansini	
Location (UTM) zone 51K		
Easting	240060	mE
Northing	7418748	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Low (1-20º)	
Aspect	South-east	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	Quartz	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Rare	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ? aptaneura Scattered tall shrubs* over *Acacia minyura* and *Senna artemisioides* subsp. *helmsii Open* shrubland over *Aristida inaequiglumis, Eulalia aurea* and *Aristida contorta Very* open hummock grassland with *Sida platycalyx Scattered herbs*

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=q05-15	0.3	0.1
Acacia aneura	TCDC Q23 - 03	3.5	1
Acacia aneura	=q09-03	2.5	0.1
Acacia minyura	=q06-06	1.1	5
Acacia tetragonophylla		0.8	0.1
Aristida contorta	=q05-02	0.3	1
Aristida inaequiglumis	=q09-01	0.9	4
Arivela viscosa		0.3	0.1
Boerhavia coccinea	=q16-10	0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Cucumis argenteus		0.1	0.1
Enneapogon polyphyllus	=q08-06	0.1	0.1
Eriachne obtusa	TCDC Q23 - 05	0.3	0.1
Eulalia aurea		0.4	2
Euploca sp. indet	=q06-08	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1
Gomphrena kanisii	=q05-06	0.2	0.1
Goodenia lamprosperma	=q10-01	0.2	0.1
Goodenia sp. indet	=q05-05	0.2	0.1
Indet. sp.	TCDC Q23 - 04	0.1	0.1
Ipomoea racemigera	=q15-15	0.1	0.1
Maireana sp. indet	TCDC Q23 - 02	0.4	0.1
Paraneurachne muelleri		0.4	0.1
Portulaca filifolia	=q05-13	0.2	0.1
Pterocaulon sphacelatum		0.9	0.1
Ptilotus obovatus var. *obovatus*		0.4	0.1
Ptilotus schwartzii var. *schwartzii*		0.3	0.1
Rhynchosia minima		0.1	0.1
Sclerolaena cornishiana	TCDC Q23 -	0.3	0.1
Senna artemisioides subsp. *helmsii*		1.5	2

Senna artemisioides subsp. *oligophylla*		1.6	0.1
Sida platycalyx	=q08-12	0.2	1
Sida sp. indet	=q05-12	0.1	0.1
Solanum lasiophyllum		0.5	0.1

Site Type	Site Name	Date
Quadrat	TCDC28	4/8/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	241608	mE
Northing	7416743	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Clay	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aneura Tall* open shrubland over *Eremophila fraseri* subsp. *fraseri Scattered shrubs* over *Eulalia aurea, Aristida contorta* and *Aristida holathera* var. *holathera Hummock grassland*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC28 - 01	7	5
Acacia tetragonophylla		0.5	0.1
Areocleome oxalidea		0.1	0.1
Aristida contorta	=TCDC26	0.2	15
Aristida holathera var. *holathera*		0.3	7
Aristida inaequiglumis		0.4	0.5
Arivela viscosa		0.2	0.1
Boerhavia schomburgkiana	=TCDC07	0.1	0.1
Chrysocephalum apiculatum subsp. *pilbarense*	TCDC28 - 03	0.2	0.1
Eremophila fraseri subsp. *fraseri*		2.1	1.5
Eriachne flaccida	=TCDC26	0.2	0.5
Eulalia aurea		0.4	15
Euphorbia ferdinandi var. *ferdinandi*	=TCDC26	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1
Gomphrena kanisii		0.1	0.1
Goodenia nuda	=TCDC07	0.1	0.1
Grevillea wickhamii subsp. *hispidula*		1.4	0.1
Hibiscus burtonii	=TCDC17	0.1	0.1
Ipomoea sp. indet	TCDC28 - 02	0.2	0.1
Isotropis iophyta	=JM01	0.4	0.1
Peplidium aithocheilum	=TCDC26	0.1	0.1
Portulaca filifolia	=DR01	0.2	0.1
Psydrax latifolia		0.5	0.1
Senna artemisioides subsp. *helmsii*	=TCDC07	1.2	0.1
Senna artemisioides subsp. *helmsii*		1.9	0.1
Sida fibulifera		0.2	0.1
Sida platycalyx	TCDC28 - 04	0.2	0.1
Solanum lasiophyllum		0.2	0.1
Streptoglossa sp. indet		0.4	0.1

Site Type	Site Name	Date
Quadrat	TCDC37	4/9/2022
Dimensions	50m x 50m	
Described by	Scott Pansini	
Location (UTM) zone 51K		
Easting	236166	mE
Northing	7415442	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* and *Acacia aneura Low* woodland over *Eulalia aurea* and *Aristida inaequiglumis Very* open tussock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=q36-02	0.3	0.1
Acacia aneura	=q36-03	4	32
Aristida contorta	=q05-02	0.2	0.1
Aristida holathera var. *holathera*	=q36-04	0.3	0.1
Aristida inaequiglumis		0.8	2
Arivela viscosa		0.2	0.1
Asteraceae sp. indet	=q10-04	0.2	0.1
Boerhavia coccinea	=q16-10	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Chrysocephalum gilesii	=q36-05	0.2	0.1
Corymbia candida subsp. *candida*	=q36-01	3	1
Enneapogon polyphyllus	=q08-06	0.1	0.1
Eremophila fraseri subsp. *fraseri*		0.6	0.1
Eriachne sp. indet	=q10-06	0.3	0.1
Eulalia aurea		0.4	5
Euphorbia sp. indet	=q?	0.2	0.1
Evolvulus alsinoides var. *villosicalyx*	=q10-02	0.1	0.1
Fimbristylis dichotoma	=q11-01	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1
Goodenia sp. indet	=q05-05	0.2	0.1
Ipomoea muelleri	=q05-08	0.1	0.1
Isotropis iophyta	=q05-07	0.3	0.1
Perotis rara	=q08-04	0.1	0.1
Pluchea sp. indet	TCDC Q37 - 01	0.3	0.1
Psydrax latifolia		0.7	0.1
Pterocaulon sphacelatum		0.8	0.1
Ptilotus calostachyus		0.9	0.1
Senna notabilis		0.1	0.1
Sida platycalyx	=q08-12	0.2	0.1
Sida sp. indet	=q05-12	0.1	0.1
Solanum lasiophyllum		0.2	0.1

Site Type	Site Name	Date	Site Photograph.
Quadrat	TCDC38	4/9/2022	No Photo Available
Dimensions	50m x 50m		
Described by	Scott Pansini		
Location (UTM) zone 51K			
Easting	237314	mE	
Northing	7415322	mS	
Site Characteristics			
Landform	Sandy/Stony Plain		
Slope	Low (1-20º)		
Aspect	South-east		
Condition			
Vegetation Condition	Excellent		
Disturbance Type	Cattle grazing		
Fire Age (years)	Recent (0-2yrs)		
Fire Notes	Fire scar,Dead branches,Bare ground		
Water Presence			
Soils			
Soil Type	Loam		
Soil Colour	Red		
Rock Type	None discernible		
Coarse Surface Particles			
Average Size (mm)			
Abundance (%)	None		
Exposed Bedrock (%)	Negligible (<5%)		
Vegetation Description	*Acacia aneura* and *Acacia ? aneura Tall* open shrubland over *Senna artemisioides* subsp. *helmsii Low* scattered shrubs over *Eulalia aurea, Aristida contorta* and *Aristida inaequiglumis Open* tussock grassland.		

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=q0515	0.3	0.1
Acacia aneura	=q36-03	3	5
Acacia aneura	TCDC Q36 - 02	2.1	3
Afrohybanthus aurantiacus		0.1	0.1
Aristida contorta	=q05-02?	0.3	2
Aristida holathera var. *holathera*	=q36-04	0.3	0.1
Aristida inaequiglumis	=q?	0.9	1
Arivela viscosa		0.4	0.1
Boerhavia sp. indet	=q05-16	0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	0.1
Bulbostylis barbata	=q05-09	0.1	0.1
Enneapogon polyphyllus	=q08-06	0.2	0.1
Eragrostis setifolia		0.3	0.1
Eriachne obtusa	=q23-05	0.3	0.1
Eriachne sp. indet	=q10-06	0.2	0.1
Eulalia aurea		0.3	2
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1
Fimbristylis dichotoma	=q11-01	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1
Goodenia sp. indet	=q05-05	0.3	0.1
Hakea lorea subsp. *lorea*		2.2	0.1
Indet. sp.	=q23-04	0.1	0.1
Ipomoea muelleri	=q05-08	0.1	0.1
Maireana sp. indet	=q23-02	0.3	0.1
Paraneurachne muelleri		0.2	0.1
Perotis rara	=q08-04	0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1
Ptilotus obovatus var. *obovatus*		0.3	0.1
Senna artemisioides subsp. *helmsii*		0.9	1
Senna artemisioides subsp. *oligophylla*		0.6	0.1
Sida platycalyx	=q08-12	0.1	0.1

Sida sp. indet	=q05-12	0.1	0.1
Solanum lasiophyllum		0.2	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	=q35-01	0.2	0.1
Tribulus sp. indet	=sp?	0.02	0.1
Tripogonella loliiformis	TCDC Q36 - 01	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC53	4/13/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	242804	mE
Northing	7411212	mS
Site Characteristics		
Landform	Hillslope	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	Ironstone	
Coarse Surface Particles		
Average Size (mm)	Pebbles (5-10cm)	
Abundance (%)	Very common	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



Vegetation Description	*Grevillea berryana* scattered tall shrubs over *Calytrix carinata* scattered low shrubs over *Triodia vanleeuwenii* open hummock grassland.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC53 - 02	1.3	0.1
Acacia hilliana		0.2	0.1
Acacia pruinocarpa		2.2	0.1
Acacia trudgeniana	=TCDCr06	2.1	0.1
Afrohybanthus aurantiacus		0.3	0.1
Amphipogon sericeus	=TCDC30	0.1	0.1
Bulbostylis barbata		0.1	0.1
Calytrix carinata	=TCDC30	0.4	1
Corymbia hamersleyana		2.8	0.1
Eremophila exilifolia	=TCDC52	0.5	0.1
Eremophila latrobei subsp. *latrobei*	=TCDC51	1.1	0.1
Eriachne mucronata		0.2	0.1
Goodenia stobbsiana		0.1	0.1
Goodenia triodiophila		0.3	0.1
Grevillea berryana	=TCDC51	2.1	0.5
Hakea chordophylla		2.5	0.1
Hakea lorea subsp. *lorea*		2.5	0.1
Halgania solanacea var. *solanacea*		0.2	0.1
Indigofera monophylla		0.5	0.1
Paraneurachne muelleri		0.2	0.1
Ptilotus calostachyus		0.3	0.1
Ptilotus rotundifolius	TCDC53 - 01	0.8	0.5
Senna artemisioides subsp. *helmsii*	=TCDC21-02	0.9	0.1
Senna glutinosa subsp. *glutinosa*		0.3	0.1
Senna glutinosa subsp. *pruinosa*		1.4	0.1
Seringia exastia		0.4	0.1
Sida sp. indet		0.1	0.1
Sida sp. indet		0.2	0.1
Trianthema glossostigmum	=TCDC51	0.1	0.1
Tribulus suberosus		0.1	0.1
Triodia vanleeuwenii		0.2	28

Site Type	Site Name	Date
Quadrat	TCDC54	4/12/2022
Dimensions	50m x 50m	
Described by	Kyle Wood, Scott Pansini	
Location (UTM) zone 51K		
Easting	246381	mE
Northing	7407515	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* and *Eucalyptus vitrix Low* open woodland over *Aristida inaequiglumis, Eulalia aurea* and *Themeda triandra Tussock grassland.*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC Q54 - 02	0.8	0.1
Acacia dictyophleba	=q39-05	0.1	0.1
Acacia minyura	TCDC Q54 - 03	0.4	0.1
Aristida contorta		0.2	0.1
Aristida holathera var. *holathera*	=q36-04	0.2	1
Aristida inaequiglumis		0.9	30
Arivela viscosa		0.1	0.1
Asteraceae sp. indet	=q10-04	0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	0.1
Cenchrus ciliaris		0.3	1
Corymbia candida subsp. *candida*	=q41-01	6	1
Crotalaria smithiana	=psp03	0.2	0.5
Eriachne sp. indet	=q10-06	0.1	0.1
Eucalyptus victrix		3	1
Eulalia aurea		0.5	9
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1
Gomphrena kanisii	=q05-06	0.1	0.1
Goodenia lamprosperma	=q?	0.1	0.1
Gossypium australe	=sp?	0.6	0.1
Indigofera linnaei	=q15-12	0.1	0.1
Ipomoea muelleri	=q?	0.1	0.1
Malvastrum americanum		0.1	0.1
Pluchea sp. indet	TCDC Q54 - 01	0.1	0.1
Portulaca filifolia	=q05-13	0.1	0.1
Pterocaulon sphacelatum		0.6	0.1
Sida platycalyx	=q08-12	0.2	0.1
Sida sp. indet	=q05-12	0.1	0.1
Solanum lasiophyllum		0.4	0.1
Sporobolus australasicus		0.1	0.1
Tephrosia sp. indet	=q73-06	0.1	0.1
Tephrosia supina	=q66-09	0.1	0.1

Themeda triandra		0.9	1

Site Type	Site Name	Date
Quadrat	TCDC71	4/13/2022
Dimensions	50m x 50m	
Described by	Kyle Wood, Scott Pansini	
Location (UTM) zone 51K		
Easting	241721	mE
Northing	7412111	mS
Site Characteristics		
Landform	Major Drainage Line	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	Quartz	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Moderate	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus camaldulensis* subsp. *refulgens* and *Eucalyptus victrix Low* open woodland over *Acacia ? Pteraneura Tall* open shrubland over *Tephrosia* sp. *Scattered* low *shrubs* over *Eulalia aurea, Cenchrus ciliaris* and *Themeda triandra Very* open hummock grassland with *Citrullus amarus* over *Ipomoea racemigera Very* open herbland.

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC Q71 - 02	5	2
Aeschynomene indica	=sp01	0.2	0.1
Afrohybanthus aurantiacus		0.1	0.1
Aristida holathera var. *holathera*	=q36-04	0.2	0.1
Aristida inaequiglumis		0.8	0.1
Arivela viscosa		0.1	0.1
Bidens bipinnata		1	0.1
Blumea tenella	=q15-14	0.3	0.1
Boerhavia coccinea	=q16-10	0.1	0.1
Bonamia pilbarensis	=q75-13	0.1	0.1
Cenchrus ciliaris		0.2	2
Citrullus amarus	=q15-11	0.1	2
Corchorus lasiocarpus subsp. *lasiocarpus*		0.1	0.1
Corchorus tridens	=q75-02	0.1	0.1
Cucumis variabilis	=q10-03	0.1	0.1
Cyperus sp. indet	=q75-11	0.9	0.1
Dactyloctenium radulans		0.1	0.1
Dodonaea pachyneura	TCDC Q71 - 10	1.5	0.1
Duperreya commixta	=q73-09	0.1	0.1
Eragrostis cumingii	TCDC Q71 - 04	0.2	0.1
Eragrostis tenellula	TCDC Q71 - 05	0.1	0.1
Eucalyptus camaldulensis subsp. *refulgens*	=q73-03	8	5
Eucalyptus victrix		5	1
Eulalia aurea		0.5	2
Euphorbia sp. indet	=q?	0.2	0.1
Euphorbia tannensis subsp. *eremophila*		0.1	0.1
Evolvulus alsinoides var. *decumbens*	=q73-05	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*	=q05-14	0.1	0.1
Glycine canescens	=q68-04	0.1	0.1
Goodenia prostrata	=kw05	0.1	0.1
Ipomoea muelleri		0.1	0.1

Ipomoea muelleri	=q05-08	0.1	0.1
Ipomoea polymorpha	TCDC Q71 - 09	0.1	0.1
Ipomoea racemigera	TCDC Q71 - 01	0.1	1
Jasminum didymum subsp. *lineare*	=q73-01	0.1	0.1
Maireana sp. indet	=q23-02	0.8	0.1
Malvastrum americanum		0.1	0.1
Panicum decompositum	=q15-10	0.4	0.1
Perotis rara	TCDC Q71 - 07	0.1	0.1
Portulaca filifolia	=q?	0.1	0.1
Portulaca oleracea		0.1	0.1
Pterocaulon sphacelatum		0.2	0.1
Ptilotus exaltatus		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.7	0.1
Rhynchosia minima		0.1	0.1
Santalum spicatum		2.5	0.1
Sclerolaena cornishiana	=q23-01	0.3	0.1
Senna artemisioides subsp. *filifolia*	=q73-10	0.1	0.1
Senna artemisioides subsp. *helmsii*		0.4	0.1
Senna stricta	TCDC Q71 - 03	1.9	0.1
Sida platycalyx	=q08-12	0.1	0.1
Sida sp. indet	=q41-04	0.5	0.1
Solanum lasiophyllum		0.3	0.1
Tephrosia sp. indet	=q73-06	0.4	1
Themeda avenacea	=sp?	1.3	0.1
Themeda triandra		0.9	1
Trichodesma zeylanicum var. *zeylanicum*		0.2	0.1
Triodia pungens		0.5	0.1
Tripogonella loliiformis	=q38-01	0.1	0.1
Urochloa piligera	TCDC Q71 - 06	0.2	0.1
Waltheria indica	=q75-06	0.5	0.1

Site Type	Site Name	Date
Quadrat	TCDC80	10/12/2022
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	238463	mE
Northing	7422502	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* scattered low trees over *Acacia aptaneura high* open shrubland over *Acacia ancistrocarpa* and *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Kennedia prorepens* low scattered shrubs over *Aristida inaequiglumis, Eulalia aurea, Paraneurachne muelleri, Aristida contorta, Aristida holathera* var. *holathera* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon amplum	TCDC80-07	0.1	0.1
Abutilon sp. indet		0.2	0.1
Acacia ancistrocarpa		1.9	1
Acacia aptaneura		5.5	4
Acacia pruinocarpa		0.6	0.1
Acacia tetragonophylla		2.2	0.5
Aristida contorta		0.2	1
Aristida holathera var. *holathera*	TCDC80-03	0.4	1
Aristida inaequiglumis		0.5	20
Chrysopogon fallax		0.3	0.1
Corymbia candida subsp. *candida*		9	1.5
Eriachne aristidea	TCDC80-08	0.2	0.1
Eulalia aurea		0.5	12
Euphorbia boophthona		0.2	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Fimbristylis sp. indet	TCDC80-04	0.2	0.1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=2TCDC10-03	0.1	0.1
Goodenia nuda	TCDC80-01	0.3	0.1
Hakea lorea subsp. *lorea*		2.5	0.1
Hibiscus burtonii	TCDC80-05	0.5	0.1
Hibiscus sturtii var. *campylochlamys*		0.2	0.1
Jasminum didymum subsp. *lineare*		0.4	0.1
Kennedia prorepens		0.3	1
Paraneurachne muelleri		0.4	5
Ptilotus astrolasius		0.3	0.1
Ptilotus exaltatus		0.1	0.1
Ptilotus fusiformis		0.1	0.1
Ptilotus polystachyus		0.2	0.1
Senna artemisioides subsp. *helmsii*		1.7	0.5
Senna artemisioides subsp. *oligophylla*		1.7	0.1

Sida cardiophylla	TCDC80-02	0.8	0.1
Sida platycalyx		0.1	0.1
Sida sp. indet	TCDC80-06	0.1	0.1
Solanum lasiophyllum		0.3	0.1
Triodia basedowii		0.4	0.5

Site Type	Site Name	Date
Quadrat	TCDC81	10/12/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	235334	mE
Northing	7420259	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ancistrocarpa, Hakea loreus* subsp. *loreus, Acacia ?aptaneura* tall open shrubland over *Ptilotus astrolasius,* low open shrubland over *Triodia basedowii* open hummock grassland over *Paraneurachne muelleri, Eragrostis eriopoda, Aristida inaequiglumis* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.1	1.5
Acacia aneura	=2TCDCQ02-01	3	1
Acacia coriacea subsp. *pendens*		0.1	0.1
Acacia pachyacra	TCDC81-02	1.1	0.1
Afrohybanthus aurantiacus		0.2	0.1
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.1	0.1
Aristida inaequiglumis		0.5	1
Boerhavia coccinea		0.1	0.1
Bonamia erecta	=2TCDCQ02-05	0.4	0.1
Codonocarpus cotinifolius		0.3	0.1
Cymbopogon ambiguus		0.8	0.1
Dicrastylis cordifolia		0.3	0.1
Eragrostis eriopoda		0.2	1
Eremophila longifolia		1.7	0.1
Eulalia aurea		0.6	0.1
Euphorbia boophthona		0.5	0.1
Glycine canescens	TCDC81-01	0.5	1
Gomphrena kanisii	=2TCDCQ02-08	0.4	0.1
Hakea lorea subsp. *lorea*		2.1	1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)	=2TCDCQ02-06	0.4	0.1
Indigofera georgei	TCDC81-03	0.6	0.1
Paraneurachne muelleri		0.3	1
Pterocaulon sphacelatum		0.4	0.1
Ptilotus astrolasius		0.4	3
Ptilotus axillaris		0.1	0.1
Senna artemisioides subsp. *helmsii*		1.1	0.1
Senna artemisioides subsp. *oligophylla*		1.1	0.1
Senna artemisioides subsp. *oligophylla* x indet	=2TCDCQ02-11	1.6	0.1
Solanum lasiophyllum		0.1	0.1
Triodia basedowii		0.4	18

Site Type	Site Name	Date
Quadrat	TCDC82	10/13/2022
Dimensions	50m x 50m	
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	239673	mE
Northing	7417245	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Low (1-20º)	
Aspect	North-west	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia tetragonophylla* scattered tall shrubs over *Senna artemisioides* subsp. *helmsii* open shrubland over *Aristida contorta, Eriachne flaccida, Aristida inaequiglumis, Eulalia aurea* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	TCDC82-05	0.3	0.1
Acacia aneura	TCDC82-05	1.8	0.5
Acacia tetragonophylla		3.8	1
Aristida contorta		0.3	22
Aristida inaequiglumis		0.4	4
Boerhavia sp. indet		0.05	0.1
Calocephalus knappii	=2TCDC75-	0.1	0.1
Chrysopogon fallax		0.2	0.1
Enneapogon polyphyllus		0.3	0.1
Eragrostis setifolia	TCDC82-02	0.3	0.1
Eremophila forrestii subsp. *forrestii*		0.8	0.1
Eriachne flaccida	TCDC-03	0.2	6
Eulalia aurea		0.5	1
Evolvulus alsinoides var. *villosicalyx*		0.2	0.1
Gomphrena kanisii		0.2	0.1
Goodenia lamprosperma		0.2	0.1
Goodenia nuda	TCDC82-03	0.1	0.1
Hakea lorea subsp. *lorea*		2.2	0.5
Indigofera sp. indet		0.05	0.1
Macgregoria racemigera	=DRopp02	0.1	0.1
Paraneurachne muelleri		0.4	0.1
Sclerolaena cornishiana	TCDC82-01	0.2	0.1
Senna artemisioides subsp. *helmsii*		1.5	4
Sida platycalyx		0.2	0.1
Tephrosia rosea var. *clementii*	TCDC82-07	0.4	0.1
Triodia basedowii		0.3	0.1

Site Type	Site Name	Date
Quadrat	TCDC83	10/12/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	235535	mE
Northing	7418827	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Hakea loreus* subsp. *loreus, Acacia ?mulganeura* tall open shrubland over *Indigofera linnaei, Dicrastylis cordifolia, Bonamia erecta, Ptilotus astrolasius* low open shrubland over *Aristida holathera* var. *holathera, Paraneurachne muelleri* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		3	1
Acacia pachyacra	=TCDC81-02	1.1	0.1
Acacia pruinocarpa		0.3	0.1
Afrohybanthus aurantiacus		0.2	0.1
Aristida contorta		0.3	0.1
Aristida holathera var. *holathera*		0.3	1.5
Aristida inaequiglumis		0.5	0.1
Bonamia erecta	=2TCDCQ02-05	0.4	1
Calandrinia balonensis	=2TCDCQ02-12	0.1	0.1
Codonocarpus cotinifolius		0.1	0.1
Corymbia sp. indet		0.4	0.1
Cymbopogon obtectus	TCDC83-04	0.6	0.1
Dampiera candicans		0.2	0.1
Dicrastylis cordifolia		0.4	3
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis eriopoda		0.2	0.1
Eriachne aristidea	TCDC83-06	0.1	0.1
Eulalia aurea		0.8	0.1
Euphorbia boophthona		0.1	0.1
Goodenia nuda	TCDC83-05	0.2	0.1
Goodenia triodiophila	TCDC83-05	0.3	0.1
Goodenia vilmoriniae	TCDC83-02	0.2	0.1
Hakea lorea subsp. *lorea*		2.4	1.5
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)	=2TCDC02-06	0.2	0.1
Indigofera linnaei		0.4	4
Iseilema sp. indet		0.1	0.1
Paraneurachne muelleri		0.3	1
Polygala isingii		0.1	0.1
Ptilotus astrolasius		0.4	1
Ptilotus polystachyus		0.5	0.1
Senna artemisioides subsp. *helmsii*		0.1	0.1

Senna artemisioides subsp. *oligophylla*		0.6	0.1
Senna glaucifolia		0.4	0.1
Senna notabilis		0.4	0.1
Sida cardiophylla	=2TCDCQ02-04	0.1	0.1
Tephrosia sp. Newman (A.A. Mitchell PRP 29)	TCDC83-01	0.1	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.4	0.1
Triodia basedowii		0.2	0.1

Site Type	Site Name	Date
Quadrat	TCDC84	10/14/2022
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	240611	mE
Northing	7421061	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Clay	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia pruinocarpa, Acacia aptaneura, Acacia ancistrocarpa, Acacia pachyacra, Hakea loreus* subsp. *loreus* tall open shrubland over *Eremophila forrestii* subsp. *forrestii* scattered shrubs over *Triodia basedowii* open hummock grassland over *Eulalia aurea, Aristida inaequiglumis* scattered tussock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.7	0.5
Acacia aptaneura	TCDC84-06	3.5	0.5
Acacia pachyacra		3	0.5
Acacia pruinocarpa		4	1.5
Aristida contorta		0.1	0.1
Aristida inaequiglumis		0.5	0.5
Bonamia erecta		0.3	0.1
Cymbopogon ambiguus		0.4	0.1
Dicrastylis cordifolia		0.3	0.1
Eragrostis eriopoda		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.1	1.5
Eulalia aurea		0.6	1
Euphorbia australis var. *hispidula*	TCDC84-02	0.3	0.1
Euphorbia boophthona		0.4	0.1
Gomphrena kanisii		0.2	0.1
Goodenia scaevolina	TCDC84-04	0.7	0.1
Goodenia sp. indet		0.3	0.1
Goodenia sp. indet	TCDC84-05	0.1	0.1
Goodenia sp. indet		0.2	0.1
Hakea lorea subsp. *lorea*		2.1	0.5
Hibiscus burtonii		0.5	0.1
Hibiscus sturtii var. *truncatus*	=2TCDC18	0.3	0.1
Indigofera georgei	TCDC84-01	0.4	0.1
Paraneurachne muelleri		0.3	0.1
Pterocaulon sphacelatum	TCDC84-03	0.3	0.1
Ptilotus axillaris		0.4	0.1
Ptilotus obovatus var. *obovatus*		0.6	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.3	0.1
Scaevola parvifolia subsp. indet	=2TCDC18	0.2	0.1
Senna artemisioides subsp. *helmsii*		0.1	0.1
Senna artemisioides subsp. *oligophylla*		0.8	0.1

Senna glaucifolia	=TCDCr10-01	1	0.1
Senna notabilis		0.3	0.1
Sida cardiophylla	=2TCDC18	0.8	0.1
Solanum lasiophyllum		0.3	0.1
Streptoglossa decurrens		0.4	0.1
Trichodesma zeylanicum var. *zeylanicum*		1	0.1
Triodia basedowii		0.4	28

Site Type	Site Name	Date
Quadrat	TCDC85	10/13/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	237403	mE
Northing	7417638	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aneura* tall open shrubland over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Aristida contorta, Eulalia aurea, Eriachne flaccida* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.5	0.1
Acacia aneura		4	9
Aristida contorta		0.3	40
Aristida inaequiglumis		0.5	0.5
Boerhavia coccinea		0.1	0.1
Chrysopogon fallax		0.5	0.1
Enneapogon polyphyllus		0.2	0.1
Eragrostis setifolia		0.3	0.1
Eremophila fraseri subsp. *fraseri*		0.6	0.1
Eremophila lanceolata	=2TCDCQ35-03	0.2	0.1
Eriachne flaccida		0.2	3
Eulalia aurea		0.4	4
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=TCDC83-03	0.2	0.1
Hakea lorea subsp. *lorea*		3	0.1
Ipomoea muelleri		1.6	0.1
Isotropis iophyta		0.7	0.1
Portulaca filifolia		0.1	0.1
Pterocaulon sphaeranthoides		0.5	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=2TCDCQ07-01	0.2	0.1
Senna artemisioides subsp. *helmsii*		1.6	1
Senna artemisioides subsp. *oligophylla*		1.4	0.5
Sida fibulifera		0.1	0.1
Sida platycalyx		0.3	0.1
Themeda triandra		0.6	0.1

Site Type	Site Name	Date
Quadrat	TCDC86	10/18/2022
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	245545	mE
Northing	7408488	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia macraneura, Acacia aptaneura, Acacia pachyacra* tall open shrubland over *Sida cardiophylla* low scattered shrubs over *Eulalia aurea, Paraneurachne muelleri, Aristida inaequiglumis* open tussock grassland with *Triodia basedowii* and *Triodia schinzii* scattered hummock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aptaneura	TCDC86-03	2.8	0.5
Acacia macraneura	TCDC86-01	5	2.5
Acacia pachyacra		3	1
Afrohybanthus aurantiacus		0.3	0.1
Anthobolus leptomerioides		0.8	0.1
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.3	0.1
Aristida inaequiglumis		0.5	1
Bonamia erecta		0.2	0.1
Calocephalus knappii	2TCDC75-07	0.1	0.1
Dicrastylis cordifolia		0.2	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis eriopoda		0.3	0.1
Eremophila capricornica		0.5	0.1
Eriachne mucronata	TCDC86-02	0.4	0.1
Eulalia aurea		0.5	10
Euphorbia boophthona		0.1	0.1
Goodenia triodiophila	TCDC86-04	0.2	0.1
Goodenia vilmoriniae	=2TCDC61	0.1	0.1
Hakea lorea subsp. *lorea*		1.9	0.1
Halgania solanacea var. *solanacea*	=DRopp11	0.2	0.1
Hibiscus burtonii		0.6	0.1
Hibiscus sturtii var. *truncatus*	2TCDC18-01	0.2	0.1
Paraneurachne muelleri		0.6	3
Ptilotus astrolasius		0.3	0.1
Ptilotus polystachyus		0.1	0.1
Scaevola parvifolia subsp. *pilbarae*		0.2	0.1
Senna artemisioides subsp. *oligophylla*		1.8	0.1
Senna glaucifolia	2TCDC61	0.3	0.1
Senna notabilis		0.05	0.1
Senna sp. indet		0.2	0.1

Sida cardiophylla	=2TCDC61	0.9	1.5
Trachymene oleracea subsp. *oleracea*		0.1	0.1
Triodia basedowii		0.3	0.5
Triodia schinzii		0.4	0.5

Site Type	Site Name	Date
Quadrat	TCDC87	10/14/2022
Dimensions	100m x 25m	
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	239215	mE
Northing	7416617	mS
Site Characteristics		
Landform	Medium Drainage Line	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Brown	
Rock Type	Siltstone/Mudstone	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



Vegetation Description	*Eucalyptus camaldulensis* subsp. *refulgens, Eucalyptus victrix* low open woodland over *Acacia aptaneura, Acacia paraneura* tall open scrub over *Themeda triandra, Eulalia aurea, *Cenchrus ciliaris* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		1.1	0.1
Acacia aptaneura	TCDC87-04	4	4
Acacia paraneura	TCDC87-05	5	4
Aeschynomene indica		0.1	0.1
Alternanthera angustifolia	TCDC87-02	0.1	0.1
Alternanthera nana	=tcdc41-06	0.1	0.1
Aristida contorta		0.3	0.1
Aristida holathera var. *holathera*		0.3	0.1
Arivela viscosa		0.3	0.1
Bidens bipinnata		0.1	0.1
Bulbostylis barbata		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cenchrus ciliaris		0.3	2
Centipeda minima subsp. *macrocephala*	TCDC87-03	0.1	0.1
Cheilanthes sieberi subsp. *sieberi*	TCDC87-01	0.1	0.1
Chrysopogon fallax		1.1	0.1
Citrullus amarus		0.1	0.1
Cucumis variabilis	=2tcdcq39-05	0.5	0.1
Cyperus macrostachyos	TCDC87-08	0.8	0.1
Enneapogon polyphyllus		0.1	0.1
Eragrostis setifolia		0.1	0.1
Eremophila forrestii subsp. *forrestii*		1.6	0.1
Eremophila fraseri subsp. *fraseri*		1.1	0.1
Eremophila lanceolata	=2tcdcq35-03	0.2	0.1
Eriachne sp. indet	=2TCDCQ07-02	0.3	0.1
Eucalyptus camaldulensis subsp. *refulgens*		8	6
Eucalyptus victrix		7	1
Eulalia aurea		0.8	4
Euphorbia boophthona		0.2	0.1
Evolvulus alsinoides var. *decumbens*		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1

Glycine canescens	TCDC87-06	3	0.1
Gomphrena kanisii		0.3	0.1
Goodenia lamprosperma		0.3	0.1
Gossypium australe		1.2	0.1
Hibiscus burtonii		0.4	0.1
Hibiscus sturtii var. *truncatus*		0.2	0.1
Hypericum gramineum	TCDC81-08	0.2	0.1
Indet. sp.	=drcollecetion	0.1	0.1
Indigofera linnaei		0.1	0.1
Ipomoea muelleri		0.5	0.1
Iseilema vaginiflorum		0.1	0.1
Lepidium pholidogynum	TCDC87-07	0.1	0.1
Maireana planifolia		0.9	0.1
Malvastrum americanum		0.5	0.1
Nellica maderaspatensis		0.1	0.1
Panicum decompositum		0.1	0.1
Pluchea rubelliflora		0.6	0.1
Portulaca filifolia		0.1	0.1
Pterocaulon sphacelatum		0.2	0.1
Ptilotus exaltatus		0.1	0.1
Ptilotus gaudichaudii		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.2	0.1
Rhynchosia minima		0.1	0.1
Salsola australis		0.1	0.1
Sclerolaena cornishiana		0.4	0.1
Senna artemisioides subsp. *helmsii*		0.2	0.1
Sida fibulifera		0.1	0.1
Sida platycalyx		0.1	0.1
Sida sp. indet	=2tcdc39-14	0.2	0.1
Sporobolus australasicus		0.1	0.1
Stemodia viscosa		0.3	0.1
Tephrosia rosea var. *clementii*	=2tcdcq39-06	0.7	0.1
Themeda triandra		1.2	5
Trichodesma zeylanicum var. *zeylanicum*		0.3	0.1

Trigastrotheca molluginea		0.1	0.1
Wahlenbergia tumidifructa		0.2	0.1
Waltheria indica		0.3	0.1

Site Type	Site Name	Date
Quadrat	TCDC88	10/18/2022
Dimensions	50m x 50m	
Described by	Helen Armstrong, Daniel Roocke	
Location (UTM) zone 51K		
Easting	245568	mE
Northing	7407911	mS
Site Characteristics		
Landform	Footslope	
Slope	Low (1-20º)	
Aspect	North-east	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Road access tracks	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	Granite	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Common	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia ancistrocarpa, Grevillea wickhamii* subsp. *hispidula* and *Acacia pruinocarpa high* open shrubland over *Halgania solanacea* var. Mt Doreen (G.M. Chippendale 4206) scattered low shrubs over *Triodia vanleeuwenii* open hummock grassland over *Paraneurachne muelleri* scattered tussock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		3	4
Acacia aptaneura		1.5	0.1
Acacia pachyacra		2.1	0.5
Acacia pruinocarpa		3.5	0.5
Acacia tetragonophylla		1.7	0.1
Acacia trudgeniana		2.8	0.1
Afrohybanthus aurantiacus		0.3	0.1
Anthobolus leptomerioides		1.5	0.5
Aristida holathera var. *holathera*		0.1	0.1
Aristida inaequiglumis		0.3	0.1
Bonamia erecta		0.2	0.1
Corchorus sidoides subsp. *sidoides*	TCDC88-05	0.4	0.1
Corymbia hamersleyana		3	0.1
Cymbopogon ambiguus		0.5	0.1
Dicrastylis cordifolia		0.3	0.1
Duperreya commixta		0.4	0.1
Eragrostis eriopoda		0.3	0.1
Eremophila capricornica		0.7	0.1
Eremophila latrobei subsp. indet	TCDC88-07	2.3	0.1
Eulalia aurea		0.4	0.1
Gomphrena kanisii		0.1	0.1
Goodenia azurea subsp. *hesperia*	TCDC88-03	0.4	0.5
Goodenia triodiophila	=TCDC86-04	0.3	0.1
Grevillea wickhamii subsp. *hispidula*		4	0.5
Hakea lorea subsp. *lorea*		1.5	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)	TCDC88-01	0.5	1
Hibiscus sturtii var. *truncatus*	=2TCDC18-01	0.2	0.1
Indigofera monophylla	TCDC88-04	0.3	0.1
Paraneurachne muelleri		0.3	1
Petalostylis cassioides	=2TCDC29-02	0.5	0.1
Ptilotus astrolasius		0.3	0.1

Ptilotus calostachyus		1	0.1
Senna artemisioides subsp. *helmsii*		1	0.1
Senna artemisioides subsp. *oligophylla*		1	0.1
Senna glutinosa subsp. *pruinosa*		1.9	0.1
Seringia exastia	TCDC88-06	0.5	0.5
Sida arenicola	TCDC88-02	2	0.5
Sida cardiophylla	=2TCDC61-01	0.4	0.1
Solanum lasiophyllum		0.2	0.1
Tephrosia sp. indet		0.2	0.1
Trianthema glossostigmum		0.1	0.1
Triodia schinzii		0.4	0.5
Triodia vanleeuwenii		0.3	25

Site Type	Site Name	Date
Quadrat	TCDC89	10/14/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	239962	mE
Northing	7416397	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Loam	
Soil Colour	Red	
Rock Type	Quartz	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Rare	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia tetragonophylla* scattered tall shrubs over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Aristida contorta, Eulalia aurea, Chrysopogon fallax, Themeda triandra, Aristida inaequiglumis* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.4	0.1
Acacia tetragonophylla		3	1
Aristida contorta		0.3	25
Aristida inaequiglumis		0.4	1
Boerhavia coccinea		0.1	0.1
Bonamia pilbarensis		0.2	0.1
Bulbostylis barbata		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cheilanthes sieberi subsp. *sieberi*	=tcdc87-01	0.1	0.1
Chrysopogon fallax		0.2	2
Enneapogon polyphyllus		0.3	0.1
Eragrostis setifolia		0.2	0.1
Eriachne flaccida		0.2	0.5
Eriachne pulchella subsp. *pulchella*		0.1	0.1
Eulalia aurea		0.4	5
Evolvulus alsinoides var. *villosicalyx*		0.2	0.1
Gomphrena kanisii		0.1	0.1
Goodenia nuda	=tcdc83-03	0.2	0.1
Hibiscus sturtii var. *truncatus*		0.1	0.1
Indigofera linnaei		0.1	0.1
Ipomoea muelleri		0.1	0.1
Peplidium aithocheilum	=2tcdcq41-05	0.1	0.1
Portulaca filifolia		0.2	0.1
Pterocaulon sphaeranthoides		0.4	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=tcdc07-01	0.2	0.1
Sclerolaena convexula	=2tcdcq39-04	0.1	0.1
Sclerolaena cornishiana		0.3	0.1
Senna artemisioides subsp. *helmsii*		1.3	3
Sida platycalyx		0.2	0.1
Sida sp. indet	=2tcdcq39-14	0.1	0.1
Tephrosia rosea var. *clementii*	=2tcdcq39-06	0.3	0.1

Tephrosia supina	TCDC89-01	0.1	0.1
Themeda triandra		0.5	2
Tribulus astrocarpus	TCDC89-02	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC90	10/19/2022
Dimensions	50m x 50m	
Described by	Helen Armstrong, Daniel Roocke	
Location (UTM) zone 51K		
Easting	242612	mE
Northing	7410144	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia* sp. *(anuera complex)* tall shrubland over *Aristida contorta, Enneapogon polyphyllus* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum	=2TCDC75-07	0.5	0.1
Abutilon otocarpum	TCDC90-03	0.2	0.1
Acacia aneura	TCDC90-06	5	20
Acacia aneura	TCDC90-05	4.5	1
Aristida contorta		0.2	15
Aristida inaequiglumis		0.3	0.1
Boerhavia coccinea		0.1	0.1
Brachyscome iberidifolia	=2TCDC33-06	0.1	0.1
Chrysopogon fallax		0.1	0.1
Enneapogon polyphyllus		0.3	0.5
Eragrostis setifolia	TCDC90-01	0.1	0.1
Eriachne flaccida		0.2	0.1
Eulalia aurea		0.2	0.1
Euphorbia sp. indet	=2DRopp16	0.1	0.1
Euploca tanythrix	TCDC90-02	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=2TCDC10-03	0.2	0.1
Goodenia prostrata	=2TCDC33-01	0.1	0.1
Hakea lorea subsp. *lorea*		5	0.1
Hibiscus burtonii		0.1	0.1
Indigofera colutea		0.1	0.1
Ipomoea calobra	TCDC90-04	0.5	0.1
Ipomoea muelleri		0.1	0.1
Isotropis iophyta		0.2	0.1
Nicotiana occidentalis	=2DRopp15	0.1	0.1
Paraneurachne muelleri		0.2	0.1
Portulaca filifolia		0.1	0.1
Portulaca oleracea		0.1	0.1
Pterocaulon sp. indet		0.1	0.1
Ptilotus exaltatus		0.1	0.1

Ptilotus gaudichaudii		0.1	0.1
Ptilotus polystachyus		0.1	0.1
Ptilotus schwartzii var. *schwartzii*		0.2	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		2	0.1
Rhodanthe charsleyae	=2TCDC16-16	0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.2	0.1
Senna artemisioides subsp. *helmsii*		0.4	0.1
Senna glaucifolia		1	0.1
Senna notabilis		0.2	0.1
Sida fibulifera		0.2	0.1
Sida platycalyx		0.1	0.1
Sida sp. indet	=2TCDC80-06	0.2	0.1
Solanum lasiophyllum		0.1	0.1
Swainsona oroboides	=TCDCR16-03	0.1	0.1
Trigastrotheca molluginea		0.2	0.1
Wahlenbergia tumidifructa	=2TCDC16-02	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC91	10/16/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	239504	mE
Northing	7413851	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Weed invasion, Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Fire scar	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida subps. candida* and *Corymbia hamersleyana* low scattered trees over *Themeda triandra* and *Themeda avenacea* tussock grassland with *Goodenia lamprosperma* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.3	0.1
Acacia aneura		0.7	0.1
Alternanthera nana	=2tcdcq41-06	0.1	0.1
Aristida contorta		0.3	0.1
Aristida inaequiglumis		0.5	0.1
Blumea tenella		0.1	0.1
Boerhavia repleta	TCDC91-03	0.1	0.1
Bonamia pilbarensis		0.1	0.1
Buchnera linearis	=2tcdcq39-12	0.1	0.1
Bulbostylis barbata		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cenchrus ciliaris		0.1	0.1
Centipeda minima subsp. *macrocephala*	=tcdc87-03	0.1	0.1
Chenopodium gaudichaudianum	TCDC91-02	0.2	0.1
Chrysopogon fallax		0.9	0.1
Convolvulus clementii	=2tcdcq41-02	0.1	0.1
Corymbia candida subsp. *candida*		5.5	1
Corymbia hamersleyana		4	0.5
Cyperus macrostachyos	=tcdc87-09	0.9	0.1
Dichanthium sericeum subsp. *polystachyum*	=tcdcr13-	0.5	0.1
Enneapogon polyphyllus		0.2	0.1
Eriachne flaccida		0.3	0.1
Eulalia aurea		0.4	0.1
Euphorbia australis var. *subtomentosa*	=2tcdcq36	0.1	0.1
Euphorbia biconvexa		0.1	0.1
Evolvulus alsinoides var. *decumbens*		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.1	0.1
Goodenia lamprosperma		0.3	1
Goodenia nuda	=tcdc83-03	0.3	0.1
Gossypium australe		1.6	0.1

Indigofera linifolia		0.1	0.1
Indigofera linnaei		0.1	0.1
Ipomoea muelleri		0.1	0.1
Malvastrum americanum		0.1	0.1
Nellica maderaspatensis		0.1	0.1
Nicotiana occidentalis		0.5	0.1
Panicum decompositum		0.3	0.1
Peplidium aithocheilum	=2tcdcq41-06	0.1	0.1
Pluchea dentex		0.2	0.1
Portulaca filifolia		0.1	0.1
Pterocaulon sphacelatum		0.2	0.1
Ptilotus exaltatus		0.2	0.1
Ptilotus polystachyus		0.2	0.1
Ptilotus xerophilus	=2tcdcq41-03	0.1	0.1
Rhodanthe charsleyae	=2tcdcq36-05	0.1	0.1
Rhynchosia minima		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=2TCDCQ07-01	0.3	0.5
Senna artemisioides subsp. *helmsii*		0.1	0.1
Solanum lasiophyllum		0.1	0.1
Streptoglossa bubakii		0.1	0.1
Stylidium desertorum	TCDC91-01	0.1	0.1
Synostemon rhytidospermus	TCDC91-04	0.1	0.1
Tephrosia rosea var. *clementii*	=2tcdcq39-06	0.3	0.1
Tephrosia supina	=tcdc89-01	0.1	0.1
Themeda avenacea		1.9	0.5
Themeda triandra		0.8	35
Wahlenbergia tumidifructa		0.2	0.1

Site Type	Site Name	Date
Quadrat	TCDC92	10/19/2022
Dimensions	50m x 50m	
Described by	Helen Armstrong, Daniel Roocke	
Location (UTM) zone 51K		
Easting	243882	mE
Northing	7411007	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Fire scar,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Moderate	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia* sp. *(anuera complex), Acacia pruinocarpa, Acacia aptaneura* tall open shrubland over *Triodia basedowii* open hummock grassland over *Paraneurachne muelleri scattered tussock grass*

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon otocarpum	=TCDC90	0.3	0.1
Acacia ancistrocarpa		3	0.1
Acacia aneura	TCDC92-04	5	3
Acacia aptaneura	TCDC92-03	6	1.5
Acacia aptaneura	TCDC92-05	7	1
Acacia pachyacra		0.8	0.1
Acacia pruinocarpa		5.5	3
Amyema sp. indet		4	0.1
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.3	0.1
Aristida inaequiglumis		0.2	0.1
Bonamia media		0.05	0.1
Cymbopogon ambiguus		0.4	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Enneapogon polyphyllus		0.2	0.1
Eragrostis eriopoda		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.5	0.1
Eulalia aurea		0.3	0.1
Euphorbia boophthona		0.3	0.1
Goodenia armitiana	TCDC92-02	0.2	0.1
Hakea lorea subsp. *lorea*		2.1	0.5
Hibiscus burtonii		0.3	0.1
Hibiscus sturtii var. *truncatus*	=2TCDC18-01	0.2	0.1
Maireana melanocoma		0.1	0.1
Monachather paradoxus	=2TCDC33-05	0.2	0.1
Paraneurachne muelleri		0.3	1
Ptilotus astrolasius		0.4	0.1
Ptilotus gaudichaudii		0.1	0.1
Ptilotus obovatus var. *obovatus*		1	0.1
Ptilotus polystachyus		0.3	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		1.8	0.1

Sclerolaena cornishiana	TCDC92-01	0.2	0.1
Senna artemisioides subsp. *helmsii*		0.5	0.1
Senna glutinosa subsp. *pruinosa*		0.6	0.1
Sida fibulifera		0.1	0.1
Sida platycalyx		0.2	0.1
Themeda triandra		0.4	0.1
Triodia basedowii		0.4	28

Site Type	Site Name	Date
Quadrat	TCDC93	10/16/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	239152	mE
Northing	7414112	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	Mudstone	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	Rare	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



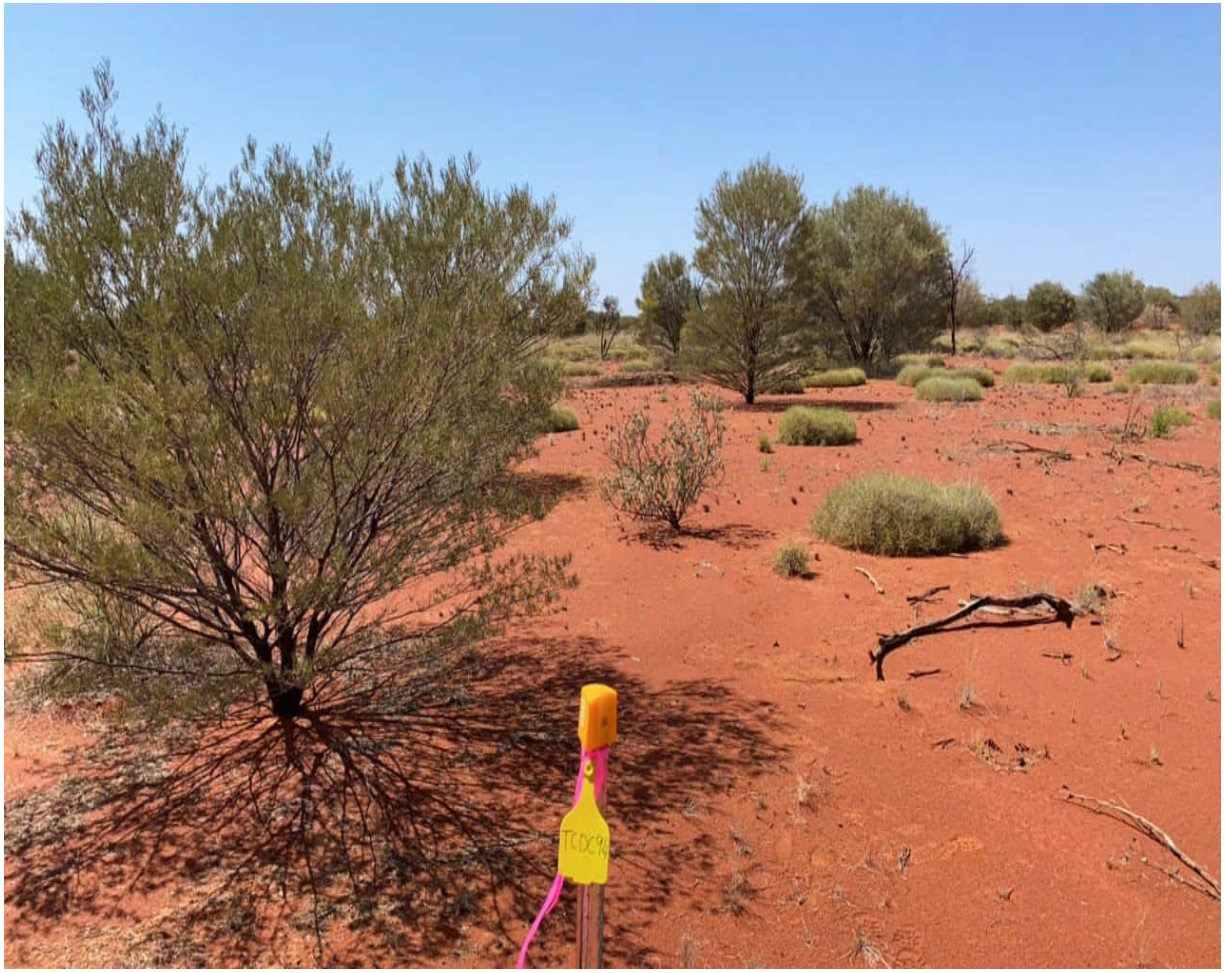
Vegetation Description	*Corymbia candida* subsp. *candida* low scattered trees over *Acacia aneura* tall shrubland over *Aristida contorta* and *Eulalia aurea* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon cunninghamii	TCDC93-05	0.3	0.1
Abutilon macrum		0.6	0.1
Abutilon macrum		0.4	0.1
Acacia aneura		3	11
Aristida contorta		0.4	8
Aristida holathera var. *holathera*		0.4	0.1
Aristida inaequiglumis		0.6	0.1
Blumea tenella		0.1	0.1
Bonamia pilbarensis		0.1	0.1
Buchnera linearis	=2tcdcq39-12	0.1	0.1
Bulbostylis barbata		0.1	0.1
Chrysopogon fallax		1.1	0.1
Convolvulus clementii	=2tcdcq41-02	0.1	0.1
Corymbia candida subsp. *candida*		8	1
Digitaria brownii	=2tcdcq36-04	0.2	0.1
Enneapogon polyphyllus		0.2	0.1
Eragrostis setifolia		0.3	0.1
Eremophila capricornica		0.2	0.1
Eremophila forrestii subsp. *forrestii*		0.3	0.1
Eremophila fraseri subsp. *fraseri*		0.5	0.1
Eriachne aristidea	=tcdc83-06	0.3	0.1
Eriachne flaccida		0.3	0.1
Eriachne pulchella subsp. *pulchella*		0.1	0.1
Eulalia aurea		0.5	1
Euphorbia biconvexa		0.1	0.1
Euploca cunninghamii		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.2	0.1
Goodenia azurea subsp. *hesperia*	TCDC93-05	0.2	0.1
Goodenia lamprosperma		0.3	0.1
Goodenia nuda	=2tcdcq83-03	0.1	0.1

Goodenia prostrata	=2tcdcq35-01	0.1	0.1
Gossypium australe		0.2	0.1
Hibiscus burtonii		0.4	0.1
Hibiscus sturtii var. *platychlamys*	TCDC93-02	0.6	0.1
Hibiscus sturtii var. *truncatus*		0.3	0.1
Ipomoea calobra	=2jm10	2.1	0.1
Ipomoea muelleri		0.1	0.1
Iseilema vaginiflorum		0.1	0.1
Isotropis iophyta		1.1	0.1
Maireana planifolia	TCDC93-03	1.1	0.1
Nellica maderaspatensis		0.1	0.1
Paraneurachne muelleri		0.4	0.1
Pluchea dentex		0.5	0.1
Pluchea dunlopii	=2tcdcq39-11	0.3	0.1
Portulaca filifolia		0.1	0.1
Ptilotus exaltatus		0.5	0.1
Ptilotus gaudichaudii		0.2	0.1
Ptilotus helipteroides	=tcdcr11-02	0.3	0.1
Ptilotus polystachyus		0.3	0.1
Ptilotus xerophilus	=2tcdc41-03	0.3	0.1
Roebuckiella similis	TCDC93-04	0.1	0.1
Senna artemisioides subsp. *helmsii*		0.3	0.1
Senna artemisioides subsp. *oligophylla*		0.4	0.1
Senna glaucifolia		0.5	0.1
Sida fibulifera		0.1	0.1
Sida platycalyx		0.2	0.1
Solanum lasiophyllum		0.4	0.1
Streptoglossa bubakii		0.1	0.1
Themeda triandra		0.5	0.1
Triodia pungens		0.2	0.1

Site Type	Site Name	Date
Quadrat	TCDC94	10/20/2022
Dimensions	50m x 50m	
Described by	Helen Armstrong, Daniel Roocke	
Location (UTM) zone 51K		
Easting	245108	mE
Northing	7409448	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Fire scar,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aneura* and *Hakea loreus subsps. loreus high* open shrubland over *Triodia basedowii* very open hummock grassland over *Paraneurachne muelleri scattered tussock grass*

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon otocarpum	=TCDC90	0.1	0.1
Acacia aneura	TCDC94-06	5	8
Acacia pachyacra		3.3	0.5
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.2	0.1
Aristida inaequiglumis		0.3	0.1
Boerhavia coccinea		0.05	0.1
Brunonia australis	=2TCDC61-03	0.1	0.1
Calocephalus knappii	=2TCDC75-08	0.1	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Enneapogon polyphyllus		0.1	0.1
Eremophila capricornica		0.4	0.1
Eremophila forrestii subsp. *forrestii*		0.6	0.1
Eriachne pulchella subsp. *pulchella*		0.1	0.1
Eulalia aurea		0.4	0.5
Euphorbia boophthona		0.2	0.1
Gomphrena kanisii		0.1	0.1
Goodenia nuda	TCDC94-01	0.2	0.1
Goodenia vilmoriniae	=2TCDC61-02	0.1	0.1
Hakea lorea subsp. *lorea*		2.5	0.5
Hibiscus burtonii		0.5	0.1
Hibiscus sturtii var. *truncatus*	=2TCDC18-01	0.2	0.1
Lepidium echinatum	TCDC94-05	0.05	0.1
Lepidium sp. indet		0.1	0.1
Maireana planifolia	TCDC94-04	0.3	0.1
Monachather paradoxus	TCDC94-02	0.2	0.1
Paraneurachne muelleri		0.3	1
Ptilotus exaltatus		0.4	0.1
Ptilotus polystachyus		0.1	0.1
Senna artemisioides subsp. *helmsii*		1	0.1
Senna artemisioides subsp. *oligophylla*		0.1	0.1

Senna glaucifolia	TCDC94-03	1.5	0.1
Sida cardiophylla	=2TCDC61	1.2	0.1
Sida fibulifera		0.05	0.1
Sida platycalyx		0.3	0.1
Solanum lasiophyllum		0.4	0.1
Trachymene oleracea subsp. *oleracea*		0.2	0.1
Triodia basedowii		0.3	9

Site Type	Site Name	Date
Quadrat	TCDC95	10/16/2022
Dimensions	50m x 50m	
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	239276	mE
Northing	7412702	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Loamy Sand	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia pruinocarpa* scattered shrubs over *Dicrastylis cordifolia, Halgania solanacea* var. Mt Doreen (G.M. Chippendale 4206) low *open* shrubland over *Triodia basedowii* open hummock grassland over *Paraneurachne muelleri scattered tussock grass*

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		0.1	0.1
Acacia pachyacra		1.5	0.5
Acacia pruinocarpa		1.9	1.5
Aristida contorta		0.2	0.1
Aristida holathera var. *holathera*		0.6	0.5
Aristida inaequiglumis		0.9	0.1
Bonamia erecta		0.2	0.1
Calandrinia balonensis		0.1	0.1
Dampiera candicans		0.4	0.1
Dicrastylis cordifolia		0.4	5
Enneapogon polyphyllus		0.3	0.5
Eulalia aurea		0.5	0.1
Hakea lorea subsp. *lorea*		1.2	0.5
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)		0.4	1
Indigofera georgei	=tcdc81-03	0.9	0.1
Paraneurachne muelleri		0.4	1
Scaevola parvifolia subsp. *pilbarae*		0.2	0.1
Sida sp. indet	=2tcdcq02-03	0.9	0.1
Solanum centrale	TCDC95-01	0.2	0.1
Triodia basedowii		0.2	11

Site Type	Site Name	Date
Quadrat	TCDC96	10/20/2022
Dimensions	50m x 50m	
Described by	Daniel Roocke, Helen Armstrong	
Location (UTM) zone 51K		
Easting	246598	mE
Northing	7409236	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Frequent fire	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aptaneura, Acacia aneura* tall open shrubland over *Eremophila capricornica* and *malvaceae nipple fruits* low scattered shrubs over *Triodia basedowii* open hummock grassland over *Paraneurachne muelleri* scattered tussock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDC96-04	4.5	4
Acacia aptaneura	TCDC96-03	3.5	4
Acacia aptaneura		3.5	1
Aristida contorta		0.5	0.5
Aristida holathera var. *holathera*		0.2	0.1
Aristida inaequiglumis		0.4	0.5
Brunonia australis	=2TCDC61-03	0.1	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis eriopoda		0.2	0.1
Eremophila capricornica		0.5	1
Eriachne mucronata	TCDC96-01	0.3	0.1
Eulalia aurea		0.3	0.5
Euphorbia boophthona		0.2	0.1
Hakea lorea subsp. *lorea*		4	0.5
Hakea lorea subsp. *lorea*		3	0.5
Hibiscus burtonii		0.3	0.1
Hibiscus sturtii var. *truncatus*	2TCDC18-01	0.3	0.1
Lepidium echinatum	=TCDC94-05	0.05	0.1
Paraneurachne muelleri		0.3	1
Ptilotus polystachyus		0.5	0.1
Solanum centrale	TCDC96-02	0.4	0.1
Solanum centrale	TCDC96-02	0.4	0.1
Solanum lasiophyllum		0.2	0.1
Trachymene oleracea subsp. *oleracea*		0.1	0.1
Triodia basedowii		0.4	20

Site Type	Site Name	Date
Quadrat	TCDC97	10/16/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	238957	mE
Northing	7413151	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Dicrastylis cordifolia* and *Bonamia erecta* low open shrubland over *Triodia basedowii* open hummock grassland and *Paraneurachne muelleri* and *Aristda holathera* var. *holathera* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		0.5	0.1
Acacia pachyacra	=tcdc81-02	0.9	0.1
Acacia pruinocarpa		1.5	0.1
Aristida holathera var. *holathera*		0.2	1.5
Aristida inaequiglumis		1.1	0.1
Bonamia erecta		0.4	1
Calandrinia balonensis	TCDC97-02	0.2	0.1
Dicrastylis cordifolia		0.5	3
Eragrostis setifolia		0.4	0.1
Eremophila forrestii subsp. *forrestii*		0.4	0.1
Eulalia aurea		0.6	0.1
Goodenia triodiophila	TCDC97-01	0.4	0.1
Hakea lorea subsp. *lorea*		1.1	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)	=2tcdcq36	0.5	0.5
Indigofera georgei	=tcdc81-03	0.3	0.1
Paraneurachne muelleri		0.4	3
Ptilotus astrolasius		0.4	0.1
Ptilotus polystachyus		0.4	0.1
Scaevola parvifolia subsp. *pilbarae*		0.2	0.1
Senna glaucifolia		0.7	0.1
Sida cardiophylla	=2tcdcq02-04	0.5	0.1
Solanum centrale	=tcdc95-01	0.1	0.1
Triodia basedowii		0.3	11

Site Type	Site Name	Date
Quadrat	TCDC98	10/21/2022
Dimensions	50m x 50m	
Described by	Helen Armstrong, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	235338	mE
Northing	7420678	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus xerothermica* scattered low trees over *Acacia aptaneura, Acacia paraneura, Acacia ancistrocarpa* tall open shrubland over *Eriachne flaccida, Eulalia aurea* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		1.2	0.1
Abutilon otocarpum		0.3	0.1
Acacia ancistrocarpa		2.5	1
Acacia aptaneura	TCDC98-01	4.5	5
Acacia paraneura	=TCDC87-05	4	5
Alternanthera denticulata		0.1	0.1
Aristida contorta		0.1	0.1
Aristida holathera var. *holathera*		0.2	0.1
Aristida inaequiglumis		0.4	0.5
Arivela viscosa		0.5	0.1
Blumea tenella		0.1	0.1
Blumea tenella	TCDC98-05	0.1	0.1
Boerhavia coccinea		0.1	0.1
Corymbia candida subsp. *candida*		3	0.1
Cucumis variabilis		1.1	0.1
Enneapogon polyphyllus		0.3	0.1
Eragrostis pergracilis	TCDC98-04	0.1	0.1
Eriachne aristidea	=TCDC83-06	0.2	0.1
Eriachne flaccida		0.4	33
Eucalyptus xerothermica		7	1
Eulalia aurea		0.4	33
Euphorbia biconvexa		0.1	0.1
Fimbristylis eremophila		0.2	0.1
Gomphrena kanisii		0.2	0.1
Goodenia lamprosperma		0.3	0.1
Goodenia nuda		0.2	0.1
Hakea lorea subsp. *lorea*		1.2	0.1
Ipomoea polymorpha		0.2	0.1
Isotropis atropurpurea	TCDC98-06	0.2	0.1
Isotropis iophyta		0.4	0.1
Macgregoria racemigera	=DROpp	0.1	0.1

Myriocephalus oldfieldii	TCDC98-03	0.1	0.1
Pluchea dunlopii	TCDC98-02	0.6	0.1
Pterocaulon sphacelatum		0.3	0.1
Rhodanthe charsleyae	=2TCDCQ36-05	0.4	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.5	0.1
Sida platycalyx		0.1	0.1
Sporobolus australasicus		0.1	0.1
Tephrosia supina	=TCDC89-01	0.1	0.1

Site Type	Site Name	Date
Quadrat	TCDC99	10/16/2022
Dimensions	50m x 50m	
Described by	Jonas Mitchell, Scott Pansini	
Location (UTM) zone 51K		
Easting	240782	mE
Northing	7412752	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* and *Corymbia hamersleyana* low scattered trees over *Acaca aneura tall* scattered shrubs over *Eulalia aurea, Aristida contorta* and *Aristida holathera* var. *holathera* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.2	0.1
Acacia aneura		3	1
Aristida contorta		0.3	6
Aristida holathera var. *holathera*		0.3	1
Aristida inaequiglumis		0.9	0.1
Blumea tenella		0.1	0.1
Boerhavia repleta	=tcdc91-03	0.1	0.1
Bonamia pilbarensis		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cenchrus ciliaris		0.2	0.1
Chrysopogon fallax		0.4	0.1
Corymbia candida subsp. *candida*		8	1
Corymbia hamersleyana		7	0.5
Duperreya commixta		0.3	0.1
Enneapogon polyphyllus		0.2	0.1
Enneapogon robustissimus		0.1	0.1
Eragrostis setifolia		0.5	0.1
Eulalia aurea		0.2	15
Euphorbia australis var. *subtomentosa*	=2tcdcq73-04	0.1	0.1
Euphorbia boophthona		0.2	0.1
Evolvulus alsinoides var. *decumbens*		0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gomphrena kanisii		0.1	0.1
Goodenia nuda	=tcdc83-03	0.1	0.1
Indigofera linifolia		0.1	0.1
Indigofera linnaei		0.1	0.1
Ipomoea muelleri		0.1	0.1
Portulaca oleracea		0.1	0.1
Pterocaulon sphaeranthoides		0.4	0.1
Ptilotus helipteroides	=tcdcr11-02	0.1	0.1
Ptilotus polystachyus		0.1	0.1

Rhynchosia minima	TCDC99-01	0.1	0.1
Senna artemisioides subsp. *helmsii*		0.1	0.1
Senna artemisioides subsp. *oligophylla*		0.2	0.1
Senna glaucifolia		0.1	0.1
Sida fibulifera		0.1	0.1
Solanum lasiophyllum		0.1	0.1
Themeda triandra		0.7	0.1

Site Type	Site Name	Date
Releve	TCDCR01	4/7/2022
Dimensions		
Described by	Daniel Roocke, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	235369	mE
Northing	7420661	mS
Site Characteristics		
Landform	Soak	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus xerothermica* and *Corymbia candida* subsp. *candida* scattered low trees over *Acacia ?aptaneura* and *Acacia ancistrocarpa* tall shrubland over *Eulalia aurea* and *Eriachne flaccida closed* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.5	1
Acacia aneura		4	15
Alternanthera denticulata	TCDCr-01 - 04	0.2	0.1
Alternanthera denticulata	TCDCr-01 - 5	0.3	0.1
Arivela viscosa		0.4	0.1
Blumea tenella	TCDCr-01 - 06	0.2	0.1
Corymbia candida subsp. *candida*	TCDCr-01 - 13	4	0.5
Cucumis variabilis		0.8	0.5
Eragrostis kennedyae	TCDCr-01 - 10	0.3	0.1
Eriachne flaccida	TCDCr-01 - 02	0.4	25
Eucalyptus xerothermica	TCDCr-01 - 01	8	1
Eulalia aurea		0.6	50
Euphorbia biconvexa	TCDCr-01 - 07	0.3	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Fimbristylis eremophila	TCDCr-01 - 03	0.3	0.1
Goodenia lamprosperma	TCDCr-01 - 08	0.3	0.1
Goodenia nuda	TCDCr-01 - 09	0.2	0.1
Polygala sp. indet		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	TCDCr-01 - 11	0.3	0.1

Site Type	Site Name	Date
Releve	TCDCR02	4/8/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240816	mE
Northing	7417593	mS
Site Characteristics		
Landform	Minor Drainage Line	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* low open woodland over *Eulalia aurea, Aristida contorta* and *Chrysopogon fallax* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Aristida contorta	=A. holathera26	0.1	12
Chrysopogon fallax		0.3	0.5
Commelina ensifolia	TCDCr-02 - 02	0.2	0.1
Corymbia candida subsp. *candida*	TCDCr-02 - 01	6	9
Cucumis variabilis		0.6	0.1
Eulalia aurea		0.4	20
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Portulaca filifolia	=DRopp01	0.2	0.1

Site Type	Releve	Site Name	TCDCR04	Date	4/11/2022
Dimensions					
Described by	Jonas Mitchell, Daniel Roocke				
Location (UTM) zone 51K					
Easting	242326	mE			
Northing	7412422	mS			
Site Characteristics					
Landform	Hillslope				
Slope	Low (1-20º)				
Aspect	South				
Condition					
Vegetation Condition	Excellent				
Disturbance Type	None discernible				
Fire Age (years)	Unknown (no evidence)				
Fire Notes	N/A				
Water Presence					
Soils					
Soil Type	Sandy Clay Loam				
Soil Colour	Orange				
Rock Type	Ironstone				
Coarse Surface Particles					
Average Size (mm)	Gravel (1-4cm)				
Abundance (%)	Moderate				
Exposed Bedrock (%)	Negligible (<5%)				

Site Photograph.



Vegetation Description	*Acacia pruinocarpa* and *Acacia trudgenii tall open shrublad* over *Senna glutinosa* subsp. *×luerssenii* scattered shrubs over *Eremophila forrestii* subsp. *forrestii* low scattered shrubs over *Triodia vanleeuwenii* very open hummock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia pruinocarpa		2.4	4
Acacia trudgeniana	TCDCr04 - 02	2.2	1
Calytrix carinata	=TCDC30	0.4	0.1
Eragrostis eriopoda		0.3	0.1
Eremophila forrestii subsp. *forrestii*	TCDCr04 - 01	0.9	1
Eriachne mucronata		0.3	0.1
Hakea lorea subsp. *lorea*		1.5	0.5
Paraneurachne muelleri		0.3	0.1
Psydrax rigidula	=TCDC18	1.5	0.1
Ptilotus astrolasius		0.3	0.5
Ptilotus calostachyus		0.9	0.1
Senna glutinosa subsp. *×luerssenii*		1.2	1
Trigastrotheca molluginea		0.1	0.1
Triodia vanleeuwenii		0.3	9

Site Type	Site Name	Date
Releve	TCDCR06	4/12/2022
Dimensions		
Described by	Jonas Mitchell, Daniel Roocke	
Location (UTM) zone 51K		
Easting	241052	mE
Northing	7411700	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Rubbish/Litter, Road access tracks, Cattle grazing	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* scattered low trees over *Acacia ?aptaneura* tall open shrubland over *Senna artemisioides* subsp. *helmsii* open shrubland over *Aristida holathera* var. *holathera* and *Enneapogon polyphyllus* tussock grassland over *Boerhavia schomburgkiana* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDCr06 - 03	5	7
Acacia tetragonophylla		1.5	0.1
Amyema fitzgeraldii	TCDCr06 - 01	0.1	0.1
Aristida holathera var. *holathera*		0.1	3
Aristida inaequiglumis		0.4	0.1
Arivela viscosa		0.2	0.1
Boerhavia schomburgkiana	=TCDC33	0.1	1
Chrysopogon fallax		0.3	0.1
Corymbia hamersleyana		8	1
Dactyloctenium radulans		0.1	0.1
Enneapogon polyphyllus	=TCED07	0.1	1
Eulalia aurea		0.2	0.1
Euploca cunninghamii	TCDCr06 - 04	0.1	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Fimbristylis sp. indet	=JM01	0.1	0.1
Gomphrena kanisii		0.1	0.1
Hakea lorea subsp. *lorea*		1.9	0.1
Hibiscus sturtii var. *campylochlamys*	=TCDC52	0.1	0.1
Indigofera linifolia		0.1	0.1
Perotis rara		0.1	0.1
Portulaca filifolia	=DR01	0.1	0.1
Ptilotus obovatus var. *obovatus*		0.3	0.1
Rhynchosia minima		0.1	0.1
Salsola australis		0.1	0.1
Senna artemisioides subsp. *helmsii*	=TCDC21-02	1.3	3
Senna artemisioides subsp. *oligophylla*		0.8	0.1
Sida fibulifera		0.1	0.1
Sida platycalyx		0.1	0.1
Tephrosia supina	TCDCr06 - 02	0.1	0.1
Tripogonella loliiformis	TCDCr06 - 05	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR08	4/12/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	246080	mE
Northing	7408933	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	North	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Cattle grazing, Frequent fire, Weed invasion	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)		
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus victrix* low open woodland over *Acacia aptaneura* scattered tall shrubs over *Eulalia aurea, Themeda triandra* and *Aristida inaequiglumis* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aptaneura		2.8	1
Aristida inaequiglumis		0.4	0.5
Eucalyptus victrix		8	5
Eulalia aurea		0.5	3
Ipomoea muelleri		0.1	0.1
Malvastrum americanum		0.8	0.1
Pterocaulon sp. indet		0.1	0.1
Sida fibulifera		0.1	0.1
Themeda triandra		0.8	3

Site Type	Site Name	Date
Releve	TCDCR10	10/14/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240722	mE
Northing	7421461	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	West	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible,	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia pachyacra, Acacia ancistrocarpa, Hakea loreus* subsp. *loreus* and *Acacia pruinocarpa* tall open shrubland over *Triodia basedowii* open hummock grassland with *Eulalia aurea* and *Paraneurachne muelleri* scattered tussock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		4	1
Acacia pachyacra		2.8	4
Acacia pruinocarpa		4.5	0.5
Anthobolus leptomerioides		1.2	0.1
Bonamia erecta		0.3	0.1
Cymbopogon ambiguus		0.4	0.1
Dicrastylis cordifolia		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1.2	0.1
Eulalia aurea		0.5	1
Hakea lorea subsp. *lorea*		4	0.5
Hibiscus sturtii var. *truncatus*	=2TCDC18	0.2	0.1
Paraneurachne muelleri		0.4	0.5
Ptilotus astrolasius		0.3	0.1
Ptilotus obovatus var. *obovatus*		1	0.1
Senna glaucifolia	TCDCr10-01	2.2	0.1
Sida cardiophylla	=2TCDC18	0.5	0.1
Solanum lasiophyllum		0.3	0.1
Streptoglossa decurrens		0.3	0.1
Triodia basedowii		0.4	25

Site Type	Site Name	Date
Releve	TCDCR11	10/15/2022
Dimensions		
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	240365	mE
Northing	7414554	mS
Site Characteristics		
Landform	Hillslope	
Slope	Low (1-20º)	
Aspect	North-west	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	Dolerite	
Coarse Surface Particles		
Average Size (mm)	Small rocks (11-20cm)	
Abundance (%)	Common	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia paraneura* tall open shrubland over *Senna glutinosa* subsp. *pruinosa* and *Acacia aneura* open shrubland over *Enneapogon polyphyllus* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		1.9	4
Acacia paraneura	=2TCDC87-05	5	5
Amyema fitzgeraldii		3	0.1
Blumea tenella		0.1	0.1
Boerhavia coccinea		0.1	0.1
Dodonaea pachyneura		1.1	0.1
Duperreya commixta		2.1	0.1
Enneapogon polyphyllus		0.2	5
Eremophila forrestii subsp. *forrestii*		1.1	0.1
Eremophila latrobei subsp. *filiformis*		1.5	0.1
Eremophila latrobei subsp. indet		1.1	0.1
Eriachne aristidea	=2TCDCQ83-06	0.1	0.1
Gomphrena kanisii		0.2	0.1
Hibiscus burtonii		0.5	0.1
Maireana villosa	=2tcdcq-02-07	0.1	0.1
Portulaca oleracea		0.1	0.1
Pterocaulon sphacelatum		0.1	0.1
Ptilotus astrolasius		0.3	0.5
Ptilotus helipteroides	TCDCr11-02	0.1	0.1
Salsola australis		0.2	0.1
Senna glutinosa subsp. *pruinosa*		1.9	5
Sida fibulifera		0.2	0.1
Stackhousia muricata		0.1	0.1
Tephrosia supina	TCDCr11-01	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR12	10/14/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	241893	mE
Northing	7419603	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aptaneura, Hakea loreus* subsp. *loreus* and *Acacia pruinocarpa* tall open shrubland over *Eremophila forrestii* subsp. *forrestii* scattered shrubs over *Triodia basedowii* open hummock grassland with *Paraneurachne muelleri* and *Aristida inaequiglumis* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aptaneura		5	3
Acacia pachyacra		0.8	0.1
Acacia pruinocarpa		3	0.5
Aristida inaequiglumis		0.5	1
Codonocarpus cotinifolius		1	0.1
Eragrostis eriopoda		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1.2	1
Euphorbia boophthona		0.6	0.1
Hakea lorea subsp. *lorea*		3	1
Hibiscus burtonii		0.7	0.1
Hibiscus sturtii var. *truncatus*	=2TCDC18	0.4	0.1
Paraneurachne muelleri		0.4	1.5
Senna artemisioides subsp. *helmsii*		1	0.1
Sida cardiophylla	=2TCDC18	0.5	0.1
Solanum centrale	=2TCDC18	0.1	0.1
Triodia basedowii		0.3	22

Site Type	Site Name	Date
Releve	TCDCR13	10/15/2022
Dimensions		
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	240465	mE
Northing	7415039	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus victrix* and *Eucalyptus camaldulensis* subsp. *refulgens* open woodland over *Corymbia hamersleyana* low scattered trees over *Gossypium australe* scattered shrubs over *Tephrosia rosea* var. *Fortescue Creeks (M.I.H. Brooker 2186)* low shrubland over *Themeda triandra, Chrysopogon fallax, Dichanthium sericeum* subsp. *polystachyum* and *Eulalia aurea* open tussock grassland with *Malvastrum americanum* very open herbland

Taxon	Collection Code	Height (m)	Cover (%)
Alysicarpus muelleri	TCDCr13-01	0.1	0.1
Aristida inaequiglumis		0.6	0.5
Calocephalus beardii	=2jm02	0.1	0.1
Chrysopogon fallax		1.1	2
Corymbia hamersleyana		6	1
Dichanthium sericeum subsp. *polystachyum*	TCDCr13-02	0.3	1
Eucalyptus camaldulensis subsp. *refulgens*		15	1
Eucalyptus victrix		12	3
Eulalia aurea		0.3	0.5
Gossypium australe		1.9	1
Indigofera linnaei		0.1	0.1
Malvastrum americanum		0.3	3
Pterocaulon sphacelatum		0.1	0.1
Sida ectogama	=tcdcq07-01	0.3	0.1
Tephrosia rosea var. *clementii*	=2tcdcq39-06	0.5	15
Themeda triandra		0.5	8
Wahlenbergia tumidifructa		0.2	0.1

Site Type	Site Name	Date
Releve	TCDCR14	10/15/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240477	mE
Northing	7417090	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	North	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* low open woodland over *Acacia tetragonophylla* scattered shrubs over *Tephrosia rosea* var. Fortescue creeks (M.I.H. Brooker 2186) low shrubland over *Eulalia aurea, Eriachne flaccida* and *Aristida contorta* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.4	0.1
Acacia tetragonophylla		1.8	1
Aristida contorta		0.2	5
Chrysopogon fallax		0.4	0.5
Corymbia candida subsp. *candida*		8	5
Eremophila longifolia		2.5	0.5
Eriachne flaccida		0.3	7
Eulalia aurea		0.5	15
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Goodenia nuda		0.1	0.1
Indigofera colutea		0.1	0.1
Malvastrum americanum		0.4	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.4	0.1
Senna artemisioides subsp. *helmsii*		1	0.1
Sida fibulifera		0.2	0.1
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)		0.8	12
Themeda triandra		0.5	0.5

Site Type	Site Name	Date
Releve	TCDCR15	10/15/2022
Dimensions		
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	240296	mE
Northing	7417214	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aneura* and *Acacia tetragonophylla tall* scattered shrubs over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Aristida contorta* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura	TCDCr15-01	3.5	1
Acacia inaequilatera		0.5	0.1
Acacia paraneura	=tcdcq87-05	3.5	0.1
Acacia pyrifolia var. *pyrifolia*		3	0.1
Acacia tetragonophylla		2.1	0.5
Aristida contorta		0.2	29
Boerhavia coccinea		0.1	0.1
Cenchrus ciliaris		0.1	0.1
Enneapogon polyphyllus		0.3	0.1
Eulalia aurea		0.1	0.1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=tcdcq83-03	0.1	0.1
Gossypium australe		1.4	0.1
Ipomoea muelleri		0.1	0.1
Portulaca filifolia		0.1	0.1
Rhagodia sp. Hamersley (M. Trudgen 17794)		2.5	0.1
Sclerolaena cornishiana		0.3	0.1
Senna artemisioides subsp. *helmsii*		1.3	1.5
Senna artemisioides subsp. *oligophylla*		1.3	0.1
Senna glaucifolia		0.2	0.1
Senna glutinosa subsp. *pruinosa*		1.2	0.1
Sida platycalyx		0.2	0.1
Solanum lasiophyllum		0.3	0.1

Site Type	Site Name	Date
Releve	TCDCR16	10/15/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240973	mE
Northing	7416592	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	North-west	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia candida* subsp. *candida* low open woodland over *Acacia tetragonophylla* and *Acacia aptaneura* scattered tall shrubs over *Isotropis atropurpurea* low open shrubland over *Aristida contorta, Eriachne flaccida* and *Eulalia aurea* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.4	0.1
Acacia aptaneura		2.5	0.5
Acacia tetragonophylla		2.2	1
Aristida contorta		0.3	50
Aristida inaequiglumis		0.4	0.1
Chrysopogon fallax		0.5	0.1
Corymbia candida subsp. *candida*		8	4
Eriachne flaccida		0.2	10
Eulalia aurea		0.3	1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Goodenia nuda	TCDCr16-02	0.2	0.1
Isotropis atropurpurea	TCDCr16-01	0.8	5
Peplidium aithocheilum	=2TCDC16	0.05	0.1
Ptilotus polystachyus		0.4	0.5
Rutidosis helichrysoides subsp. *helichrysoides*		0.4	0.1
Senna artemisioides subsp. *helmsii*		0.4	0.1
Solanum lasiophyllum		0.1	0.1
Swainsona oroboides	TCDCr16-03	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR17	10/15/2022
Dimensions		
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	239759	mE
Northing	7416833	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia tetragonophylla tall* scattered shrubs over *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Aristida contorta, Enneapogon polyphyllus, Eulalia aurea* and *Aristida inaequiglumis* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		3	0.5
Acacia tetragonophylla		2.1	1
Aristida contorta		0.2	29
Aristida inaequiglumis		0.8	0.5
Chrysopogon fallax		0.5	0.1
Enneapogon polyphyllus		0.1	4
Eragrostis setifolia		0.3	0.1
Eremophila forrestii subsp. *forrestii*		1.6	0.1
Eulalia aurea		0.1	1
Gomphrena kanisii		0.2	0.1
Goodenia nuda	=2tcdcq83-03	0.1	0.1
Sclerolaena cornishiana		0.1	0.1
Senna artemisioides subsp. *helmsii*		1.5	1.5
Sida platycalyx		0.2	0.1
Tephrosia supina	=2tcdcq89-01	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR18	10/17/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	241709	mE
Northing	7412363	mS
Site Characteristics		
Landform	Major Drainage Line	
Slope	Low (1-20º)	
Aspect	North	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sand	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus camaldulensis* subsp. *refulgens* open woodland over **Cenchrus ciliaris* and *Themeda triandra* open tussock grassland over *Pluchea rubelliflora* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Acacia pyrifolia var. *pyrifolia*		2	0.1
Cenchrus ciliaris		0.4	10
Cyperus vaginatus		0.8	0.1
Eucalyptus camaldulensis subsp. *refulgens*		12	6
Eulalia aurea		0.4	0.1
Jasminum didymum subsp. *lineare*		0.8	0.1
Malvastrum americanum		0.4	0.1
Marsilea hirsuta		0.1	0.1
Pluchea rubelliflora		0.4	1
Pterocaulon sphacelatum		0.4	0.1
Themeda triandra		0.6	3
Trichodesma zeylanicum var. *zeylanicum*		0.5	0.1

Site Type	Site Name	Date
Releve	TCDCR19	10/18/2022
Dimensions		
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	241868	mE
Northing	7409307	mS
Site Characteristics		
Landform	Sand Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	Quartz	
Coarse Surface Particles		
Average Size (mm)	Gravel (1-4cm)	
Abundance (%)	Rare	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia paraneura* and *Acacia ?aptaneura* tall open shrubland over *Senna artemisioides* subsp. *helmsii* and *Senna glaucifolia* open shrubland over *Eremophila capricornica* low open shrubland over *Aristida holathera* var. *holathera, Aristida contorta* and *Eragrostis setifolia* very open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		3.5	0.1
Acacia aneura	=tcdc103	3.5	1
Acacia paraneura	=tcdc87-05	3.5	3
Acacia tetragonophylla		1.4	0.1
Aristida contorta		0.2	1
Aristida holathera var. *holathera*		0.2	3
Eragrostis setifolia		0.3	0.5
Eremophila capricornica	=2spp11	0.5	3
Senna artemisioides subsp. *helmsii*		1.1	3
Senna glaucifolia		1.4	1
Triodia basedowii		0.3	0.1

Site Type	Site Name	Date
Releve	TCDCR20	10/18/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	245354	mE
Northing	7408333	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia pachyacra, Grevillea wickhamii* subsp. *hispidula* and *Hakea loreus* subsp. *loreus* open shrubland over *Sida ?cardiophylla* low scattered shrubs over *Triodia basedowii* open hummock grassland *Eulalia aurea* scattered tussock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia melleodora		0.5	0.1
Acacia pachyacra		1.8	2
Afrohybanthus aurantiacus		0.5	0.1
Aristida holathera var. *holathera*		0.2	0.1
Aristida inaequiglumis		0.6	0.1
Bonamia erecta		0.4	0.1
Calandrinia balonensis	TCDCr20-01	0.1	0.1
Cymbopogon ambiguus		0.4	0.1
Dicrastylis cordifolia		0.4	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis eriopoda		0.3	0.1
Eulalia aurea		0.4	1
Grevillea wickhamii subsp. *hispidula*		1.9	0.5
Hakea lorea subsp. *lorea*		1.7	0.5
Halgania solanacea var. *solanacea*	=DRopp11	0.2	0.1
Kennedia prorepens		0.4	0.5
Paraneurachne muelleri		0.4	0.1
Ptilotus polystachyus		0.2	0.1
Scaevola parvifolia subsp. *pilbarae*		0.2	0.1
Sida sp. indet		0.8	1
Triodia basedowii		0.4	15

Site Type	Site Name	Date
Releve	TCDCR21	10/20/2022
Dimensions		
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	241963	mE
Northing	7409985	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia aptaneura* tall open scrub over *Abutilon macrum* low open shrubland over **Malvastrum americanum* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.6	5
Acacia aneura	=2tcdcq02-01	0.1	0.1
Acacia aptaneura	TCDCr21-01	3.5	60
Acacia tetragonophylla		2.1	0.1
Alternanthera nodiflora		0.1	0.1
Aristida holathera var. *holathera*		0.3	0.1
Bidens bipinnata		0.1	0.1
Bonamia pilbarensis		0.1	0.1
Calocephalus beardii	=2jm02	0.1	0.1
Cenchrus ciliaris		0.1	0.1
Cheilanthes sieberi subsp. *sieberi*	=tcdc87-01	0.2	0.1
Corymbia hamersleyana		3	0.1
Cucumis variabilis		0.9	0.1
Duperreya commixta		1.5	0.1
Enneapogon caerulescens		0.3	0.1
Enneapogon polyphyllus		0.2	0.1
Eulalia aurea		0.5	0.1
Evolvulus alsinoides var. *decumbens*		0.2	0.5
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Glycine canescens		1.9	0.1
Hibiscus burtonii		0.9	0.5
Indet. sp.	=tcdc95or97	0.1	0.1
Ipomoea muelleri		0.3	0.1
Isotropis iophyta		0.3	0.1
Malvastrum americanum		0.5	1
Nicotiana occidentalis		0.3	0.1
Panicum decompositum		0.6	0.1
Paspalidium clementii		0.5	0.1
Pterocaulon sphacelatum		0.3	0.1
Ptilotus exaltatus		0.1	0.1
Ptilotus polystachyus		0.3	0.1

Rhynchosia minima		0.1	0.1
Sclerolaena cornishiana		0.3	0.1
Senna artemisioides subsp. *helmsii*		0.2	0.1
Setaria dielsii		0.4	0.1
Sida fibulifera		0.2	0.1
Solanum lasiophyllum		0.3	0.1
Synostemon rhytidospermus	=tcdc91-04	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR22	10/18/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	245590	mE
Northing	7408093	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* scattered low trees over *Acacia pachyacra* and *Acacia ancistrocarpa* scattered tall shrubs over *Triodia basedowii* and *Triodia schinzii* open hummock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.2	0.5
Acacia pachyacra		2.5	1
Acacia tetragonophylla		2	0.1
Acacia trudgeniana	TCDCr22-01	3.2	0.1
Afrohybanthus aurantiacus		0.4	0.1
Bonamia erecta		0.3	0.1
Calandrinia balonensis		0.1	0.1
Corymbia hamersleyana		8	1
Cymbopogon ambiguus		0.5	0.1
Dicrastylis cordifolia		0.3	0.1
Dysphania rhadinostachya subsp. *rhadinostachya*		0.1	0.1
Eragrostis eriopoda		0.4	0.1
Eremophila capricornica		0.5	0.1
Eulalia aurea		0.4	0.1
Gomphrena kanisii		0.3	0.1
Hakea lorea subsp. *lorea*		2.8	0.1
Halgania solanacea var. *solanacea*	=2DRopp11	0.4	0.1
Hibiscus burtonii		0.3	0.1
Paraneurachne muelleri		0.4	0.5
Ptilotus astrolasius		0.3	0.1
Ptilotus obovatus var. *obovatus*		0.9	0.1
Senna artemisioides subsp. *helmsii*		1.9	0.1
Senna glaucifolia	=2TCDC61	0.8	0.1
Triodia basedowii		0.4	25
Triodia schinzii		0.5	1

Site Type	Site Name	Date
Releve	TCDCR23	10/20/2022
Dimensions		
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	245901	mE
Northing	7407657	mS
Site Characteristics		
Landform	Hillslope	
Slope	Low (1-20º)	
Aspect	North	
Condition		
Vegetation Condition	Very Good	
Disturbance Type	Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Fire scar,Dead branches	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	Calcrete	
Coarse Surface Particles		
Average Size (mm)	Pebbles (5-10cm)	
Abundance (%)	Common	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



Vegetation Description	*Ptilotus obovatus* var. *obovatus* and *Sclerolaena cornishiana* low closed heath over *Enneapogon caerulescens* and **Cenchrus ciliaris closed* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Cenchrus ciliaris		0.5	3
Enneapogon caerulescens		0.2	32
Ptilotus obovatus var. *obovatus*		0.9	12
Salsola australis		0.2	0.5
Sclerolaena cornishiana		0.2	2.5
Senna glaucifolia		1.5	0.5
Senna glutinosa subsp. *×luerssenii*		1.5	0.5

Site Type	Site Name	Date
Releve	TCDCR24	10/19/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	243903	mE
Northing	7410660	mS
Site Characteristics		
Landform	Hardpan Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	Very common	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Acacia apteneura, Hakea loreus* subsp. *loreus* and *Psydrax latifolia* tall shrubland over *Senna artemisioides* subsp. *oligophylla* and *Eremophila forrestii* subsp. *forrestii* scattered shrubs over *Eulalia aurea, Aristida contorta* and *Arisitida inaequilglumis* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aptaneura		6	8
Aristida contorta		0.2	5
Aristida inaequiglumis		0.4	2
Cymbopogon ambiguus		0.3	0.1
Enneapogon polyphyllus		0.2	0.1
Eremophila forrestii subsp. *forrestii*		1	0.5
Eulalia aurea		0.5	8
Gomphrena kanisii		0.1	0.1
Goodenia prostrata	2TCDC33	0.1	0.1
Goodenia sp. indet		0.1	0.1
Hakea lorea subsp. *lorea*		3	1
Maireana melanocoma		0.3	0.1
Psydrax latifolia		2.5	0.5
Pterocaulon sphacelatum		0.3	0.1
Ptilotus astrolasius		0.3	0.1
Ptilotus gaudichaudii		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.4	0.1
Senna artemisioides subsp. *oligophylla*		2	0.5
Sida ectogama	TCDCr24-01	0.8	0.1
Sida platycalyx		0.2	0.1
Streptoglossa bubakii		0.4	0.1

Site Type	Site Name	Date
Releve	TCDCR25	10/18/2022
Dimensions		
Described by	Scott Pansini, Jonas Mitchell	
Location (UTM) zone 51K		
Easting	242338	mE
Northing	7409346	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	South	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Frequent fire	
Fire Age (years)	Recent (0-2yrs)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Sandy Clay	
Soil Colour	Brown	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Senna artemisioides* subsp. *helmsii* low scattered shrubs over *Aristida inaequiglumis, Aristida contorta, Chrysopogon fallax, Eriachne flaccida* and *Eulalia aurea* open tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.3	0.1
Acacia aneura	=tcdc103-01	3.5	0.5
Acacia tetragonophylla		1.9	0.1
Acacia tetragonophylla		1.6	0.1
Aristida contorta		0.2	4
Aristida inaequiglumis		0.5	4
Chrysopogon fallax		0.8	3
Eriachne flaccida		0.3	3
Eulalia aurea		0.6	3
Goodenia nuda	=tcdc83-03	0.3	0.1
Hakea lorea subsp. *lorea*		3	0.1
Paraneurachne muelleri		0.2	0.1
Pterocaulon sphacelatum		0.3	0.1
Ptilotus xerophilus	=2tcdcq41-03	0.2	0.1
Rutidosis helichrysoides subsp. *helichrysoides*	=2tcdcq07-01	0.1	0.1
Senna artemisioides subsp. *helmsii*		0.7	1
Senna artemisioides subsp. *oligophylla*		0.5	0.1
Sida fibulifera		0.2	0.5
Sida platycalyx		0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR26	10/21/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	235913	mE
Northing	7419680	mS
Site Characteristics		
Landform	Sandy/Stony Plain	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	Cattle grazing	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* low scattered trees over *Acacia aptaneura* and *Acacia ancistrocarpa* tall open shrubland over *Senna artemisioides* subsp. *oligophylla* and *Senna artemisioides* subsp. *helmsii* scattered shrubs over *Ptilotus astrolasius* and *Kennedia prorepens* low scattered shrubs over *Paraneurachne muelleri, Aristida inaquilglumis, Enneapogon polyphyllus* and *Aristida contorta* open tussock grassland over *Triodia basedowii* scattered hummock grasses

Taxon	Collection Code	Height (m)	Cover (%)
Acacia ancistrocarpa		2.2	5
Acacia aptaneura	TCDCr26-02	3	3
Afrohybanthus aurantiacus		0.4	0.1
Aristida contorta		0.1	1
Aristida inaequiglumis		0.6	5
Boerhavia coccinea		0.05	0.1
Bonamia erecta		0.2	0.1
Codonocarpus cotinifolius		2	0.1
Corymbia hamersleyana		5	0.5
Cucumis variabilis		1	0.1
Cymbopogon ambiguus		0.3	0.1
Dicrastylis cordifolia		0.2	0.1
Enneapogon polyphyllus		0.3	3
Eragrostis eriopoda		0.2	0.1
Eremophila longifolia		0.8	0.1
Eulalia aurea		0.5	0.5
Gomphrena kanisii		0.1	0.1
Hakea lorea subsp. *lorea*		0.5	0.1
Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)	TCDCr26-03	0.5	0.1
Hibiscus burtonii		0.3	0.1
Hibiscus sturtii var. *platychlamys*	TCDCr26-01	0.3	0.1
Ipomoea muelleri		0.1	0.1
Kennedia prorepens		0.4	1
Maireana melanocoma		0.3	0.1
Paraneurachne muelleri		0.4	5
Psydrax latifolia		1.5	0.1
Ptilotus astrolasius		0.5	1
Ptilotus helipteroides	TCDCr26-04	0.2	0.1
Ptilotus polystachyus		0.3	0.1
Senna artemisioides subsp. *helmsii*		1.5	1
Senna artemisioides subsp. *oligophylla*		1.6	0.5

Streptoglossa decurrens		0.5	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.8	0.1
Triodia basedowii		0.5	1

Site Type	Site Name	Date
Releve	TCDCR27	10/21/2022
Dimensions		
Described by	Jonas Mitchell	
Location (UTM) zone 51K		
Easting	235255	mE
Northing	7420280	mS
Site Characteristics		
Landform	Soak	
Slope	Flat (0º)	
Aspect	N/A	
Condition		
Vegetation Condition	Excellent	
Disturbance Type	None discernible	
Fire Age (years)	Unknown (no evidence)	
Fire Notes	N/A	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Red	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Eucalyptus xerothermica* and *Corymbia candida* subsp. *candida* low open woodland over *Eremophila longifolia* scattered tall shrubs over *Themeda triandra, Eulalia aurea* and *Aristida inaequiglumis closed* tussock grassland

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon macrum		0.8	0.1
Acacia ancistrocarpa		1.1	0.1
Anthobolus leptomerioides		1.2	0.1
Aristida contorta		0.3	0.1
Aristida inaequiglumis		1.2	1
Boerhavia coccinea		0.1	0.1
Chrysopogon fallax		1.3	0.1
Corymbia candida subsp. *candida*		9	1
Cucumis variabilis		1.3	0.1
Duperreya commixta		1.5	0.1
Enneapogon polyphyllus		0.2	0.1
Eremophila longifolia		2.5	1
Eucalyptus xerothermica		4	2
Eulalia aurea		0.6	3
Euphorbia biconvexa		0.2	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Glycine canescens		0.1	0.1
Gomphrena kanisii		0.2	0.1
Hakea lorea subsp. *lorea*		2.1	0.1
Isotropis iophyta		0.8	0.1
Malvastrum americanum		0.7	0.1
Pterocaulon sphacelatum		1.2	0.1
Ptilotus astrolasius		0.3	0.1
Rhynchosia minima		1.4	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.4	0.1
Senna artemisioides subsp. *helmsii*		0.3	0.1
Senna glaucifolia		0.4	0.1
Sida fibulifera		0.2	0.1
Solanum lasiophyllum		0.3	0.1
Themeda triandra		1.3	80
Trichodesma zeylanicum var. *zeylanicum*		1.2	0.1

Site Type	Releve	Site Name	TCDCR28	Date	10/21/2022
Dimensions					
Described by	Daniel Roocke				
Location (UTM) zone 51K					
Easting	240357	mE			
Northing	7413500	mS			
Site Characteristics					
Landform	Calcrete Plain				
Slope	Low (1-20º)				
Aspect	West				
Condition					
Vegetation Condition	Poor				
Disturbance Type	Cattle grazing, Weed invasion				
Fire Age (years)	Old (6+yrs)				
Fire Notes	Bare ground				
Water Presence					
Soils					
Soil Type	Loam				
Soil Colour	Brown				
Rock Type	Calcrete,Limestone				
Coarse Surface Particles					
Average Size (mm)	Pebbles (5-10cm)				
Abundance (%)	Moderate				
Exposed Bedrock (%)	Negligible (<5%)				

Site Photograph.



Vegetation Description	*Acacia ?apteneura* and *Acacia sclerosperma* subsp. *sclerosperama* tall shrubland over *Senna artemisioides* subsp. *helmsii, Rhagodia eremea* and *Ptilotus obovatus* subsp. *obovatus* open shrubland over **Cenchrus ciliaris* very open tussock grassland with **Malvastrum americanum* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		4	1
Acacia sclerosperma subsp. *sclerosperma*		4	12
Acacia tetragonophylla		2	0.1
Aristida contorta		0.2	0.1
Cenchrus ciliaris		0.4	8
Enchylaena tomentosa var. *tomentosa*		1.7	0.1
Enneapogon caerulescens		0.1	0.1
Enneapogon polyphyllus		0.2	0.1
Eremophila forrestii subsp. *forrestii*	=2DRopp35	0.9	0.1
Gomphrena kanisii		0.1	0.1
Ipomoea muelleri		0.1	0.1
Malvastrum americanum		0.5	0.5
Melhania oblongifolia	TCDCr28-02	0.3	0.1
Ptilotus exaltatus		0.3	0.1
Ptilotus obovatus var. *obovatus*		0.9	5
Rhagodia eremaea		1.5	0.5
Salsola australis		0.2	0.1
Sclerolaena cornishiana	=checkName	0.3	0.1
Senna artemisioides subsp. *×artemisioides*	TCDCr28-03	1	0.1
Senna artemisioides subsp. *helmsii*		1.5	1.5
Senna glutinosa subsp. *×luerssenii*		1.8	0.1
Sida fibulifera		0.1	0.1
Swainsona kingii	TCDCr28-01	0.1	0.1

Site Type	Site Name	Date
Releve	TCDCR30	10/21/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240118	mE
Northing	7413738	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	North-east	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Frequent fire, Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Bare ground,Fire scar	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* low open woodland over *Acacia sclerosperma* subsp. *sclerosperama* tall open shrubland over *Eulalia aurea, Themeda triandra, Chrysopogon fallax* and **Cenchrus ciliaris* open tussock grassland with **Malvastrum americanum* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Abutilon sp. indet		0.1	0.1
Acacia sclerosperma subsp. *sclerosperma*		3.5	8
Alternanthera nana	TCDCr30-02	0.1	0.1
Aristida holathera var. *holathera*		0.6	0.1
Aristida inaequiglumis		0.5	0.1
Cenchrus ciliaris		0.3	2
Chrysopogon fallax		0.4	1
Corymbia hamersleyana		7	4
Dichanthium sericeum subsp. *polystachyum*	=2TCDC16-01	0.4	0.5
Duperreya commixta		1	0.1
Enneapogon polyphyllus		0.2	0.1
Enneapogon robustissimus	TCDCr30-01	0.1	0.1
Eremophila longifolia		1	0.1
Eulalia aurea		0.5	5
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Gossypium australe		0.8	0.1
Indigofera colutea		0.1	0.1
Lepidium sp. indet		0.1	0.1
Malvastrum americanum		0.3	0.5
Pterocaulon sphacelatum		0.3	0.1
Ptilotus exaltatus		0.3	0.1
Rhagodia eremaea		0.5	0.1
Rhynchosia minima		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.1	0.1
Sida fibulifera		0.2	0.1
Solanum lasiophyllum		0.2	0.1
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)		0.5	0.1
Themeda triandra		0.4	3

Site Type	Site Name	Date
Releve	TCDCR32	10/21/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240122	mE
Northing	7413867	mS
Site Characteristics		
Landform	Calcrete Outcrops	
Slope	Low (1-20º)	
Aspect	North	
Condition		
Vegetation Condition	Poor	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Old (6+yrs)	
Fire Notes	Dead branches,Bare ground	
Water Presence		
Soils		
Soil Type	Sandy Clay Loam	
Soil Colour	Brown	
Rock Type	Limestone,Calcrete	
Coarse Surface Particles		
Average Size (mm)	Pebbles (5-10cm)	
Abundance (%)	Moderate	
Exposed Bedrock (%)	Limited (5-10%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* low open woodland over *Acacia sclerosperma* subsp. *sclerosperama* tall open shrubland over *Ptilotus obovatus* subsp. *obovatus,* open shrubland over **Cenchrus ciliaris* very open tussock grassland with *Melhania oblongifolia* and **Malvastrum americanum* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Acacia sclerosperma subsp. *sclerosperma*		4	7
Acacia tetragonophylla		2.5	0.1
Amaranthus undulatus		0.3	0.1
Cenchrus ciliaris		0.5	8
Corymbia hamersleyana		9	5
Cucumis variabilis		0.8	0.1
Enneapogon caerulescens		0.3	0.1
Eremophila forrestii subsp. *forrestii*		0.9	0.1
Eremophila longifolia		0.8	0.1
Malvastrum americanum		0.4	0.5
Melhania oblongifolia	TCDCr28	0.4	0.5
Portulaca oleracea		0.1	0.1
Ptilotus obovatus var. *obovatus*		0.8	6
Rhagodia eremaea		1	0.1
Rhynchosia minima		1	0.1
Senna artemisioides subsp. *helmsii*		1.2	0.1
Senna artemisioides subsp. *oligophylla*		1.1	0.1
Sida fibulifera		0.3	0.1
Trichodesma zeylanicum var. *zeylanicum*		0.5	0.1

Site Type	Site Name	Date
Releve	TCDCR34	10/21/2022
Dimensions		
Described by	Daniel Roocke	
Location (UTM) zone 51K		
Easting	240171	mE
Northing	7414514	mS
Site Characteristics		
Landform	Drainage Area/Floodplain	
Slope	Low (1-20º)	
Aspect	North	
Condition		
Vegetation Condition	Good	
Disturbance Type	Cattle grazing, Weed invasion	
Fire Age (years)	Moderate (3-5yrs)	
Fire Notes	Dead branches,Fire scar	
Water Presence		
Soils		
Soil Type	Clay Loam	
Soil Colour	Orange	
Rock Type	None discernible	
Coarse Surface Particles		
Average Size (mm)	Negligible	
Abundance (%)	None	
Exposed Bedrock (%)	Negligible (<5%)	

Site Photograph.



Vegetation Description	*Corymbia hamersleyana* low scattered trees over *Tephrosia rosea* var. Fortescue creeks (M.I.H. Brooker 2186) low scattered shrubs over *Themeda triandra, *Cenchrus ciliaris* and *Enneapogon polyphyllus* hummock grassland with *Goodenia lamprosperma* scattered herbs

Taxon	Collection Code	Height (m)	Cover (%)
Acacia aneura		0.8	0.1
Acacia sclerosperma subsp. *sclerosperma*		0.6	0.1
Cenchrus ciliaris		0.3	2
Chrysopogon fallax		0.2	0.1
Corymbia hamersleyana		5	1
Enneapogon polyphyllus		0.2	1
Eriachne flaccida		0.2	0.1
Evolvulus alsinoides var. *villosicalyx*		0.1	0.1
Goodenia lamprosperma		0.3	0.5
Gossypium australe		2	0.1
Grevillea wickhamii subsp. *hispidula*		0.5	0.1
Ipomoea sp. indet		0.2	0.1
Malvastrum americanum		0.3	0.1
Marsilea hirsuta		0.1	0.1
Panicum decompositum		0.3	0.1
Pterocaulon sphacelatum		0.5	0.1
Rhynchosia minima		0.1	0.1
Rutidosis helichrysoides subsp. *helichrysoides*		0.2	0.1
Sida fibulifera		0.2	0.1
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)		0.8	1
Themeda triandra		0.8	35
Trichodesma zeylanicum var. *zeylanicum*		0.5	0.1

Appendix I Site x Species Matrix

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
Acanthaceae	*Dicladanthera forrestii*																		X																	
Aizoaceae	*Trianthema glossostigmum*																																			
	Trianthema pilosum																																			X
	Trianthema triquetrum							X																												X
Amaranthaceae	*Aerva javanica*																																			
	Alternanthera angustifolia																																			
	Alternanthera denticulata											X									X															
	Alternanthera nana																					X								X					X	
	Alternanthera nodiflora																																			
	Amaranthus undulatus																	X	X																	
	Gomphrena cunninghamii																																			X
	Gomphrena kanisii	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X	X			X	X	X	X		X	X			X	X
	Ptilotus aervoides																																			
	Ptilotus astrolasius	X	X	X	X								X												X	X										
	Ptilotus axillaris																																			
	Ptilotus calostachyus			X																													X	X		
	Ptilotus carinatus																							X												
	Ptilotus exaltatus											X						X	X																	X
	Ptilotus fusiformis																																			
	Ptilotus gaudichaudii							X				X			X																					
	Ptilotus gomphrenoides																		X																	
	Ptilotus helipteroides											X		X																						
	Ptilotus obovatus var. *obovatus*		X									X		X	X		X	X	X					X				X	X						
	Ptilotus polystachyus			X								X		X	X				X									X		X				X	X
	Ptilotus rotundifolius																																			
	Ptilotus schwartzii var. *schwartzii*																											X	X							
	Ptilotus sp. indet					X		X	X								X				X	X				X		X						X	X
	Ptilotus xerophilus		X																																	

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
Apocynaceae	*Leichardtia australis*																																			
	Vincetoxicum lineare																																			
Araliaceae	*Trachymene oleracea* subsp. *oleracea*																																			
Asteraceae	Asteraceae sp. indet						X	X			X					X				X																
	Bidens bipinnata							X									X	X	X		X		X								X					X
	Blumea tenella											X									X	X														
	Brachyscome iberidifolia																																			X
	Calocephalus beardii													X																						
	Calocephalus knappii																					X													X	
	Calotis plumulifera																					X														
	Centipeda minima subsp. *macrocephala*											X									X															
	Centipeda thespidioides											X																								
	Chrysocephalum apiculatum subsp. *pilbarense*																														X	X				
	Chrysocephalum gilesii																														X					
	Indet. sp.																					X														
	Myriocephalus oldfieldii																																			
	Pluchea dentex											X																								
	Pluchea dunlopii																																			
	Pluchea rubelliflora																																			
	Pluchea sp. indet																																			
	Pterocaulon sp. indet		X					X										X	X		X	X	X								X					X
	Pterocaulon sphacelatum					X	X				X	X				X				X		X					X	X	X							
	Pterocaulon sphaeranthoides		X					X																												
	Rhodanthe charsleyae																					X									X					
	Rhodanthe floribunda																																			
	Roebuckiella similis																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Rutidosis helichrysoides subsp. *helichrysoides*					X		X				X										X	X					X			X					
	Schoenia cassiniana																																			
	Streptoglossa bubakii																													X						
	Streptoglossa decurrens	X	X																				X	X						X					X	
	Streptoglossa sp. indet																								X							X				
Boraginaceae	*Euploca cunninghamii*							X																												
	Euploca sp. indet		X				X			X																			X					X		
	Euploca tanythrix																																			
	Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)		X										X																							
	Halgania solanacea var. *solanacea*																																	X		
	Halgania sp. indet	X																																		
	Trichodesma zeylanicum var. *zeylanicum*	X	X	X	X			X				X					X		X												X					X
Brassicaceae	*Lepidium echinatum*																																			
	Lepidium phlebopetalum																	X																		
	Lepidium pholidogynum																																			
	Lepidium sp. indet																																			
Byblidaceae	*Byblis pilbarana*																					X														
Campanulaceae	*Lobelia* sp. indet																																			
	Wahlenbergia tumidifructa											X										X														
Capparaceae	*Capparis lasiantha*																		X																	
Caryophyllaceae	*Polycarpaea corymbosa* var. *corymbosa*							X																													
	Polycarpaea holtzei																																			
Celastraceae	*Macgregoria racemigera*																																			
	Stackhousia																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	muricata																																			
Chenopodiaceae	Chenopodiaceae sp. indet						X																													
	Chenopodium gaudichaudianum																																			
	Dysphania rhadinostachya subsp. *inflata*																																			
	Dysphania rhadinostachya subsp. *rhadinostachya*		X										X				X	X	X																	X
	Dysphania sp. indet																		X																	
	Enchylaena tomentosa var. *tomentosa*																										X									X
	Maireana melanocoma																																			X
	Maireana planifolia				X																															
	Maireana sp. indet						X			X													X					X	X							
	Maireana villosa		X												X																					
	Rhagodia eremaea									X				X			X	X	X																	
	Rhagodia sp. Hamersley (M. Trudgen 17794)	X					X							X	X											X	X							X	X
	Salsola australis													X			X	X	X																	
	Sclerolaena convexula													X			X	X	X																	
	Sclerolaena cornishiana													X				X	X								X		X							
	Sclerolaena costata											X																								
Cleomaceae	*Areocleome oxalidea*																	X												X		X		X	X
	Arivela viscosa	X				X	X	X	X	X						X	X	X	X		X		X			X	X	X	X	X		X			X
Commelinaceae	*Commelina ensifolia*																																			
Convolvulaceae	*Bonamia erecta*		X	X	X								X											X	X	X									
	Bonamia media							X																		X										
	Bonamia pilbarensis							X				X		X					X										X							
	Convolvulaceae sp. indet																																			
	Convolvulus clementii																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Duperreya commixta													X				X	X		X															
	Evolvulus alsinoides var. *decumbens*											X		X							X															
	Evolvulus alsinoides var. *villosicalyx*	X		X		X	X	X		X	X	X		X	X	X	X	X	X			X	X		X	X	X		X	X	X	X			X	X
	Indet. sp.																				X	X														
	Ipomoea calobra					X					X																									
	Ipomoea coptica																					X														
	Ipomoea diamantinensis							X																												
	Ipomoea muelleri					X	X	X			X	X										X						X							X	
	Ipomoea polymorpha																					X														X
	Ipomoea racemigera																				X	X							X							
	Ipomoea sp. indet						X			X								X	X				X				X	X			X	X				X
Cucurbitaceae	*Citrullus amarus*													X							X	X														
	Cucumis argenteus					X	X													X	X								X							
	Cucumis sp. indet																				X															
	Cucumis variabilis		X		X	X		X			X						X	X	X				X		X	X	X				X				X	X
Cyperaceae	*Bulbostylis barbata*					X	X		X		X			X	X	X				X	X	X							X					X		X
	Cyperaceae sp. indet																				X															
	Cyperus ixiocarpus																																			
	Cyperus macrostachyos											X																								
	Cyperus sp. indet																																			
	Cyperus vaginatus																																			
	Fimbristylis dichotoma						X			X						X																				
	Fimbristylis eremophila																																			
	Fimbristylis microcarya																																			
	Fimbristylis sp. indet							X															X							X		X	X		X	X
Elatinaceae	*Bergia pedicellaris*																																			
Euphorbiaceae	*Euphorbia australis* var. *hispidula*																	X	X																	
	Euphorbia australis var. indet																					X														
	Euphorbia australis																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	var. *subtomentosa*																																			
	Euphorbia biconvexa							X									X	X	X												X					X
	Euphorbia boophthona	X	X		X										X			X	X			X		X												
	Euphorbia ferdinandi var. *ferdinandi*																													X		X			X	
	Euphorbia sp. indet						X			X											X	X								X						
	Euphorbia tannensis subsp. *eremophila*													X																						
Fabaceae	*Acacia adoxa* var. *adoxa*																																	X		
	Acacia ancistrocarpa	X	X	X							X					X		X				X			X	X	X								
	Acacia aneura	X	X	X			X	5	4	X		X		X	X						X		3				X	X	X		X	X			X
	Acacia aptaneura			X		X					X	X				X									X	X		X			X				X
	Acacia ayersiana								X																			X								
	Acacia coriacea subsp. *pendens*																																			X
	Acacia dictyophleba				X																															
	Acacia hilliana																																X	X		
	Acacia inaequilatera																																			
	Acacia kempeana																																			
	Acacia macraneura																																			
	Acacia marramamba																																	X		
	Acacia melleodora																																			
	Acacia minyura						X			X													X						X							
	Acacia pachyacra				X								X		X									X												
	Acacia paraneura							X						X	X																					
	Acacia pruinocarpa	X	X										X		X									X												
	Acacia pyrifolia var. *pyrifolia*																																			
	Acacia rhodophloia																																			X
	Acacia sclerosperma subsp. *sclerosperma*																X	X	X																	X
	Acacia sericophylla											X																								
	Acacia sibirica																																			
	Acacia sp. indet																	X					X											X		

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Acacia tetragonophylla						X		X	X	X			X	X	X	X	X		X		X		X				X	X		X	X			X	X
	Acacia trudgeniana																																			
	Aeschynomene indica											X									X	X														
	Alysicarpus muelleri																																			
	Crotalaria medicaginea var. *neglecta*																					X														
	Crotalaria smithiana																					X														
	Glycine canescens											X																								
	Gompholobium polyzygum																																			
	Indet. sp.		X																																	
	Indigofera boviperda subsp. *boviperda*																		X																	
	Indigofera colutea																					X														
	Indigofera georgei				X			X					X																								
	Indigofera linifolia																					X														
	Indigofera linnaei							X													X	X														
	Indigofera monophylla																																			
	Indigofera sp. indet																											X								
	Isotropis atropurpurea																																			
	Isotropis iophyta					X	X	X		X		X				X				X								X			X	X				
	Kennedia prorepens	X		X	X																			X	X	X										
	Lotus cruentus																					X														
	Petalostylis cassioides																																X	X		
	Rhynchosia minima																	X	X			X							X							
	Senna artemisioides subsp. *×artemisioides*																						X													
	Senna artemisioides subsp. *filifolia*																X		X																	
	Senna artemisioides subsp. *helmsii*	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X				X			X	X	X	X	X	X	X			X	X
	Senna		X		X	X	X	X	X	X		X	X		X		X	X	X					X				X	X		X				X

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	artemisioides subsp. *oligophylla*																																			
	Senna artemisioides subsp. *oligophylla* x *helmsii*																									X										
	Senna artemisioides subsp. *oligophylla* x indet	X	X	X																			X													
	Senna glaucifolia								X			X		X	X			X	X																X	
	Senna glaucifolia x indet																																			
	Senna glutinosa subsp. x *luerssenii*																																	X		
	Senna glutinosa subsp. *glutinosa*																																			
	Senna glutinosa subsp. *pruinosa*																																			
	Senna notabilis		X																				X												X	X
	Senna sp. indet																						X	X				X								
	Senna stricta																																			
	Sesbania cannabina							X																						X					X	
	Swainsona kingii																																			
	Swainsona oroboides																																			
	Tephrosia rosea var. *clementii*											X																								X
	Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)																		X																	
	Tephrosia sp. indet				X																		X		X											
	Tephrosia sp. *Newman* (A.A. Mitchell PRP 29)												X	X				X					X													
	Tephrosia supina				X																		X													X
Goodeniaceae	*Brunonia australis*																																			
	Dampiera candicans																																			
	Goodenia armitiana																																			
	Goodenia azurea subsp. *hesperia*																																			
	Goodenia										X	X				X				X		X							X	X	X				X	

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	lamprosperma																																			
	Goodenia microptera			X																					X											
	Goodenia nuda		X			X		X			X	X		X									X					X		X	X	X			X	
	Goodenia prostrata													X																					X	X
	Goodenia scaevolina																																			
	Goodenia sp. indet		X			X	X			X	X											X	X						X	X						
	Goodenia stobbsiana																																X	X		
	Goodenia triodiophila												X																				X	X		
	Goodenia vilmoriniae																																			
	Indet. sp.																																			
	Scaevola parvifolia subsp. indet																							X												
	Scaevola parvifolia subsp. *pilbarae*				X								X											X												
	Scaevola sericophylla																																X	X		
	Scaevola sp. indet																									X										
Gyrostemonaceae	*Codonocarpus cotinifolius*																																			
Haloragaceae	*Haloragis gossei* var. *gossei*				X																															X
Hypericaceae	*Hypericum gramineum*																																			
Lamiaceae	*Dicrastylis cordifolia*	X	X	X	X								X											X	X	X								X		
Loranthaceae	*Amyema fitzgeraldii*											X						X																		
	Amyema sp. indet																																			
Malvaceae	*Abutilon amplum*																	X	X																	
	Abutilon cunninghamii																																			
	Abutilon fraseri subsp. *fraseri*							X																												
	Abutilon lepidum																																			X
	Abutilon macrum					X	X	X		X		X			X						X							X	X		X			X		
	Abutilon otocarpum		X																X																	
	Abutilon oxycarpum subsp. Prostrate (A.A.																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Mitchell PRP 1266)																																			
	Abutilon sp. indet																	X				X												X	X	X
	Corchorus lasiocarpus subsp. *lasiocarpus*																																			
	Corchorus sidoides subsp. *sidoides*																																			
	Corchorus sp. indet																									X										X
	Corchorus tridens																																			
	Gossypium australe																	X	X			X														
	Hibiscus burtonii	X	X	3		X		X	X			X	X	X	X			X					X				X	X				X				X
	Hibiscus coatesii																																			
	Hibiscus sp. *Gardneri* (A.L. Payne PRP 1435)																																			
	Hibiscus sp. indet					X											X																			
	Hibiscus sturtii var. *campylochlamys*																																			
	Hibiscus sturtii var. *platychlamys*			X								X																								
	Hibiscus sturtii var. *truncatus*		X					X							X									X		X							X	X		X
	Malvaceae sp. indet																							X	X	X	X						X			
	Malvastrum americanum																X	X	X			X														X
	Melhania oblongifolia																																			
	Seringia exastia																							X									3	X		
	Sida arenicola				X																															
	Sida cardiophylla		X		X								X											X		X										
	Sida echinocarpa																								X	X										
	Sida ectogama																																			
	Sida fibulifera					X		X				X					X	X	X				X				X	X		X	X	X			X	X
	Sida platycalyx		X				X	X	X		X	X		X	X					X						X	X	X	X			X				X
	Sida sp. indet	X	X		X	X	X		X	X	X					X								X		X	X	X	X							X
	Sida sp. *L* (A.M. Ashby 4202)																											X			X				X	
	Sida sp. *Pilbara* (A.A. Mitchell PRP 1543)																																			
	Sida sp. *spiciform panicles* (E. Leyland s.n. 14/8/90)																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Waltheria indica											X																								
Marsileaceae	*Marsilea hirsuta*							X			X											X														
Molluginaceae	*Trigastrotheca molluginea*																																			
Montiaceae	*Calandrinia balonensis*		X										X		X											X										
	Calandrinia sp. indet																					X														
Myrtaceae	*Calytrix carinata*																																X	X		X
	Corymbia candida subsp. *candida*										X	X				X				X	X										X				X
	Corymbia deserticola subsp. *deserticola*								X													X														
	Corymbia hamersleyana			X	X												X	X	X														X			
	Corymbia sp. indet				X																															
	Eucalyptus camaldulensis subsp. *refulgens*																				X															
	Eucalyptus victrix											X						X				X														
	Eucalyptus xerothermica																																			
Nyctaginaceae	*Boerhavia coccinea*			X													X	X	X			X	X						X						X
	Boerhavia repleta													X																						
	Boerhavia schomburgkiana							X									X		X								X						X		X	
	Boerhavia sp. indet					X	X		X												X	X			X			X								
Oleaceae	*Jasminum didymum* subsp. *lineare*																		X				X													
Orobanchaceae	*Buchnera linearis*											X										X														
Phrymaceae	*Peplidium aithocheilum*											X										X									X	X	X			X	
Phyllanthaceae	*Cathetus* sp. indet															X																				
	Dendrophyllanthus erwinii																				X															
	Nellica maderaspatensis																																			
	Synostemon rhytidospermus																																			
Plantaginaceae	*Stemodia viscosa*											X																								
Poaceae	*Amphipogon sericeus*																																X	X		
	Aristida contorta		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X	X	X		X	X	X

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Aristida holathera var. *holathera*	X	X		X			X				X	X	X									X	X	X	X	X			X	X	X	X		X	3
	Aristida inaequiglumis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X		X	X	X	X	X	X	X	X		X	X				X
	Aristida sp. indet																																X	X		
	Cenchrus ciliaris											X					X	X	X			X														X
	Chloris pectinata																																			X
	Chloris pumilio																																		X	X
	Chrysopogon fallax	X				X		X			X	X		X	X			X	X			X	X	X				X		X	X				X	X
	Cymbopogon ambiguus																									X		X								
	Cymbopogon obtectus																																			
	Cynodon convergens																																			
	Dactyloctenium radulans																X	X	X																	X
	Dichanthium sericeum subsp. *humilius*																							X												
	Dichanthium sericeum subsp. *polystachyum*																					X														
	Dichanthium sericeum subsp. *sericeum*											X																								
	Digitaria brownii											X		X	X																					
	Enneapogon caerulescens																X		X																	
	Enneapogon polyphyllus						X	X	X			X		X			X		X				X				X	X	X							X
	Enneapogon robustissimus																																			
	Eragrostis cumingii									X												X														X
	Eragrostis elongata											X																								
	Eragrostis eriopoda	X	X	X	X																			X	X	X	X						X	X		X
	Eragrostis kennedyae																																		X	
	Eragrostis pergracilis																																			
	Eragrostis setifolia					X						X	X	X	X			X																		
	Eragrostis sp. indet					X				X								X			X													X	X	
	Eragrostis tenellula											X									X														X	
	Eriachne aristidea									X												3	X													
	Eriachne flaccida										X	X																		X	X	X			X	

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Eriachne mucronata																																X	X		
	Eriachne obtusa																					X							X							
	Eriachne pulchella subsp. *pulchella*																													X						X
	Eriachne sp. indet					X	X	X		X	X					X					X	X														
	Eulalia aurea	X	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X			X	X
	Iseilema sp. indet																																			
	Iseilema vaginiflorum							X				X																							X	
	Monachather paradoxus														X																					X
	Panicum decompositum																		X		X	X									X					
	Panicum sp. indet																																			
	Paraneurachne muelleri	X	X	X	X				X	X			X	X	X			X					X	X	X	X	X	X	X				X	X		X
	Paspalidium clementii																	X																		
	Paspalidium rarum							X															X														
	Perotis rara						X	X	X	X									X			X	X														X
	Poaceae sp. indet																X								X								X	X		X
	Setaria dielsii											X																								
	Setaria surgens																X		X																	
	Sporobolus australasicus																X	X	X																	X
	Themeda avenacea											X																								
	Themeda triandra										X	X				X		X	X		X	X														X
	Tragus australianus																	X																		
	Triodia basedowii	X	X	X	X								X	X	X								X	X	X	X	X									X
	Triodia pungens																																			X
	Triodia schinzii																																X			
	Triodia sp. indet																																			
	Triodia vanleeuwenii																																X	X		
	Tripogonella loliiformis																																			
	Urochloa occidentalis var. *ciliata*																	X	X																	
	Urochloa occidentalis var. *occidentalis*																																			
	Urochloa piligera																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	Urochloa subquadripara																		X																	
Polygalaceae	*Polygala glaucifolia*																					X														
	Polygala isingii																																			
	Polygala sp. indet																																			
Portulacaceae	*Portulaca filifolia*					X	X	X	X	X	X	X		X							X						X		X		X	X			X	X
	Portulaca oleracea						X										X	X	X		X	X														X
Proteaceae	*Grevillea berryana*																																			X
	Grevillea wickhamii subsp. *hispidula*																															X	X	X		
	Hakea chordophylla			X											X											X		X								
	Hakea lorea subsp. *lorea*	X	X	X	X			X	X			X	X	X	X	X		X	X	X			X	X	X	X	X	X								
Pteridaceae	*Cheilanthes sieberi* subsp. *sieberi*							X				X		X									X													
	Cheilanthes sp. indet						X									X												X								
Rubiaceae	*Psydrax latifolia*					X		X		X													X									X				X
	Psydrax rigidula																							X												
	Synaptantha tillaeacea var. *tillaeacea*																																			
Santalaceae	*Anthobolus leptomerioides*																		X					X												
	Exocarpos sparteus																																			
	Santalum spicatum																																			
Sapindaceae	*Dodonaea pachyneura*																																			
	Dodonaea sp. indet							X															X													
Scrophulariaceae	*Eremophila capricornica*														X																					
	Eremophila exilifolia																																			
	Eremophila forrestii subsp. *forrestii*	X	X	X									X				X						X	X			X									X
	Eremophila fraseri subsp. *fraseri*					X	X	X		X		X											X									X			X	
	Eremophila lanceolata													X	X													X								
	Eremophila latrobei subsp. *filiformis*						X		X	X																										X
	Eremophila latrobei subsp.																																			

Family	Taxon	TCDC01	TCDC02	TCDC03	TCDC04	TCDC05	TCDC06	TCDC07	TCDC08	TCDC09	TCDC10	TCDC100	TCDC101	TCDC103	TCDC105	TCDC11	TCDC111	TCDC112	TCDC113	TCDC12	TCDC15	TCDC16	TCDC17	TCDC18	TCDC19	TCDC20	TCDC21	TCDC22	TCDC23	TCDC26	TCDC27	TCDC28	TCDC29	TCDC30	TCDC31	TCDC33
	indet																																			
	Eremophila latrobei subsp. *latrobei*																						X													
	Eremophila longifolia			X													X		X																	
	Eremophila sp. indet		X																														X	X		
Solanaceae	*Nicotiana occidentalis*																				X	X														
	Solanum centrale												X											X													
	Solanum lasiophyllum	X	X	X	X		X					X	X	X		X	X	X	X		X	X	X		X		X	X	X		X	X				
Stylidiaceae	Indet. sp.																					X														
	Stylidium desertorum																																			
Violaceae	*Afrohybanthus aurantiacus*	X	X	X	X			X																									X	X		X
Zygophyllaceae	*Tribulus astrocarpus*																																			
	Tribulus macrocarpus																						X	X	X		X									
	Tribulus sp. indet						X																				X									
	Tribulus suberosus																																	X		
	Tribulus terrestris																X	X	X																	

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
Acanthaceae	*Dicladanthera forrestii*																																			
Aizoaceae	*Trianthema glossostigmum*								X	X	X		X																							
	Trianthema pilosum														X																					
	Trianthema triquetrum																											X								
Amaranthaceae	*Aerva javanica*																	X																		
	Alternanthera angustifolia																																			
	Alternanthera denticulata							X	X	X						X																				
	Alternanthera nana						X								X			X																		
	Alternanthera nodiflora																										X									
	Amaranthus undulatus																		X																	
	Gomphrena cunninghamii									X								X									X				X					
	Gomphrena kanisii	X	X	X	X	X	X	X	X	X		X		X		X																				
	Ptilotus aervoides	X																																		
	Ptilotus astrolasius	X						X	X	X																										
	Ptilotus axillaris																	X	X	X	X	X		X	X		X	X	X	X	X		X	X		
	Ptilotus calostachyus			X				X	X	X	X		X	X																						
	Ptilotus carinatus																			X	X		X			X		X				X				
	Ptilotus exaltatus								X					X		X					X			X												
	Ptilotus fusiformis																											X								
	Ptilotus gaudichaudii	X	X																																	
	Ptilotus gomphrenoides																X			X							X			X	X		X	X		
	Ptilotus helipteroides	X				X										X				X																
	Ptilotus obovatus var. *obovatus*	X	X		X				X																		X			X		X	X			
	Ptilotus polystachyus	X	X						X					X		X																				
	Ptilotus rotundifolius										X							X																X		
	Ptilotus schwartzii var. *schwartzii*	X	X														X	X						X			X					X				
	Ptilotus sp. indet																			X			X			X				X	X	X	X	X		X
	Ptilotus xerophilus						X									X																				
Apocynaceae	*Leichhardtia australis*															X															X					
	Vincetoxicum lineare														X	X																				
Araliaceae	*Trachymene oleracea* subsp. *oleracea*													X		X															X		X			
Asteraceae	Asteraceae sp. indet		X	X		X	X					X	X		X																					
	Bidens bipinnata	X					X								X	X																				
	Blumea tenella									X					X	X																				
	Brachyscome iberidifolia																																			
	Calocephalus beardii									X																X							X		X	
	Calocephalus knappii													X																						
	Calotis plumulifera																																			
	Centipeda minima subsp. *macrocephala*														X	X	X	X	X								X									
	Centipeda thespidioides																X	X	X												X		X			

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
	Chrysocephalum apiculatum subsp. *pilbarense*																													X						
	Chrysocephalum gilesii		X	X		X	X											X									X		X		X					
	Indet. sp.																		X			X				X								X		
	Myriocephalus oldfieldii																		X																	
	Pluchea dentex						X								X	X			X								X				X					
	Pluchea dunlopii					X	X																													
	Pluchea rubelliflora																																			
	Pluchea sp. indet			X								X																								
	Pterocaulon sp. indet							X																												
	Pterocaulon sphacelatum			X		X	X					X			X	X																				
	Pterocaulon sphaeranthoides							X										X													X		X			
	Rhodanthe charsleyae		X			X									X	X																X			
	Rhodanthe floribunda		X			X													X							X									
	Roebuckiella similis																																			
	Rutidosis helichrysoides subsp. *helichrysoides*	X	X			X	X	X		X						X			X											X					
	Schoenia cassiniana		X														X	X	X		X			X			X				X				
	Streptoglossa bubakii		X				X																		X				X							
	Streptoglossa decurrens					X																								X	X					
	Streptoglossa sp. indet							X																												
Boraginaceae	*Euploca cunninghamii*															X																	X			
	Euploca sp. indet					X									X	X		X	X					X	X				X	X	X					
	Euploca tanythrix														X																					
	Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)								X	X			X					X												X		X			
	Halgania solanacea var. *solanacea*										X													X												
	Halgania sp. indet																																			
	Trichodesma zeylanicum var. *zeylanicum*	X							X							X																				
Brassicaceae	*Lepidium echinatum*																																X			
	Lepidium phlebopetalum																																			
	Lepidium pholidogynum																	X												X					
	Lepidium sp. indet																				X		X					X						X	
Byblidaceae	*Byblis pilbarana*															X									X										
Campanulaceae	*Lobelia* sp. indet															X																				
	Wahlenbergia tumidifructa														X	X	X	3	X				X	X			X									
Capparaceae	*Capparis lasiantha*																																			
Caryophyllaceae	*Polycarpaea corymbosa* var. *corymbosa*																																	X		X
	Polycarpaea holtzei																																			
Celastraceae	*Macgregoria racemigera*																										X									
	Stackhousia muricata								X																									X		

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
Chenopodiaceae	Chenopodiaceae sp. indet																																			
	Chenopodium gaudichaudianum																																			
	Dysphania rhadinostachya subsp. *inflata*						X																													
	Dysphania rhadinostachya subsp. *rhadinostachya*	X								X				X		X																				
	Dysphania sp. indet																	3	X								X			X	X					
	Enchylaena tomentosa var. *tomentosa*								X	X																										
	Maireana melanocoma																																			
	Maireana planifolia									X																										
	Maireana sp. indet	X			X																															
	Maireana villosa	X							X									X																		
	Rhagodia eremaea									X																										
	Rhagodia sp. Hamersley (M. Trudgen 17794)								X	X			X									X														
	Salsola australis															X																				
	Sclerolaena convexula					X				X																										
	Sclerolaena cornishiana					X				X																										
	Sclerolaena costata																														X					
Cleomaceae	*Areocleome oxalidea*																																			
	Arivela viscosa	X	X	X	X	X	X	X		X		X			X	X		X					X			X						X		X		X
Commelinaceae	*Commelina ensifolia*																																			
Convolvulaceae	*Bonamia erecta*													X																						
	Bonamia media									X				X																		X				
	Bonamia pilbarensis	X			X	X	X			X		X			X	X											X						X	X		
	Convolvulaceae sp. indet																X																			
	Convolvulus clementii						X																													
	Duperreya commixta								X							X																				
	Evolvulus alsinoides var. *decumbens*														X	X														X		X			
	Evolvulus alsinoides var. *villosicalyx*	X	3	X	X	X	X	X	X	X		X			X	X		X									X								
	Indet. sp.																													X						
	Ipomoea calobra															X	X					X					X		X			X				
	Ipomoea coptica														X			X																		
	Ipomoea diamantinensis																																			
	Ipomoea muelleri	X	X	X	X	X	X	X				X			3	X																				
	Ipomoea polymorpha									X					X	X	X	X	X								X									
	Ipomoea racemigera					X	X								X	X																				
	Ipomoea sp. indet													X																						
Cucurbitaceae	*Citrullus amarus*														X	X																				
	Cucumis argenteus		X																		X		X	X		X		X						X	
	Cucumis sp. indet																																			
	Cucumis variabilis	X				X							X			X	X	X	X										X		X		X			

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
Cyperaceae	*Bulbostylis barbata*			X	X	X	X			X	X				X				X																
	Cyperaceae sp. indet																	X												X		X			
	Cyperus ixiocarpus														X		X	X									X								
	Cyperus macrostachyos															X	X	X	X								X			X					
	Cyperus sp. indet															X	X	X		X		X			X		X		X	X	X		X			
	Cyperus vaginatus																																			
	Fimbristylis dichotoma			X	X											X													X			X			
	Fimbristylis eremophila																		X																
	Fimbristylis microcarya		X																																	
	Fimbristylis sp. indet								X	X							X	X	X						X		X		X	X	X		X			
Elatinaceae	*Bergia pedicellaris*															X	X	X	X																	
Euphorbiaceae	*Euphorbia australis* var. *hispidula*																																			
	Euphorbia australis var. indet																																			
	Euphorbia australis var. *subtomentosa*					X									X		X	3	X								X									
	Euphorbia biconvexa		X			X	X								X	X																				
	Euphorbia boophthona												X	X	X	X																				
	Euphorbia ferdinandi var. *ferdinandi*																X	X	X								X									
	Euphorbia sp. indet		X	X		X	3								X	X																				
	Euphorbia tannensis subsp. *eremophila*																		X								X		X		X		X			
Fabaceae	*Acacia adoxa* var. *adoxa*																																			
	Acacia ancistrocarpa					X							X																							
	Acacia aneura	3	X	X	X	4	X				X	X			3	6											X				X					
	Acacia aptaneura																X		X																	
	Acacia ayersiana																																			
	Acacia coriacea subsp. *pendens*																																			
	Acacia dictyophleba					X						X																								
	Acacia hilliana										X																									
	Acacia inaequilatera																			X																
	Acacia kempeana															X																				
	Acacia macraneura													3																						
	Acacia marramamba																																			
	Acacia melleodora													X																						
	Acacia minyura											X												X												
	Acacia pachyacra								X	X			X	X					X																	
	Acacia paraneura																	X													X					
	Acacia pruinocarpa								X	X	X		X					3													X		X			
	Acacia pyrifolia var. *pyrifolia*																			X	X		X	X		X	X					X		X		X
	Acacia rhodophloia								X																											
	Acacia sclerosperma subsp. *sclerosperma*																X	X	X											X					
	Acacia sericophylla					X											X	X																		

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
	Acacia sibirica								X	X																										
	Acacia sp. indet							X																												
	Acacia tetragonophylla						X	X	X	X			X							X	X			X				X				X				
	Acacia trudgeniana								X	X	X						X	3	4		X	X	X		X					X	X	X	X	X	X	X
	Aeschynomene indica						X								X	X			X	X				X		X	X	X				X				X
	Alysicarpus muelleri																																			
	Crotalaria medicaginea var. *neglecta*																				X															
	Crotalaria smithiana											X			X																					
	Glycine canescens														X	X																				
	Gompholobium polyzygum									X																										
	Indet. sp.																																			
	Indigofera boviperda subsp. *boviperda*																									X										
	Indigofera colutea																																			
	Indigofera georgei					X																														
	Indigofera linifolia														X				X																	
	Indigofera linnaei					X	X			X		X			3						X		X	X		X		X				X		X	X	
	Indigofera monophylla								X	X	X					X			X								X									
	Indigofera sp. indet							X												X			X	X				X				X			X	
	Isotropis atropurpurea																	X																		
	Isotropis iophyta	X	X	X		X	X								X	X																				
	Kennedia prorepens																																			
	Lotus cruentus																																			
	Petalostylis cassioides																																			
	Rhynchosia minima						X								X	X																				
	Senna artemisioides subsp. *×artemisioides*																	X	X	X		X						X	X							
	Senna artemisioides subsp. *filifolia*															X												X								
	Senna artemisioides subsp. *helmsii*	X			X	X				X	X		X	X		X	X	X	X								X									
	Senna artemisioides subsp. *oligophylla*	X			X	X		X	X	X				X		X																				
	Senna artemisioides subsp. *oligophylla* x *helmsii*																	X	X																	
	Senna artemisioides subsp. *oligophylla* x indet																																			
	Senna glaucifolia	X	X							X			X	X			X	X	X		X						X									
	Senna glaucifolia x indet									X																											
	Senna glutinosa subsp. x *luerssenii*								X	X			X																								
	Senna glutinosa subsp. *glutinosa*										X																										
	Senna glutinosa subsp. *pruinosa*										X																										
	Senna notabilis		X	X			X														X			X											X	
	Senna sp. indet																																			
	Senna stricta																	X	X				X				X		X		X					

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
	Sesbania cannabina																											X								
	Swainsona kingii																					X														
	Swainsona oroboides																																			
	Tephrosia rosea var. *clementii*																	X	X						X					X			X			
	Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)																			X																
	Tephrosia sp. indet					X				X		X			X	X																				
	Tephrosia sp. *Newman* (A.A. Mitchell PRP 29)	X			X	X																						X								
	Tephrosia supina											X			X		X	X	X								X					X				
Goodeniaceae	*Brunonia australis*													X																						
	Dampiera candicans																X	X																		
	Goodenia armitiana																X			X	X	X	X	X	X		X	X	X	X	X	X	X	X		
	Goodenia azurea subsp. *hesperia*																	X	X	X	X		X	X	X	X		X					X	X		
	Goodenia lamprosperma						X	X				X			X																						
	Goodenia microptera													X							X																
	Goodenia nuda	X	X			X	X	X							X	X							X	X		X				X			X	X		
	Goodenia prostrata	X				X																														
	Goodenia scaevolina																																			
	Goodenia sp. indet	X	X	X	X	X	X							X	X																					
	Goodenia stobbsiana									X	X		X															X				X				
	Goodenia triodiophila								X	X	X		X					X					X	X		X			X							
	Goodenia vilmoriniae																									X										
	Indet. sp.									X							X																			
	Scaevola parvifolia subsp. indet																																			
	Scaevola parvifolia subsp. *pilbarae*									X																										
	Scaevola sericophylla																													X						
	Scaevola sp. indet																	X			X					X		X		X		X				
Gyrostemonaceae	*Codonocarpus cotinifolius*																																			
Haloragaceae	*Haloragis gossei* var. *gossei*													X			X	X										X								
Hypericaceae	*Hypericum gramineum*																		X				X													
Lamiaceae	*Dicrastylis cordifolia*								X																					X		X					
Loranthaceae	*Amyema fitzgeraldii*																																			
	Amyema sp. indet																																	X		X
Malvaceae	*Abutilon amplum*																						X												X	
	Abutilon cunninghamii																															X				
	Abutilon fraseri subsp. *fraseri*																											X					X			
	Abutilon lepidum																	X	X			X					X					X		X		
	Abutilon macrum	X	X	X	X	X	X	X	X	X						4																				
	Abutilon otocarpum														X			X		X		X	X		X				X	X	X		X	X		
	Abutilon oxycarpum subsp. Prostrate					X	X										X													X			X			

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
	(A.A. Mitchell PRP 1266)																																			
	Abutilon sp. indet	X						X	X	X														X												
	Corchorus lasiocarpus subsp. *lasiocarpus*																							3												
	Corchorus sidoides subsp. *sidoides*								X																											
	Corchorus sp. indet																						X			X		X								
	Corchorus tridens						X								X	X							X			X								X		
	Gossypium australe					X						X			X																					
	Hibiscus burtonii	X	X			X				X				X										X												
	Hibiscus coatesii															X										X									X	
	Hibiscus sp. *Gardneri* (A.L. Payne PRP 1435)															X																				
	Hibiscus sp. indet														X																					
	Hibiscus sturtii var. *campylochlamys*					X			X	X																										
	Hibiscus sturtii var. *platychlamys*																				X		X													
	Hibiscus sturtii var. *truncatus*						X		X	X			X	X																						
	Malvaceae sp. indet								X								X		X																	
	Malvastrum americanum						X	X				X				X																				
	Melhania oblongifolia																																			
	Seringia exastia								X	X	X		X														X									
	Sida arenicola								X	X			X																							
	Sida cardiophylla													X							X		X	X		X		X							X	
	Sida echinocarpa																																			
	Sida ectogama																																			
	Sida fibulifera	X	X			X		X	X	X				X	X	X																		X		
	Sida platycalyx	X	X	X	X	X	X					X			X	X																				
	Sida sp. indet	X		X	X	X	X				X	X	X	X	X	X				X																
	Sida sp. *L* (A.M. Ashby 4202)																																	X		
	Sida sp. *Pilbara* (A.A. Mitchell PRP 1543)									X																										
	Sida sp. *spiciform panicles* (E. Leyland s.n. 14/8/90)																																			
	Waltheria indica															X		3	3			X			X		X		X	X	X		X			
Marsileaceae	*Marsilea hirsuta*																													X		X		X		
Molluginaceae	*Trigastrotheca molluginea*									X																										
Montiaceae	*Calandrinia balonensis*																			X																
	Calandrinia sp. indet																X	X																		
Myrtaceae	*Calytrix carinata*								X	X	X		X					X																		
	Corymbia candida subsp. *candida*		X	X			X	X				X		X																						
	Corymbia deserticola subsp. *deserticola*																X	X	X																	
	Corymbia hamersleyana										X		X	X		X		X	X								X				X		X			
	Corymbia sp. indet																			X				X		X	X			X		X	X	X		X
	Eucalyptus camaldulensis subsp.														X	X																				

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	refulgens																																			
	Eucalyptus victrix							X				X			X																					
	Eucalyptus xerothermica																																			
Nyctaginaceae	*Boerhavia coccinea*	X		X			X								X	X				X																
	Boerhavia repleta																																X			
	Boerhavia schomburgkiana		X					X		X														X		X	X	X	X			X	X	X		X
	Boerhavia sp. indet		X		X	X		X								X	X	X	X								X				X				
Oleaceae	*Jasminum didymum* subsp. *lineare*															X																				
Orobanchaceae	*Buchnera linearis*					X										X											X								
Phrymaceae	*Peplidium aithocheilum*		X				X																				X								
Phyllanthaceae	*Cathetus* sp. indet														X					X			X	X		X		X					X		
	Dendrophyllanthus erwinii		X				X								X	X																				
	Nellica maderaspatensis														X																					
	Synostemon rhytidospermus															X			X						X		X			X		X	X	X		
Plantaginaceae	*Stemodia viscosa*														X	X	X	X		X		X			X		X		X	X		X	X	X		
Poaceae	*Amphipogon sericeus*									X	X		X				X	X		X							X		X	X					X	
	Aristida contorta	X	X	X	X	X		X				X		X	X																					
	Aristida holathera var. *holathera*	X	X	X	X		X	X		X		X		X	3	X																				
	Aristida inaequiglumis	X	X	X	X	X	X	X	X	X		X	X	X	X	X		X	X																	
	Aristida sp. indet																X		X								X									
	Cenchrus ciliaris					X						X			X	X																				
	Chloris pectinata																																			
	Chloris pumilio									X						X																				
	Chrysopogon fallax		X			X		X						X	X	X											X			X						
	Cymbopogon ambiguus																																			
	Cymbopogon obtectus																						X												X	
	Cynodon convergens																		X																	
	Dactyloctenium radulans					X				X					X	X																				
	Dichanthium sericeum subsp. *humilius*																																			
	Dichanthium sericeum subsp. *polystachyum*							X												X												X		X		
	Dichanthium sericeum subsp. *sericeum*																																			
	Digitaria brownii		X												X	X												X			X					
	Enneapogon caerulescens																						X													
	Enneapogon polyphyllus	X	X	X	X	X	X	X	X	X					X	X	X	X	X								X									
	Enneapogon robustissimus					X											X										X									
	Eragrostis cumingii															X																				
	Eragrostis elongata														X	X																				
	Eragrostis eriopoda									X				X			X	X			X			X				X	X				X			
	Eragrostis kennedyae							X										X													X					

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
	Eragrostis pergracilis																																			
	Eragrostis setifolia	X	X		X	X										X			X			X													
	Eragrostis sp. indet																																			
	Eragrostis tenellula																X	X		X																
	Eriachne aristidea	X	X			X										X																				
	Eriachne flaccida						X	X							X															X		X				
	Eriachne mucronata										X		X																							
	Eriachne obtusa	X			X														X									X		X					
	Eriachne pulchella subsp. *pulchella*	X																																		
	Eriachne sp. indet		X	X	X		X					X																								
	Eulalia aurea	X	X	X	X	X	X	X	X	X		X	X	X	X	X		X																		
	Iseilema sp. indet																		X								X				X		X			
	Iseilema vaginiflorum																														X					
	Monachather paradoxus																																			
	Panicum decompositum						X								X				X								X									
	Panicum sp. indet							X																												
	Paraneurachne muelleri	X	X		X	X			X	X	X		X	X		X																				
	Paspalidium clementii								X	X								X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
	Paspalidium rarum															X	X	X	X	X	X		X			X	X	X				X	X	X	X	X
	Perotis rara		X	X	X	X				X					X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
	Poaceae sp. indet																																			
	Setaria dielsii																X	X	X								X				X					
	Setaria surgens																																			
	Sporobolus australasicus											X			X	X																				
	Themeda avenacea							X							X	X		X	X	X		X			X		X		X	X	X		X			
	Themeda triandra					X	X	X				X		X	X	X			X		X			X				X				X				
	Tragus australianus	X																					X													
	Triodia basedowii	X											X	X				X																		
	Triodia pungens																X	X																		
	Triodia schinzii													X																						
	Triodia sp. indet	X																	X												X					
	Triodia vanleeuwenii								X	X	X																										
	Tripogonella loliiformis				X	X	X									X																	X			
	Urochloa occidentalis var. *ciliata*																																			
	Urochloa occidentalis var. *occidentalis*																	X				X			X		X		X	X	X	X	X	X	X	
	Urochloa piligera																	X																		
	Urochloa subquadripara																X		X																	
Polygalaceae	*Polygala glaucifolia*															X			X																	
	Polygala isingii																				X		X	X		X		X				X				X
	Polygala sp. indet																																			

Family	Taxon	TCDC35	TCDC36	TCDC37	TCDC38	TCDC39	TCDC41	TCDC50	TCDC51	TCDC52	TCDC53	TCDC54	TCDC58	TCDC61	TCDC66	TCDC68	TCDC71	TCDC73	TCDC75	TCDC80	TCDC81	TCDC82	TCDC83	TCDC84	TCDC85	TCDC86	TCDC87	TCDC88	TCDC89	TCDC90	TCDC91	TCDC92	TCDC93	TCDC94	TCDC95	TCDC96
Portulacaceae	*Portulaca filifolia*	X			X	X			X	X		X			X	X																				
	Portulaca oleracea									X						X		X				X			X		X		X	X			X			
Proteaceae	*Grevillea berryana*								X		X		X						X																	
	Grevillea wickhamii subsp. *hispidula*																X																			
	Hakea chordophylla										X								X	X			X										X			
	Hakea lorea subsp. *lorea*	X			X		X	X		X	X		X	X								X			X				X	X	X		X			
Pteridaceae	*Cheilanthes sieberi* subsp. *sieberi*															X										X									X
	Cheilanthes sp. indet					X													X																	
Rubiaceae	*Psydrax latifolia*	X		X																									X				X	X		
	Psydrax rigidula								X	X																	X									
	Synaptantha tillaeacea var. *tillaeacea*																X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Santalaceae	*Anthobolus leptomerioides*																						X													
	Exocarpos sparteus												X														X						X			
	Santalum spicatum																															X		X		
Sapindaceae	*Dodonaea pachyneura*																X		X								X				X					
	Dodonaea sp. indet																																			
Scrophulariaceae	*Eremophila capricornica*								X				X	X		X				X	X	X	X	X		X		X		X		X	X	X	X	X
	Eremophila exilifolia								X	X	X					X																				
	Eremophila forrestii subsp. *forrestii*	X				X																														
	Eremophila fraseri subsp. *fraseri*			X										X			X		X																	
	Eremophila lanceolata	X				X																														
	Eremophila latrobei subsp. *filiformis*																																			
	Eremophila latrobei subsp. indet												X																							
	Eremophila latrobei subsp. *latrobei*								X	X	X																X									
	Eremophila longifolia																X	X	X													X				
	Eremophila sp. indet												X			X	X	X	X						X		X		X		X	X	X			
Solanaceae	*Nicotiana occidentalis*														X	X																				
	Solanum centrale												X							X	X	X	X	X		X						X		X	X	X
	Solanum lasiophyllum	X	X	X	X	X	X	X		X		X		X	X	X	X	X									X						X			
Stylidiaceae	Indet. sp.																									X		X								
	Stylidium desertorum																	X																		
Violaceae	*Afrohybanthus aurantiacus*	X			X				X	X	X		X	X		X											X									
Zygophyllaceae	*Tribulus astrocarpus*																X	X																		
	Tribulus macrocarpus													X																							
	Tribulus sp. indet				X	X										X		X																			
	Tribulus suberosus									X	X		X				X																				
	Tribulus terrestris																																			

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
Acanthaceae	*Dicladanthera forrestii*																														
Aizoaceae	*Trianthema glossostigmum*																														
	Trianthema pilosum																														
	Trianthema triquetrum																														
Amaranthaceae	*Aerva javanica*																														
	Alternanthera angustifolia																														
	Alternanthera denticulata																														
	Alternanthera nana																														
	Alternanthera nodiflora																														
	Amaranthus undulatus		X		X																										
	Gomphrena cunninghamii																												X		
	Gomphrena kanisii																				X										
	Ptilotus aervoides																													X	
	Ptilotus astrolasius																														
	Ptilotus axillaris		X	X				X			X				X		X					X		X		X	X	X			
	Ptilotus calostachyus																														
	Ptilotus carinatus	X					X			X	X											X		X		X	X				
	Ptilotus exaltatus																														
	Ptilotus fusiformis						X																								
	Ptilotus gaudichaudii																														
	Ptilotus gomphrenoides																				X							X	X		
	Ptilotus helipteroides																														
	Ptilotus obovatus var. *obovatus*																							X							
	Ptilotus polystachyus																														
	Ptilotus rotundifolius			X							X															X					
	Ptilotus schwartzii var. *schwartzii*							X		X												X	X	X				X		X	
	Ptilotus sp. indet	X		X												X				X	X					X					
	Ptilotus xerophilus																														
Apocynaceae	*Leichhardtia australis*																														
	Vincetoxicum lineare																														
Araliaceae	*Trachymene oleracea* subsp. *oleracea*																								X						
Asteraceae	Asteraceae sp. indet																														
	Bidens bipinnata																														
	Blumea tenella																														
	Brachyscome iberidifolia																														
	Calocephalus beardii																														
	Calocephalus knappii																														
	Calotis plumulifera																														
	Centipeda minima subsp. *macrocephala*																				X										
	Centipeda thespidioides		X	X	X						X																				

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Chrysocephalum apiculatum subsp. *pilbarense*																													
	Chrysocephalum gilesii			X									X								X									
	Indet. sp.																													
	Myriocephalus oldfieldii																													
	Pluchea dentex																													
	Pluchea dunlopii																													
	Pluchea rubelliflora																													
	Pluchea sp. indet																													
	Pterocaulon sp. indet																													
	Pterocaulon sphacelatum		X																											
	Pterocaulon sphaeranthoides																													
	Rhodanthe charsleyae		X																											
	Rhodanthe floribunda																	X												
	Roebuckiella similis																													
	Rutidosis helichrysoides subsp. *helichrysoides*								X																					
	Schoenia cassiniana		X								X		X					X			X			X	X		X		X		X
	Streptoglossa bubakii			X																										
	Streptoglossa decurrens		X																											
	Streptoglossa sp. indet																													
Boraginaceae	*Euploca cunninghamii*																													
	Euploca sp. indet		X		X									X		X									X		X		X		X
	Euploca tanythrix																													
	Halgania solanacea var. Mt Doreen (G.M. Chippendale 4206)																							X						
	Halgania solanacea var. *solanacea*									X																X				
	Halgania sp. indet																													
	Trichodesma zeylanicum var. *zeylanicum*																													
Brassicaceae	*Lepidium echinatum*							X																						
	Lepidium phlebopetalum																													
	Lepidium pholidogynum																													
	Lepidium sp. indet	X																								X				
Byblidaceae	*Byblis pilbarana*																			X		X								
Campanulaceae	*Lobelia* sp. indet																													
	Wahlenbergia tumidifructa																	X								X	X			X	X
Capparaceae	*Capparis lasiantha*																													
Caryophyllaceae	*Polycarpaea corymbosa* var. *corymbosa*																													
	Polycarpaea holtzei																													
Celastraceae	*Macgregoria racemigera*																													
	Stackhousia muricata																											X		

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
Chenopodiaceae	Chenopodiaceae sp. indet																													
	Chenopodium gaudichaudianum																													
	Dysphania rhadinostachya subsp. *inflata*																													
	Dysphania rhadinostachya subsp. *rhadinostachya*																													
	Dysphania sp. indet												X																	
	Enchylaena tomentosa var. *tomentosa*																													
	Maireana melanocoma																													
	Maireana planifolia																													
	Maireana sp. indet																													
	Maireana villosa																													
	Rhagodia eremaea																													
	Rhagodia sp. Hamersley (M. Trudgen 17794)		X																											
	Salsola australis										X																			
	Sclerolaena convexula																													
	Sclerolaena cornishiana																													
	Sclerolaena costata																													
Cleomaceae	*Areocleome oxalidea*																													
	Arivela viscosa																			X		X								
Commelinaceae	*Commelina ensifolia*																													
Convolvulaceae	*Bonamia erecta*																										X			
	Bonamia media																							X		X				
	Bonamia pilbarensis																													
	Convolvulaceae sp. indet																													
	Convolvulus clementii										X																			
	Duperreya commixta																										X	X	X	
	Evolvulus alsinoides var. *decumbens*														X															
	Evolvulus alsinoides var. *villosicalyx*							X			X												X				X			
	Indet. sp.																													
	Ipomoea calobra														X		X				X		X				X			
	Ipomoea coptica																													
	Ipomoea diamantinensis																													
	Ipomoea muelleri																													
	Ipomoea polymorpha		X		X			X																						
	Ipomoea racemigera																													
	Ipomoea sp. indet					X																								
Cucurbitaceae	*Citrullus amarus*																													
	Cucumis argenteus	X								X										X		X				X				
	Cucumis sp. indet																													
	Cucumis variabilis			X																	X									

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
Cyperaceae	*Bulbostylis barbata*																													
	Cyperaceae sp. indet																													
	Cyperus ixiocarpus			X							X										X						X		X	
	Cyperus macrostachyos			X																	X									
	Cyperus sp. indet			X	X	X		X						X		X					X						X		X		X
	Cyperus vaginatus																													
	Fimbristylis dichotoma																													
	Fimbristylis eremophila																													
	Fimbristylis microcarya																													
	Fimbristylis sp. indet			X					X						X						X					X		X			
Elatinaceae	*Bergia pedicellaris*																													
Euphorbiaceae	*Euphorbia australis* var. *hispidula*																													X
	Euphorbia australis var. indet																													
	Euphorbia australis var. *subtomentosa*																													
	Euphorbia biconvexa																													
	Euphorbia boophthona																													
	Euphorbia ferdinandi var. *ferdinandi*		X		X	X															X					X	X		X	
	Euphorbia sp. indet																													
	Euphorbia tannensis subsp. *eremophila*																													
Fabaceae	*Acacia adoxa* var. *adoxa*																													
	Acacia ancistrocarpa																													
	Acacia aneura																													
	Acacia aptaneura																													
	Acacia ayersiana																X													
	Acacia coriacea subsp. *pendens*																													
	Acacia dictyophleba		X		X																									
	Acacia hilliana																													
	Acacia inaequilatera							X																						
	Acacia kempeana																													
	Acacia macraneura																													
	Acacia marramamba																													
	Acacia melleodora																													
	Acacia minyura																													
	Acacia pachyacra																													
	Acacia paraneura			X																										
	Acacia pruinocarpa		X		X																						X			
	Acacia pyrifolia var. *pyrifolia*			X								X																		
	Acacia rhodophloia																													
	Acacia sclerosperma subsp. *sclerosperma*																													
	Acacia sericophylla																													

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Acacia sibirica																														
	Acacia sp. indet																														
	Acacia tetragonophylla	X	X		X					X												X				X	X				
	Acacia trudgeniana			X	X			X			X				X		X		X		X					X			X			X
	Aeschynomene indica		X						X			X				X					X			X		X					
	Alysicarpus muelleri																														
	Crotalaria medicaginea var. *neglecta*																														
	Crotalaria smithiana																														
	Glycine canescens																														
	Gompholobium polyzygum														X																
	Indet. sp.																														
	Indigofera boviperda subsp. *boviperda*																														
	Indigofera colutea																														
	Indigofera georgei																			X											
	Indigofera linifolia																														
	Indigofera linnaei	X								X		X								X		X									
	Indigofera monophylla		X								X				X				X												
	Indigofera sp. indet	X					X			X		X																			
	Isotropis atropurpurea														X			X													
	Isotropis iophyta																														
	Kennedia prorepens																										X	X	X	X	
	Lotus cruentus																														
	Petalostylis cassioides																														
	Rhynchosia minima																														
	Senna artemisioides subsp. *×artemisioides*							X						X	X	X	X		X		X	X			X			X		X	
	Senna artemisioides subsp. *filifolia*						X															X									
	Senna artemisioides subsp. *helmsii*																														
	Senna artemisioides subsp. *oligophylla*												X																		
	Senna artemisioides subsp. *oligophylla* x *helmsii*																														
	Senna artemisioides subsp. *oligophylla* x indet																														
	Senna glaucifolia																				X						X				
	Senna glaucifolia x indet																														
	Senna glutinosa subsp. x *luerssenii*																														
	Senna glutinosa subsp. *glutinosa*																														
	Senna glutinosa subsp. *pruinosa*													X															X		
	Senna notabilis	X																													
	Senna sp. indet			X				X																							
	Senna stricta			X									X																		
	Sesbania cannabina																														

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Swainsona kingii																														
	Swainsona oroboides		X													X															
	Tephrosia rosea var. *clementii*		X																		X						X				
	Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)																			X						X					
	Tephrosia sp. indet																														
	Tephrosia sp. *Newman* (A.A. Mitchell PRP 29)																														
	Tephrosia supina			X				X													X						X		X	X	X
Goodeniaceae	*Brunonia australis*																											X			
	Dampiera candicans																														
	Goodenia armitiana			X				X				X		X	X	X	X		X		X	X			X	X	X	X		X	
	Goodenia azurea subsp. *hesperia*			X				X							X									X	X	X				X	
	Goodenia lamprosperma																														
	Goodenia microptera																														
	Goodenia nuda	X		X						X					X				X			X	X				X				
	Goodenia prostrata																														
	Goodenia scaevolina						X																X				X				
	Goodenia sp. indet																														
	Goodenia stobbsiana										X				X																
	Goodenia triodiophila																														
	Goodenia vilmoriniae																														
	Indet. sp.																														
	Scaevola parvifolia subsp. indet																														
	Scaevola parvifolia subsp. *pilbarae*																										X				
	Scaevola sericophylla															X															
	Scaevola sp. indet												X																		
Gyrostemonaceae	*Codonocarpus cotinifolius*													X															X		X
Haloragaceae	*Haloragis gossei* var. *gossei*																														
Hypericaceae	*Hypericum gramineum*																														
Lamiaceae	*Dicrastylis cordifolia*		X					X			X						X														
Loranthaceae	*Amyema fitzgeraldii*																														
	Amyema sp. indet																														
Malvaceae	*Abutilon amplum*																														
	Abutilon cunninghamii																														
	Abutilon fraseri subsp. *fraseri*																														
	Abutilon lepidum		X		X																										X
	Abutilon macrum																														
	Abutilon otocarpum		X	X	X									X	X	X	X								X						
	Abutilon oxycarpum subsp. Prostrate (A.A. Mitchell PRP 1266)																							X							

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Abutilon sp. indet																													
	Corchorus lasiocarpus subsp. *lasiocarpus*																						X							
	Corchorus sidoides subsp. *sidoides*																													
	Corchorus sp. indet	X																												
	Corchorus tridens																													
	Gossypium australe																													
	Hibiscus burtonii																													
	Hibiscus coatesii	X																		X										
	Hibiscus sp. *Gardneri* (A.L. Payne PRP 1435)																													
	Hibiscus sp. indet																													
	Hibiscus sturtii var. *campylochlamys*																													
	Hibiscus sturtii var. *platychlamys*											X													X					
	Hibiscus sturtii var. *truncatus*																													
	Malvaceae sp. indet		X																											
	Malvastrum americanum																													
	Melhania oblongifolia																													
	Seringia exastia																													
	Sida arenicola																													
	Sida cardiophylla	X								X										X		X				X				
	Sida echinocarpa																													
	Sida ectogama							X			X																			
	Sida fibulifera																													
	Sida platycalyx																													
	Sida sp. indet																													
	Sida sp. *L* (A.M. Ashby 4202)																													
	Sida sp. *Pilbara* (A.A. Mitchell PRP 1543)																													
	Sida sp. *spiciform panicles* (E. Leyland s.n. 14/8/90)																													
	Waltheria indica		X	X										X		X					X				X		X			
Marsileaceae	*Marsilea hirsuta*		X																											
Molluginaceae	*Trigastrotheca molluginea*																													
Montiaceae	*Calandrinia balonensis*																											X		
	Calandrinia sp. indet																													
Myrtaceae	*Calytrix carinata*																													
	Corymbia candida subsp. *candida*																													
	Corymbia deserticola subsp. *deserticola*																													
	Corymbia hamersleyana												X		X													X		X
	Corymbia sp. indet										X	X									X	X				X				
	Eucalyptus camaldulensis subsp. *refulgens*																													
	Eucalyptus victrix																													

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Eucalyptus xerothermica																														
Nyctaginaceae	*Boerhavia coccinea*							X																							
	Boerhavia repleta																								X						
	Boerhavia schomburgkiana									X		X																			
	Boerhavia sp. indet								X				X	X				X			X						X	X	X	X	X
Oleaceae	*Jasminum didymum* subsp. *lineare*																										X		X		
Orobanchaceae	*Buchnera linearis*																														
Phrymaceae	*Peplidium aithocheilum*																														
Phyllanthaceae	*Cathetus* sp. indet	X								X		X																			
	Dendrophyllanthus erwinii																														
	Nellica maderaspatensis												X											X							
	Synostemon rhytidospermus			X				X	X		X			X							X				X		X	X	X	X	X
Plantaginaceae	*Stemodia viscosa*		X					X							X		X							X	X						
Poaceae	*Amphipogon sericeus*																			X											
	Aristida contorta																														
	Aristida holathera var. *holathera*																														
	Aristida inaequiglumis																														
	Aristida sp. indet																														
	Cenchrus ciliaris																														
	Chloris pectinata																	X													X
	Chloris pumilio																														
	Chrysopogon fallax						X																								
	Cymbopogon ambiguus																														
	Cymbopogon obtectus	X																		X		X									
	Cynodon convergens																														
	Dactyloctenium radulans																														
	Dichanthium sericeum subsp. *humilius*						X																								
	Dichanthium sericeum subsp. *polystachyum*		X	X	X	X								X		X											X				
	Dichanthium sericeum subsp. *sericeum*																														
	Digitaria brownii			X				X					X								X	X				X			X	X	X
	Enneapogon caerulescens																														
	Enneapogon polyphyllus												X					X													
	Enneapogon robustissimus								X				X																		
	Eragrostis cumingii		X		X																						X				
	Eragrostis elongata																														
	Eragrostis eriopoda		X								X				X											X	X				
	Eragrostis kennedyae			X																											
	Eragrostis pergracilis							X																							
	Eragrostis setifolia																														

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
	Eragrostis sp. indet																														
	Eragrostis tenellula																	X													
	Eriachne aristidea																														
	Eriachne flaccida																														
	Eriachne mucronata																														
	Eriachne obtusa															X															
	Eriachne pulchella subsp. *pulchella*																														
	Eriachne sp. indet																														
	Eulalia aurea																														
	Iseilema sp. indet																														
	Iseilema vaginiflorum																				X										
	Monachather paradoxus																														
	Panicum decompositum																														
	Panicum sp. indet																														
	Paraneurachne muelleri																														
	Paspalidium clementii		X	X		X								X	X	X	X		X					X	X	X	X	X			
	Paspalidium rarum	X	X	X				X											X	X	X								X		
	Perotis rara	X	X	X				X	X			X	X			X	X			X				X	X	X	X		X		
	Poaceae sp. indet																														
	Setaria dielsii			X											X			X			X		X					X	X	X	X
	Setaria surgens																														
	Sporobolus australasicus																														
	Themeda avenacea			X		X		X					X	X		X	X								X		X		X		X
	Themeda triandra									X										X		X		X		X					
	Tragus australianus																														
	Triodia basedowii																														
	Triodia pungens							X																							
	Triodia schinzii																														
	Triodia sp. indet												X																X		
	Triodia vanleeuwenii																														
	Tripogonella loliiformis																														
	Urochloa occidentalis var. *ciliata*																				X		X					X		X	
	Urochloa occidentalis var. *occidentalis*		X	X				X			X				X		X				X			X		X	X	X	X		X
	Urochloa piligera			X																									X		
	Urochloa subquadripara																														
Polygalaceae	*Polygala glaucifolia*																														
	Polygala isingii						X					X								X		X				X					
	Polygala sp. indet				X																										
Portulacaceae	*Portulaca filifolia*		X																												
	Portulaca oleracea	X		X													X		X												

Family	Taxon	TCDC97	TCDC98	TCDC99	TCDCR01	TCDCR02	TCDCR04	TCDCR06	TCDCR08	TCDCr10	TCDCr11	TCDCr12	TCDCr13	TCDCr14	TCDCr15	TCDCr16	TCDCr17	TCDCr18	TCDCr19	TCDCr20	TCDCr21	TCDCr22	TCDCr23	TCDCr24	TCDCr25	TCDCr26	TCDCr27	TCDCr28	TCDCr30	TCDCr32	TCDCr34
Proteaceae	*Grevillea berryana*																														
	Grevillea wickhamii subsp. *hispidula*																														
	Hakea chordophylla		X								X																				
	Hakea lorea subsp. *lorea*		X		X									X		X									X						X
Pteridaceae	*Cheilanthes sieberi* subsp. *sieberi*						X																								
	Cheilanthes sp. indet																														
Rubiaceae	*Psydrax latifolia*																														
	Psydrax rigidula																														
	Synaptantha tillaeacea var. *tillaeacea*	X	X	X	X	X		X	X	X			X	X	X	X	X	X		X	X	X		X	X	X	X		X		
Santalaceae	*Anthobolus leptomerioides*																														
	Exocarpos sparteus																														
	Santalum spicatum																														
Sapindaceae	*Dodonaea pachyneura*																				X										X
	Dodonaea sp. indet																														
Scrophulariaceae	*Eremophila capricornica*	X					X			X		X								X		X			X	X					
	Eremophila exilifolia																				X										
	Eremophila forrestii subsp. *forrestii*																														
	Eremophila fraseri subsp. *fraseri*							X																							
	Eremophila lanceolata																														
	Eremophila latrobei subsp. *filiformis*																				X										
	Eremophila latrobei subsp. indet																														
	Eremophila latrobei subsp. *latrobei*		X																												
	Eremophila longifolia																														
	Eremophila sp. indet			X					X				X	X				X									X		X		X
Solanaceae	*Nicotiana occidentalis*																														
	Solanum centrale	X								X		X							X	X		X				X					
	Solanum lasiophyllum																														
Stylidiaceae	Indet. sp.																				X										
	Stylidium desertorum																														
Violaceae	*Afrohybanthus aurantiacus*						X																								
Zygophyllaceae	*Tribulus astrocarpus*							X																							
	Tribulus macrocarpus																														
	Tribulus sp. indet																														
	Tribulus suberosus																														
	Tribulus terrestris																														

Appendix J Priority Flora Recorded within the Survey Area

Significant Flora	Photograph
Eremophila capricornica (P1) Perennial shrub with mauve flowers. Hardpan plains	
Ipomoea racemigera (P2) Creeping annual, herb or climber with white flowers. Drainage line, flats with silty loam soil.	
Crotalaria smithiana (P3) Annual herb to 0.4 m high, with yellow flowers. Floodplain.	

Significant Flora	Photograph
Rhagodia sp. Hamersley (M. Trudgen 17794) (P3) Perennial shrub, sometimes scrambling to 4 m high. Small lanceolate leaves often heavily browsed and not aromatic. Fruit are small red drupelets. Plain/Undulating plain of red / brown sandy clay soil over ironstone, floodplain, Alluvial plain, Minor drainage.	 Habit  Habitat

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
Eremophila capricornica	TCDC51	1	241947	7411044
	TCDC58	4	242297	7407630
	TCDC58	13	242297	7407630
	TCDC61	18	245466	7408871
	TCDC61	9	245466	7408871
	TCDC68	1	241641	7407684
	TCDC86	5	245545	7408488
	TCDC96	46	246598	7409236
	TCDC88	1	245568	7407911
	TCDC93	1	239152	7414112
	TCDC94	4	245108	7409448
	TCDC105	38	242523	7409461
	TCDCr19	30	241868	7409307
	TCDCr22	3	245590	7408093
	Opportunistic/Targeted	50	241913	7407721
	Opportunistic/Targeted	30	242018	7407608
	Opportunistic/Targeted	20	242268	7407602
	Opportunistic/Targeted	4	245155	7408783
	Opportunistic/Targeted	15	245228	7408819
	Opportunistic/Targeted	3	245526	7408910
	Opportunistic/Targeted	15	245625	7408887
	Opportunistic/Targeted	3	245739	7408886
	Opportunistic/Targeted	20	245456	7408986
	Opportunistic/Targeted	18	245449	7409064
	Opportunistic/Targeted	16	245442	7409140
	Opportunistic/Targeted	17	245417	7409204
	Opportunistic/Targeted	12	245371	7409271
	Opportunistic/Targeted	8	245355	7409363
	Opportunistic/Targeted	5	242011	7409453
	Opportunistic/Targeted	3	241948	7409291
	Opportunistic/Targeted	6	241956	7409500
	Opportunistic/Targeted	1	241786	7412052
	Opportunistic/Targeted	2	241689	7411192
	Opportunistic/Targeted	14	241655	7411231
	Opportunistic/Targeted	25	245584	7408951
	Opportunistic/Targeted	3	241489	7409537
	Opportunistic/Targeted	1	245630	7409011
	Opportunistic/Targeted	6	245547	7408777
	Opportunistic/Targeted	5	245545	7409091
	Opportunistic/Targeted	7	241435	7409382
	Opportunistic/Targeted	19	246454	7408270
	Opportunistic/Targeted	5	245622	7408735
	Opportunistic/Targeted	24	245677	7408691
	Opportunistic/Targeted	2	241548	7409419
	Opportunistic/Targeted	6	245493	7409178
	Opportunistic/Targeted	1	241602	7409469
	Opportunistic/Targeted	8	245360	7409196
	Opportunistic/Targeted	1	241629	7409494
	Opportunistic/Targeted	33	245740	7408643
	Opportunistic/Targeted	15	241718	7409517

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	21	241759	7409566
	Opportunistic/Targeted	1	241759	7409566
	Opportunistic/Targeted	16	245819	7408584
	Opportunistic/Targeted	3	244937	7409032
	Opportunistic/Targeted	1	244967	7408926
	Opportunistic/Targeted	8	245857	7408470
	Opportunistic/Targeted	5	245257	7408880
	Opportunistic/Targeted	1	245357	7408954
	Opportunistic/Targeted	21	245610	7408394
	Opportunistic/Targeted	12	245504	7408489
	Opportunistic/Targeted	11	245472	7408559
	Opportunistic/Targeted	7	245422	7408717
	Opportunistic/Targeted	8	245442	7408781
	Opportunistic/Targeted	8	245297	7408655
	Opportunistic/Targeted	8	245335	7408604
	Opportunistic/Targeted	1	245428	7408527
	Opportunistic/Targeted	4	241930	7409657
	Opportunistic/Targeted	1	241947	7409580
	Opportunistic/Targeted	1	241884	7409497
	Opportunistic/Targeted	1	241875	7409427
	Opportunistic/Targeted	47	241890	7409416
	Opportunistic/Targeted	92	246246	7409628
	Opportunistic/Targeted	14	246520	7408574
	Opportunistic/Targeted	118	246058	7407789
	Opportunistic/Targeted	134	245894	7407611
	Opportunistic/Targeted	82	245912	7407579
	Opportunistic/Targeted	57	245957	7407496
	Opportunistic/Targeted	1	246303	7407211
	Opportunistic/Targeted	12	246667	7407278
	Opportunistic/Targeted	90	241859	7409313
	Opportunistic/Targeted	33	241889	7409370
	Opportunistic/Targeted	35	241932	7409211
	Opportunistic/Targeted	5	241884	7409195
	Opportunistic/Targeted	19	241985	7409190
	Opportunistic/Targeted	20	242499	7409423
	Opportunistic/Targeted	17	245665	7408325
	Opportunistic/Targeted	28	245685	7408232
	Opportunistic/Targeted	23	246214	7409692
	Opportunistic/Targeted	46	246549	7408762
	Opportunistic/Targeted	6	246553	7408673
	Opportunistic/Targeted	8	242413	7408371
	Opportunistic/Targeted	1	245614	7407862
	Opportunistic/Targeted	1	242094	7407858
	Opportunistic/Targeted	41	246622	7409034
	Opportunistic/Targeted	4	242026	7407879
	Opportunistic/Targeted	1	241979	7407846
	Opportunistic/Targeted	27	241870	7407864
	Opportunistic/Targeted	15	241925	7407825
	Opportunistic/Targeted	5	241771	7407809
	Opportunistic/Targeted	35	241546	7407930

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	18	241508	7407965
	Opportunistic/Targeted	7	243686	7411933
	Opportunistic/Targeted	21	243718	7411925
	Opportunistic/Targeted	78	243861	7411896
	Opportunistic/Targeted	37	243957	7411761
	Opportunistic/Targeted	7	246174	7409865
	Opportunistic/Targeted	8	246185	7409823
	Opportunistic/Targeted	8	246190	7409746
	Opportunistic/Targeted	95	246250	7409577
	Opportunistic/Targeted	62	246255	7409527
	Opportunistic/Targeted	48	246269	7409483
	Opportunistic/Targeted	52	246295	7409443
	Opportunistic/Targeted	18	246328	7409359
	Opportunistic/Targeted	9	246583	7408990
	Opportunistic/Targeted	18	246560	7408823
	Opportunistic/Targeted	1	246246	7407316
	Opportunistic/Targeted	35	246195	7409894
	Opportunistic/Targeted	1	243891	7411016
	Opportunistic/Targeted	1	246163	7409967
	Opportunistic/Targeted	1	243772	7411845
	Opportunistic/Targeted	1	243805	7410861
	Opportunistic/Targeted	150	243524	7411031
	Opportunistic/Targeted	80	243610	7411008
	Opportunistic/Targeted	200	243561	7410987
	Opportunistic/Targeted	250	243476	7410999
	Opportunistic/Targeted	1	243378	7411044
	Opportunistic/Targeted	100	243356	7411054
	Opportunistic/Targeted	1	246165	7409933
	Opportunistic/Targeted	19	246254	7409833
	Opportunistic/Targeted	1	246318	7409749
	Opportunistic/Targeted	30	246343	7409654
	Opportunistic/Targeted	18	246362	7409539
	Opportunistic/Targeted	13	246422	7409443
	Opportunistic/Targeted	18	246521	7409376
	Opportunistic/Targeted	50	246616	7409272
	Opportunistic/Targeted	17	246711	7409188
	Opportunistic/Targeted	4	245396	7409338
	Opportunistic/Targeted	1	245225	7409469
	Opportunistic/Targeted	1	245192	7409490
	Opportunistic/Targeted	8	245355	7409261
	Opportunistic/Targeted	7	245319	7409189
	Opportunistic/Targeted	1	246765	7409139
	Opportunistic/Targeted	2	245067	7409357
	Opportunistic/Targeted	10	246811	7409107
	Opportunistic/Targeted	9	246830	7409144
	Opportunistic/Targeted	22	246668	7408937
	Opportunistic/Targeted	38	246651	7408854
	Opportunistic/Targeted	23	246668	7408737
	Opportunistic/Targeted	15	246670	7408633
	Opportunistic/Targeted	12	246582	7408954

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	28	246622	7408496
	Opportunistic/Targeted	14	246602	7408380
	Opportunistic/Targeted	32	246589	7408278
	Opportunistic/Targeted	42	246585	7408180
	Opportunistic/Targeted	35	246567	7408084
	Opportunistic/Targeted	16	246541	7408002
	Opportunistic/Targeted	9	245314	7409413
	Opportunistic/Targeted	6	245244	7409166
	Opportunistic/Targeted	3	245292	7409213
	Opportunistic/Targeted	3	245399	7409331
	Opportunistic/Targeted	15	245457	7409252
	Opportunistic/Targeted	3	245517	7409132
	Opportunistic/Targeted	56	246354	7409264
	Opportunistic/Targeted	42	246420	7409215
	Opportunistic/Targeted	54	246484	7409186
	Opportunistic/Targeted	78	246558	7409174
	Opportunistic/Targeted	65	245924	7407513
	Opportunistic/Targeted	15	246793	7409122
	Opportunistic/Targeted	50	246581	7409369
	Opportunistic/Targeted	25	246448	7409444
	Opportunistic/Targeted	50	246277	7409562
	Opportunistic/Targeted	15	246189	7409661
	Opportunistic/Targeted	25	243310	7411102
	Opportunistic/Targeted	1	243323	7411071
	Opportunistic/Targeted	10	243383	7411022
	Opportunistic/Targeted	127	243492	7411030
	Opportunistic/Targeted	20	243457	7410938
	Opportunistic/Targeted	50	241913	7407721
Ipomoea racemigera	TCDC15	1	238715	7419945
	TCDC16	1	238893	7419851
	TCDC23	1	240060	7418748
	TCDC39	1	237815	7414600
	TCDC41	1	238447	7415961
	TCDC41	1	238447	7415961
	TCDC66	1	246295	7407971
	TCDC68	1	241641	7407684
	TCDC71	105	241721	7412111
	TCDC73	1	240113	7414603
	TCDC75	7	238942	7419280
	Opportunistic/Targeted	3	241656	7411154
	Opportunistic/Targeted	2	241695	7412038
	Opportunistic/Targeted	2	241777	7411844
	Opportunistic/Targeted	3	241753	7411721
	Opportunistic/Targeted	1	241730	7411638
	Opportunistic/Targeted	10	241715	7411616
	Opportunistic/Targeted	8	241650	7411498
	Opportunistic/Targeted	5	241636	7411455
	Opportunistic/Targeted	1	241642	7411388
	Opportunistic/Targeted	18	241459	7412582
	Opportunistic/Targeted	2	241661	7411325

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	22	241420	7412617
	Opportunistic/Targeted	10	241658	7411285
	Opportunistic/Targeted	10	241657	7411273
	Opportunistic/Targeted	8	241579	7412559
	Opportunistic/Targeted	11	241633	7412534
	Opportunistic/Targeted	11	241732	7412505
	Opportunistic/Targeted	25	242180	7409742
	Opportunistic/Targeted	12	241738	7412435
	Opportunistic/Targeted	5	241649	7411178
	Opportunistic/Targeted	2	241678	7411167
	Opportunistic/Targeted	35	242107	7409623
	Opportunistic/Targeted	5	241679	7411274
	Opportunistic/Targeted	20	241680	7411308
	Opportunistic/Targeted	8	242032	7409518
	Opportunistic/Targeted	20	241684	7411369
	Opportunistic/Targeted	2	241790	7411722
	Opportunistic/Targeted	8	241972	7409376
	Opportunistic/Targeted	27	241972	7409284
	Opportunistic/Targeted	30	241954	7409305
	Opportunistic/Targeted	15	241945	7409406
	Opportunistic/Targeted	20	242188	7409777
	Opportunistic/Targeted	25	242191	7409800
	Opportunistic/Targeted	50	242199	7409854
	Opportunistic/Targeted	100	242159	7409991
	Opportunistic/Targeted	8	242070	7410120
	Opportunistic/Targeted	100	241937	7410106
	Opportunistic/Targeted	100	241887	7410092
	Opportunistic/Targeted	5	241892	7410024
	Opportunistic/Targeted	15	241982	7410076
	Opportunistic/Targeted	2	242126	7409944
	Opportunistic/Targeted	25	242166	7409815
	Opportunistic/Targeted	1	241917	7412231
Crotalaria smithiana	TCDC16	2	238893	7419851
	TCDC16	1	238893	7419851
	TCDC54	6	246381	7407515
	TCDC66	6	246295	7407971
	Opportunistic/Targeted	5	246295	7407660
	Opportunistic/Targeted	1	246350	7407570
	Opportunistic/Targeted	6	246406	7407711
	Opportunistic/Targeted	2	246401	7407667
	Opportunistic/Targeted	2	246410	7407618
	Opportunistic/Targeted	1	246425	7407577
	Opportunistic/Targeted	66	246455	7407284
	Opportunistic/Targeted	6	246482	7407211
	Opportunistic/Targeted	12	246416	7407323
	Opportunistic/Targeted	1	241970	7412282
	Opportunistic/Targeted	7	241528	7419680
Rhagodia sp. Hamersley (M. Trudgen 17794)	TCDC01	1	235769	7421661
	TCDC06	1	236859	7420471
	TCDC20	1	241943	7420113

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	TCDC20	1	241943	7420113
	TCDC21	1	241245	7419460
	TCDC31	1	240820	7416976
	TCDC33	15	240991	7415649
	TCDC33	12	240991	7415649
	TCDC51	1	241947	7411044
	TCDC51	1	241947	7411044
	TCDC52	2	242378	7411017
	TCDC52	1	242378	7411017
	TCDC58	1	242297	7407630
	TCDC90	1	242612	7410144
	TCDC92	5	243882	7411007
	TCDC103	3	241643	7409782
	TCDC105	1	242523	7409461
	TCDCr15	1	240296	7417214
	Opportunistic/Targeted	1	235524	7420789
	Opportunistic/Targeted	1	240847	7417727
	Opportunistic/Targeted	2	240888	7417795
	Opportunistic/Targeted	5	241367	7419554
	Opportunistic/Targeted	6	241359	7419491
	Opportunistic/Targeted	5	241038	7415648
	Opportunistic/Targeted	1	234962	7416650
	Opportunistic/Targeted	1	242421	7412373
	Opportunistic/Targeted	3	241886	7411066
	Opportunistic/Targeted	15	241456	7411358
	Opportunistic/Targeted	1	241396	7411425
	Opportunistic/Targeted	1	245374	7409348
	Opportunistic/Targeted	2	242438	7411027
	Opportunistic/Targeted	4	242012	7411011
	Opportunistic/Targeted	2	241779	7411070
	Opportunistic/Targeted	1	241728	7411063
	Opportunistic/Targeted	1	242044	7407570
	Opportunistic/Targeted	1	241903	7407726
	Opportunistic/Targeted	1	242870	7411376
	Opportunistic/Targeted	3	242011	7409453
	Opportunistic/Targeted	3	241972	7409376
	Opportunistic/Targeted	2	241945	7409406
	Opportunistic/Targeted	4	241956	7409500
	Opportunistic/Targeted	3	242118	7409683
	Opportunistic/Targeted	3	242934	7411457
	Opportunistic/Targeted	2	242236	7409893
	Opportunistic/Targeted	4	242205	7409977
	Opportunistic/Targeted	2	242019	7410052
	Opportunistic/Targeted	2	235353	7420603
	Opportunistic/Targeted	2	235525	7419702
	Opportunistic/Targeted	1	235479	7419671
	Opportunistic/Targeted	1	235541	7419626
	Opportunistic/Targeted	1	242009	7420032
	Opportunistic/Targeted	8	241911	7419901
	Opportunistic/Targeted	1	241781	7419705

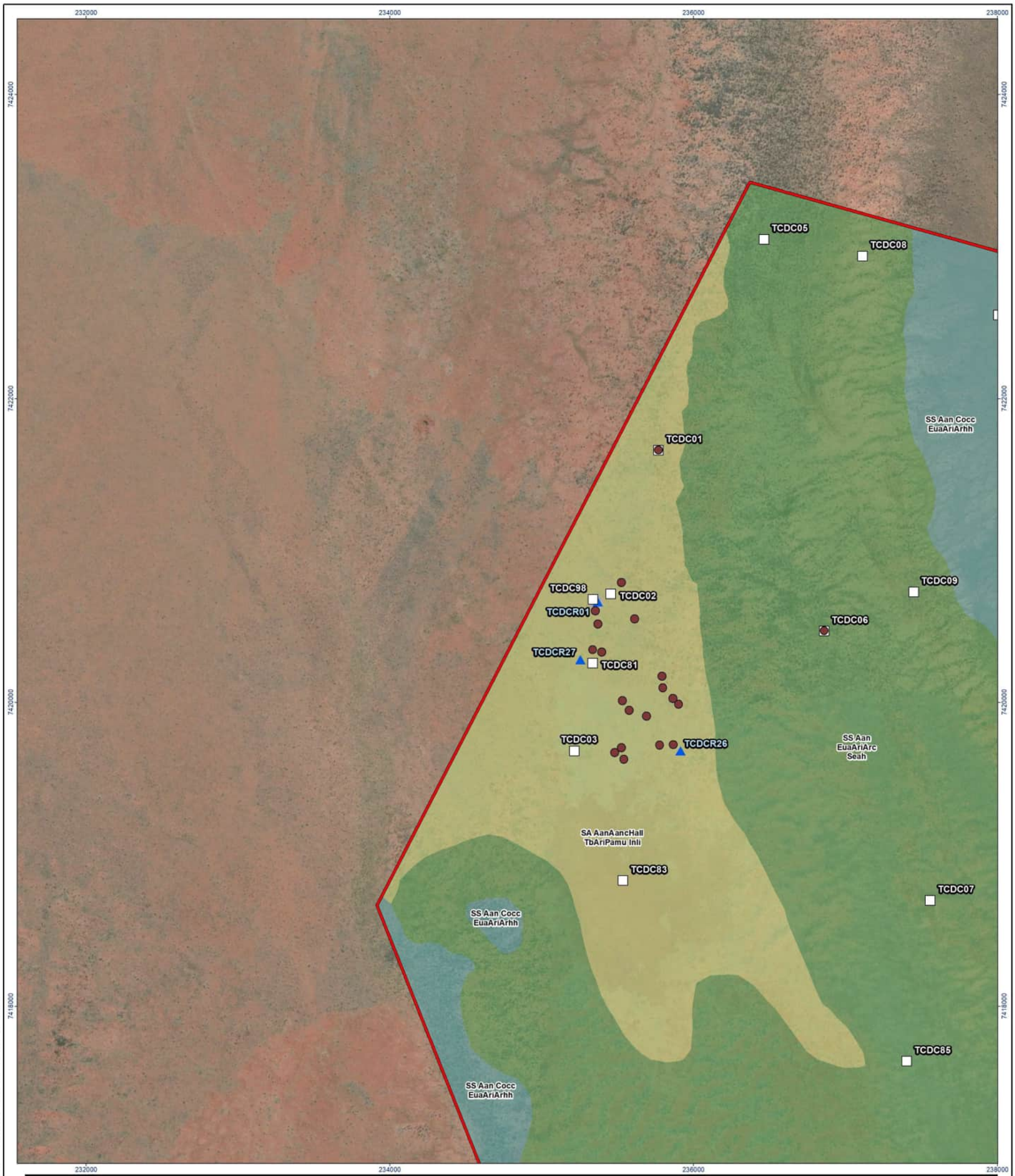
Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	1	242088	7419609
	Opportunistic/Targeted	1	242144	7419383
	Opportunistic/Targeted	1	242180	7419443
	Opportunistic/Targeted	4	242200	7419413
	Opportunistic/Targeted	1	240453	7419429
	Opportunistic/Targeted	1	241871	7420124
	Opportunistic/Targeted	1	242035	7420077
	Opportunistic/Targeted	2	241845	7419888
	Opportunistic/Targeted	1	241734	7419831
	Opportunistic/Targeted	3	241812	7419699
	Opportunistic/Targeted	11	241820	7419692
	Opportunistic/Targeted	1	241745	7419638
	Opportunistic/Targeted	1	240391	7419564
	Opportunistic/Targeted	1	240658	7419617
	Opportunistic/Targeted	1	240549	7417215
	Opportunistic/Targeted	1	240633	7417294
	Opportunistic/Targeted	3	240802	7417621
	Opportunistic/Targeted	1	241235	7417254
	Opportunistic/Targeted	2	241032	7416942
	Opportunistic/Targeted	1	241018	7416860
	Opportunistic/Targeted	1	240920	7416861
	Opportunistic/Targeted	1	241839	7416444
	Opportunistic/Targeted	2	241603	7416492
	Opportunistic/Targeted	1	241494	7416461
	Opportunistic/Targeted	2	241333	7416333
	Opportunistic/Targeted	2	241442	7416258
	Opportunistic/Targeted	1	241444	7416240
	Opportunistic/Targeted	1	241377	7416236
	Opportunistic/Targeted	3	241351	7416207
	Opportunistic/Targeted	1	241292	7416182
	Opportunistic/Targeted	1	241170	7416188
	Opportunistic/Targeted	1	241147	7416109
	Opportunistic/Targeted	1	241096	7416078
	Opportunistic/Targeted	14	241029	7416000
	Opportunistic/Targeted	1	241052	7415936
	Opportunistic/Targeted	4	241067	7415796
	Opportunistic/Targeted	6	240979	7415728
	Opportunistic/Targeted	1	240889	7415636
	Opportunistic/Targeted	1	240829	7415474
	Opportunistic/Targeted	1	241699	7416447
	Opportunistic/Targeted	1	241693	7416403
	Opportunistic/Targeted	1	241311	7416069
	Opportunistic/Targeted	2	241275	7416051
	Opportunistic/Targeted	1	241255	7415900
	Opportunistic/Targeted	1	241184	7415873
	Opportunistic/Targeted	1	241147	7415820
	Opportunistic/Targeted	2	241146	7415690
	Opportunistic/Targeted	2	241089	7415658
	Opportunistic/Targeted	1	240938	7415489
	Opportunistic/Targeted	5	240882	7415343

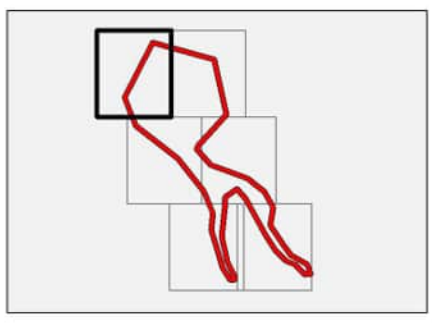
Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	3	240831	7415209
	Opportunistic/Targeted	1	240771	7414965
	Opportunistic/Targeted	1	241617	7411727
	Opportunistic/Targeted	3	241622	7411609
	Opportunistic/Targeted	2	241600	7411516
	Opportunistic/Targeted	2	241499	7410961
	Opportunistic/Targeted	1	241375	7410860
	Opportunistic/Targeted	1	241324	7411702
	Opportunistic/Targeted	2	241415	7411609
	Opportunistic/Targeted	3	241383	7411426
	Opportunistic/Targeted	2	241377	7411313
	Opportunistic/Targeted	1	241357	7411216
	Opportunistic/Targeted	1	241436	7411133
	Opportunistic/Targeted	1	241469	7411097
	Opportunistic/Targeted	1	241337	7410994
	Opportunistic/Targeted	1	241552	7411039
	Opportunistic/Targeted	1	241574	7411087
	Opportunistic/Targeted	2	241605	7411381
	Opportunistic/Targeted	2	241586	7411479
	Opportunistic/Targeted	2	241598	7411519
	Opportunistic/Targeted	4	241625	7411609
	Opportunistic/Targeted	1	241708	7411680
	Opportunistic/Targeted	3	245664	7408052
	Opportunistic/Targeted	3	245671	7407974
	Opportunistic/Targeted	1	245654	7407935
	Opportunistic/Targeted	2	245608	7407998
	Opportunistic/Targeted	1	241898	7411951
	Opportunistic/Targeted	2	242108	7412419
	Opportunistic/Targeted	1	242096	7412553
	Opportunistic/Targeted	4	242012	7411656
	Opportunistic/Targeted	5	241823	7411375
	Opportunistic/Targeted	1	241773	7411343
	Opportunistic/Targeted	1	241725	7411331
	Opportunistic/Targeted	1	241468	7409474
	Opportunistic/Targeted	1	241895	7409668
	Opportunistic/Targeted	1	241930	7409657
	Opportunistic/Targeted	1	241947	7409580
	Opportunistic/Targeted	9	241899	7409465
	Opportunistic/Targeted	1	241872	7411844
	Opportunistic/Targeted	1	241859	7412176
	Opportunistic/Targeted	3	241995	7409149
	Opportunistic/Targeted	1	242062	7409158
	Opportunistic/Targeted	2	242042	7412532
	Opportunistic/Targeted	1	242194	7412412
	Opportunistic/Targeted	5	241865	7411409
	Opportunistic/Targeted	1	241733	7411277
	Opportunistic/Targeted	3	242189	7408913
	Opportunistic/Targeted	2	241709	7411255
	Opportunistic/Targeted	1	242239	7408432
	Opportunistic/Targeted	1	242413	7408371

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	1	241472	7409510
	Opportunistic/Targeted	7	241683	7409492
	Opportunistic/Targeted	5	241866	7409655
	Opportunistic/Targeted	7	241963	7409642
	Opportunistic/Targeted	2	241932	7409211
	Opportunistic/Targeted	5	241985	7409190
	Opportunistic/Targeted	4	242149	7409230
	Opportunistic/Targeted	2	242220	7408882
	Opportunistic/Targeted	1	242233	7408822
	Opportunistic/Targeted	1	242213	7408757
	Opportunistic/Targeted	1	242229	7408593
	Opportunistic/Targeted	3	245517	7409126
	Opportunistic/Targeted	4	245509	7409142
	Opportunistic/Targeted	1	245486	7409177
	Opportunistic/Targeted	1	245258	7409213
	Opportunistic/Targeted	1	245471	7408276
	Opportunistic/Targeted	2	245576	7408271
	Opportunistic/Targeted	4	245609	7408107
	Opportunistic/Targeted	6	245599	7408029
	Opportunistic/Targeted	4	245580	7407979
	Opportunistic/Targeted	1	242725	7410585
	Opportunistic/Targeted	1	242775	7410557
	Opportunistic/Targeted	1	242995	7410449
	Opportunistic/Targeted	1	242631	7410143
	Opportunistic/Targeted	2	242688	7410281
	Opportunistic/Targeted	1	242685	7410442
	Opportunistic/Targeted	2	243823	7411113
	Opportunistic/Targeted	2	243848	7410529
	Opportunistic/Targeted	1	243855	7410590
	Opportunistic/Targeted	1	243736	7410855
	Opportunistic/Targeted	3	243493	7410982
	Opportunistic/Targeted	5	243359	7411038
	Opportunistic/Targeted	1	242443	7410528
	Opportunistic/Targeted	1	242416	7410421
	Opportunistic/Targeted	3	242417	7410241
	Opportunistic/Targeted	4	242454	7410277
	Opportunistic/Targeted	3	242452	7410196
	Opportunistic/Targeted	1	242630	7410175
	Opportunistic/Targeted	4	242646	7410242
	Opportunistic/Targeted	3	242931	7410118
	Opportunistic/Targeted	1	242627	7410174
	Opportunistic/Targeted	1	242646	7410382
	Opportunistic/Targeted	3	242660	7410508
	Opportunistic/Targeted	6	243881	7411103
	Opportunistic/Targeted	1	242472	7410894
	Opportunistic/Targeted	1	243852	7410524
	Opportunistic/Targeted	1	243882	7410459
	Opportunistic/Targeted	2	241978	7410962
	Opportunistic/Targeted	2	244624	7410649
	Opportunistic/Targeted	2	242299	7410577

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	2	243084	7412117
	Opportunistic/Targeted	1	243075	7412171
	Opportunistic/Targeted	2	243547	7411992
	Opportunistic/Targeted	2	243686	7411933
	Opportunistic/Targeted	1	243888	7411846
	Opportunistic/Targeted	18	243956	7411735
	Opportunistic/Targeted	8	243956	7411701
	Opportunistic/Targeted	1	243620	7411772
	Opportunistic/Targeted	1	243566	7411792
	Opportunistic/Targeted	2	242550	7410825
	Opportunistic/Targeted	1	242010	7410897
	Opportunistic/Targeted	1	243078	7411919
	Opportunistic/Targeted	2	242817	7412122
	Opportunistic/Targeted	1	242871	7412216
	Opportunistic/Targeted	1	242888	7412159
	Opportunistic/Targeted	7	243507	7411888
	Opportunistic/Targeted	1	243636	7411867
	Opportunistic/Targeted	1	243708	7411858
	Opportunistic/Targeted	3	243534	7411031
	Opportunistic/Targeted	1	246542	7409343
	Opportunistic/Targeted	1	246660	7408593
	Opportunistic/Targeted	1	246022	7407752
	Opportunistic/Targeted	1	245258	7409215
	Opportunistic/Targeted	1	243065	7411408
	Opportunistic/Targeted	3	243094	7411345
	Opportunistic/Targeted	3	243164	7411276
	Opportunistic/Targeted	6	243232	7411181
	Opportunistic/Targeted	2	243311	7411193
	Opportunistic/Targeted	3	243342	7411066
	Opportunistic/Targeted	2	243358	7410758
	Opportunistic/Targeted	2	243232	7410475
	Opportunistic/Targeted	1	245066	7409450
	Opportunistic/Targeted	1	244903	7409517
	Opportunistic/Targeted	1	245253	7409210
	Opportunistic/Targeted	12	245313	7409257
	Opportunistic/Targeted	1	245894	7407611
	Opportunistic/Targeted	4	245517	7409132
	Opportunistic/Targeted	1	246246	7407316
	Opportunistic/Targeted	1	246667	7407278
	Opportunistic/Targeted	1	246540	7409397
	Opportunistic/Targeted	3	246344	7409531
	Opportunistic/Targeted	5	243034	7411401
	Opportunistic/Targeted	3	243053	7411357
	Opportunistic/Targeted	3	243113	7411292
	Opportunistic/Targeted	1	243159	7411235
	Opportunistic/Targeted	8	243184	7411179
	Opportunistic/Targeted	1	243310	7411065
	Opportunistic/Targeted	1	243315	7411101
	Opportunistic/Targeted	1	243459	7410983
	Opportunistic/Targeted	1	243355	7410838

Significant Flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northing
	Opportunistic/Targeted	1	243207	7410552
	Opportunistic/Targeted	1	241593	7420146
	Opportunistic/Targeted	3	241706	7420080
	Opportunistic/Targeted	3	241724	7420015
	Opportunistic/Targeted	1	241701	7419950
	Opportunistic/Targeted	1	241683	7419807
	Opportunistic/Targeted	1	241688	7419720
	Opportunistic/Targeted	3	241783	7419706
	Opportunistic/Targeted	3	241463	7419538
	Opportunistic/Targeted	7	241484	7419606
	Opportunistic/Targeted	4	241543	7419698
	Opportunistic/Targeted	3	241555	7419783
	Opportunistic/Targeted	1	241422	7420050
	Opportunistic/Targeted	2	240762	7419758
	Opportunistic/Targeted	1	240338	7420247
	Opportunistic/Targeted	9	240535	7420449
	Opportunistic/Targeted	1	240685	7420395
	Opportunistic/Targeted	1	235612	7420549
	Opportunistic/Targeted	1	235791	7420173
	Opportunistic/Targeted	1	235799	7420096
	Opportunistic/Targeted	3	235863	7420027
	Opportunistic/Targeted	1	235901	7419987
	Opportunistic/Targeted	1	235866	7419721
	Opportunistic/Targeted	2	235776	7419718
	Opportunistic/Targeted	4	235689	7419909
	Opportunistic/Targeted	3	235575	7419947
	Opportunistic/Targeted	1	235530	7420012
	Opportunistic/Targeted	3	235394	7420332
	Opportunistic/Targeted	2	235336	7420346
	Opportunistic/Targeted	1	235370	7420516
	Opportunistic/Targeted	1	241198	7420343
	Opportunistic/Targeted	2	241226	7420417
	Opportunistic/Targeted	3	240720	7420682
	Opportunistic/Targeted	2	240655	7420712
	Opportunistic/Targeted	1	240610	7420717
	Opportunistic/Targeted	1	240501	7420697
	Opportunistic/Targeted	3	240454	7420038
	Opportunistic/Targeted	2	240320	7413256





Notes
1. Coordinate System: GDA 1994 MGA Zone 51
2. Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2024).
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- Survey Area
- Extrapolated Mapping Area
- Quadrat
- Relevé

Significant Flora Records

- *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3)

Vegetation Code

- OT EfEua AaApAanc Ex
- SA AanAancHall TbAriPamu Inli
- SS Aan Cocc EuaAriArhh
- SS Aan EuaAriArc Seah

0 0.5 1 km

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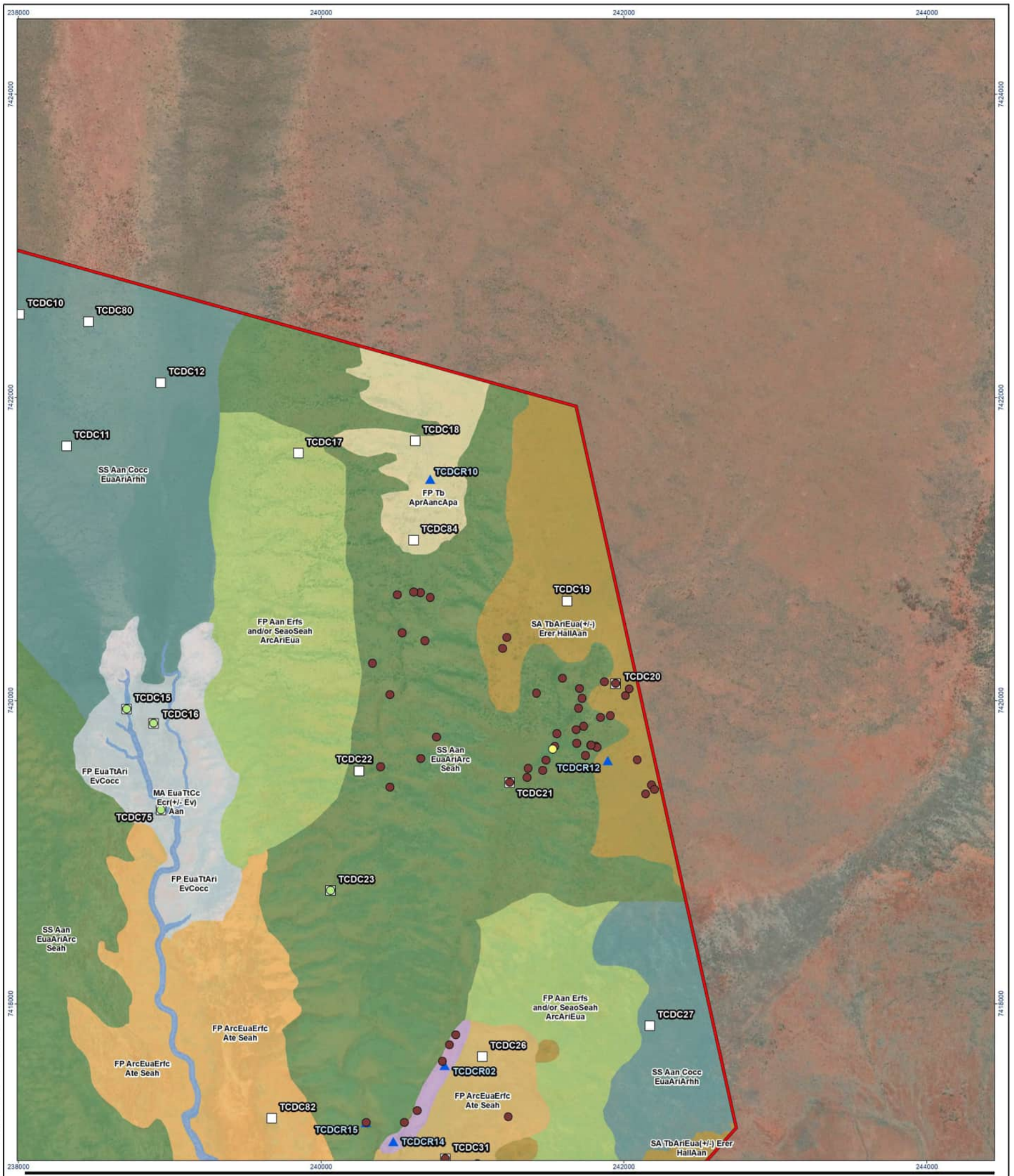
Prepared by FW on 2022-12-09
TR by DK on 2022-12-09
IR by DR on 2022-12-09

Client/Project 300003418
BHP
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Mapping
Page 1 of 6

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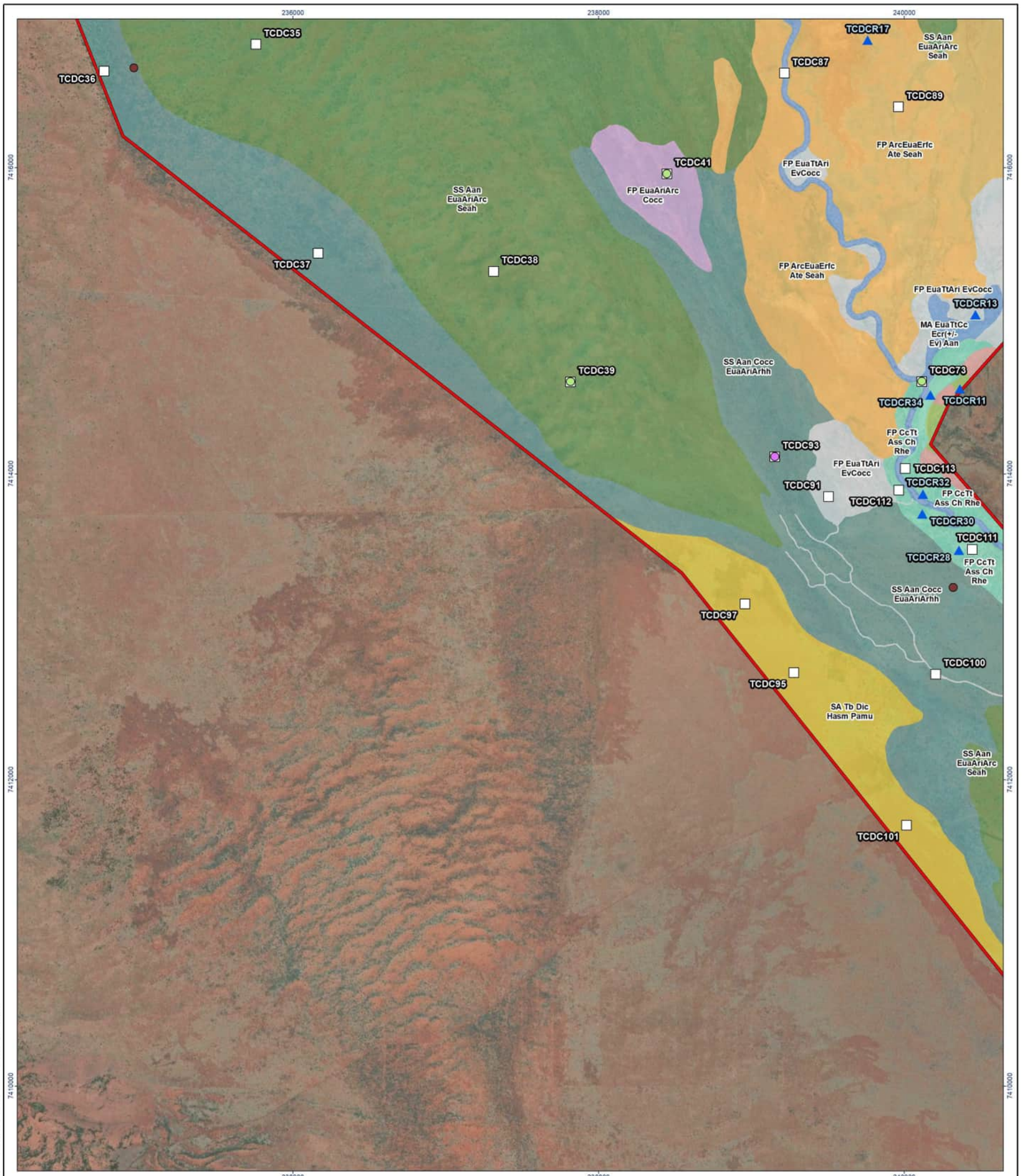
Prepared by FW on 2022-12-09
TR by DK on 2022-12-09
IR by DR on 2022-12-09

Client/Project
300003418
BHP
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Mapping
Page 2 of 6

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Perth, Western Australia

Prepared by FW on 2022-12-09
TR by DK on 2022-12-09
IR by DR on 2022-12-09

Client/Project 300003418
BHP
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Mapping
Page 3 of 6

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Stantec Australia Pty Ltd
Perth, Western Australia

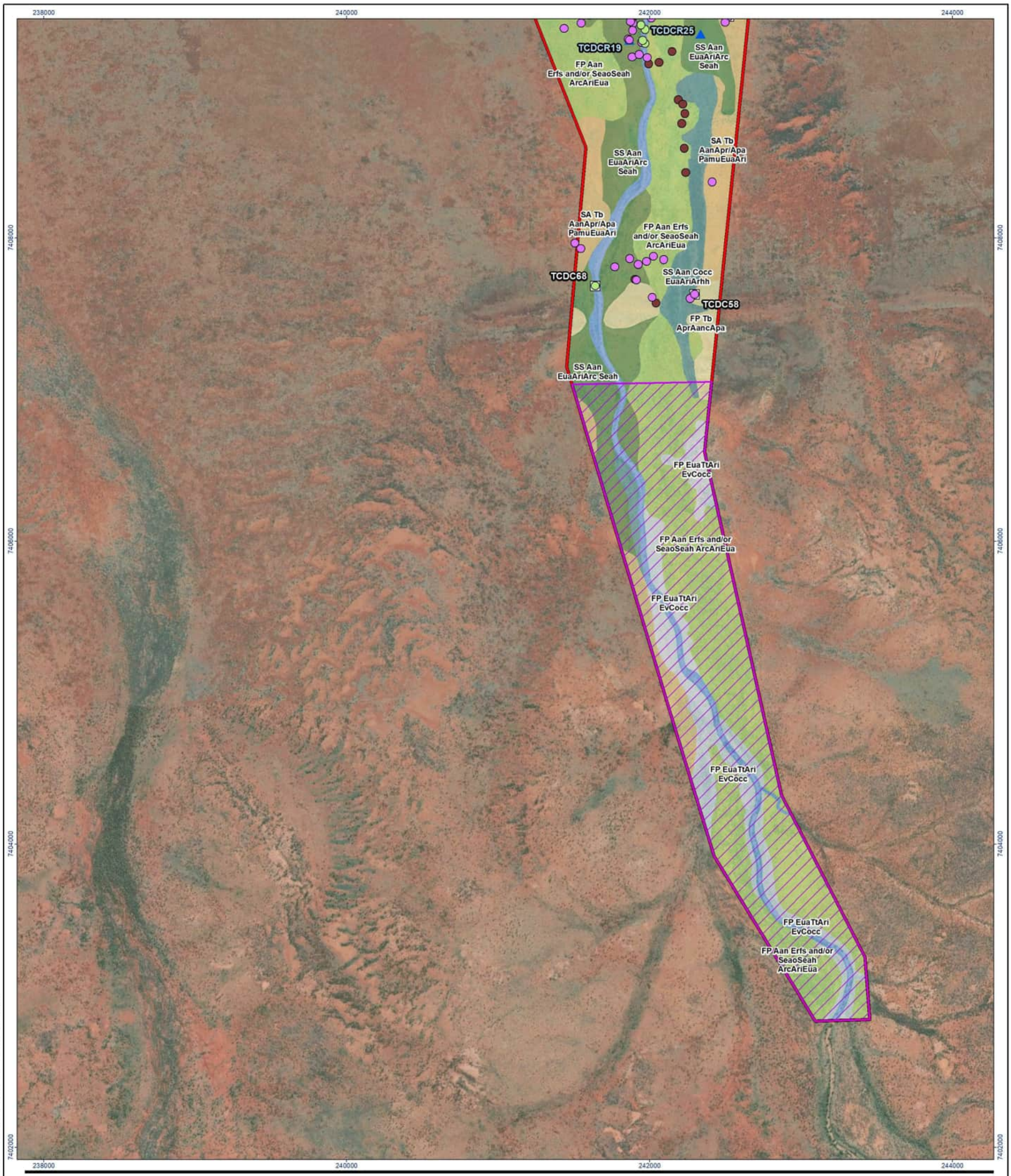
Prepared by FW on 2022-12-09
TR by DK on 2022-12-09
IR by DR on 2022-12-09

Client/Project 300003418
BHP
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

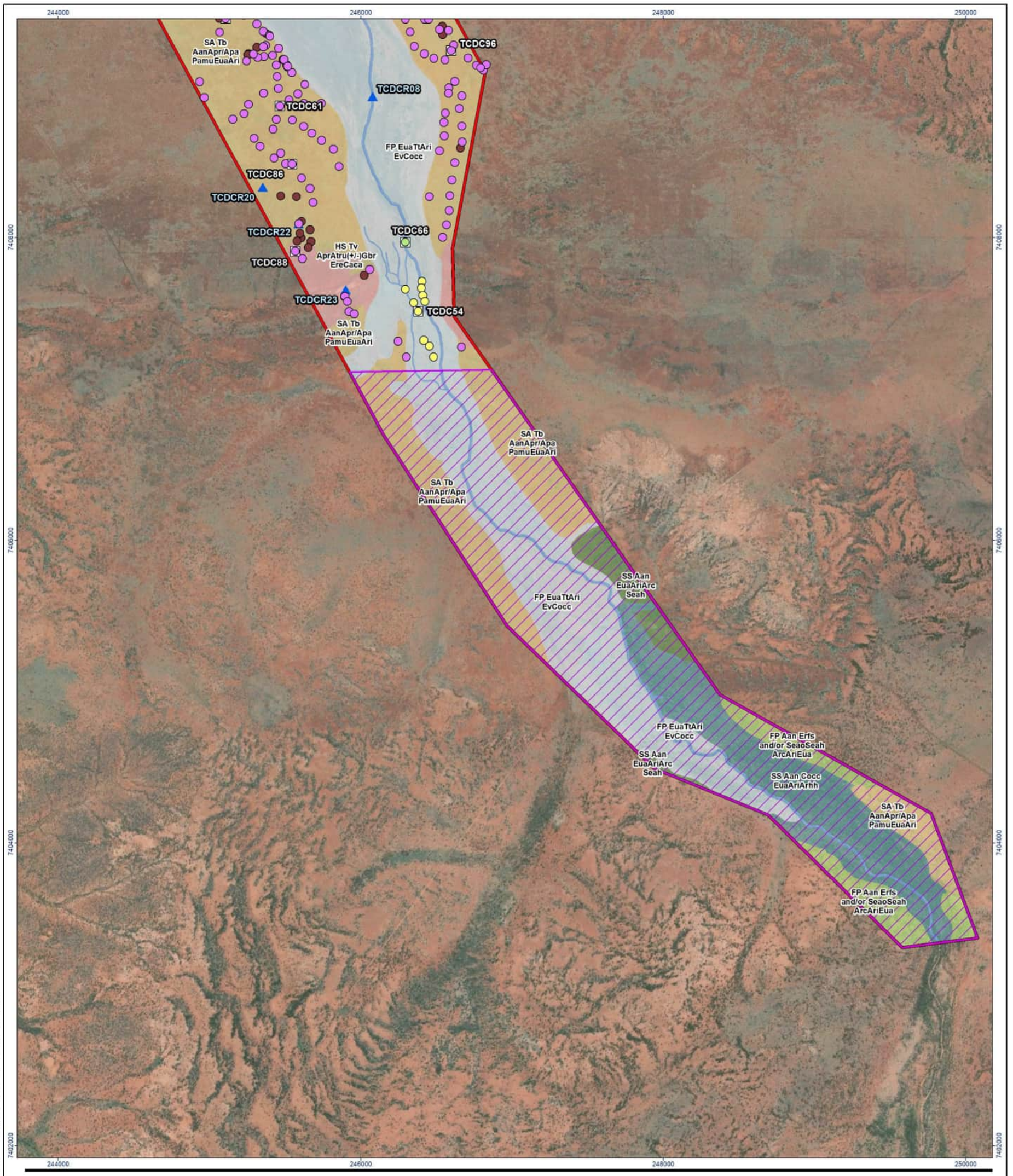
Title
Vegetation Mapping
Page 4 of 6

U:\300003418\gis\mapdocs\fig_tcdc_vs_2021_01_veg_mapping_ddp.mxd Revised: 2024-04-18 By: fewalker

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



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U:\300003418\gis\mapdocs\fig_tcdc_vs_2021_01_veg_mapping_ddp.mxd Revised: 2024-04-18 By: fewalker

Survey Area
Extrapolated Mapping Area
Quadrat
Relevé

Significant Flora Records

- *Eremophila capricornica* (P1)
- *Ipomoea racemigera* (P2)
- *Crotalaria smithiana* (P3)
- *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3)

Vegetation Code

- FP Aan Erfs and/or SeaoSeah ArcAriEua
- FP EuaTtAri EvCocc
- HS Tv AprAtru(+/-)Gbr EreCaca
- MA EuaTtCc Ecr(+/- Ev) Aan
- SA Tb AanApr/Apa PamuEuaAri
- SS Aan Cocc EuaAriArhh
- SS Aan EuaAriArc Seah

0 0.5 1 km

(At original document size of A3)
1:25,000

N

Notes

1. Coordinate System: GDA 1994 MGA Zone 51
2. Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2024).
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Stantec BHP

Project Location
Stantec Australia Pty Ltd
Perth, Western Australia

Prepared by FW on 2022-12-09
TR by DK on 2022-12-09
IR by DR on 2022-12-09

Client/Project 300003418
BHP
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Mapping
Page 6 of 6

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Appendix K Threatened and Priority Flora Report Forms

Department of **Biodiversity, Conservation and Attractions**

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: *Crotalaria smithiana* **TPFL Pop. No:**

OBSERVATION DATE: 08/04/2022, 12/04/2022 **CONSERVATION STATUS:** P3 **New population** ☐

OBSERVER/S: Kyle Wood, Scott Pansini **PHONE** 0458181804

ROLE: Botanists **ORGANISATION:** Stantec/BHP

EMAIL: Kyle.Wood2@stantec.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place)**:**

Thirteen Creek and Davidson Creek area, located approximately 67.5 km east of Newman at the junction of the Pilbara and Gascoyne bioregions

Reserve No:

DBCA DISTRICT: **LGA:** Land manager present: ☐

DATUM:
GDA94 / MGA94 ☐
AGD84 / AMG84 ☐
WGS84 ☐
Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required)
DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: See attached data

Long / Easting: See attached data

ZONE:

METHOD USED:
GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☐
National park ☐	State forest ☐	Pastoral lease ☒	MRWA road reserve ☐	Other Crown reserve ☐
Conservation park ☐	Water reserve ☐	UCL ☐	SLK/Pole ____ to ____	Specify other:

AREA ASSESSMENT: Edge survey ☐ Partial survey ☒ Full survey ☐ Area observed (m²):

EFFORT: Time spent surveying (minutes): No. of minutes spent / 100 m²:

POP'N COUNT ACCURACY: Actual ☒ Extrapolation ☐ Estimate ☒ Count method: (Refer to field manual for list) Actual count - individuals

WHAT COUNTED: Plants ☒ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	**Mature:**	**Juveniles:**	**Seedlings:**	**Totals:**
Alive				
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐
Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
Cattle grazing	M	H	M
Weeds	M	H	M

Please return completed form to **Species And Communities Program** DBCA,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: **Sheet No.:** **Record Entered in Database** ❑

• Fire	L	H	M

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:
Crest ☐
Hill ☐
Ridge ☐
Outcrop ☐
Slope ☐
Flat ☐
Open depression ☐
Drainage line ☒
Closed depression ☐
Wetland ☐

ROCK TYPE:
Granite ☐
Dolerite ☐
Laterite ☐
Ironstone ☐
Limestone ☐
Quartz ☒
Specify other: _____

LOOSE ROCK:
(on soil surface; eg gravel, quartz fields)
0-10% ☐
10-30% ☐
30-50% ☒
50-100% ☐

SOIL TYPE:
Sand ☐
Sandy loam ☒
Loam ☐
Clay loam ☒
Light clay ☐
Peat ☐
Specify other: _____

SOIL COLOUR:
Red ☒
Brown ☐
Yellow ☐
White ☐
Grey ☐
Black ☐
Specify other: _____

DRAINAGE:
Well drained ☐
Seasonally inundated ☐
Permanently inundated ☐
Tidal ☐

Specific **Landform** Element: _____
(Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: **1**. Banksia woodland (B. attenuata, B. ilicifolia); **2**. Open shrubland (Hibbertia sp., Acacia spp.) ; **3**. Isolated clumps of sedges (M.tetragona)

1. _____
2. _____
3. _____
4. _____

ASSOCIATED SPECIES: _____

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT: _____

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd: _____

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No:

FB62000122-2 TFL 2223-0005 Note if only observing plants (i.e. no specimens or plant matieral is taken) then no authorisation/licence is required. For further information on authorisation and licening requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: 16-16 WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other: Stantec

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other: _____

COPY SENT TO: Regional Office ☐ District Office ☐ Other: _____

Submitter of Record: Jacquie Mason Role: Undergraduate environmental scientist Signed: J.Mason Date: 23/11/2022

Please return completed form to **Species And Communities Program** DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by:_____ **Sheet No.:**_____ **Record Entered in Database** ❑

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: *Eremophila capricornica* **TPFL Pop. No:**

OBSERVATION DATE: 12/04/2022, 13/04/2022 **CONSERVATION STATUS:** P1 **New population** ☐

OBSERVER/S: Kyle Wood, Scott Pansini, Jonas Mitchell, Daniel Roocke **PHONE** 0458181804

ROLE: Botanists **ORGANISATION:** Stantec/BHP

EMAIL: Kyle.Wood2@stantec.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place)**:**

Thirteen Creek and Davidson Creek area, located approximately 67.5 km east of Newman at the junction of the Pilbara and Gascoyne bioregions

Reserve No:

DBCA DISTRICT: **LGA:** Land manager present: ☐

DATUM:
GDA94 / MGA94 ☐
AGD84 / AMG84 ☐
WGS84 ☐
Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required)
DecDegrees ☐ DegMinSec ☐ UTMs ☒
Lat / Northing: See attached data
Long / Easting: See attached data
ZONE:

METHOD USED:
GPS ☒ Differential GPS ☐ Map ☐
No. satellites: Map used:
Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☐
National park ☐	State forest ☐	Pastoral lease ☒	MRWA road reserve ☐	Other Crown reserve ☐
Conservation park ☐	Water reserve ☐	UCL ☐	SLK/Pole ____ to ____	Specify other:

AREA ASSESSMENT: Edge survey ☐ Partial survey ☒ Full survey ☐ Area observed (m²):

EFFORT: Time spent surveying (minutes): No. of minutes spent / 100 m²:

POP'N COUNT ACCURACY: Actual ☒ Extrapolation ☐ Estimate ☒ Count method: (Refer to field manual for list) Actual count - individuals

WHAT COUNTED: Plants ☒ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:

	Mature:	Juveniles:	Seedlings:	Totals:
Alive				
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐
Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
• Cattle grazing	M	H	M
Weeds	M	H	M

Please return completed form to **Species And Communities Program** DBCA,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: **Sheet No.:** **Record Entered in Database** ❑

• Fire	L	H	M

Department of **Biodiversity, Conservation and Attractions**

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:
Crest ☐
Hill ☐
Ridge ☐
Outcrop ☐
Slope ☐
Flat ☐
Open depression ☐
Drainage line ☒
Closed depression ☐
Wetland ☐

ROCK TYPE:
Granite ☐
Dolerite ☐
Laterite ☐
Ironstone ☐
Limestone ☐
Quartz ☒
Specify other: _____

LOOSE ROCK:
(on soil surface; eg gravel, quartz fields)
0-10% ☐
10-30% ☐
30-50% ☐
50-100% ☐

SOIL TYPE:
Sand ☐
Sandy loam ☒
Loam ☐
Clay loam ☐
Light clay ☐
Peat ☐
Specify other: _____

SOIL COLOUR:
Red ☒
Brown ☐
Yellow ☐
White ☐
Grey ☐
Black ☐
Specify other: _____

DRAINAGE:
Well drained ☐
Seasonally inundated ☐
Permanently inundated ☐
Tidal ☐

Specific **Landform** Element: _____
(Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: **1**. Banksia woodland (B. attenuata, B. ilicifolia); **2**. Open shrubland (Hibbertia sp., Acacia spp.) ; **3**. Isolated clumps of sedges (M.tetragona)

1. _____
2. _____
3. _____
4. _____

ASSOCIATED SPECIES: _____

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT: _____

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd: _____

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No:

FB62000122-2 TFL 2223-0005 Note if only observing plants (i.e. no specimens or plant matieral is taken) then no authorisation/licence is required. For further information on authorisation and licening requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: 68-01 WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other: Stantec

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other: _____

COPY SENT TO: Regional Office ☐ District Office ☐ Other: _____

Submitter of Record: Jacquie Mason Role: Undergraduate environmental scientist Signed: J.Mason Date: 23/11/2022

Please return completed form to **Species And Communities Program** DBCA,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by:_____ **Sheet No.:**_____ **Record Entered in Database** ❑

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

Threatened and Priority Flora Report Form

Version 1.4 March 2021

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TAXON: *Ipomoea racemigera* **TPFL Pop. No:**

OBSERVATION DATE: 13/04/2022 **CONSERVATION STATUS:** P2 **New population** ☐

OBSERVER/S: Kyle Wood, Scott Pansini, Jonas Mitchell, Daniel Roocke **PHONE** 0458181804

ROLE: Botanists **ORGANISATION:** Stantec/BHP

EMAIL: Kyle.Wood2@stantec.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place)**:**

Thirteen Creek and Davidson Creek area, located approximately 67.5 km east of Newman at the junction of the Pilbara and Gascoyne bioregions

Reserve No:

DBCA DISTRICT: **LGA:** Land manager present: ☐

DATUM:

GDA94 / MGA94 ☐

AGD84 / AMG84 ☐

WGS84 ☐

Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required)

DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: See attached data

Long / Easting: See attached data

ZONE:

METHOD USED:

GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☐

National park ☐ State forest ☐ Pastoral lease ☒ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water reserve ☐ UCL ☐ SLK/Pole _____ to _____ Specify other:

AREA ASSESSMENT: Edge survey ☐ Partial survey ☒ Full survey ☐ Area observed (m²):

EFFORT: Time spent surveying (minutes): No. of minutes spent / 100 m²:

POP'N COUNT ACCURACY: Actual ☒ Extrapolation ☐ Estimate ☒ Count method: Actual count - individuals

(Refer to field manual for list)

WHAT COUNTED: Plants ☒ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:

	Mature:	Juveniles:	Seedlings:	Totals:
Alive				
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐

Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
Cattle grazing	M	H	M
Weeds	M	H	M

Please return completed form to **Species And Communities Program** DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: **Sheet No.:** **Record Entered in Database** ❑

• Fire	L	H	M

Department of **Biodiversity, Conservation and Attractions**

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:
Crest ☐
Hill ☐
Ridge ☐
Outcrop ☐
Slope ☐
Flat ☐
Open depression ☐
Drainage line ☒
Closed depression ☐
Wetland ☐

ROCK TYPE:
Granite ☐
Dolerite ☐
Laterite ☐
Ironstone ☐
Limestone ☐
Quartz ☒
Specify other: _____

LOOSE ROCK:
(on soil surface; eg gravel, quartz fields)
0-10% ☐
10-30% ☐
30-50% ☒
50-100% ☐

SOIL TYPE:
Sand ☐
Sandy loam ☒
Loam ☐
Clay loam ☐
Light clay ☐
Peat ☐
Specify other: _____

SOIL COLOUR:
Red ☒
Brown ☐
Yellow ☐
White ☐
Grey ☐
Black ☐
Specify other: _____

DRAINAGE:
Well drained ☐
Seasonally inundated ☐
Permanently inundated ☐
Tidal ☐

Specific **Landform** Element: _____
(Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: **1**. Banksia woodland (B. attenuata, B. ilicifolia); **2**. Open shrubland (Hibbertia sp., Acacia spp.) ; **3**. Isolated clumps of sedges (M.tetragona)

1. _____
2. _____
3. _____
4. _____

ASSOCIATED SPECIES: _____

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☐ Good ☒ Degraded ☐ Completely degraded ☐

COMMENT: _____

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd: _____

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No:

FB62000122-2 TFL 2223-0005 Note if only observing plants (i.e. no specimens or plant matieral is taken) then no authorisation/licence is required. For further information on authorisation and licening requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: 71-01 WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other: Stantec

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other: _____

COPY SENT TO: Regional Office ☐ District Office ☐ Other: _____

Submitter of Record: Jacquie Mason Role: Undergraduate environmental scientist Signed: J.Mason Date: 23/11/2022

Please return completed form to **Species And Communities Program** DBCA,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by:_____ **Sheet No.:**_____ **Record Entered in Database** ❑

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: *Rhagodia sp. Hamersley (M. Trudgen 17794)* **TPFL Pop. No:**

OBSERVATION DATE: 08/04/2022-13/04/2022 **CONSERVATION STATUS:** P3 **New population** ☐

OBSERVER/S: Kyle Wood, Scott Pansini, Jonas Mitchell, Daniel Roocke **PHONE** 0458181804

ROLE: Botanists **ORGANISATION:** Stantec/BHP

EMAIL: Kyle Wood2@stantec.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place)**:**

Thirteen Creek and Davidson Creek area, located approximately 67.5 km east of Newman at the junction of the Pilbara and Gascoyne bioregions

Reserve No:

DBCA DISTRICT: **LGA:** Land manager present: ☐

DATUM:
GDA94 / MGA94 ☐
AGD84 / AMG84 ☐
WGS84 ☐
Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required)
DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: See attached data

Long / Easting: See attached data

ZONE:

METHOD USED:
GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☐
National park ☐	State forest ☐	Pastoral lease ☒	MRWA road reserve ☐	Other Crown reserve ☐
Conservation park ☐	Water reserve ☐	UCL ☐	SLK/Pole ____ to ____	Specify other:

AREA ASSESSMENT: Edge survey ☐ Partial survey ☒ Full survey ☐ Area observed (m²):

EFFORT: Time spent surveying (minutes): No. of minutes spent / 100 m²:

POP'N COUNT ACCURACY: Actual ☒ Extrapolation ☐ Estimate ☒ Count method: (Refer to field manual for list) Actual count - individuals

WHAT COUNTED: Plants ☒ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	**Mature:**	**Juveniles:**	**Seedlings:**	**Totals:**
Alive				
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐
Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
Cattle grazing	M	H	M
Weeds	M	H	M

Please return completed form to **Species And Communities Program** DBCA,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: **Sheet No.:** **Record Entered in Database** ❑

• Fire	L	H	M

Department of **Biodiversity, Conservation and Attractions**

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HABITAT INFORMATION:

LANDFORM:
Crest ☐
Hill ☐
Ridge ☐
Outcrop ☐
Slope ☐
Flat ☒
Open depression ☐
Drainage line ☐
Closed depression ☐
Wetland ☐

ROCK TYPE:
Granite ☐
Dolerite ☐
Laterite ☐
Ironstone ☐
Limestone ☐
Quartz ☐
Specify other: _____

LOOSE ROCK:
(on soil surface; eg gravel, quartz fields)
0-10% ☐
10-30% ☐
30-50% ☒
50-100% ☐

SOIL TYPE:
Sand ☐
Sandy loam ☒
Loam ☐
Clay loam ☒
Light clay ☐
Peat ☐
Specify other: _____

SOIL COLOUR:
Red ☐
Brown ☒
Yellow ☐
White ☐
Grey ☐
Black ☐
Specify other: _____

DRAINAGE:
Well drained ☐
Seasonally inundated ☐
Permanently inundated ☐
Tidal ☐

Specific **Landform** Element: _____
(Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: **1**. Banksia woodland (B. attenuata, B. ilicifolia); **2**. Open shrubland (Hibbertia sp., Acacia spp.) ; **3**. Isolated clumps of sedges (M.tetragona)

1. _____
2. _____
3. _____
4. _____

ASSOCIATED SPECIES: _____

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☒ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT: _____

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd: _____

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No:

FB62000122-2 TFL 2223-0005 Note if only observing plants (i.e. no specimens or plant matieral is taken) then no authorisation/licence is required. For further information on authorisation and licening requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: 16-16 WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other: Stantec

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other: _____

COPY SENT TO: Regional Office ☐ District Office ☐ Other: _____

Submitter of Record: Jacquie Mason Role: Undergraduate environmental scientist Signed: J.Mason Date: 23/11/2022

Please return completed form to **Species And Communities Program** DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

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Record entered by:_____ **Sheet No.:**_____ **Record Entered in Database** ❑

Appendix L Introduced Flora Recorded within the Survey Area

Introduced Flora	Photograph
**Aerva javanica* (Kapok Bush) Erect, much-branched perennial, herb, 0.4-1.6 m high. Flowers white, January to October. Often occurs on sandy soils. Along drainage lines.	
**Bidens bipinnata* (Bipinnate Beggartick) An erect annual herb growing to 1 m high. Produces yellow flowers from March to September. Occurs in a variety of soils including alluvium, clay, loam over sandstone and limestone. Habitat preferences include rivers, creeks, coastal areas and rocky hillsides.	
**Cenchrus ciliaris* (Buffel Grass) A tufted or sometimes stoloniferous perennial grass between 0.2 m and 1.5 m in height with purple, ciliate flowers between February and October. Seed heads form a dense hairy cylindrical spike to 10 cm long. **Cenchrus ciliaris* favours sand but may also establish in loamy and clayey soils. It is a widespread weed of roadsides, creek lines and river edges.	

Introduced Flora	Photograph
**Citrullus amarus* (Pie Melon) Herbaceous, trailing annual or biennial with cream-yellow flowers. Widespread across Australia, particularly common in semi-arid regions. A common pest of pastures and agricultural areas and also on floodplains, river bands, in the centre of dry lakes, in drainage areas, and in disturbed sandy sites	
**Malvastrum americanum* (Spiked Malvastrum) Erect perennial, herb or shrub, 0.5-1.3 m high. Flowers yellow-orange, April to July. Occurs in a variety of soils including gritty alluvial sand, black or brown clay, alluvial cracking clays, limestone and calcrete. Can be found growing on stony ridges and hillsides, floodplains and along drainage lines.	
**Setaria verticillata* (Whorled Pigeon Grass) A loosely tufted annual grass, 0.1 m to 1.3 m high. It flowers from December to June. Grows in sand, clay and loam. It is a common weed of disturbed areas and riverine edges.	

Introduced Flora	Photograph
**Sonchus oleraceus* (Common Sowthistle) Erect annual, herb, to 1.5 m high. Flowers yellow, year-round. Grows in a variety of soils, including waste places and disturbed ground.	
**Tribulus terrestris* (Caltrop) Prostrate annual, yellow-flowering herb. Often prefers sandy soils.	
**Vachellia farnesiana* var. *farnesiana* (Mimosa Bush) Erect, spreading, thicket-forming, thorny tree or shrub, to 4 m high, bark dark grey, rough; leaves pinnate. Flowers yellow, June to August. Stony sandy, clay or loam soils, gravel. Low-lying areas, river and creek banks, disturbed sites.	

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
**Aerva javanica*	TCDC73	3	240113	7414603
	TCDC73	5	240113	7414603
	Opportunistic/Targeted	37	241539	7419695
	Opportunistic/Targeted	4	240118	7413772
**Bidens bipinnata*	TCDC07	5	237557	7418698
	TCDC15	50	238715	7419945
	TCDC17	1	239850	7421634
	TCDC27	8	242171	7417855
	TCDC33	1000	240991	7415649
	TCDC35	1	235760	7416807
	TCDC41	6	238447	7415961
	TCDC66	2	246295	7407971
	TCDC68	35	241641	7407684
	TCDC68	500	241641	7407684
	TCDC73	15	240113	7414603
	TCDC73	10	240113	7414603
	TCDC75	1	238942	7419280
	TCDC75	200	238942	7419280
	TCDC87	250	239215	7416617
	TCDC113	1000	240006	7414036
	TCDC112	200	239964	7413894
	TCDC111	2000	240443	7413507
	TCDCr21	15	241963	7409985
	Opportunistic/Targeted	75	236658	7422970
	Opportunistic/Targeted	10	239007	7419944
	Opportunistic/Targeted	45	240888	7417795
	Opportunistic/Targeted	1	240827	7417535
	Opportunistic/Targeted	1	239099	7419622
	Opportunistic/Targeted	1	239103	7419550
	Opportunistic/Targeted	200	241052	7415632
	Opportunistic/Targeted	50	242152	7407590
	Opportunistic/Targeted	25	241647	7411105
	Opportunistic/Targeted	150	245242	7408850
	Opportunistic/Targeted	30	242178	7409744
	Opportunistic/Targeted	2000	242190	7409805
	Opportunistic/Targeted	500	242201	7409850
	Opportunistic/Targeted	35	242074	7409588
	Opportunistic/Targeted	5000	242080	7410111
	Opportunistic/Targeted	25	241459	7412582
	Opportunistic/Targeted	50	241728	7411632
	Opportunistic/Targeted	15	241974	7409270
	Opportunistic/Targeted	200	241655	7411505
	Opportunistic/Targeted	1000	241921	7410032
	Opportunistic/Targeted	11	241507	7412593
	Opportunistic/Targeted	60	241952	7409323
	Opportunistic/Targeted	35	241953	7409358
	Opportunistic/Targeted	15	241732	7412505
	Opportunistic/Targeted	200	241682	7411238
	Opportunistic/Targeted	10	241734	7412409
	Opportunistic/Targeted	500	241680	7411308

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	20	239927	7414725
	Opportunistic/Targeted	25	240701	7414931
	Opportunistic/Targeted	13	241907	7412226
	Opportunistic/Targeted	15	241544	7410956
*Cenchrus ciliaris	TCDC16	300	238893	7419851
	TCDC16	15	238893	7419851
	TCDC33	1	240991	7415649
	TCDC39	1	237815	7414600
	TCDC54	200	246381	7407515
	TCDC66	25	246295	7407971
	TCDC66	5	246295	7407971
	TCDC68	1000	241641	7407684
	TCDC68	350	241641	7407684
	TCDC71	1000	241721	7412111
	TCDC73	1000	240113	7414603
	TCDC73	1000	240113	7414603
	TCDC75	100	238942	7419280
	TCDC75	20	238942	7419280
	TCDC87	1000	239215	7416617
	TCDC91	1	239504	7413851
	TCDC99	40	240782	7412752
	TCDC100	350	240205	7412690
	TCDC113	10000	240006	7414036
	TCDC112	10000	239964	7413894
	TCDC111	10000	240443	7413507
	TCDCr15	20	240296	7417214
	TCDCr18	1000	241709	7412363
	TCDCr21	65	241963	7409985
	TCDCr23	220	245901	7407657
	TCDCr28	500	240357	7413500
	TCDCr30	100	240118	7413738
	TCDCr32	500	240122	7413867
	TCDCr34	1	240171	7414514
	Opportunistic/Targeted	2	239007	7419944
	Opportunistic/Targeted	200	239025	7419914
	Opportunistic/Targeted	1	242250	7412352
	Opportunistic/Targeted	8	242467	7412394
	Opportunistic/Targeted	1	246341	7407464
	Opportunistic/Targeted	100	246326	7407437
	Opportunistic/Targeted	20	246493	7407357
	Opportunistic/Targeted	150	242943	7411492
	Opportunistic/Targeted	200	242984	7411479
	Opportunistic/Targeted	50	242178	7409744
	Opportunistic/Targeted	100	242212	7409832
	Opportunistic/Targeted	45	242074	7409588
	Opportunistic/Targeted	50	242156	7410013
	Opportunistic/Targeted	25	242133	7410050
	Opportunistic/Targeted	2500	242080	7410111
	Opportunistic/Targeted	100	241692	7411584
	Opportunistic/Targeted	500	241921	7410032

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	15	241952	7409323
	Opportunistic/Targeted	500	242091	7409893
	Opportunistic/Targeted	80	241947	7409412
	Opportunistic/Targeted	33	241734	7412409
	Opportunistic/Targeted	50	241947	7409502
	Opportunistic/Targeted	45	241734	7412332
	Opportunistic/Targeted	28	235366	7420610
	Opportunistic/Targeted	37	241346	7411604
	Opportunistic/Targeted	500	241751	7411777
	Opportunistic/Targeted	30	241854	7411854
	Opportunistic/Targeted	1	241535	7411036
	Opportunistic/Targeted	500	241608	7411383
	Opportunistic/Targeted	250	235613	7419663
	Opportunistic/Targeted	6	237585	7417596
	Opportunistic/Targeted	50	239927	7414725
	Opportunistic/Targeted	100	239973	7414664
	Opportunistic/Targeted	150	240028	7414624
	Opportunistic/Targeted	300	240045	7414603
	Opportunistic/Targeted	35	240566	7417181
	Opportunistic/Targeted	60	240772	7417549
	Opportunistic/Targeted	200	240496	7415011
	Opportunistic/Targeted	1	240510	7415195
	Opportunistic/Targeted	75	241854	7411906
	Opportunistic/Targeted	33	243421	7411985
	Opportunistic/Targeted	8	241790	7412039
	Opportunistic/Targeted	185	241976	7410050
	Opportunistic/Targeted	240	243283	7411249
	Opportunistic/Targeted	1000	241490	7412394
	Opportunistic/Targeted	100	241509	7412240
	Opportunistic/Targeted	1000	241445	7412013
	Opportunistic/Targeted	1000	241438	7411896
	Opportunistic/Targeted	100	241369	7411647
	Opportunistic/Targeted	150	241369	7411372
	Opportunistic/Targeted	24	241883	7411421
	Opportunistic/Targeted	64	243461	7411923
	Opportunistic/Targeted	100	241586	7411479
	Opportunistic/Targeted	100	245517	7409126
	Opportunistic/Targeted	18	241953	7409576
	Opportunistic/Targeted	1550	243304	7411224
	Opportunistic/Targeted	100	245471	7408276
	Opportunistic/Targeted	100	245576	7408271
	Opportunistic/Targeted	100	245609	7408107
	Opportunistic/Targeted	100	245599	7408029
	Opportunistic/Targeted	12	242043	7410832
	Opportunistic/Targeted	150	242132	7410638
	Opportunistic/Targeted	60	242811	7412102
	Opportunistic/Targeted	150	242745	7412139
	Opportunistic/Targeted	60	242588	7412242
	Opportunistic/Targeted	45	243042	7412049
	Opportunistic/Targeted	350	243419	7411943

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	125	243622	7411865
	Opportunistic/Targeted	5	244489	7410989
	Opportunistic/Targeted	20	243090	7411551
	Opportunistic/Targeted	45	243306	7411174
	Opportunistic/Targeted	2	235791	7420174
	Opportunistic/Targeted	50	235800	7420101
	Opportunistic/Targeted	500	235879	7420028
	Opportunistic/Targeted	300	241513	7419662
	Opportunistic/Targeted	250	240282	7413227
	Opportunistic/Targeted	200	240354	7412993
	Opportunistic/Targeted	100	240265	7413311
	Opportunistic/Targeted	250	240323	7412874
	Opportunistic/Targeted	500	240349	7413462
	Opportunistic/Targeted	1000	240354	7413568
	Opportunistic/Targeted	180	240540	7413281
**Citrullus amarus*	TCDC103	1	241643	7409782
	TCDC15	2	238715	7419945
	TCDC16	1	238893	7419851
	TCDC66	1	246295	7407971
	TCDC68	1	241641	7407684
	TCDC68	2	241641	7407684
	TCDC71	65	241721	7412111
	TCDC73	1	240113	7414603
	TCDC73	40	240113	7414603
	TCDC73	1	240113	7414603
	TCDC75	1	238942	7419280
	TCDC75	2	238942	7419280
	TCDC87	1	239215	7416617
	Opportunistic/Targeted	4	241042	7415640
	Opportunistic/Targeted	4	240971	7415647
	Opportunistic/Targeted	1	242285	7412180
	Opportunistic/Targeted	1	241647	7411105
	Opportunistic/Targeted	1	243118	7411951
	Opportunistic/Targeted	3	242201	7409850
	Opportunistic/Targeted	5	242133	7410050
	Opportunistic/Targeted	15	242080	7410111
	Opportunistic/Targeted	1	241459	7412582
	Opportunistic/Targeted	25	241921	7410032
	Opportunistic/Targeted	4	241732	7412505
	Opportunistic/Targeted	20	241734	7412409
	Opportunistic/Targeted	30	241679	7411274
	Opportunistic/Targeted	50	241681	7411336
	Opportunistic/Targeted	1	241734	7412332
	Opportunistic/Targeted	1	243026	7410393
	Opportunistic/Targeted	2	242572	7410102
	Opportunistic/Targeted	2	238751	7419792
	Opportunistic/Targeted	1	241948	7412270
	Opportunistic/Targeted	3	240510	7415195
	Opportunistic/Targeted	1	241181	7415870
	Opportunistic/Targeted	3	241792	7411787

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	25	241797	7411931
	Opportunistic/Targeted	6	241761	7411990
	Opportunistic/Targeted	25	241728	7412048
	Opportunistic/Targeted	1	242266	7409315
	Opportunistic/Targeted	1	242323	7408450
	Opportunistic/Targeted	15	243087	7411558
	Opportunistic/Targeted	2	240292	7413368
	Opportunistic/Targeted	2	240212	7414642
**Malvastrum americanum*	TCDC16	2	238893	7419851
	TCDC16	2	238893	7419851
	TCDC33	50	240991	7415649
	TCDC41	80	238447	7415961
	TCDC50	8	243069	7411816
	TCDC54	60	246381	7407515
	TCDC68	12	241641	7407684
	TCDC71	50	241721	7412111
	TCDC73	100	240113	7414603
	TCDC73	50	240113	7414603
	TCDC75	200	238942	7419280
	TCDC75	50	238942	7419280
	TCDC87	100	239215	7416617
	TCDC91	1	239504	7413851
	TCDC113	100	240006	7414036
	TCDC112	200	239964	7413894
	TCDC111	50	240443	7413507
	TCDCr08	1	246080	7408933
	TCDCr13	500	240465	7415039
	TCDCr14	50	240477	7417090
	TCDCr18	100	241709	7412363
	TCDCr21	150	241963	7409985
	TCDCr27	50	235255	7420280
	TCDCr28	100	240357	7413500
	TCDCr30	100	240118	7413738
	TCDCr32	100	240122	7413867
	TCDCr34	50	240171	7414514
	Opportunistic/Targeted	6	240884	7417629
	Opportunistic/Targeted	12	240807	7417588
	Opportunistic/Targeted	32	240888	7417795
	Opportunistic/Targeted	1	240813	7417549
	Opportunistic/Targeted	1	241224	7416949
	Opportunistic/Targeted	8	241290	7416916
	Opportunistic/Targeted	25	242141	7417864
	Opportunistic/Targeted	13	242234	7417801
	Opportunistic/Targeted	1	242229	7412239
	Opportunistic/Targeted	100	242155	7407589
	Opportunistic/Targeted	50	242207	7407594
	Opportunistic/Targeted	5	246068	7409089
	Opportunistic/Targeted	50	246065	7409144
	Opportunistic/Targeted	25	243091	7411869
	Opportunistic/Targeted	35	243048	7411930

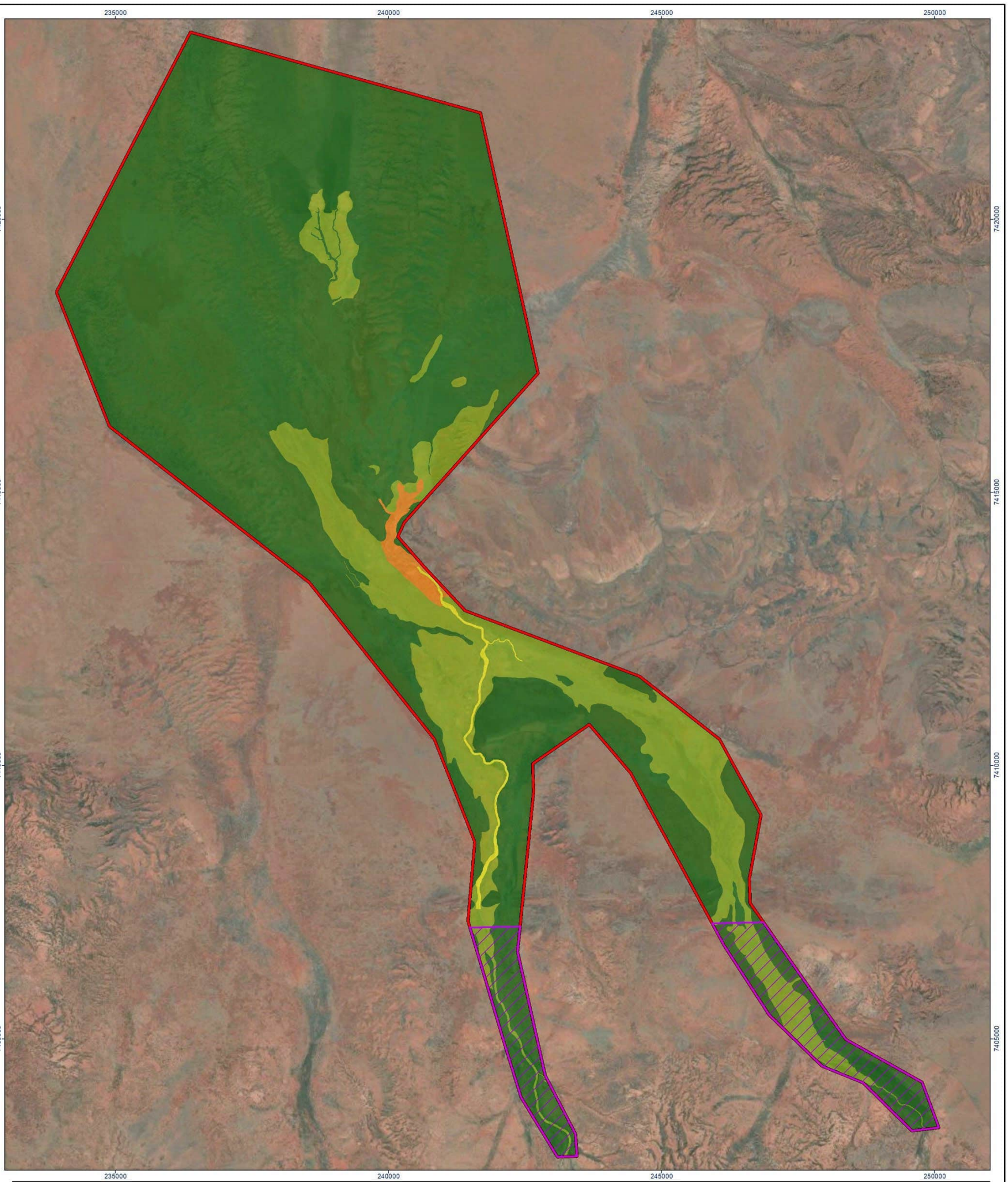
Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	75	243104	7411913
	Opportunistic/Targeted	120	243075	7411925
	Opportunistic/Targeted	100	241921	7410032
	Opportunistic/Targeted	50	242091	7409893
	Opportunistic/Targeted	15	241732	7412505
	Opportunistic/Targeted	5	241947	7409502
	Opportunistic/Targeted	2	238883	7419366
	Opportunistic/Targeted	15	240451	7419426
	Opportunistic/Targeted	7	242293	7417669
	Opportunistic/Targeted	30	240045	7414603
	Opportunistic/Targeted	72	240572	7417099
	Opportunistic/Targeted	25	240548	7417069
	Opportunistic/Targeted	12	240467	7417048
	Opportunistic/Targeted	2	240531	7417106
	Opportunistic/Targeted	50	240460	7417085
	Opportunistic/Targeted	50	240480	7417092
	Opportunistic/Targeted	42	240544	7417070
	Opportunistic/Targeted	38	240575	7417108
	Opportunistic/Targeted	25	240572	7417195
	Opportunistic/Targeted	56	240595	7417163
	Opportunistic/Targeted	33	240676	7417217
	Opportunistic/Targeted	28	240750	7417484
	Opportunistic/Targeted	75	240673	7417470
	Opportunistic/Targeted	12	240772	7417549
	Opportunistic/Targeted	44	240826	7417525
	Opportunistic/Targeted	26	240805	7417580
	Opportunistic/Targeted	50	240453	7414930
	Opportunistic/Targeted	250	240463	7414958
	Opportunistic/Targeted	400	240496	7415011
	Opportunistic/Targeted	125	240307	7414963
	Opportunistic/Targeted	100	240473	7415106
	Opportunistic/Targeted	35	241948	7412270
	Opportunistic/Targeted	2	241368	7417438
	Opportunistic/Targeted	25	241410	7417391
	Opportunistic/Targeted	3	240859	7416516
	Opportunistic/Targeted	20	241054	7416485
	Opportunistic/Targeted	22	240641	7416395
	Opportunistic/Targeted	2	240745	7416534
	Opportunistic/Targeted	53	239473	7413893
	Opportunistic/Targeted	5	241854	7411906
	Opportunistic/Targeted	28	242000	7412269
	Opportunistic/Targeted	58	239473	7413893
	Opportunistic/Targeted	2	241470	7416453
	Opportunistic/Targeted	4	240981	7415721
	Opportunistic/Targeted	5	240814	7415563
	Opportunistic/Targeted	50	240789	7415489
	Opportunistic/Targeted	50	240688	7415377
	Opportunistic/Targeted	12	240777	7415196
	Opportunistic/Targeted	150	240588	7415159
	Opportunistic/Targeted	4	240670	7415044

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	5	241797	7411931
	Opportunistic/Targeted	30	241835	7412153
	Opportunistic/Targeted	8	241761	7411990
	Opportunistic/Targeted	50	241735	7412059
	Opportunistic/Targeted	73	241907	7412226
	Opportunistic/Targeted	250	241992	7412285
	Opportunistic/Targeted	3	246386	7408097
	Opportunistic/Targeted	50	241740	7412434
	Opportunistic/Targeted	1	246491	7407650
	Opportunistic/Targeted	50	241553	7410999
	Opportunistic/Targeted	25	241586	7411479
	Opportunistic/Targeted	25	245517	7409126
	Opportunistic/Targeted	4	246357	7408053
	Opportunistic/Targeted	46	243334	7412059
	Opportunistic/Targeted	25	245471	7408276
	Opportunistic/Targeted	25	245576	7408271
	Opportunistic/Targeted	25	245609	7408107
	Opportunistic/Targeted	25	245599	7408029
	Opportunistic/Targeted	90	242259	7407686
	Opportunistic/Targeted	65	242129	7407790
	Opportunistic/Targeted	32	242128	7410603
	Opportunistic/Targeted	4	242271	7410640
	Opportunistic/Targeted	100	243592	7411631
	Opportunistic/Targeted	80	243093	7411866
	Opportunistic/Targeted	4	243623	7411300
	Opportunistic/Targeted	45	242811	7412102
	Opportunistic/Targeted	10	243810	7411127
	Opportunistic/Targeted	50	243622	7411865
	Opportunistic/Targeted	50	243665	7410979
	Opportunistic/Targeted	32	243847	7411395
	Opportunistic/Targeted	25	245784	7409653
	Opportunistic/Targeted	4	245658	7409689
	Opportunistic/Targeted	5	245583	7409546
	Opportunistic/Targeted	3	246396	7407951
	Opportunistic/Targeted	3	245651	7409401
	Opportunistic/Targeted	4	246497	7407530
	Opportunistic/Targeted	4	246472	7407675
	Opportunistic/Targeted	25	246441	7407799
	Opportunistic/Targeted	90	246372	7408871
	Opportunistic/Targeted	3	243064	7411552
	Opportunistic/Targeted	2	243039	7411393
	Opportunistic/Targeted	32	243306	7411174
	Opportunistic/Targeted	100	235857	7419985
	Opportunistic/Targeted	100	240933	7420655
	Opportunistic/Targeted	25	241513	7419662
	Opportunistic/Targeted	15	240288	7413367
	Opportunistic/Targeted	30	240340	7413381
	Opportunistic/Targeted	500	240368	7413452
	Opportunistic/Targeted	50	240244	7413644
	Opportunistic/Targeted	20	240090	7413898

Introduced flora	Site/Collection (Stantec data only)	Abundance	GDA94, Zone 51	
			Eastings	Northings
	Opportunistic/Targeted	38	240540	7413281
	Opportunistic/Targeted	25	240236	7414774
	Opportunistic/Targeted	25	240352	7414857
**Setaria verticillata*	Opportunistic/Targeted	3	241953	7409576
	Opportunistic/Targeted	3	240456	7419432
	Opportunistic/Targeted	15	240515	7419441
	Opportunistic/Targeted	4	245004	7408822
	Opportunistic/Targeted	5	235605	7420550
	Opportunistic/Targeted	15	235630	7420522
	Opportunistic/Targeted	50	240989	7420360
**Sonchus oleraceus*	Opportunistic/Targeted	13	242027	7412272
	Opportunistic/Targeted	65	239473	7413893
	Opportunistic/Targeted	4	241992	7412285
	Opportunistic/Targeted	65	243421	7411985
**Tribulus terrestris*	TCDC113	10	240006	7414036
	TCDC112	30	239964	7413894
	TCDC111	20	240443	7413507
	Opportunistic/Targeted	5	240288	7413368
**Vachellia farnesiana* var. *farnesiana*	Opportunistic/Targeted	1	243336	7411741
	Opportunistic/Targeted	1	240116	7413752
	Opportunistic/Targeted	2	240160	7413788
	Opportunistic/Targeted	5	240204	7413808

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7420000 7415000 7410000 7405000



Revised: 2024-04-18 By: fewalker

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Survey Area

Extrapolated Mapping Area

Vegetation Condition

- Excellent
- Very Good
- Good
- Poor

0 1 2 km

(At original document size of A3)
1:70,000

N

Notes

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Stantec BHP

Project Location
Stantec Australia Pty Ltd
Perth, Western Australia

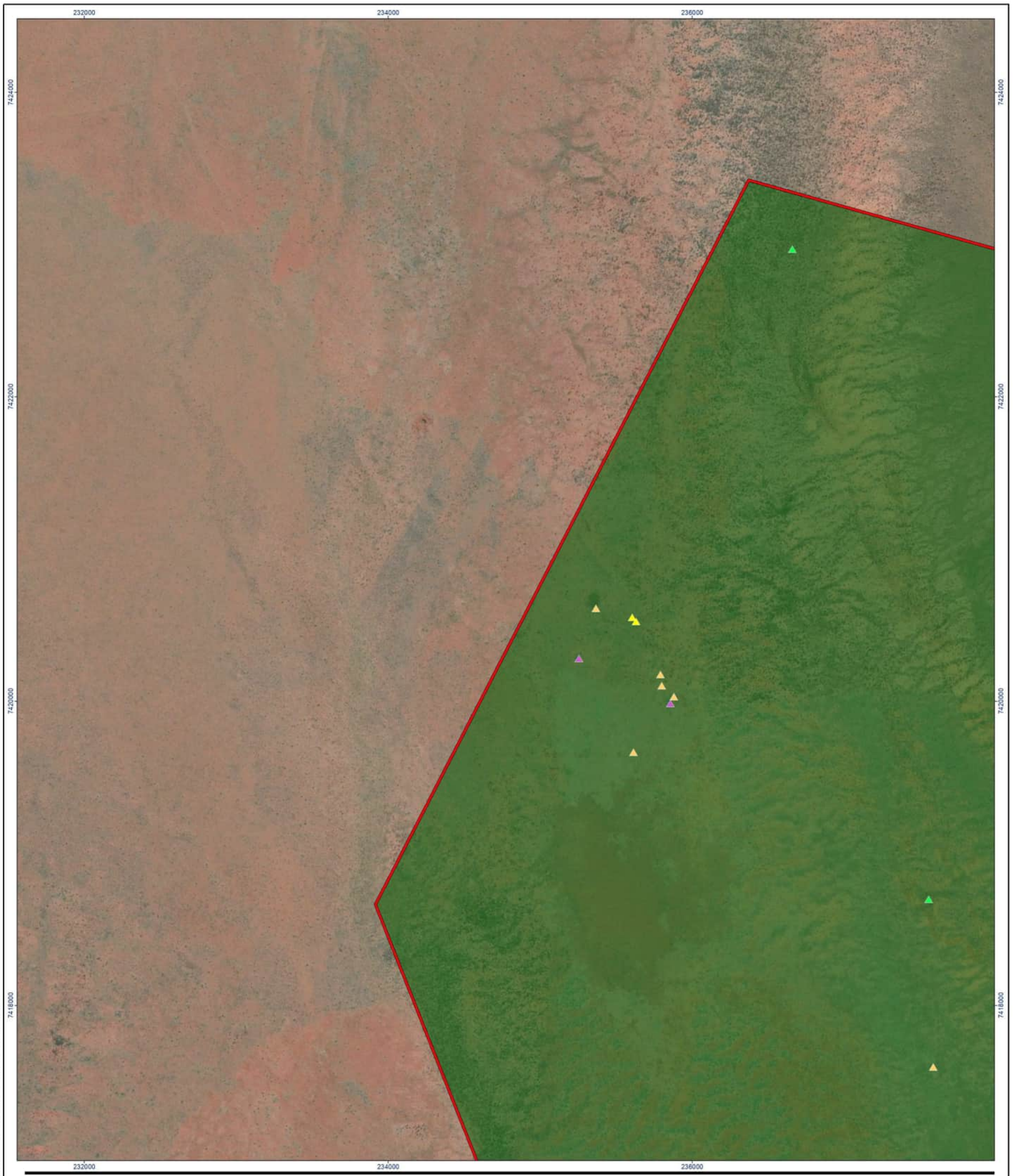
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TR by DK on 2022-12-09
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BHP
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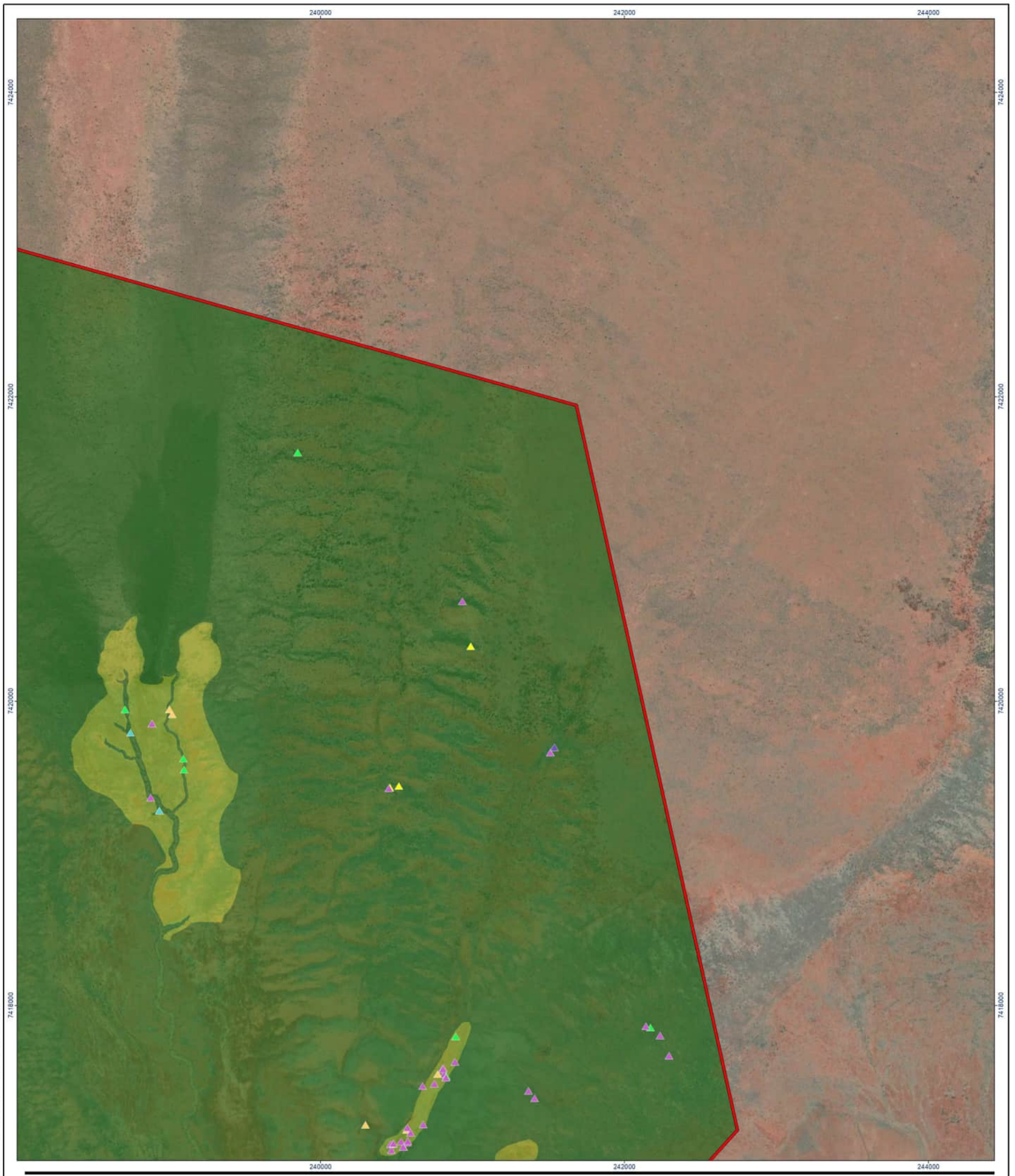
Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Condition

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Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Condition
Page 2 of 6

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300003418
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Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

Title
Vegetation Condition
Page 3 of 6

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Client/Project 300003418
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Thirteen Creek and Davidson Creek
Detailed Flora and Vegetation Survey

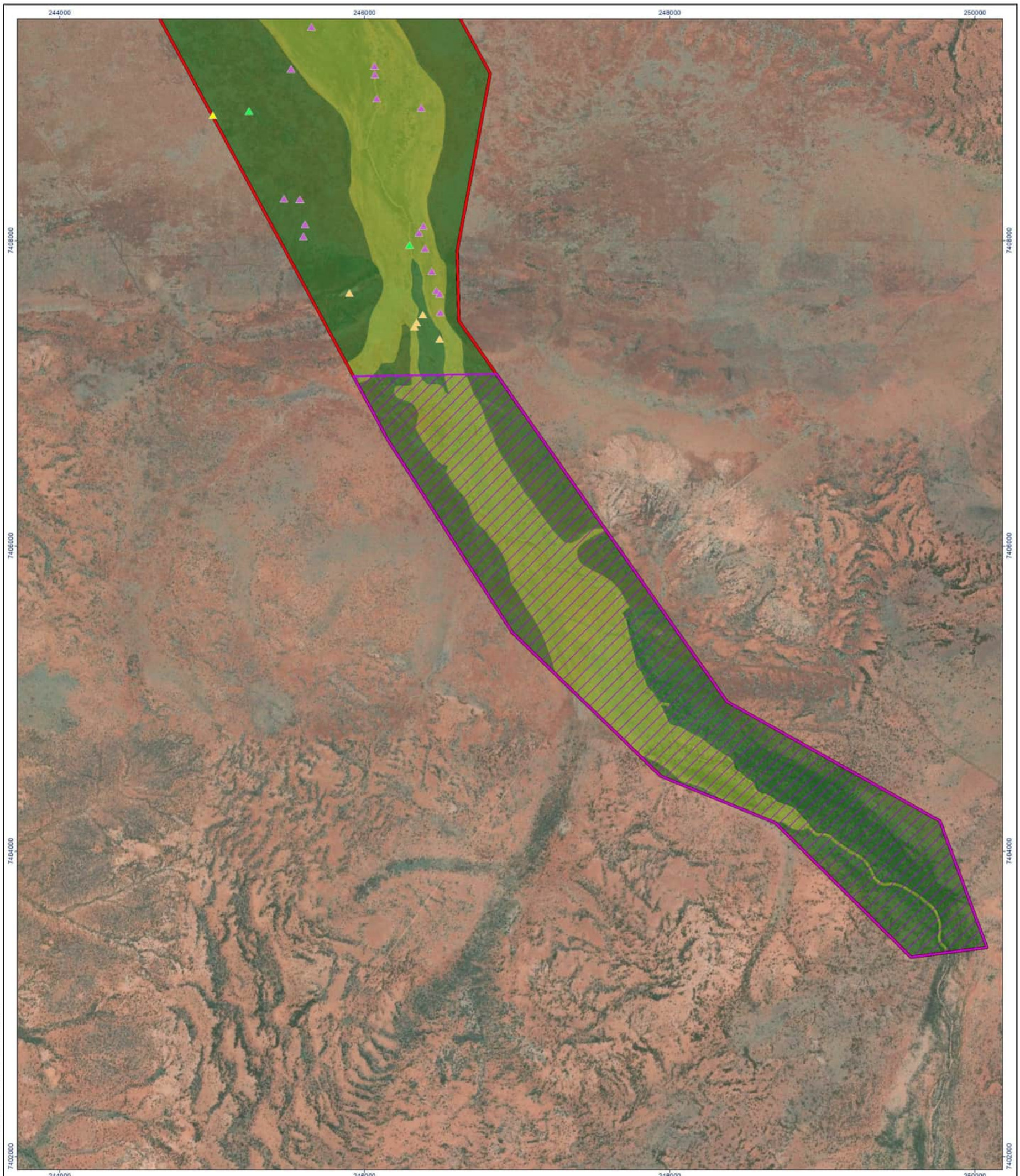
Title
Vegetation Condition
Page 5 of 6

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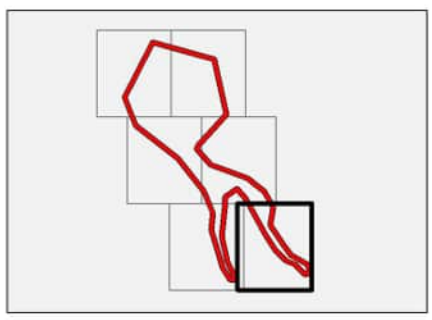
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244000 246000 248000 250000

7408000 7406000 7404000 7402000



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Survey Area
Extrapolated Mapping Area

Vegetation Condition
- Excellent
- Very Good
- Good
- Poor

Introduced Flora Records
- **Bidens bipinnata*
- **Cenchrus ciliaris*
- **Citrullus amarus*
- **Malvastrum americanum*
- **Setaria verticillata*

0 0.5 1 km

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1:25,000

N

Stantec BHP

Project Location
Stantec Australia Pty Ltd
Perth, Western Australia

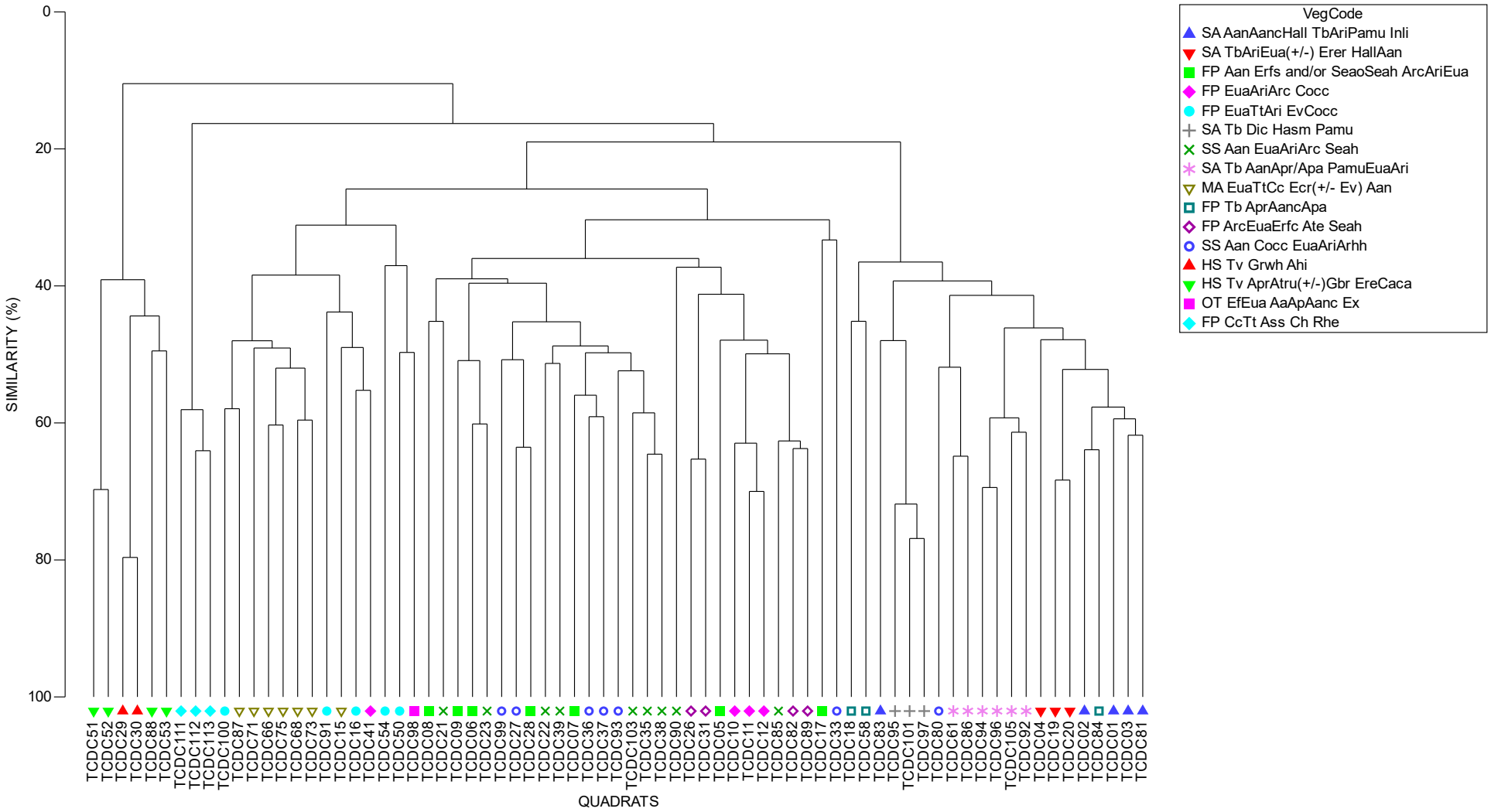
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Thirteen Creek and Davidson Creek
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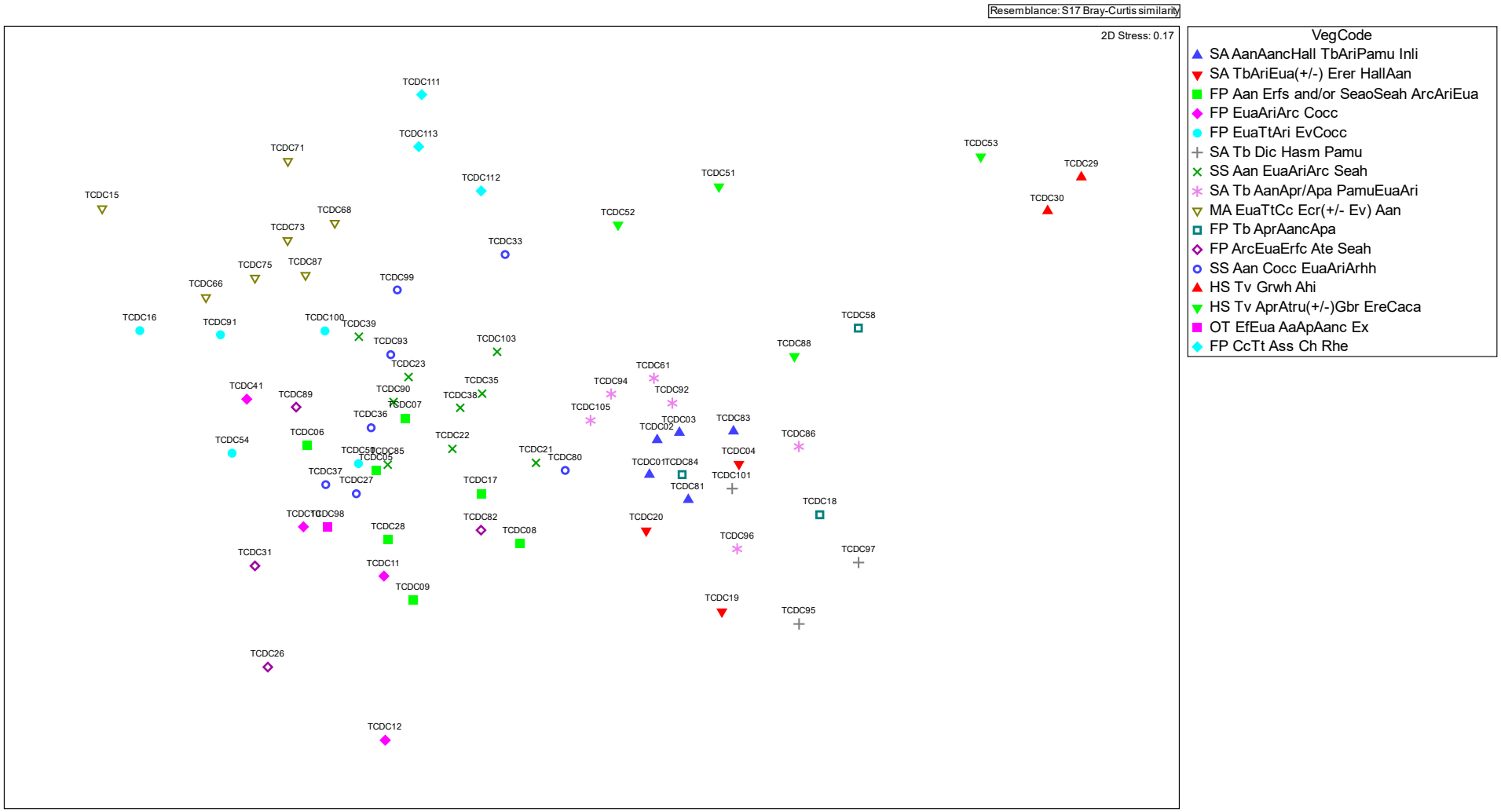
Title
Vegetation Condition
Page 6 of 6

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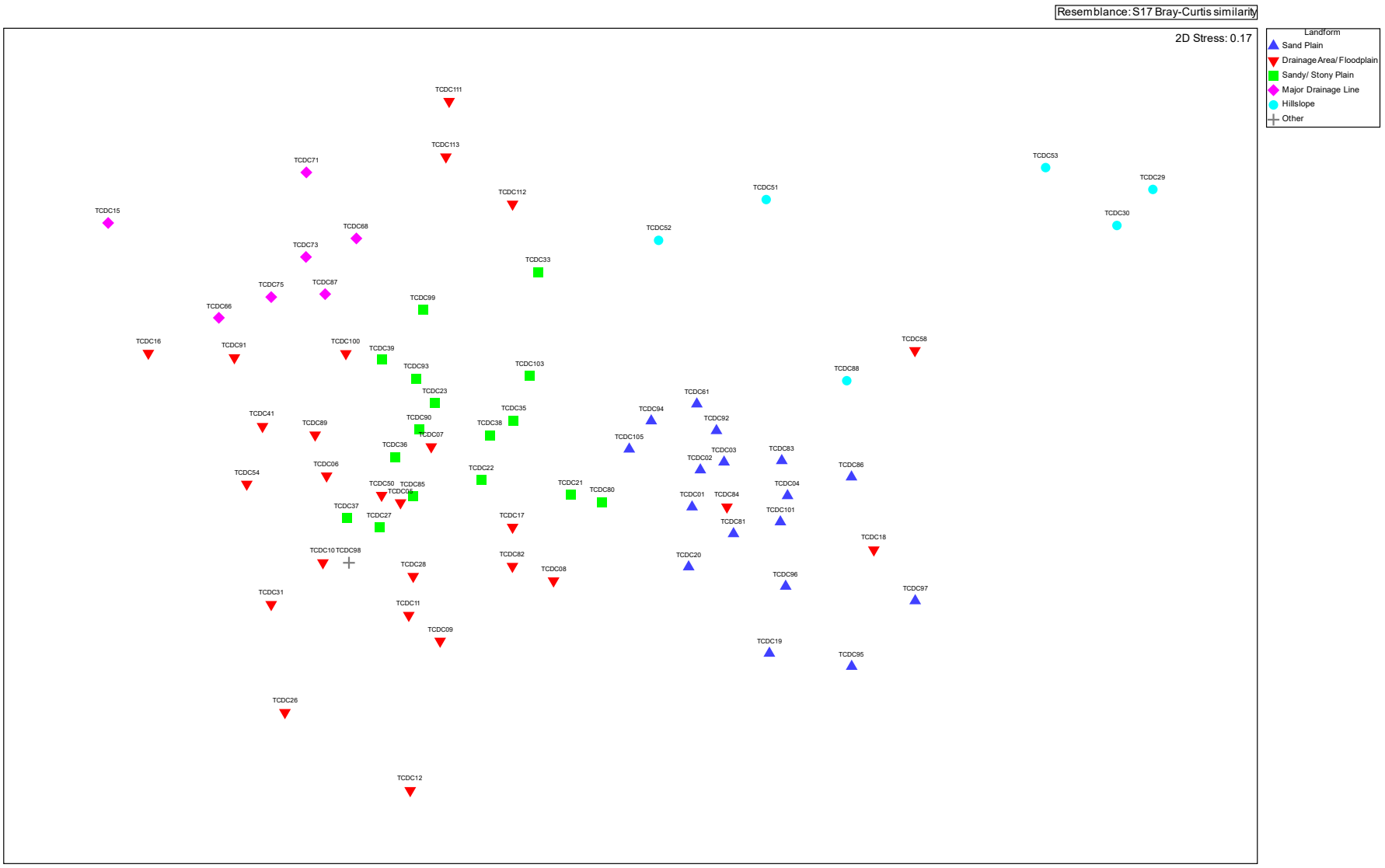
Appendix M Floristic Analysis



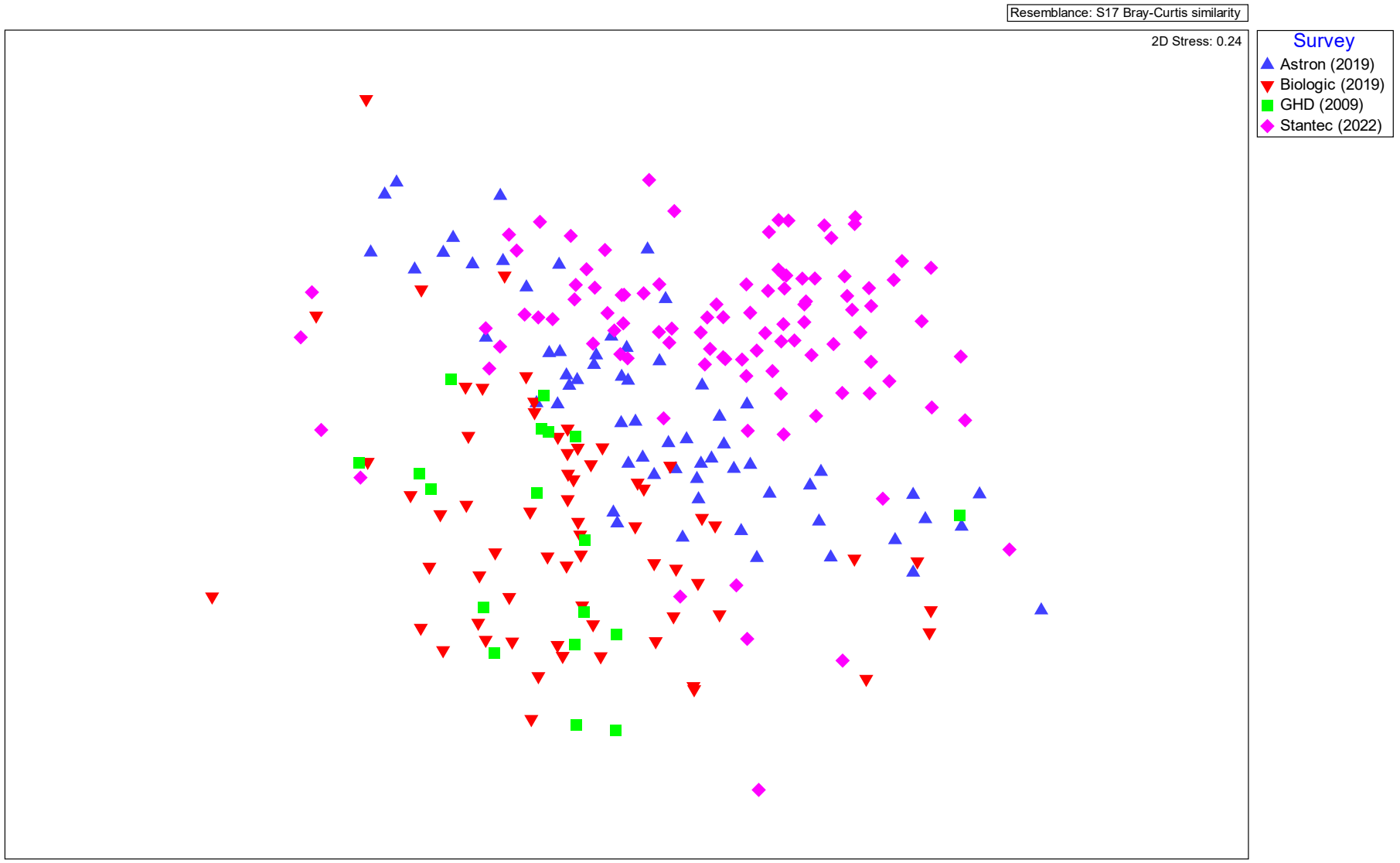
Similarity between quadrats and vegetation types based on PFC for the Survey Area.



2D nMDS plot of quadrats used to inform vegetation types using presence-absence data for the Survey Area.



2D nMDS plot of quadrats based on landform using presence-absence data for the Survey Area.



2D nMDS plot of systematic sites from the Stantec (current), Biologic (2019), Astron (2019), and GHD (2009) surveys using presence-absence data

DESIGN WITH COMMUNITY IN MIND

Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise, to appreciate nuances and envision what's never been considered, to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Stantec trades on the TSX and the NYSE under the symbol STN.
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