Western Botanical

Addendum to Report WB653: Yeelirrie Project Flora and Vegetation Survey (February 2011)

June 2015

Cameco Australia
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This report has been designed for double-sided printing

Contents

Appendices

Tables

Figures

Plates

Executive Summary

In preparation for a Public Environmental Review (PER) level of assessment of the Yeelirrie Uranium Project, Cameco is undertaking a review of relevant previous reports. Western Botanical was commissioned to prepare this *Addendum Report* (WB839), reviewing and updating results of the Level 2 flora assessment *Baseline flora and vegetation survey of the Yeelirrie Project* (WB653). Specifically, this addendum report provides (as per Cameco's scope):

- Overview of previous botanical and flora surveys.
- Review of flora survey methods to ensure the meeting of current guidelines and requirements.
- Review and update the flora of the Project Area, including:
  - Flora species lists.
  - Conservation rankings.
  - Known and additional Flora of Interest.
  - Existence of TECs (Threatened Ecological Communities) and PECs (Priority Ecological Communities).
- Review of vegetation units and mapping (resulting from flora review).
- Recommendations produced from the review of WB653.

Review of flora resulted in updated species names and species lists, in addition to some revised identification determinations and range extension statuses. Conservation rankings of 5 species changed since WB653; *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglass 25025) has been upgraded from Priority 1 to Threatened, *Sida* sp. Mt Keith (now known as *Sida picklesiana*) listed as Priority 3, *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) downgraded from Priority 1 to Priority 3, and *Calytrix erosipetala* status of Priority 3 removed, and the status of *Alyxia* tetanifolia presented in WB653 revised to Priority 3. Likewise, non-priority flora of interest within WB653 have also been revised and re-presented with current information, for completeness.

Desktop DPaW database searches were re-performed to ensure current knowledge of threatened and priority flora, and of threatened and priority ecological communities (TECs and PECs, respectively). No new flora-related TECs or PECs were detected within the Yeelirrie Project area.

Report WB653 paired with this Addendum Report provide sufficient rigor to describe the current vegetation and flora, and facilitate subsequent EPA assessment and auditing.

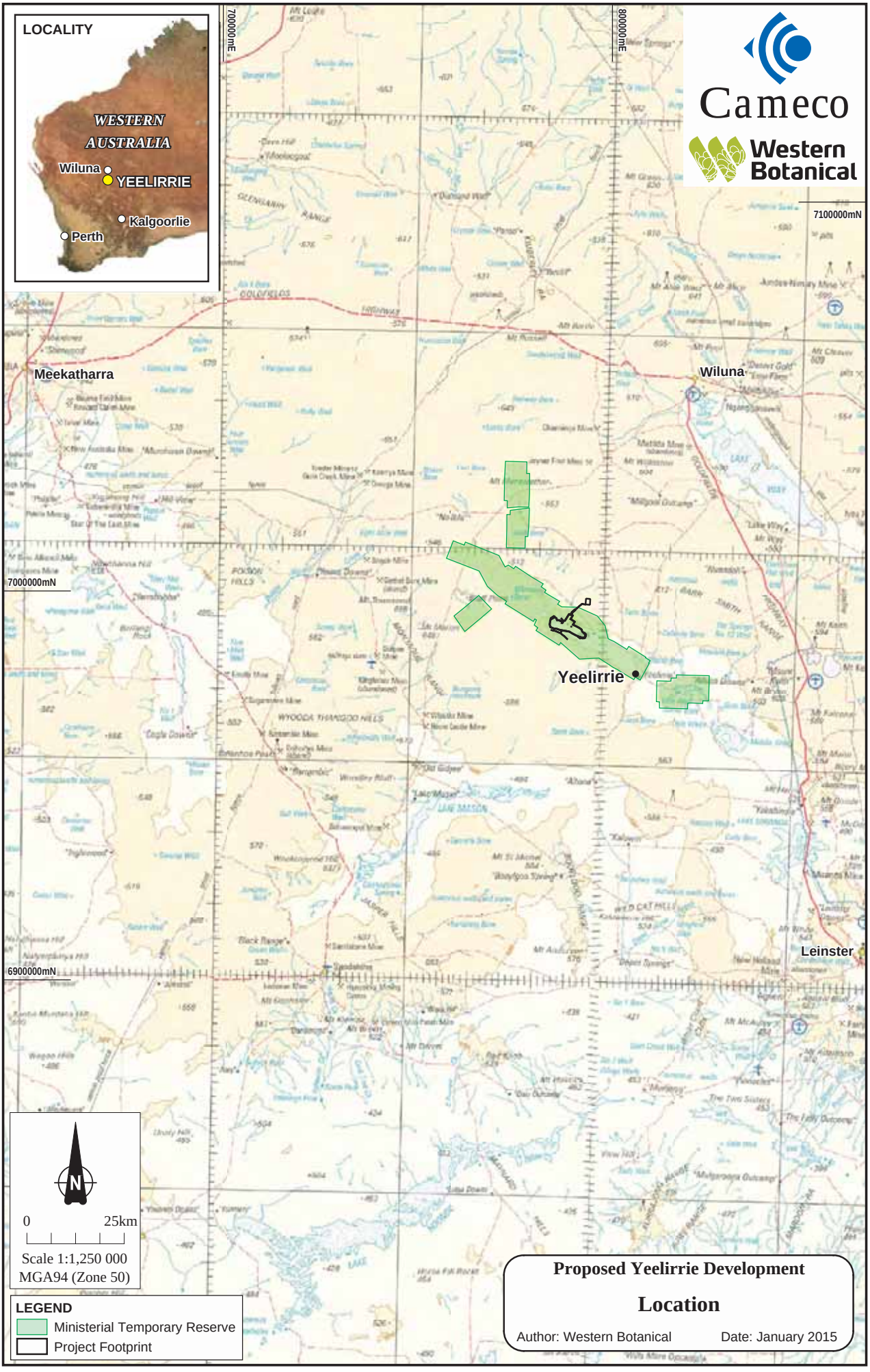
1. Introduction

In 2008 BHP Billiton activated plans to develop a uranium mine on Yeelirrie Pastoral Station, 700 km northeast of Perth and 70 km southwest of Wiluna (Figure 1). In 2010 BHP Billiton Yeelirrie Development Company Pty Ltd, through URS Australia Pty Ltd, commissioned Western Botanical to undertake a flora and vegetation assessment of the proposed Project Area. The outcome of the survey was the *Yeelirrie Project Flora and Vegetation Survey Baseline Report, February 2011 (WB653)* (Western Botanical 2011).

In 2012 Cameco Australia Pty Ltd (Cameco) acquired Yeelirrie from BHP Billiton (BHPB). Cameco is undertaking a review of relevant previous reports in preparation for a Public Environmental Review (PER) level of assessment of the Yeelirrie Uranium Project (the Project). Western Botanical was commissioned to prepare this *Addendum Report* (WB839) reviewing and updating results of the original WB653 report. Specifically, this addendum report provides (as per Cameco's scope):

- Overview of previous botanical and flora surveys.
- Review of flora survey methods to ensure the meeting of current guidelines and requirements.
- Review and update the flora of the Local Study Area, including:
  - Flora species lists.
  - Conservation rankings.
  - Known and additional Flora of Interest.
  - Existence of TECs (Threatened Ecological Communities) and PECs (Priority Ecological Communities).
- Review of vegetation units and mapping (resulting from flora review).
- Recommendations produced from the review of WB653.

Figure 1. Site location of the proposed Yeelirrie Project.



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2. Previous Botanical Surveys

The summary of previous botanical surveys relevant to the Project presented in Western Botanical 2011 (WB653) remains valid up to January 2011 when it was finalised. Since February 2011, three botanical surveys have been performed within the area relevant to the Project. The first survey, by Meissner in 2010 (Meissner 2011), conducted a regional flora and vegetation survey of eight calcrete paleodrainage channels in the north-eastern Goldfields. Meissner reports that the calcrete vegetation was generally species-poor and contained few endemic or rare taxa.

The second survey, Clarke *et al.* 2012, was a research project investigating the genetic structure of *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025). The researchers assessed genetic variation within the two major populations of *Atriplex* sp. Yeelirrie Station to help determine its taxonomic and conservation status. The two populations of *Atriplex* sp. Yeelirrie Station were found to have similar levels of genetic diversity, but exhibited an unexpected level of genetic differentiation given their proximity (Clarke *et al.* 2012).

The third survey was conducted by Western Botanical in August 2014 (Western Botanical 2014) and focussed on an assessment of *Atriplex* sp. Yeelirrie Station in the Western Population on the Yeelirrie orebody and also the plants noted in rehabilitation within the southern stockpile area, immediately south of the Yeelirrie orebody area.

Overall, the local and regional area surrounding the Yeelirrie Project is well surveyed. A summary of broad scale regional botanical surveys as well as nearby local scale surveys is presented in Table 1.

Table 1. Summary of previous botanical surveys relevant to the Yeelirrie Project and the surrounding region (chronological order).

Reference	Scale	Summary Description
Gardner 1942	Regional	Broad scale regional flora surveys and general account of vegetation for the Murchison.
Mabutt et al. 1963	Regional	Descriptions of land systems and vegetation of the Austin Botanical District (Wiluna and Glengarry)
Specht 1970	Regional	National scale structural vegetation classification and mapping.
Beard 1976	Regional	Broad scale regional vegetation mapping (1: 1,000,000) of the Murchison including vegetation unit descriptions.
Western Mining Corporation Ltd 1978	Yeelirrie. Local.	Draft EIS and ERMP including vegetation and flora survey of the Yeelirrie Project.
Beard 1979	Regional	Broad scale regional vegetation mapping (1: 1,000,000) of the Murchison including vegetation unit descriptions.
Ecologia 1990a	Local	Flora and fauna survey of the Yakabindie Nickel Mine Project.
Ecologia 1990b	Local	Biological assessment of the Yakabindie Nickel Mine Project.
Pringle *et al.* 1994	Regional (land systems). Local (vegetation)	Description of broad land systems and local vegetation units of the North-eastern Goldfields. Mapping at 1: 250,000.

Reference	Scale	Summary Description
Ecologia 1995	Local	Environmental assessment of the Yakabindie Nickel Mine Project.
Landcare Services 1996	Local	Flora and vegetation survey of the Mt Keith Operations Waste Dumps.
Landcare Services 1997a	Local	Flora and vegetation survey of the Agnew Gold Operations.
Landcare Services 1997b	Local	Flora and vegetation survey of the Mt Keith Nickel Operations.
Landcare Services 1997c	Local	Flora and vegetation survey of the Leinster Nickel Operations.
Landcare Services 1997d	Local	Flora and vegetation survey of the Leinster Townsite and Borefields.
Payne *et al.* 1998	Regional	Floristic inventory, condition assessment, and mapping of the Sandstone, Yalgoo, Paynes Find Area. Mapping at 1: 250,000.
Western Botanical 2004	Local	Flora and vegetation survey of the Cliffs Exploration Tenement.
Western Botanical 2006a	Local	Flora and vegetation survey of the Proposed North Lake Way Borefield.
Western Botanical 2006b	Local	Review of flora, vegetation, and conservation values of the select areas of Wanjarri Nature Reserve and Yakabindie Station.
Western Botanical 2006c	Local	Review of flora, vegetation, and conservation values of select areas of the Mt Keith Tenements.
Western Botanical 2006d	Local	Flora and vegetation survey of the Yakabindie Tenements.
Western Botanical 2007a	Local	Flora and vegetation survey of the Proposed Rocky's Reward Cutback 2 Project.
Western Botanical 2007b	Local	Flora survey for a clearing permit application at Leinster Nickel Operation.
Western Botanical 2008a	Local	Flora survey for a proposed clearing permit
Western Botanical 2008b	Local	Flora, vegetation, and conservation values of the north-western corner of Wanjarri Nature Reserve.
Western Botanical 2008c	Local	Flora and vegetation survey for proposed clearing within the Koonoonooka Sand Quarry.
Western Botanical 2009a	Local	Significant flora and vegetation units of Yeelirrie ore body (correlated to changes in soil and topography).
Western Botanical 2009b	Yeelirrie. Local.	Interim baseline flora and vegetation survey of the Yeelirrie Project.
Western Botanical 2011	Yeelirrie. Local and Regional	Baseline flora and vegetation survey of the Yeelirrie Project. Mapping at 1: 25,000.
Meissner 2011 (Draft)	Regional	Flora and vegetation survey of calcrete palaeodrainage channels in the north eastern Goldfields.
Clarke *et al*. 2012	Yeelirrie. Local.	Assessment of genetic variance within *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025) to help determine taxonomic and conservation status.
Western Botanical, 2014	Yeelirrie. Local	Preliminary demographic study of *Atriplex* sp. Yeelirrie Station.

3. Review of Flora Survey Methods

3.1. Field Survey

The field survey reported in Western Botanical 2011 included 16 study areas. Study Areas 1, 2, and 3 are collectively referred to as the Local Study Area, while areas four through 16 are collectively referred to as the Regional Study Area.

Study Area 1, the area encompassing the proposed Project and road corridor (48,901 ha) was the primary focus of the Western Botanical 2011 survey effort. A level 2 survey of Study Area 1 was performed, including quadrat based assessment of flora and the mapping of vegetation at a scale of 1:10,000. Study Area 2, comprising five areas (42,027 ha total) adjacent to and contiguous with Study Area 1, contains proposed bore fields, quarry, and buffers around Study Area 1. A level 1 survey of Study Area 2 was performed and focussed on mapping of vegetation units. A level 1 survey of Study Area 3 (9,843 ha) was performed and focussed on mapping of vegetation units and definition of the extent and size of the Eastern Population of *Atriplex* sp. Yeelirrie Station.

Regional study areas 4 through to 16 were areas of paleodrainage channels and lake systems with similarity in landform to Study Area 1. The purpose of the regional study areas was primarily to search for additional populations of *Atriplex* sp. Yeelirrie Station whilst providing a regional context for the distribution of flora species with conservation interest that were recorded within Study Area 1.

3.1.1. Timing of Field Surveys

Yeelirrie Station receives a long-term average rainfall of 240 mm per year. Figure 2 presents rainfall at Yeelirrie Station and the timing of field survey visits for WB653. The first season survey trips of 2009 occurred during a poor rainfall year (153.3 mm). However, an improved rainfall season occurred for the second season survey trips of 2010 (277.6 mm), with typical seasonal rainfall occurring during the survey period enabling the assessment of ephemeral and annual species, and the re-collection of perennial voucher material to confirm identifications.

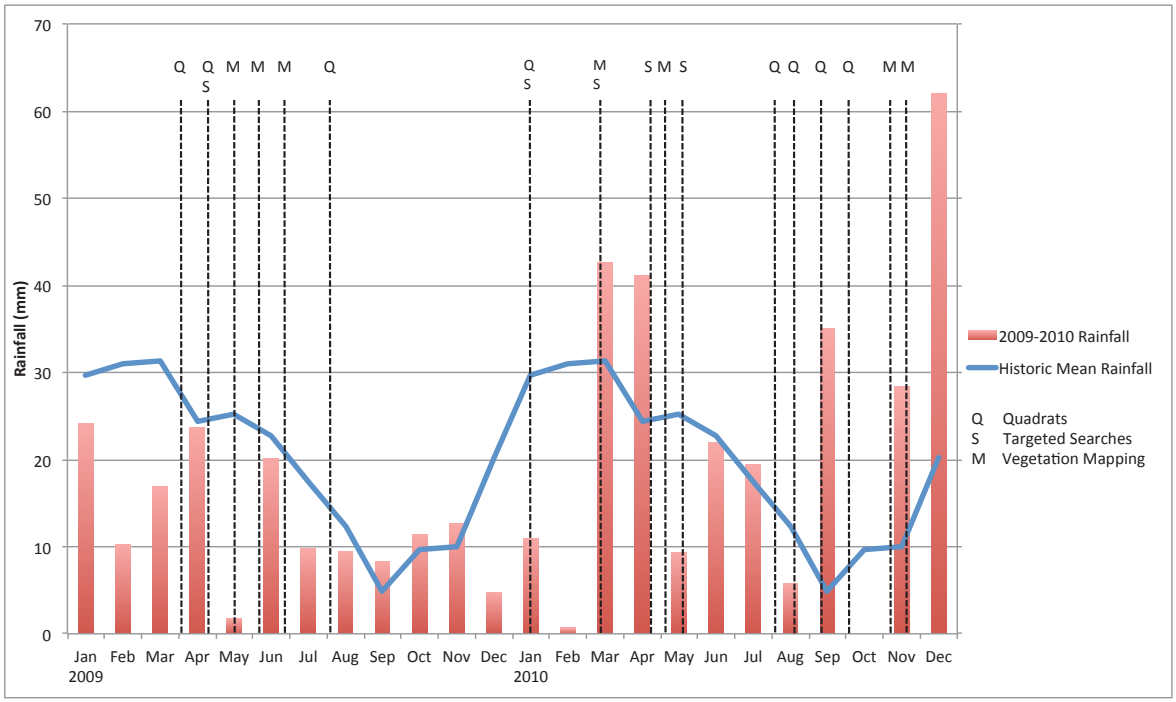


Figure 2. Rainfall during the survey period of WB653 compared to historic mean (Bureau of Meteorology 2015), and the timing of field survey visits.

3.1.2. Quadrat Sizes

Use of quadrats was an appropriate method of conducting the level two survey or WB653. The appropriate quadrat size to use for WB653 was determined during the initial survey through the installation of ten nested quadrats and an assessment of resulting species accumulation curves. Results found that 50 x 50 m quadrats best captured the flora at Yeelirrie. Fifty by fifty metre quadrats are larger than the 20 x 20 m quadrats recommended for use in the Murchison and Goldfields regions (EPA & DEC 2012).

The majority of quadrats established during the initial survey (121 of 149, 81%) were re-visited during a second period of surveys during a typical rainfall season to capture ephemeral and annual species. A reduced quadrat size of 20 x 20 m, within the previously established 50 x 50 m quadrats, was adopted during this second survey period as it adequately captured ephemeral and annual species while also increasing fieldwork efficiency. Thirty-three new 20 x 20 m quadrats were also established which were not revisits of previous 50 x 50 m quadrats.

Maintaining the same quadrat size is preferable to best enable direct comparison of data during statistical analysis. Further discussion of the impact on analysis of differing quadrat sizes is presented in Section 3.2.

3.1.3. Sufficiency of Field Sites (Quadrats and Releves)

For clarity, a full breakdown of Study Area 1 vegetation units, their total area, and total quadrats and relevés is presented in Table 2. Thirty-six of the 41 vegetation units recognised in Study Area 1 contain the minimum (and typically exceed) the two quadrats recommended by Guidance Statement 51 (Environmental Protection Agency 2004). The five vegetation units with less than two quadrats (PLEsp, PLEmc, Qtz, SACSG, and DRMps) are restricted units with small total area, and in some cases fragmented into areas too small to permit representative quadrats to be established.

It is noted that statistical analysis (see Section 3.2) was conducted on the results of quadrat assessments from survey period 1 only. If data from survey period 2 were included in analysis, some minor vegetation units are likely to be coalesced (e.g. Qtz unit would become part of Gr unit), further reducing the number of veg units containing less than two quadrats.

Overall, Study Area 1 contains one quadrat per 252 ha. With the inclusion of relevés, Study Area 1 contains one field assessment site per 130 ha on average. This density of field sites is adequate, providing high numbers of replicates for the vast majority of vegetation units, and provides good coverage for vegetation of Study Area 1.

Table 2. Summary of quadrats and releves per vegetation unit performed during surveys of WB653, sorted by total number of quadrats.

Vegetation Unit	Area (ha)	Quadrats Survey Period 1	Quadrats Survey Period 2		Total Quadrats (Excluding Revisits)	Total Releves	Total Sites (Quadrats & Releves)
		New	New	Revisit			
CMxS	374.95	11	0	5	11	6	17
HPMS	7,322.37	9	1	8	10	14	24
SAMA	14,441.23	9	1	6	10	21	31
PLAET	262.13	8	0	5	8	8	16
PLAPoS	1818.1	7	1	5	8	7	15
SAWS	6,781.25	8	0	6	8	20	28
CCpW	453.28	7	0	6	7	4	11
SAMU	6,818.05	7	0	7	7	13	20
CEgW	178.94	6	0	5	6	4	10
PLAMi	42.63	4	2	2	6	2	8
PLCsMp	27.1	4	2	3	6	1	7
SAHS	679.91	5	1	4	6	4	10
WABS	651.48	6	0	4	6	4	10
CAbS	1,119.69	4	1	4	5	4	9
CApS	71.48	3	2	3	5	1	6
CErG	63.17	2	3	2	5	3	8
CLaS	104.12	3	2	3	5	1	6
DRMS	149.82	4	1	4	5	1	6
CMpS	147.51	3	1	3	4	2	6
CRsS	22.1	2	2	2	4	4	8
GR	7.31	3	1	2	4	3	7
GRMS	536.18	4	0	4	4	6	10
SASP	1057.37	3	1	3	4	2	6
SDSH	100.62	3	1	2	4	1	5
CMGbS	47.85	2	1	2	3	3	6
GPoS	125.96	3	0	3	3	3	6
GRMU	1393.74	1	2	1	3	5	8
PLCh	55.81	2	1	1	3	2	5
PLMf	15.26	2	1	2	3	5	8
SAES	198.5	2	1	2	3	3	6
SAGS	609.99	3	0	3	3	3	6
BCLS	46.1	1	1	1	2	1	3
CMiS	6.33	1	1	1	2	2	4
DRES	4.97	1	1	1	2	1	3
GFGr	43.37	1	1	1	2	1	3
PLEml	18.01	2	0	2	2	2	4
PLEmc	8.47	1	0	1	1	1	2
PLEsp	15.18	1	0	1	1	1	2
Qtz	0.14	1	0	1	1	1	2
DRMpS	3.35	0	0	0	0	0	0
SACSG	11.38	0	0	0	0	0	0
TOTALS:	**45835.20**	**149**	**33**	**121**	**182**	**170**	**352**

3.2. Data Analysis

Multivariate analysis using PATN (Blatant Fabrications 2004) was performed for quadrat data within WB653 to verify and correct vegetation categories (units) determined during field surveys. Additional data collected during quadrat revisits and additional quadrats established during the second survey period were not included within the statistical analysis of WB653. Within the dataset analysed, ten of the 41 vegetation units were represented by less than 2 quadrats.

Initial review of WB653 finds that the statistical analysis methods employed to be typical of level two survey methods. First-pass analysis of the entire data set resulted in a high ordination stress value (0.2030) despite filtering the data of confounding species. Such high stress values are indicative of a complex landscape containing disjunct vegetation units that can also be further complicated by widespread vegetation intergrades and fire mosaics. In such situations an often-adopted strategy is to break the dataset to enable separate analyses of disjunct groups, as was performed for WB653. Inspection of the classification dendrogram found that disjunct clusters of survey sites corresponded strongly to soil landscape. Subsequently, an individual PATN analysis was conducted for each of the five identified soil landscapes.

A deeper inspection of analysis methods used for WB653 found improvements that would ensure full validation and/or correction to vegetation unit determination and vegetation mapping boundaries. These are:

- Inclusion of data from the second round of surveys (spring); 33 additional quadrats and the inclusion of species data from 119 revisited quadrats.
- Addition of a secondary analysis of 180 releve sites to confirm mapping of vegetation unit boundaries.
- Increase the number of species included within analysis, from ~27% to 42%+, to better enable formation of discriminatory species groupings amongst vegetation units.

A limitation to adopting the above improvements is the difference in quadrat size between the first and second round of surveys performed during WB653 (50 x 50 m vs. 20 x 20 m, respectively). Generally, different size quadrats are not validly comparable. However, in this case a majority (79%) of the 20 x 20 m quadrats are revisits to the original 50 x 50 m quadrats. These two datasets can be meshed by; a) using the 50 x 50 m quadrat data as a base (captures structural perennial species with greater accuracy) and, b) adding newly detected species from the 20 x 20 m quadrat data (captures greater number of species during a better season).

The remaining 21% of the 20 x 20 m quadrats are new stand-alone quadrats. Analysing these smaller quadrats together with larger quadrats is suboptimal, as smaller quadrats may not accurately represent the surrounding vegetation as (i) the smaller quadrats likely captured fewer structural perennial species, and (ii) percentage foliage cover (PFC) values may skew, e.g. one 2 x 2 m plant in a 50 x 50 m quadrat has 0.16% PFC vs. 1% PFC in a 20 x 20 m quadrat (higher PFC values are given greater weight during statistical classification and ordination).

However, inclusion of the 33 stand-alone 20 x 20 m quadrats would significantly reduce the number of vegetation units (from 10 down to 5) that possess less than the recommended two or more quadrats (see Section 3.1.3, above).

3.3. Conformity to Guidelines and Requirements

At the time of the WB653 survey of Yeelirrie, Guidance Statement 51 (Environmental Protection Authority 2004) was the overarching guide to appropriate methods for the survey of terrestrial flora and vegetation for environmental impact assessment in Western Australia. The Department of Parks and Wildlife (DPaW) commenced a review and update to Guidance Statement 51 in 2012, but as of January 2015 has yet to result in an updated Guidance publication. As such, Guidance Statement 51 has been deferred to during this addendum revision of WB653.

Sections of Guidance Statement 51 specify recommended requirements for flora and vegetation assessment in Western Australia. These sections are presented in the headers below, with comment on WB653's conformity to these requirements.

3.3.1. Planning and design of flora and vegetation surveys

Approaches, resources and standards

- There was an adequate provision of resources for the survey and documentation of the flora and vegetation within WB653, commensurate with the complexity level of the scope of the task being undertaken:
  - The intensity of sampling (182 quadrats and 170 releves) is attuned to the complexity of the flora and vegetation within Study Area 1.
  - Adequate resources were directed to plant specimen processing, identification, and subsequent lodgement. However, revision of WB653 detected some errors in identifications that have been recognised and/or corrected within this Addendum Report.
  - Adequate resources were directed to data analysis, mapping, and interpretation.
- The WB653 Report paired with this Addendum Report provide sufficient rigor to describe the current vegetation and flora, and facilitate subsequent EPA assessment and auditing.
- Techniques, terminology, and survey method description within WB653 are of a standard to enable comparison of any future work on flora and vegetation.

Stage of proposal when surveys should be commissioned

- Sufficient lead-time was allocated to plan the surveys conducted and surveys of the Yeelirrie Project occurred over a two-year period.

Who should lead and undertake flora and vegetation surveys

- The WB653 project was overseen in the field by Geoff Cockerton, a Director of Western Botanical with over 25 years experience in environmental and botanical consulting and specifically 15 years experience at that time in the north-eastern Goldfields between Laverton and Wiluna. The surveys reported in WB653 were coordinated and led by senior botanists with training (and tertiary qualifications), mentoring, and sufficient experience in flora and vegetation surveys. Survey participants with less experience were supervised and in a majority of cases possessed relevant tertiary qualifications.

When flora and vegetation surveys should be conducted

- The entire WB653 survey effort comprised 32 discrete visits (Appendix 4 of WB653) over a two-year period to allow for seasonal variation in rainfall and flora. The initial round of surveys was conducted following a dry period for the project area. However, the second round of survey visits occurred within a year of typical rainfall with survey effort focused on ephemeral/annual flora.

Determining the extent and level of survey required

- The area extent of the WB653 survey appropriately considered a) zone of direct impacts (Study Area 1), b) zone of indirect impacts (Study Areas 2 & 3), and c) zone of wider interest (regional Study Areas 4 to 16).
  - Conservation Significant taxa were considered at all scales within WB653. Conservation Significant taxa are revised and updated within this Addendum Report.
  - Vegetation associations were defined and mapped at a local scale in WB653, at the equivalent resolution of NVIS Level 5 *Vegetation Association* (ESCAVI 2003) within the paleodrainage channel, and site-type group resolution (Pringle 1994) within surrounding sandplains.
- The WB653 survey is a Level 2 survey, with additional survey to adjacent areas at a Level 1 standard. The survey included multiple visits to the local project area over a period of two years. Additionally, the survey included 12 similar landforms (palaeochannels) within the local region (up to 350 km from Yeelirrie), targeted based on presence of species with known Conservation Significance.
- Initial stages of the surveys at the Yeelirrie Project produced an Interim Baseline Report (Western Botanical 2009b) that enabled a review and update of the survey extent and scope, leading to scoping and planning the final WB653 survey.

Determining survey sampling design and intensity

Survey sampling design and intensity of WB653 considered regional and area-specific (local study areas) levels.

- Regional study areas of WB653 were selected based on landform, habitat, and vegetation similarities to the landform of local Study Areas of the Yeelirrie Project and ranged up to ~350 km from the Yeelirrie Project. The regional Study Areas presented in WB653 cover

12 paleochannels within a significant portion of the MUR1 Eastern Murchison subregion of the Murchison IBRA region (and parts of the MUR2 and GAS2 subregions).

- Initial desktop study of WB653 considered the potential for Threatened, Priority, and significant flora to occur, based on an interpretation of WA Herbarium records of focus species and analysis of Land Systems.
- Initial stages of the survey at the Yeelirrie Project produced an Interim Baseline Report (Western Botanical 2009b) that enabled a review and update of the survey design and intensity leading to scoping and planning the final WB653 survey.
- Information on adjacent areas (including herbarium records, database searches, and previous surveys) was included within WB653.

3.3.2. Presentation and reporting

Identifying the limitations of the survey.

- Limitations of the flora and vegetation survey were presented in WB653.
- Resulting from this Addendum Report, the following limitations are here appended to WB653:
  - The Addendum Report's detection of unreported range extensions and flora identification errors suggest limitation(s) during flora specimen processing, possibly:
    - The deadline for report finalisation of WB653 was imposed by BHPB at four months after the final quadrat survey assessment was completed; a focus on report writing during this time may not have provided sufficient resources for full investigation of some cryptic flora specimens and final flora checks.
  - The corrections presented in this Addendum Report minimise the identified limitations of WB653.

Requirements for data presentations.

- Location maps adequately place the project in the regional and local context.
- WB653 presents the vegetation of the Yeelirrie Project through:
  - A description of vegetation units, determined from referenced field sites (quadrats and releves), using standardised methods.
  - Extensive maps of the project area showing location and distribution of vegetation units, with correct scale and display of land features.
  - A map of the vegetation condition for the project area was not compiled or presented, though vegetation condition was discussed in text. However, the graphical presentation of vegetation condition has been addressed in this Addendum Report.
  - Presentation of data of each field assessment site in Appendices 9 and 12 of WB653, including site location, characteristics, vegetation structure and lists of species present.

- Flora
  - Species lists by family are presented within WB653. This data has been reviewed, revised, and re-presented in this Addendum Report. Conservation significance and weed status are clearly indicated. A table presenting the presence of flora within vegetation units is provided in Appendix 11 of WB653.
  - Estimate of what proportion of the total flora was found.
    - Report WB653 noted dry seasonal conditions and few annuals present during vegetation mapping surveys of Study Areas 1 and 3 (Limitation 5, page 39). Subsequent quadrat assessments were carried out in more favourable conditions. However, no estimate of the proportion of flora encountered has been made.
    - Upon review, it is highly likely that the majority of perennial species have been well addressed by the numerous supporting surveys.
    - The differentiation of the various Mulga (*Acacia aneura*) varieties was not possible at the time of the assessments as the taxonomic revision by Bruce Maslin, WA Herbarium, was underway at that time. None of the subsequent Mulga species are listed as having conservation significance.
    - The assessment of annuals and some cryptic perennial species may, however, remain under-represented. This was borne out following a site visit in August 2014 to the western *Atriplex* sp. Yeelirrie Station population where 6 annual species and 5 cryptic perennial species were added to the species list, primarily within the *Atriplex* sp. Yeelirrie Station vegetation association. (Western Botanical 2014, report WB836).
  - Descriptions, the number of plants, and distribution of Threatened, Priority, and of Significance/Interest flora encountered during the surveys were presented in WB653 and are reviewed and revised in this Addendum Report.
  - Specimens were vouchered with the Western Australian Herbarium subsequent to the finalisation of WB653. As such, no list of vouchered specimens was presented within WB653. Appendix 1 of this Addendum Report lists the specimens previously vouchered as part of the WB653 survey and those subsequently vouchered in 2014/15.
- Weed species were a focus of the WB653 and targeted weed searches conducted within Study Area 1. Weeds encountered outside of Study Area 1 were recorded. Severity and invasiveness of encountered weeds are discussed within WB653, with a focus on *Acetosa vesicaria* (Ruby Dock).
- Multivariate analysis was used during WB653 to confirm and adjust vegetation categories (communities and units) determined during field surveys.
- Multivariate analysis of field data was performed and presented within WB653. Analysis largely confirmed field vegetation mapping, identified some field mapping errors, which were adjusted, and provided for some changes to vegetation associations.
- Tables of the total area that each vegetation association (unit or community) within the local Study Areas 1, 2 and 3 are presented in WB653.

Preparation of flora and vegetation survey reports.

- The studies supporting report WB653 were conducted over a two-year period and inevitably some junior staff changeover occurred over this time frame. Senior Botanist and Director Geoff Cockerton, Senior Botanists Bec Graham and Dr Carolyn Ringrose were involved for the entirety of the project's duration and were responsible for the majority of report writing. Staff utilised were qualified to undertake field surveys and were supervised by senior staff at all times.

Setting the context for survey design and reporting.

- Reviews and appraisals of existing knowledge prior to the implementation of field surveys of WB653 were appropriate and presented (included literature review or previous surveys, data and map searches, and database searches to identify Threatened Ecological Communities, Threatened Flora, Priority Flora, and otherwise conservation-significant flora. Review of existing knowledge subsequent to WB653 was also conducted and presented in this Addendum Report (specifically, additional relevant surveys conducted, and recent database searches for Threatened Ecological Communities, Threatened Flora, Priority Flora, and significant flora (to check for changes since WB653)).
- Characteristics of the site (in terms of climate, geology, landform, and vegetation) were reported in WB653 at national, state, regional, and local scales.
- Objectives of the survey are clearly stated in the introduction of WB653 under '1.1 Scope of Submission'.
- As with objectives above, the specific areas of information investigated are stated in the introduction of WB653 under '1.1 Scope of Submission'.

Format of survey reports and data.

- The WB653 *Flora and Vegetation Survey Baseline Report February 2011* and this Addendum Report are presented as standalone reports, which have also been used as the source for information within the Public Environmental Review document.

Public availability of flora and vegetation survey reports submitted for EIA.

- Relevant supporting survey reports will be made available by Cameco in preparation of their Public Environmental Review submission.

Use of terminology.

- Terminology used in WB653 and this Addendum Report is clear and standardised appropriate to flora and vegetation surveys. Vegetation categorisation presented in WB653 follows accepted standards of naming and description, using fine-scale (intra-locality) and intermediate-scale (locality or inter-locality) resolution that are in line with NVIS Level 5 *Vegetation Association* level.

Acknowledgement of contributors and attribution of all sources of data.

- All external materials and information in WB653 and this Addendum Report have been appropriate acknowledged and/or referenced. Names of all persons involved and their roles are listed within WB653, while experience of each person is summarised in Appendix 4 of WB653.

Record keeping for the purpose of audit.

- All source data collected and used for the WB653 survey is kept and maintained in a readily available electronic format (with appropriate backup systems).

4. Update of Flora

The update of flora the flora reported in WB653, presented in this Addendum Report, is based primarily on revision of the two species lists. The first is a 'local species list' encompassing flora of study areas 1, 2, and 3, which covers the proposed mining footprint and surrounding areas and includes additional species noted in August 2014 (Western Botanical 2014, WB836) (Figure 3). The second is a 'regional species list' containing flora from multiple surveyed areas (Study Areas 4 through 16) of similar land systems up to 345 km from the proposed mine (Figure 4). For each record on the species lists the following were checked:

- Species name changes.
- Species identification corrections.
- Conservation status.
- Naturalised status (native vs. weed).
- Conformity to known range.

Furthermore, investigation into flora of interest identified within, and subsequent to, WB653 has resulted in additions to the species lists.

The following subsections provide greater detail into the review and update of the flora since WB653 was written. Final updated species lists are presented in Appendix 2 (local area species list) and Appendix 3 (regional area species list). Any changes to the flora made during this addendum revision are applicable to the entirety of WB653 including systematic species lists, quadrat and releve species lists, and vegetation unit descriptions.

Figure 3. Location of local study areas (1 to 3) encompassing species presented on the 'local species list'.

Compiled: CAD Resources ~ Tel 9246 3242 ~ URL www.cadresources.com.au ~ A4 ~ Rev: A ~ CAD Ref g1697_Rep1501_F003.dgn

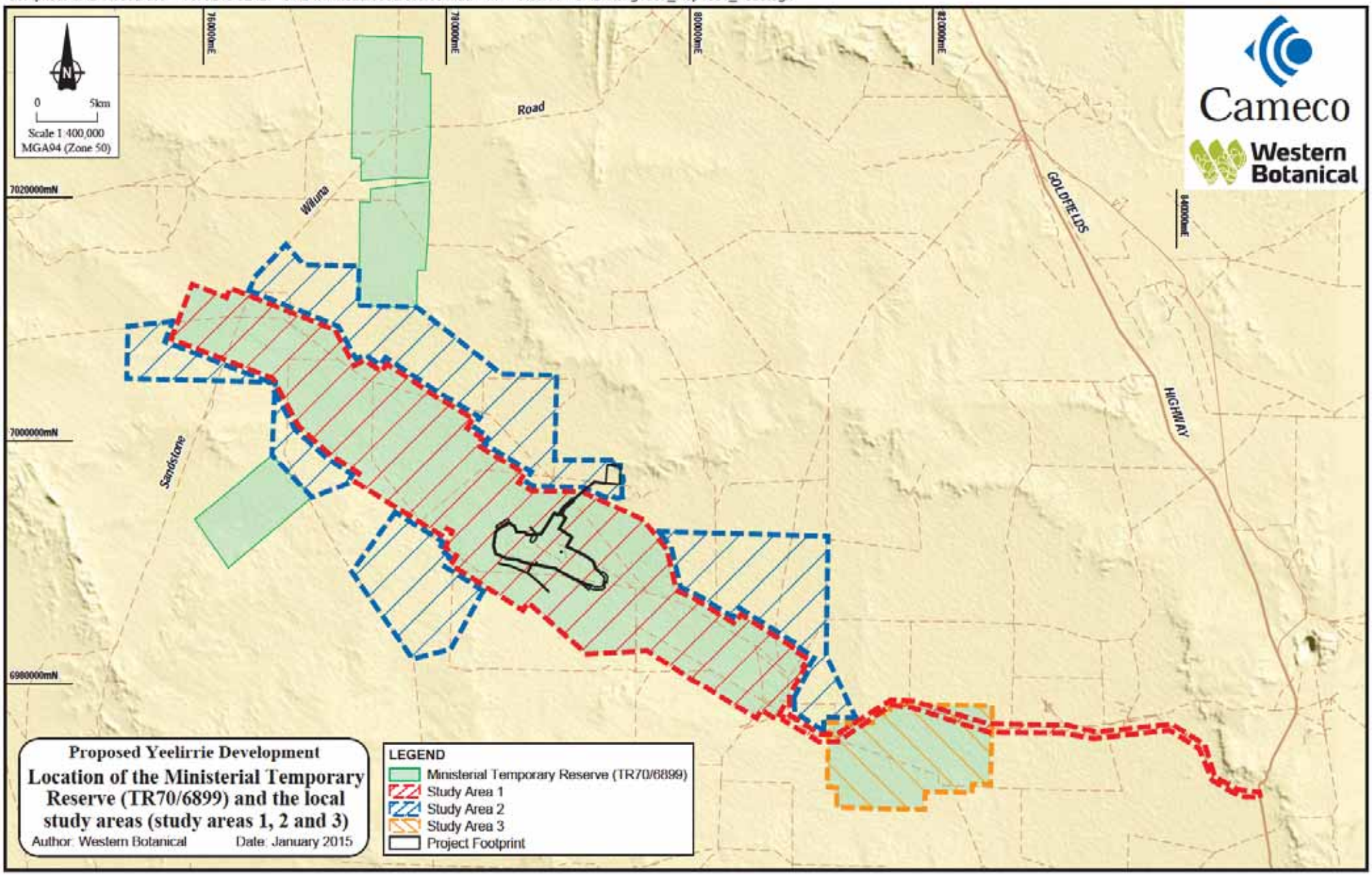
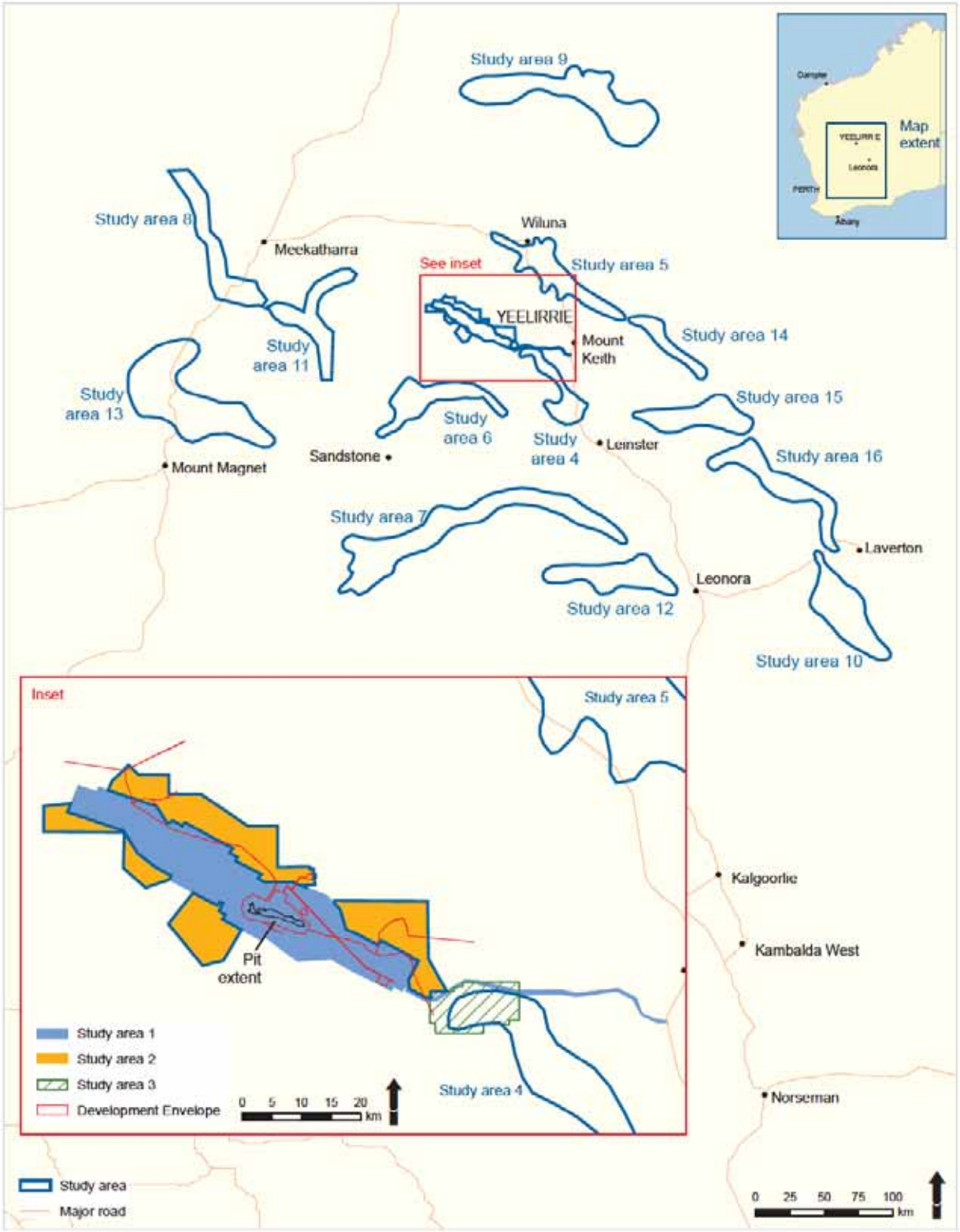


Figure 4. Location of regional study areas (4 to 16) encompassing species presented on the 'regional species list'.


Study area 9
Study area 8
Meekatharra
Wiluna
See inset
Study area 5
YEELIRRIE
Mount Keith
Study area 14
Study area 11
Study area 13
Study area 6
Study area 4
Leinster
Study area 15
Sandstone
Mount Magnet
Study area 16
Study area 7
Laverton
Leonora
Study area 12
Study area 10
Map extent
Inset
Study area 5
Kalgoorlie
Kambalda West
Pit extent
Study area 1
Study area 2
Study area 3
Development Envelope
0 5 10 15 20 km
Study area 4
Norseman
Study area
Major road
0 25 50 75 100 km

4.1. Taxonomic Name Changes

Species names on both flora species lists were reviewed by inputting names into the FloraBase website (Western Australian Herbarium 1998-). The majority of species names remain unchanged since the writing of WB653. Where an out-dated name was found the 'browse forward' feature of FloraBase was used to obtain current names.

When entered into FloraBase some species names were returned as an 'excluded name'; a misapplication of a name already belonging to a species that does not occur within Western Australia. For such cases the 'browse forward' feature of FloraBase was not available. To resolve these cases the relevant botanical publication was referred to and the correct name obtained.

Taxonomic revisions resulting in the splitting of a former species into multiple taxa provides a limitation to the update of the WB653 species lists. When checking an individual species name FloraBase does not list taxa that have been split away from the currently viewed taxa. Consequently, some species names may incorrectly be retained in the species lists instead of being updated to a newly recognised taxon.

Additionally, even when aware of a taxonomic split, it is difficult to know which taxon a recorded specimen now belongs to without inspection of the original specimen collected during the survey. Further, if multiple specimens were collected of a single taxon during the survey, and the taxon has since been split, then both the original and the split taxa may exist within the original specimens collected. Where uncertainty was knowingly encountered during update of the species lists a note was added on the list next to the relevant species name.

Twelve taxa on the local species list and six taxa on the regional species list had name changes since report WB653 (Table 3).

Table 3. Taxonomic name changes for species lists since WB653

Local Species List		
WB653 Species Name	**Updated Species Name**	**Reason**
Abutilon aff. *oxycarpum* subsp. *prostratum*	*Abutilon* aff. *oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	Standardisation of phrase name by WA Herbarium, Non-current taxon (name change)
Abutilon oxycarpum subsp. *prostratum*	*Abutilon oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	Standardisation of phrase name by WA Herbarium, Non-current taxon (name change)
Centaurium spicatum	*Schenkia australis*	Revised taxonomy, Non-current taxon (name change)
Euphorbia drummondii subsp. *drummondii*	*Euphorbia drummondii*	Revised taxonomy, Non-current taxon (subspecies lumped together)
Hibiscus gardneri	*Hibiscus* sp. Gardneri (A.L. Payne PRP 1435)	Standardisation of phrase name by WA Herbarium, Non-current taxon (name change)
Ptilotus exaltatus	*Ptilotus nobilis* and/or *Ptilotus* sp. Goldfields	Revised taxonomy, Non-current taxon (split into two taxa)
Ptilotus gaudichaudii var. *parviflorus*	*Ptilotus gaudichaudii*	Revised taxonomy, Excluded name (name change)
Ptilotus polystachyus var. *polystachyus*	*Ptilotus polystachyus*	Revised taxonomy, Non-current taxon (varieties lumped together)
Rulingia loxophylla	*Androcalva loxophylla*	Revised taxonomy, Non-current taxon (name change)
Rulingia luteiflora	*Androcalva luteiflora*	Revised taxonomy, Non-current taxon (name change)
Salsola tragus subsp. *tragus*	*Salsola australis*	Revised taxonomy, Non-current taxon (name change)
Solanum ellipticum	*Solanum cleistogamum*	Revised taxonomy, Excluded name (name change)
Regional Species List		
WB653 Species Name	**Updated Species Name**	**Reason**
Abutilon otocarpum subsp. *prostratum (*corrected to *Abutilon oxycarpum* subsp. *prostratum)*	*Abutilon oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	Data entry error & Revised taxonomy, Non-current taxon (name change)
Euphorbia drummondii subsp. *drummondii*	*Euphorbia drummondii*	Revised taxonomy, Non-current taxon (subspecies lumped together)
Polygala sp. Prostrate (P.K. Latz 4900)	*Polygala glaucifolia*	Revised taxonomy, None-current taxon (name change)
Ptilotus exaltatus	*Ptilotus nobilis* and/or *Ptilotus* sp. Goldfields	Revised taxonomy, Non-current taxon (split into two taxa)
Salsola tragus subsp. *tragus*	*Salsola australis*	Revised taxonomy, Non-current taxon (name change)
Solanum ellipticum	*Solanum cleistogamum*	Revised taxonomy, Excluded name (name change)

4.2. Additional Species

Investigation into Flora of Interest identified within and since report WB653 has resulted in the addition of nine species to the species lists (Table 4). Further detail of each flora of interest is presented in Section 6.

Table 4. Additional species to the Local Species List since WB653.

Species Name	Status	Notes
Atriplex holocarpa		Recorded in August 2014. Common and widespread annual species
Eragrostis falcata		Recorded in August 2014. Widespread in WA.
Lawrencia densiflora		Recorded in August 2014. Common and widespread annual species of clayey soil. May have been formerly recorded in species list as *Lawrencia repens*, a species with a more southerly distribution.
Maireana tomentosa subsp. red fruits		Recorded in August 2014. Informal name for this species. Widespread in Murchison region of WA. Taxonomy of *Maireana* needs revision to include this and other species.
Maireana tomentosa subsp. *tomentosa*		Recorded in August 2014. This sub species not specifically recorded before at Yeelirrie, however, is widespread in WA.
Sclerolaena fimbriolata		Recorded in August 2014. Common and widespread perennial species of gypsum soils.
Sida intricata		Recorded in August 2014. Common and widespread perennial species of clayey soils.
Trichanthodium skirrophorum		Recorded in August 2014. Widespread annual in W.A.
Vittadinia dissecta var. *hirta*	Range Extension	Previously reported *Vittadinia sulcata* and *V. eremaea* from Yeelirrie (Western Botanical 2011). Specimen is a good match for *Vittadinia dissecta* var. *hirta* but this species has an unusual distribution in Australia and the record at Yeelirrie is a significant distance from most other collections. Perennial shrub to 0.4 m, collected in the rehabilitated stockpile area.

4.3. Identification and Entry Corrections

Some flora specimen identification errors and data entry error were detected during the species lists revision process. Where field herbarium specimens and/or field photos were available the identity determination was corrected. Some corrections were made based primarily on botanical knowledge (of commonly made errors), but only when confidence in the correction was high. Corrections to identity determinations are presented below in Table 5.

Table 5. Identification and data entry corrections since WB653.

WB653 Identity Determination	Updated Identity Determination	Details
Abutilon otocarpum subsp. *prostratum*	*Abutilon oxycarpum* subsp. *prostratum* (updated to *Abutilon oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266))	Data entry error, followed by update of phrase name by WA Herbarium (non-current taxon).
Acacia clelandii	*Eucalyptus gypsophila*	Data entry error; *Acacia clelandii* was not encountered. *Eucalyptus clelandii* was previously collected but subsequently corrected to *E. gypsophila*.
Acacia tetanophylla	*Acacia tetragonophylla*	Common data entry error. *A. tetanophylla* not encountered and does not occur in Murchison IBRA.
Acacia synchronicia	*Acacia victoriae*	Common miss-ID. Field herbarium specimen verified as *A. victoriae*.
Aristida holathera var. *latifolia*	*Aristida holathera* var. *holathera*	Distribution incorrect, common miss-ID.
Bonamia rosea	*Bonamia erecta*	Distribution incorrect, revised taxonomy, common miss-ID.
Brachyscome exilis	*Brachyscome ciliocarpa*	Miss-ID and/or data entry error. WB photo records revealed correct ID.
Chloris pectinata	*Enteropogon ramosus*	Miss-ID. Field herbarium specimen verified as *E. ramosus*.
Dampiera wellsiana	*Velleia* sp. Indeterminate	Miss-ID. Field herbarium specimen verified as a *Velleia* sp. but species indeterminate due to insufficient and atypical post-fire material.
Dicrastylis doranii	*Newcastelia cephalantha*	Miss-ID. Field herbarium specimen verified as *N. cephalantha*.
Eragrostis exigua	*Eragrostis kennedyae*	Miss-ID (distribution incorrect (600 km range extension). Field herbarium specimen verified as *E. kennedyae*.
Eragrostis sp. Yeelirrie Station (S. Regan LCH 26770)	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH 26670)	Data entry error.
Eremophila sp. Wiluna (G. Cockerton & K. Stratford 1983)	*Eremophila margarethae*	Occurrences at Yeelirrie reviewed and updated to *E. margarethae*. No longer a Species of Interest. *Eremophila* sp. Wiluna occurs east of Yeelirrie, near Wiluna and Mt Keith.
Eremophila subfloccosa subsp. aff. *lanata*	*Eremophila subfloccosa* subsp. *lanata*	Identity reviewed and updated. No longer a Species of Interest.
Goodenia tenella	*Goodenia tenuiloba*	Data entry error. *G. tenella* was not encountered. WB database records provide an ID of *G. tenuiloba*.

4.4. Conservation Status

FloraBase (Western Australian Herbarium 1998-) was used to check the conservation status of all flora of both species lists in WB653. The conservation status of five species in the species lists have been updated (Table 6). Significantly, *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglass 25025) that occurs on the ore body was upgraded from Priority 1 to Threatened on 17th February, 2012 (Western Australian Government 2012).

Table 6. Changes to conservation status of species since WB653.

Species	WB653 Conservation Status	Updated Conservation Status	Notes
Atriplex sp. Yeelirrie Station (L. Trotter & A. Douglass 25025)	Priority 1	Threatened	Approximately 84,500 plants occurring on the Yeelirrie orebody.
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	Priority 1	Priority 3	Widely distributed in the eastern Murchison IBRA region (e.g.: Barr-Smith Range, Yakabindie, Wanjarri Nature Reserve)
Sida sp. Mt Keith (G. Cockerton & G. O'Keefe LCH 10489) now known as *Sida picklesiana*	Species of Interest	Priority 3	Common on the Barr-Smith range north-east of Yeelirrie and to Ironstone hills west of Wiluna.
Calytrix erosipetala	Priority 3	None	Widely distributed in the Murchison IBRA region.
Alyxia tetanifolia	None	P3	Scattered distribution in the south-western margin of the Murchison IBRA region. One plant noted at one Regional Study Area (Lake Nabberu).

4.5. Naturalised Status (Weeds)

WB653 reported eleven weeds species with a twelfth species (*Carrichtera annua*) suspected to occur, but not confirmed, within the Project Area. The naturalised status (native vs. weed) of all flora on the WB653 species lists were checked using FloraBase (Western Australian Herbarium 1998-). FloraBase checks found no additions or removals to the weeds reported in WB653.

WB653 reported in 2011 that none of the weeds present for the Yeelirrie Project were listed as Declared Plants under the *Agricultural and Related Resources Protection Act 1976*. As part of this addendum revision, weeds reported by WB653 were re-checked against current national and Western Australian weed lists (Table 7).

Table 7. National and Western Australian weeds lists checked and relevant results.

Weeds List	Reference	Relevant Results vs. WB653 Species Lists
Weeds of National Significance (WoNs)	Department for the Environment 2012	*Opuntia* spp. (including *Austrocylindropuntia* and *Cylindropuntia*).
National Environmental Alert List		None
Sleeper Weeds		None
Species targeted for eradication		None
Species targeted for biological control	Australian Weeds Committee (no date)	None
Western Australian Organism List (WAOL)	Government of Western Australia 2014	*Cylindropuntia fulgida* var. *mamillata* listed as Declared Pest (Section 22).

Relevant results of weed list checks reveal that *Opuntia* spp. (includes *Austrocylindropuntia* and *Cylindropuntia*) are now listed as a Weed of National Significance (WoNS) (Australian Weeds Committee (no date); Department of the Environment 2012). WB653 reported the existence of '*Opuntia* sp. Indeterminate' as widespread near the Yeelirrie Homestead. As part of this addendum revision the identity of this species was determined from photographic records to be *Cylindropuntia fulgida* var. *mamillata,* a species now listed as a Weed of National Significance.

A search of the Western Australian Organism List (WAOL) (Government of Western Australia 2014) found that *Cylindropuntia fulgida* var. *mamillata* is a Declared Pests in Western Australia. The management of Declared Pests are required under the *Biosecurity and Agriculture Management Act 2007 (01-b0-00).* Cameco reports that management of '*Opuntia* sp. Indeterminate' (*Cylindropuntia fulgida* var. *mamillata*) surrounding the Yeelirrie Homestead is underway and continuing (T. Duff 2014, pers. comm). For the management of this Declared Pest, Western Botanical recommends that Cameco:

- Verify its identity using collected specimen material.
- Assess the current distribution within the Project Area.
- Take any action to control the Declared Pest as per the *Biosecurity and Agriculture Management Act 2007*.

The WAOL search also found that *Emex australis* was listed as a Declared Pest in 2013, but only for the South West land division and therefore not applicable to Yeelirrie, which lies in the Eremaean land division.

4.6. Range Extensions

Five species were reported as range extensions within WB653; *Bertya dimerostigma, Comesperma viscidulum, Neurachne lanigera, Olearia arida,* and *Templetonia incrassata*. As part of the WB653 survey, specimens of all five species were vouchered at the Western Australian Herbarium

and now appear correctly on FloraBase distribution maps. Due to their lodgement these five species are no longer considered range extensions for the Yeelirrie Project.

Following all other updates, a check of the species lists revealed 28 range extensions that were not reported in WB653. For each case any of the below may have occurred:

- Updates to species distributions may have occurred since WB653.
- Changes to taxonomy (splits and combinations) may have altered distributions since WB653.
- Differing interpretation of what constitutes a range extension (i.e. for wide but sparse distributions, and/or placement of virtual boundaries around peripheral distribution records).
- Incorrect specimen identification resulting in an apparent range extension.
- A check to identify range extension was not conducted for a species.

Each newly recorded range extension was investigated and corrections made where possible (Table 8). Where correction was not possible, recollection and confirmation of identification has been recommended within Table 8. Five species recommended for confirmation occur within the mining envelope (*Lawrencia repens, Zygophyllum apiculatum, Enchylaena lanata, Polycarpaea arida*, and *Polycarpaea* aff. *corymbosa*). The most likely identity of these five species are presented in Table 8 and they are unlikely to be of conservation significance.

Table 8. Revision of WB653 species lists range extensions. *AVH (Australian Virtual Herbarium 2014).

Local Area Species List (Study Areas 1, 2, and 3)			
WB653 Range Extensions		**Addendum Revision**	
Species	**Distance (km)**	**Species / Decision**	**Distance (km) / Details**
Abutilon malvifolium	480	Suspected miss-ID. Vouchered at Western Australian Herbarium, but not included in current distribution as of February 2015.	Recommend recollect and ID. Location 51J 0220475 6871489 (WGS84).
Arabidella trisecta	266	Either a valid range extension or a miss-ID (several similar genera).	Recommend recollect and ID. Location: YQS075.
Calandrinia pleiopetala	176	No specimen collected. Field photos indicate a miss-ID.	Recommend recollect and ID. Location: YQS070, YQS141, YQS169.
Chondropyxis halophila	208	ID of field herbarium specimen verified.	Accepted. Range extension updated.
Enchylaena lanata	208	Either a valid range extension or a miss-ID of *Enchylaena tomentosa*.	Recommend recollect and ID. Location: YQ001.
Enekbatus cryptandroides	125	ID of field herbarium specimen verified.	Accepted. Range extension updated.
Eragrostis tenellula	152 / 112 (*AVH)	Likely a valid (slight) range extension. Presence of *E. tenellula* verified from specimen collected August 2014.	Accepted. Range extension updated.
Euphorbia biconvexa	300	Field photos support ID.	Retain as *E. biconvexa*. Range extension updated.
Gnephosis drummondii	199	Either a valid range extension or a miss-ID (multiple similar taxa).	Recommend recollect and ID. Locations: YQS136, YQS169, YQS170, YQS173, YQS174, YQS178.
Goodenia krauseana	301	No specimen available for review. Several similar taxa.	Recommend recollect and ID. Location: YQS088.
Goodenia pinnatifida	183	Variable species that may contain multiple taxa.	Recommend recollect and ID. Location: 50J 778703 6998541 (WGS84).
Lawrencia repens	180	Three specimens lodged to Western Australian Herbarium, however, none appear on distribution map. Possible miss-ID (several similar taxa) of *Lawrencia densiflora*.	Recommend recollect and confirm ID. Locations: YQS007, YQS013, YQS016, YQS031, YQS096, YQS119, YQS153, YQS157, YQS158.

Local Area Species List (Study Areas 1, 2, and 3)… continued			
WB653 Range Extensions		**Addendum Revision**	
Species	**Distance (km)**	**Species / Decision**	**Distance (km) / Details**
Mollugo cerviana	385	ID of field herbarium specimens verified. Distribution widespread but very sparse; WB653 record is well within the distribution's boundary, though the nearest record is ~400 km away.	Accepted. Range extension updated.
Myriocephalus occidentalis	319	No specimen available for review. Probably *M. pygmaeus*.	Recommend recollect and ID. Locations: YQS136, YQS169, YQS173, YQS178, YQS182.
Polycarpaea aff. *corymbosa*	230	ID by Western Australian Herbarium. Has affinities to *P. corymbosa* but may not be this species. *P. corymbosa* is very widespread and likely in need of revision.	Retain as *P.* aff. *corymbosa*. Range extension updated. Recommend recollect and further ID. Locations: Albion Downs – Yeelirrie Road on Yeelirrie Station.
Polycarpaea arida	625	Suspected miss-ID. Possibly *P. corymbosa*, which is the only *Polycarpaea* on record as existing within the Murchison IBRA (would still be a range extension of 230 km).	Recommend recollect and ID. Locations: YQS099, YQS136, YQS146, YQS169,
Sida sp. tiny glabrous fruit (A.A. Mitchell PRP1152)	241	Either a valid range extension or a miss-ID. Has been recorded by Western Botanical at Mt Keith and Yakabindie. Genus under review by Robyn Barker (AD).	Recommend recollect and ID. Location: 51J 021538 6983314 (WGS84).
Sporobolus australasicus	131 (*AVH)	ID of field herbarium specimen verified.	Accepted. Range extension updated.
Thysanotus speckii	199	Either a valid range extension or a miss-ID (several similar taxa).	Recommend recollect and ID. Location: YQS132.
Wahlenbergia gracilenta	195	Either a valid range extension or a miss-ID (several similar species).	Recommend recollect and ID. Location: YQS146.
Zygophyllum apiculatum	297	No specimen available for review. Several similar taxa. *Z. apiculatum* is a perennial, yet was not recorded during the initial survey period, indicating the taxon present is an annual. Possibly *Z. eichleri*, a widespread annual species in the region.	Recommend recollect and ID. Locations: YQS005, YQS006, YQS011, YQS017, YQS023, YQS025, YQS026, YQS027, YWQ030, YQS032, YQS034, YQS038, YQS040, YQS064, YQS076, YQS095, YQS130, YQS151, YQS153, YQS178, YQS181.

Regional Species List (Study Areas 4 to 16)			
WB653 Range Extensions		**Addendum Revision**	
Species	**Distance (km)**	**Species / Decision**	**Distance (km) / Details**
Acacia steedmanii	240 (subsp. *borealis*) / 220 (subsp. *steedmanii*)	No specimen available for reference. Subspecies unknown. Possibly a valid range extension or a miss-ID of *Acacia murrayana* (which is common in the region).	Recommend recollect and ID. Location: unknown.
Alyxia tetanifolia (Priority3)	160	Distinctive taxon, assumed correct. Collected at Lake Nabberu	Accepted. Range extension updated.
Amyema linophylla subsp. *linophylla* (parasitic on species of *Casuarina*)	263	ID of field herbarium specimen verified	Accepted. Range extension updated.
Chenopodium curvispicatum	~150	Either a valid range extension or a miss-ID.	Recommend recollect and ID. Location: MA-02.
Cynanchum floribundum	182	Distinctive taxon, assumed correct. Field herbarium specimen supports ID. Collected on Granite Outcrops east of Yeelirrie near Barr-Smith Range.	Accepted. Range extension updated.
Eremophila glabra subsp. *albicans* x *glabra*	~240 (*E. glabra subsp. albicans*)	No specimen available for reference. Several similar taxa.	Recommend recollect and ID. Location unknown.
Tecticornia pterygosperma subsp. *pterygosperma*	135	ID by Western Australian Herbarium. Collected in saline Playa at Study Area 3.	Accepted. Range extension updated.

5. Significant Flora

The revised Significant Flora comprises Threatened Flora, Priority Flora, and Flora of Interest that occur within the local study areas (Study Areas 1, 2, and 3). Two sources of were used to compile the revised Significant Flora: 1) the Priority Flora and Species of Interest presented within WB653 subsequently reviewed for status and distribution updates, and 2) additional Significant Flora resulting from the update of flora of the Yeelirrie Study Areas (confirmed IDs only) (Section 4).

Since WB653 was prepared, the conservation status of four species within the Local Study Areas of the Yeelirrie Project have changed (see Section 4.4). *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas 25025) has been upgraded from Priority 1 to Threatened. *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) has downgraded from Priority 1 to Priority 3. *Sida* sp. Mt Keith (G. Cockerton & G. O'Keefe LCH 10489), reported as a Species of Interest in WB653, has since been published as *Sida picklesiana* and listed as Priority 3 conservation status. *Calytrix erosipetala* is no longer a Priority taxon, is therefore no longer a significant flora species for the Yeelirrie Project, and is not presented or discussed below.

Table 9 presents five Species of Interested reported in WB653 that have been reviewed, are no longer considered Species of Interest, and are therefore not presented or discussed further. Species of Interest presented in WB653 that currently still possess unresolved taxonomy are retained as Flora of Interest within this addendum revision, and are presented.

Table 9. Summary of species no longer considered Species of Interest (since WB653).

Species/Taxon Name	Resolution
Bertya dimerostigma	No longer considered a Range Extension for Yeelirrie (lodgement of specimens following publication of WB653 resulted in an updated distribution).
Eragrostis sp. Yeelirrie Calcrete (S. Regan LCH 26770)	Has been formally recognised by the Western Australian Herbarium and is not considered a Threatened or Priority species.
Eremophila sp. Wiluna (G. Cockerton & K. Stratford 1983)	Occurrences of this taxon at Yeelirrie have been revised as *Eremophila margarethae*. *Eremophila* sp. Wiluna (G. Cockerton & K. Stratford 1983) exists east of the Yeelirrie Project near Wiluna and Mt Keith.
Eremophila subfloccosa subsp. aff. *lanata*	Revised and now accepted by Western Botanical as *Eremophila subfloccosa* subsp. *lanata*.
Templetonia incrassata	Formally recognised as a species (Thompson 2010) and no longer considered a Range Extension for Yeelirrie (lodgement of specimens following publication of WB653 resulted in an updated distribution.

5.1. Threatened Flora

5.1.1. *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)

Atriplex sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025) is a divaricately branched dioecious long-lived perennial shrub, growing to 0.6 m tall, with small ovate, dentate, blue-green leaves (Plate 1). Male flowers are terminal, pale pink to yellow and readily observed while female

flowers are axial, pale pink and difficult to observe with the naked eye (Plate 2). This taxon shows variability in fruiting bracteoles with two different morphotypes recorded: those without appendages and those with appendages (Plate 2). Both morphologies were present in all sub-populations of *Atriplex* sp. Yeelirrie Station. Reproductive strategies for this taxon are not yet fully understood, however, the species is most likely wind pollinated. Field observations found that both male and female plants produce fruiting bracteoles, females with many more fruits per plant than males, which only have occasional fruits.

Atriplex sp. Yeelirrie Station is restricted to two populations at Yeelirrie Station, approximately 70 km south-southwest of Wiluna, WA, (Figure 5). The western population is divided into two subpopulations, while the eastern population is divided into nine subpopulations (Figure 6). A total of 116 (120) plants are now known within rehabilitation areas (at the Southern Stockpile Area, near the former BHP Billiton Communications Tower, and a single plant adjacent to a track leading to the rehabilitated Northern Stockpile Area).

Atriplex sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025) was formally recognised as a new taxon as a result of surveys reported in WB653 and was originally designated a Priority 1 conservation status. Since WB653, the conservation status of this species was reviewed and the species was listed as Threatened Flora on 17th February 2012 (Western Australian Government 2012).

Plate 1. Photos of *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025) showing growth habit and divaricate branching structure.

Plate 2. Photos of *Atriplex* sp. Yeelirrie (L. Trotter & A. Douglas LCH 25025) showing female flowers (top left), male flowers (top right), and two morphotypes of fruiting bracteoles; no appendages (bottom left), and with appendages (bottom right) (photos by Dr Kelly).

Figure 5. Distribution map of *Atriplex* sp. Yeelirrie Station, (L. Trotter & A. Douglas LCH 25025) within Western Australia (Western Australian Herbarium 1998-).

Figure 6. Locations of *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025) populations at Yeelirrie Station.

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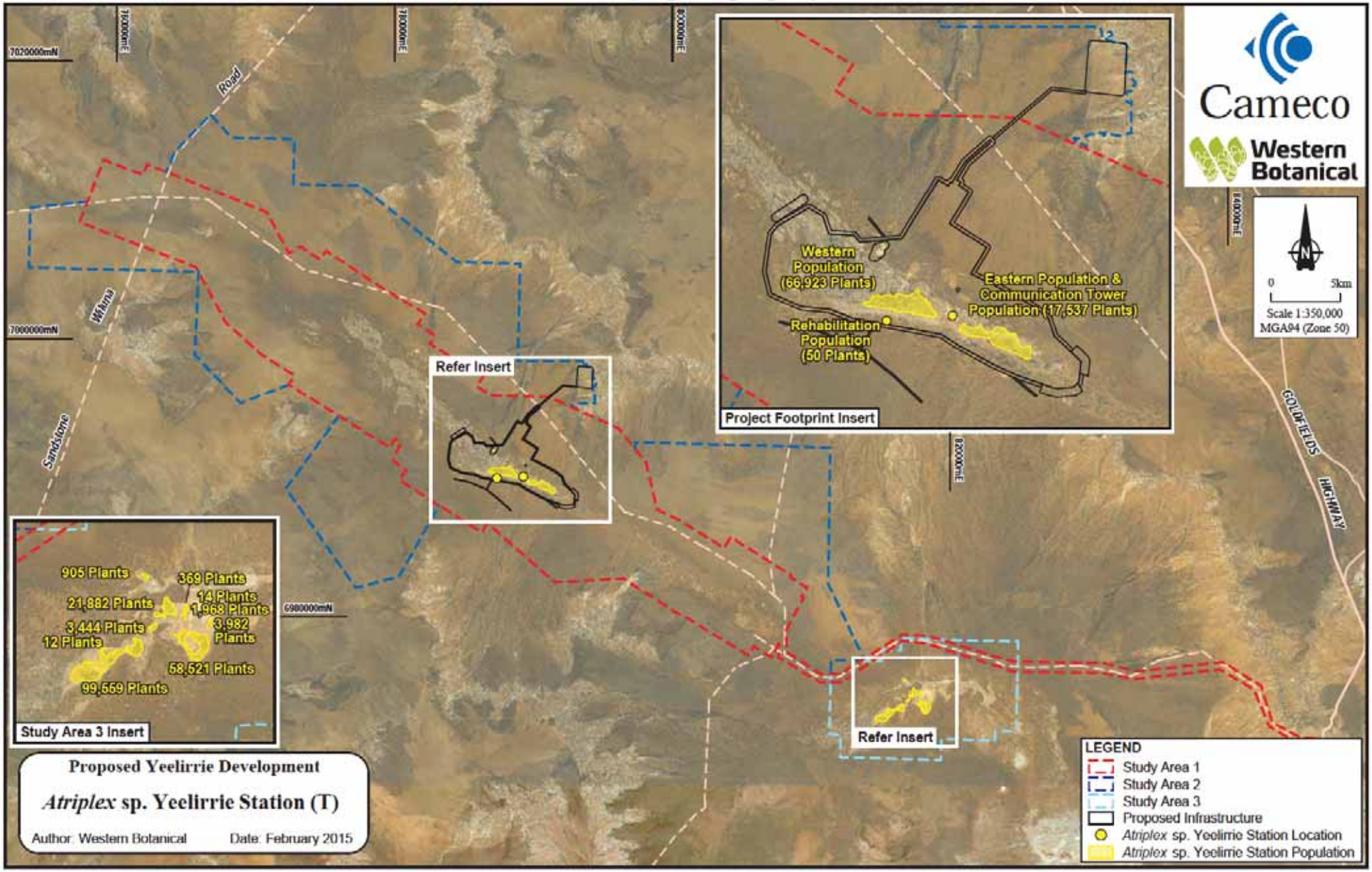

Western Population of *Atriplex* sp. Yeelirrie Station within Study Area 1

Within Study Area 1, *Atriplex* sp. Yeelirrie Station is confined to soft red-brown clay flats within the Calcrete System, which coincides with the central part of the proposed open pit mine and the drainage line within the paleochannel. It was primarily recorded within the CApS vegetation unit with scattered individual plants also in surrounding CMxS and CLaS vegetation units. The densest populations were recorded in the western end of the proposed open pit mine. An estimate of 80,542 plants being wholly within the orebody area was made based on an assessment of plant density within quadrats and a measurement of the area of occupancy determined using GIS mapping. These plants occur in two marginally separated sub-populations termed the Western Deposit and Eastern Deposit sub-populations. The total area of occupancy of *Atriplex* sp. Yeelirrie Station within the orebody area is 0.76 km^2, inclusive of a 10 m buffer around the population.

Eastern Population of *Atriplex* sp. Yeelirrie Station within Study Area 3

The Eastern population of *Atriplex* sp. Yeelirrie Station supports approximately 190,755 plants over 9 sub-populations within an area of occupancy of 1.30 km^2 inclusive of a 10 m buffer around the populations. As in Study Area 1, *Atriplex* sp. Yeelirrie Station is restricted to soft red-brown clay flats within the Calcrete System.

***Atriplex* sp. Yeelirrie Station within rehabilitation at Yeelirrie**

WB653 reported a minor population within a previously rehabilitated site at the southern end of the Central Baseline (< 50 individuals) and scattered individuals were also recorded within a rehabilitation site near the communications tower. An assessment in late August 2014 by Western Botanical and Tim Duff (Cameco) counted and tagged 109 individuals of *Atriplex* sp. Yeelirrie Station within the rehabilitated Southern Stockpile Area. An additional review by Tim Duff (Cameco) counted 6 (to 10) individuals (including some likely dead plants) in a clump in rehabilitation on a calcrete rise near the former BHP Billiton Communications Tower and a further 1 male plant adjacent to a track leading to the rehabilitated Northern Stockpile Area. A total of 116 (to 120) plants are now known within rehabilitation. The lower figure of 116 plants is hereby referred to within this Addendum Report as being the live population count of *Atriplex* sp. Yeelirrie Station within rehabilitation as of August 2014. A population and demography study (Western Botanical 2015) found that mortality had reduced numbers at the Southern Stockpile Area by 27, resulting in 89 plants within rehabilitation as of March 2015.

5.2. Priority Flora

5.2.1. *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct 1963) Priority 3

Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct 1963) is an upright shrub growing to around 1 m with white flowers in October (Western Australian Herbarium 1998-). Its distribution is concentrated within the central Murchison IBRA region with one record within western Great Victoria Desert IBRA region (Figure 7). It is recorded as typically growing in orange sands on flats (Western Australian Herbarium 1998-). *Baeckea* sp. Sandstone possesses a Priority 3 conservation status within Western Australia.

Within the Yeelirrie Project *Baeckea* sp. Sandstone is known to occur at a single location within the north-western end of Study Area 1 within the SAWS vegetation unit (Figure 8). The area appears to have been burnt 15-20 years ago. Associated species in the vicinity of *Baeckea* sp. Sandstone include *Acacia heteroneura* var. *prolixa*, *Eucalyptus leptopoda* and *Triodia basedowii*. *Baeckea* sp. Sandstone was not flowering at the time of collection, which made identification in the field difficult. It is therefore possible that it occurs more frequently than indicated in this one location. The identification and conservation status were not known at the time of assessments and the species is likely to be more abundant within Study Area 1.

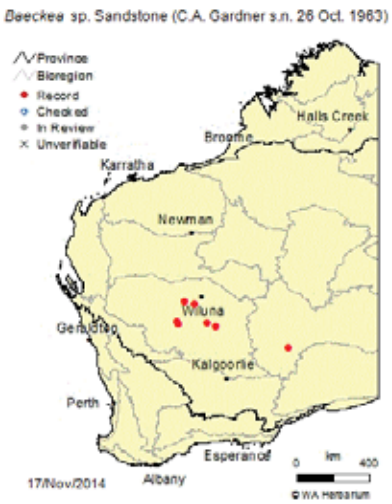

Figure 7. Distribution map of *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct 1963) within Western Australia (Western Australian Herbarium 1998-).

Figure 8. Records of *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct 1963), Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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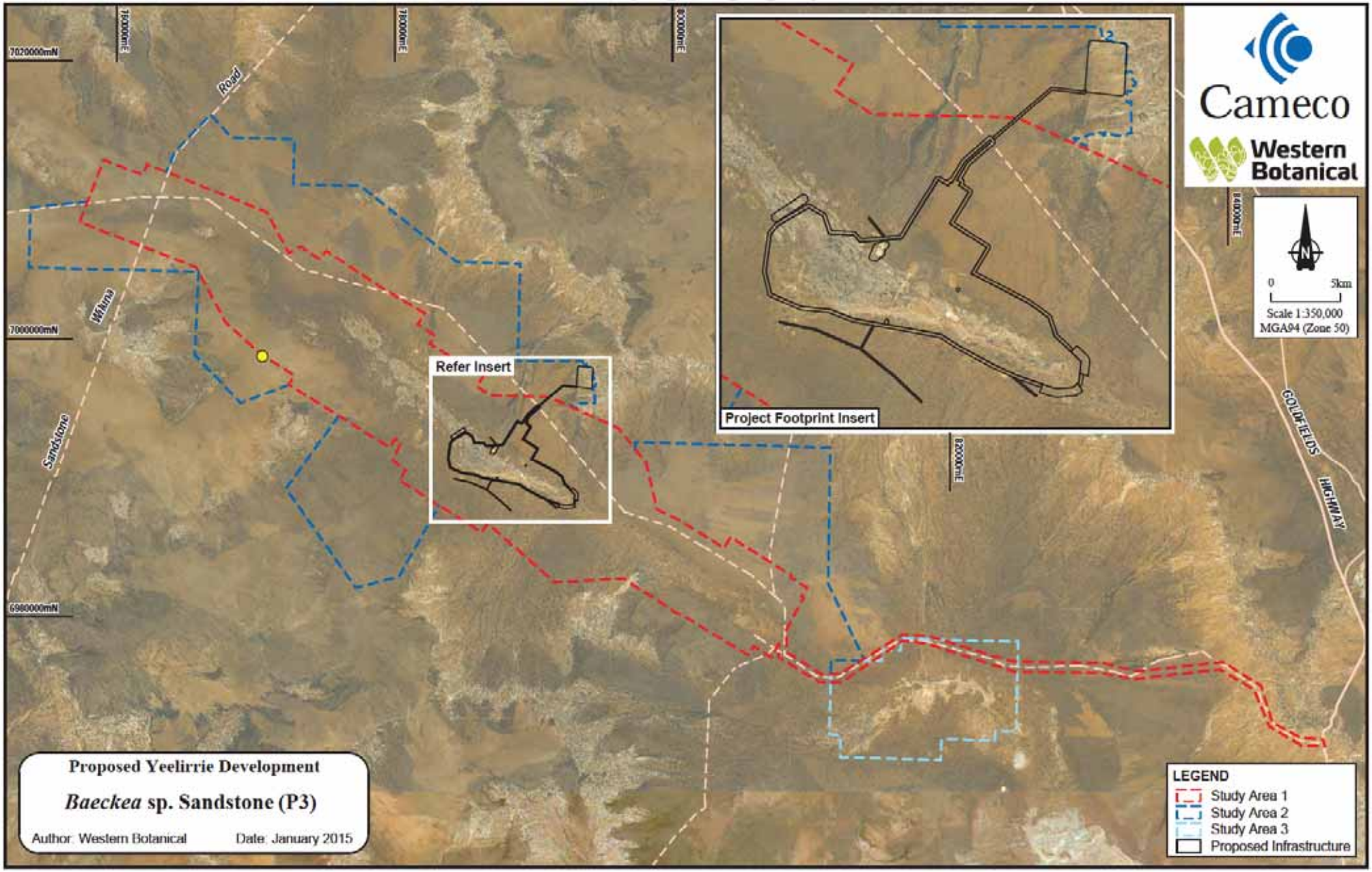

5.2.2. *Bossiaea eremaea* (Priority 3)

Bossiaea eremaea is a divaricately branched, spreading shrub, growing to around 1.2 m with red-yellow-purple-brown flowers (Plate 3) from July to September (Western Australian Herbarium 1998-). It is distributed in the central Murchison IBRA region and in the western portion of the Great Victoria Desert IBRA region (Figure 9). It is recorded as typically growing in deep red sand (Western Australian Herbarium 1998-). *Bossiaea eremaea* possesses a Priority 3 conservation status within Western Australia.

Extensive populations were found throughout the Sand Plain System within the survey area (Figure 10). Two large *Bossiaea eremaea* populations were recorded in Study Area 1 to the north of the Calcrete System. The densest population occurred within a recently burnt area on the southern side of the Yeelirrie-Meekatharra Road, in approximately the centre of Study Area 1. Both of these populations extended northwards into Study Area 2. The boundary of the largest population within Study Area 1 was extended by approximately four kilometres to the north of its previous boundary. Other scattered populations of *B. eremaea* were also recorded on the northern and southern sides of the Yeelirrie - Albion Downs Road. It was found to occur within SAWS, SAGS and SAMA vegetation units, all of which are well represented in the region. Based on the actual count of plants in Study Area 1 (12,732) the total number of plants estimated to occur within Study Area 1 is 36,442 (Western Botanical 2011).

Plate 3. Photos of *Bossiaea eremaea* showing growth habit (left) and branch and flower arrangement (right).

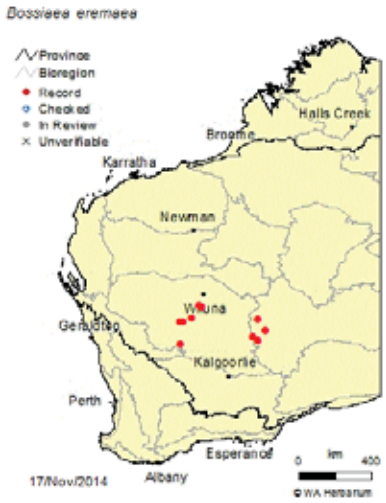

Figure 9. Distribution map of *Bossiaea eremaea* within Western Australia (Western Australian Herbarium 1998-).

Figure 10. Records of *Bossiaea eremaea*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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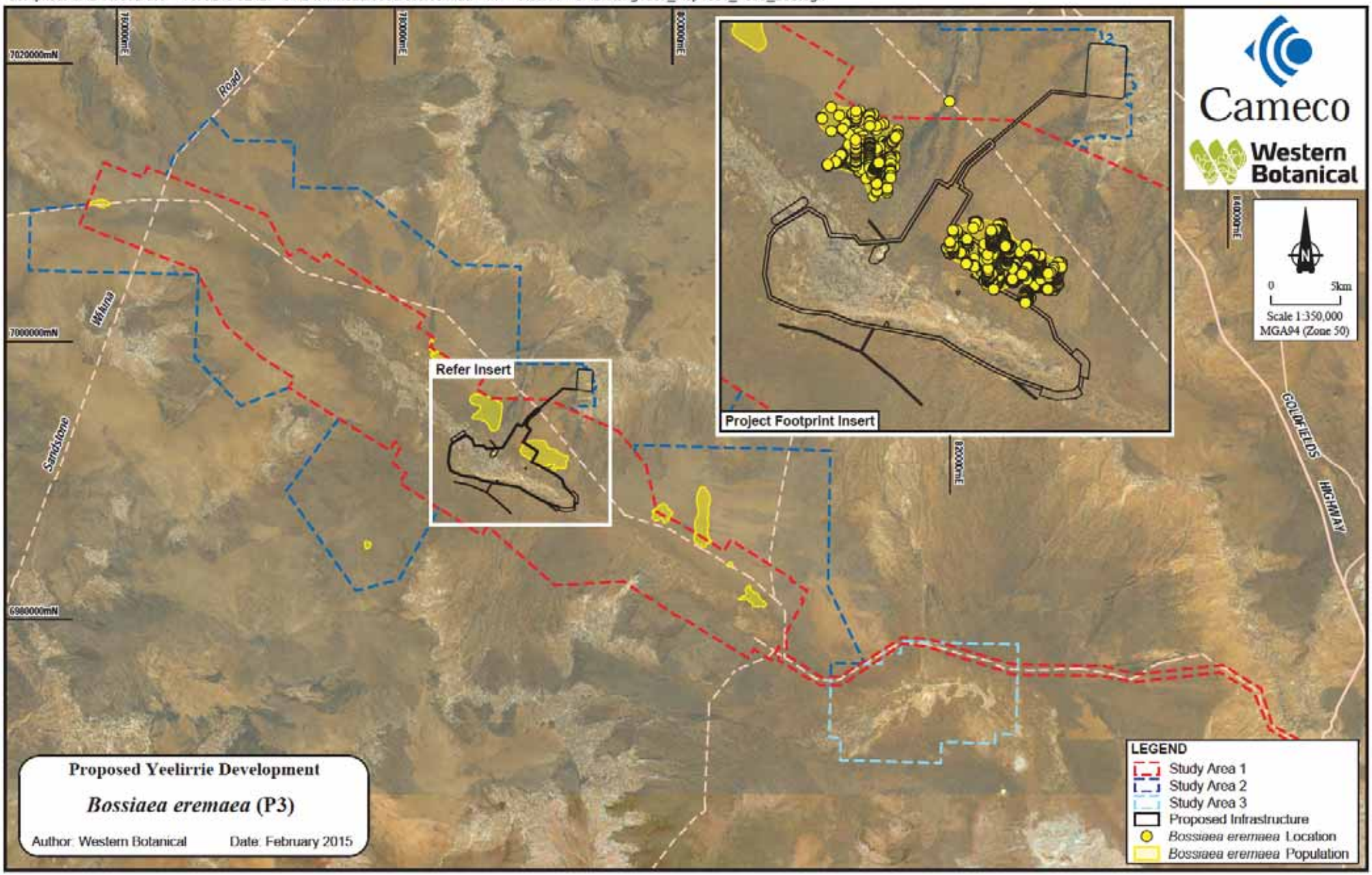

Proposed Yeelirrie Development

***Bossiaea eremaea* (P3)**

Author: Western Botanical Date: February 2015

5.2.3. *Calytrix uncinata* (Priority 3)

Calytrix uncinata is a glabrous shrub growing to 1 m high, has distinctive uncinate or hooked-tipped leaves, and white flowers from August to November (Plate 4). It is distributed throughout the central area of the Murchison IBRA region and the southern half of Yalgoo IBRA region (Figure 11). It typically grows on granite or sandstone breakaways and rocky rises in white or red sand and sandy clay (Western Australian Herbarium 1998-). *Calytrix uncinata* has a Priority 3 conservation status within Western Australia.

Eighteen known plants of *Calytrix uncinata* occur within the Yeelirrie Project at a single location in Study Area 2, in the Weathered Granite Breakaway Plateau (WGBP) vegetation unit within the Breakaway Complex (BRX) (Figure 12). *Calytrix uncinata* is common on the Barr-Smith Range some 60 km east of Yeelirrie with thousands of plants recorded on Yakabindie and Mt Keith stations.

Plate 4. Photos of *Calytrix uncinata* showing growth habit and white flowers.

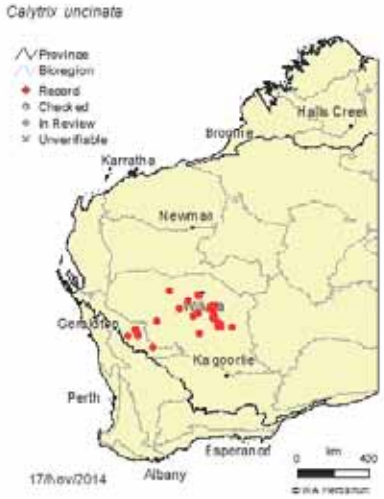

Figure 11. Distribution map of *Calytrix uncinata* within Western Australia (Western Australian Herbarium 1998-).

Figure 12. Records of *Calytrix uncinata*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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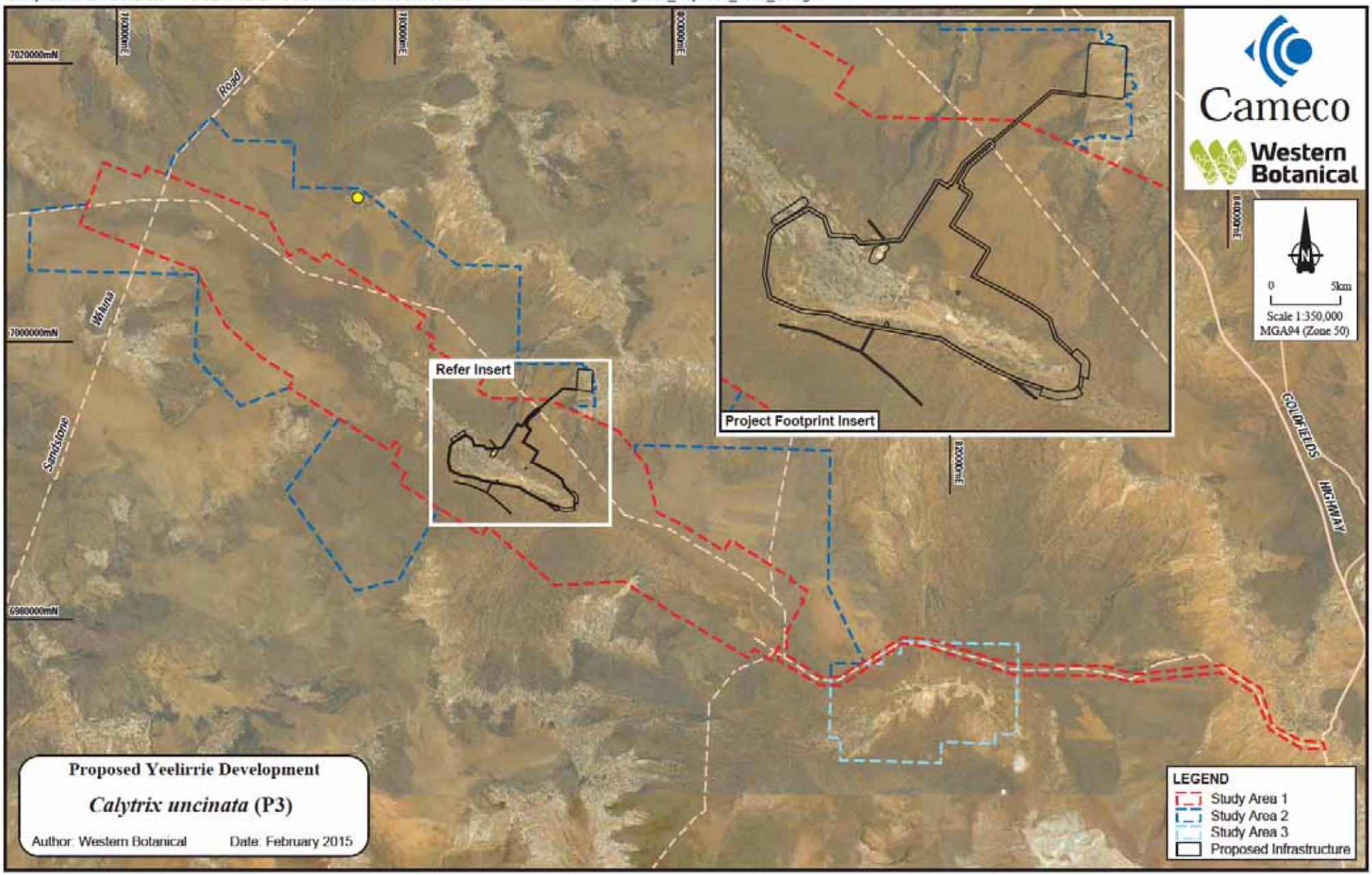

5.2.4. *Comesperma viscidulum* (Priority Four)

Comesperma viscidulum is a low shrub growing to 0.7 m and has stem-clasping leaves with pronounced recurved tips (Plate 5). Its distribution is scattered within central Western Australia, forming disjunct distribution groupings (Figure 13). *Comesperma viscidulum* has a Priority 4 conservation status within Western Australia.

Specimens found within the Yeelirrie Project and reported in WB653 represented a range extension of ~150 km and a new record for the Murchison IBRA region. Following the lodgement of voucher specimens to the Western Australian Herbarium, *Comesperma viscidulum* is no longer considered a range extension for the Yeelirrie Project.

Comesperma viscidulum occurs within the SAMA vegetation unit of the north-west section of the Yeelirrie Project, but outside of the footprint (Figure 14). Isolated plants were found in very low numbers (23 in total) near roadside bunds at the junction of Wiluna-Sandstone Road and Meekatharra Road, and along these roads north and west of the junction. It is typically found in low numbers amongst Spinifex and mallee on red sandplains (G. Cockerton pers. obs.).

Plate 5. Photos of *Comesperma viscidulum* showing growth habit and leaf features (Australian Herbarium 1998-).

Figure 13. Distribution map of *Comesperma viscidulum* within Western Australia (Western Australia).

Figure 14. Records of *Comesperma viscidulum*, Priority 4, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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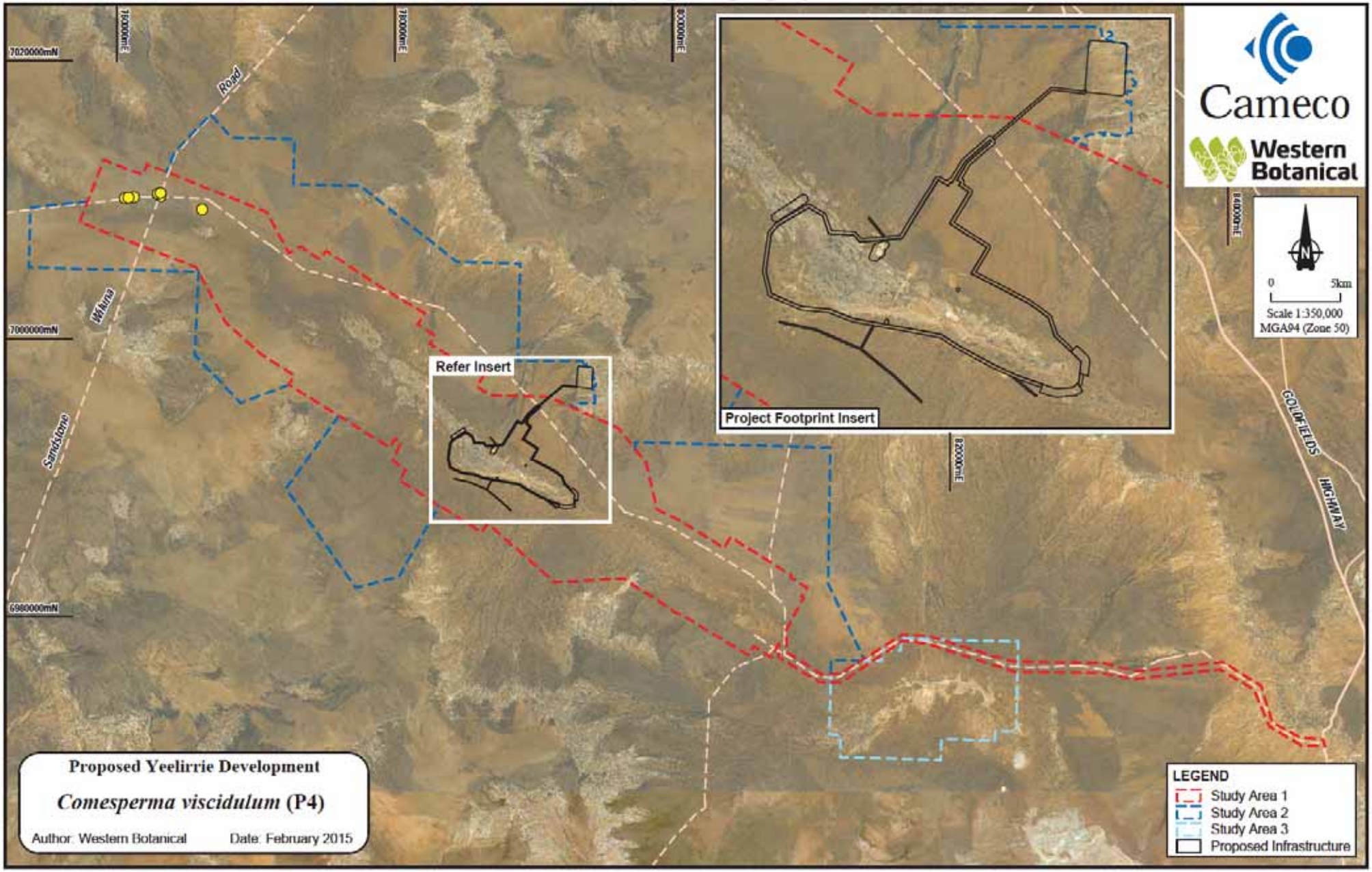

5.2.5. *Eremophila arachnoides* subsp. *arachnoides* (Priority 3)

Eremophila arachnoides subsp. *arachnoides* was reported as a Priority Flora in WB653. *Eremophila arachnoides* subsp. *arachnoides* is morphologically very similar to *E. pantonii* (not of conservation significance), differing in fruit and minor leaf and stem characteristics. The most reliable character for differentiating the two species is the fruit which is most abundant in late spring / early summer.

Eremophila arachnoides subsp. *arachnoides* is a tall broom-like shrub, growing to 3 m, has branches with circular discrete tubercles, and white/blue-purple flowers in September (Western Australian Herbarium 1998-) (Plate 6). Its distribution is primarily in the Murchison IBRA region with a record also in the Little Sandy Desert IBRA region (Figure 15). It typically grows on shallow loam soil over limestone (Western Australian Herbarium 1998-). *Eremophila arachnoides* subsp. *arachnoides* has a Priority 3 conservation status within Western Australia.

Eremophila arachnoides subsp. *arachnoides* and *E. pantonii* both prefer alkaline soils, have overlapping distributions though the latter is far more widely distributed (Figure 15). Meissner (2011) reported *E. pantonii* and *E. arachnoides* subsp. *arachnoides* within the lake systems they assessed with no overlap in the distribution of these two species. *E. pantonii* was reported at Lake Darlot, L. Maitland, and L. Miranda while *E. arachnoides* subsp. *arachnoides* was reported at Lake Mason, Lake Way, and Yeelirrie. Western Botanical recommends the collection of fruiting material of *E. arachnoides* subsp. *arachnoides* at the Yeelirrie Project and confirmation of the identification.

Within the Yeelirrie Project *Eremophila arachnoides* subsp. *arachnoides* occurs almost exclusively on the Calcrete System (Figure 16). Scattered individuals were also recorded within the Playa and Sand Plain Systems. Intensive searches (50 m traverses, 200 m apart, within Study Area 1) performed by Western Botanical found that populations are evident on the majority of exposed calcrete. The total population is approximated to be 43,255 plants, based on counts of approximately 25% of the population. The densest portion of the *Eremophila arachnoides* subsp. *arachnoides* population occurs in the *Casuarina pauper* Woodland on Calcrete (CCpW) vegetation unit. Scattered individuals were recorded within CEgW, CAbS, CErG, CLaS, CMGbS, CMxS, CRsS, HPMS, PLAPoS and PLAET vegetation units and associated mosaics.

Plate 6. Photos of *Eremophila arachnoides* subsp. *arachnoides* showing growth habit and flowers.

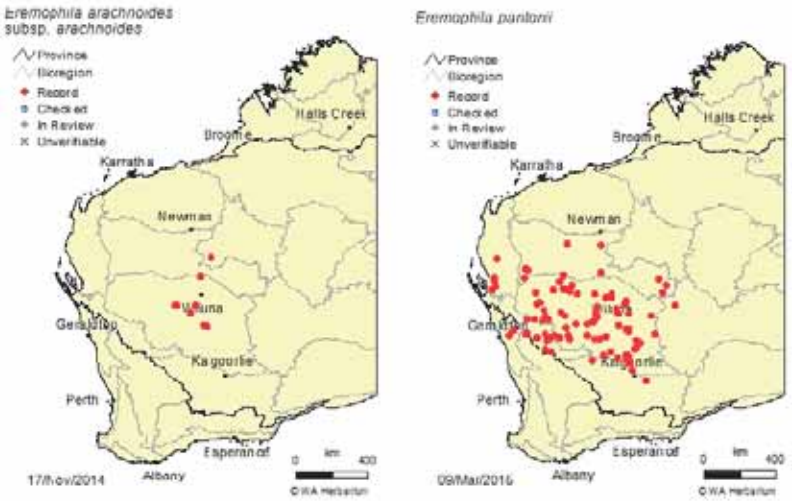

Figure 15. Distribution map of *Eremophila arachnoides* subsp. *arachnoides* (left) and *Eremophila pantonii* (right) within Western Australia (Western Australian Herbarium 1998–).

Figure 16. Records of *Eremophila arachnoides* subsp. *arachnoides*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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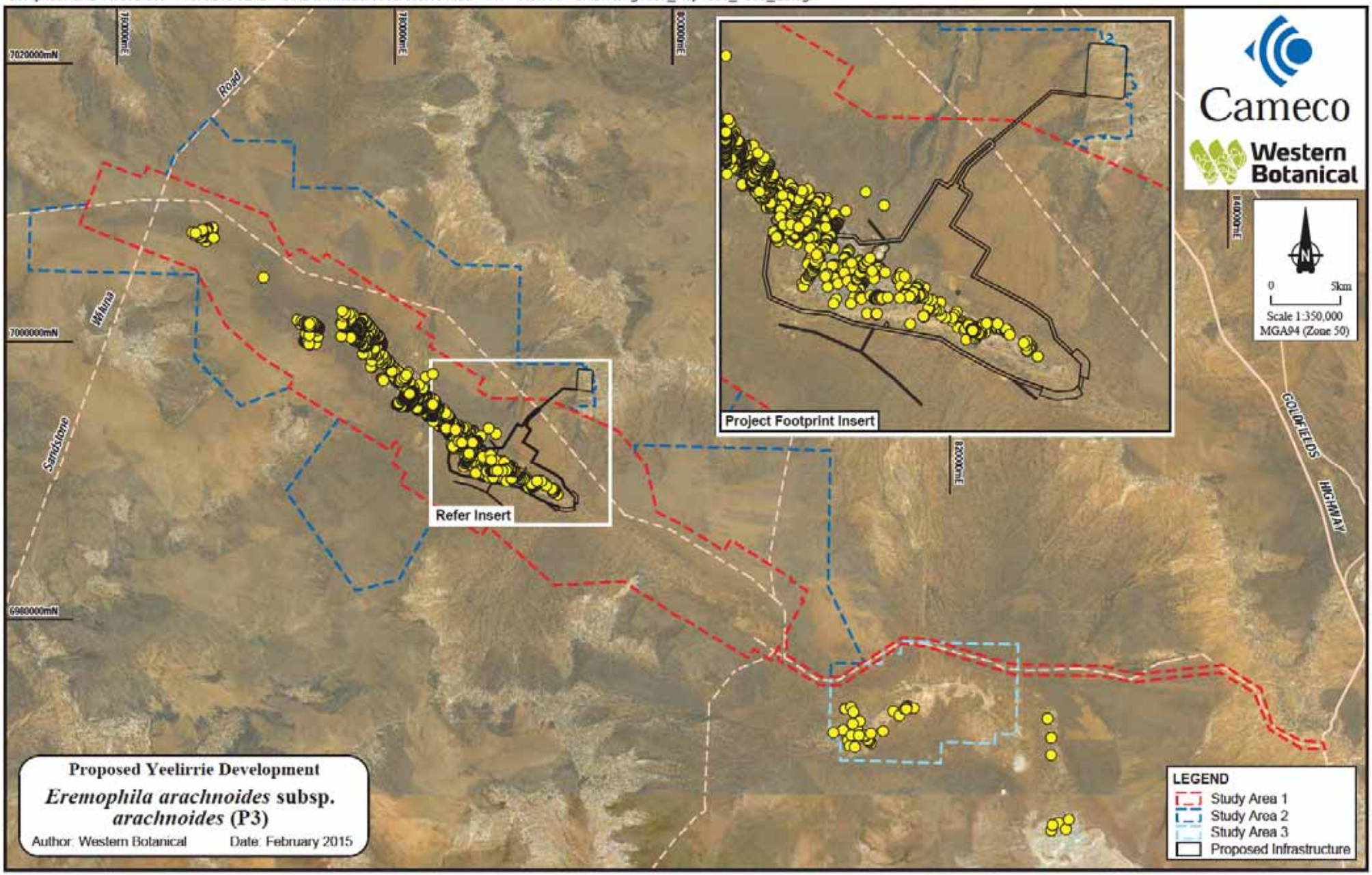

5.2.6. *Euryomyrtus inflata* (Priority 3)

Euryomyrtus inflata is a small long-live shrub with a lignotuber growing 0.3 to 0.7 m high, flat dull blue-green leaves (Plate 7) which turn red during times of moisture stress. It has erect rounded fruits with three carpels, each with a single seed per locule. Flowers are white to pink and occur during June and July (Western Australian Herbarium 1998-). *Euryomyrtus inflata* has a Priority 3 conservation status within Western Australia.

Euryomyrtus inflata is distributed within a discreet portion of the central Murchison IBRA region (Figure 17). It is typically found on flat plains of deep red sand (Western Australian Herbarium 1998-).

Within the Yeelirrie Project *Euryomyrtus inflata* occurs in extensive populations within the Sand Plain System of Study Area 1 (Figure 18). Records of individual plants are shown as points and, where populations were extensive, a population boundary was inferred. The largest populations were identified in the north-west region of study area 1. These were primarily on the northern side of the Calcrete System in the more recently burnt SAWS and SAMA vegetation units. The largest population of *E. inflata* within Study Area 1 extends for approximately 15 km north-west to south-east, and three km north-east to south-west along the northern side of Study Area 1, adjacent to the Calcrete System in the north-western part of Study Area 1. An extensive population also exists on the southern side of the Calcrete System in the SASP vegetation unit. On the southern side of Study Area 1 the population extends for 10 km north-west to south-east and two km north-east to south-west. Large populations of *E. inflata* were also present in the eastern region of Study Area 1, including two in the Sand Plain System. Scattered individuals were also recorded adjacent to the access road. Individual plants were present in varying densities, from approximately 10 plants per 50 m^2 (40 per ha) to 350 plants per 50 m^2 (1400 per ha). The number of plants estimated to occur within Study Area 1 is 134,520.

Euryomyrtus inflata is most commonly found in high numbers in areas burnt approximately five years ago. It occurs on flat sandplains and lower lying sandy areas, in SAWS, SAMA and SASP vegetation communities, and where *Triodia basedowii* has no more than 25% foliage cover. *Euryomyrtus inflata* is also present in communities that have remained unburnt for at least 15-20 years, however, plants are larger and less frequent. It is predicted that this species would also occur in the very recently burnt areas (within one to three years) given time for it to regenerate after fire.

Plate 7. Photos of *Euryomyrtus inflata* showing growth habit (lower left of first photo) and brach and leaf arrangement.

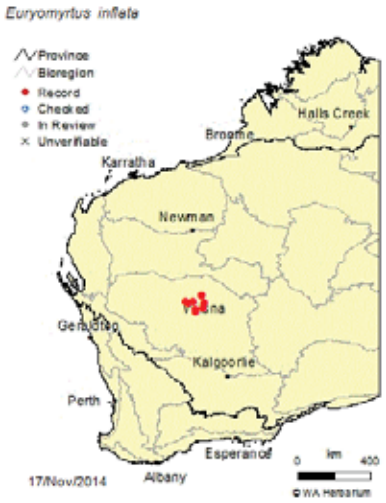

Figure 17. Distribution map of *Euryomyrtus inflata* within Western Australia (Western Australian Herbarium 1998-).

Figure 18. Records of *Euryomyrtus inflata*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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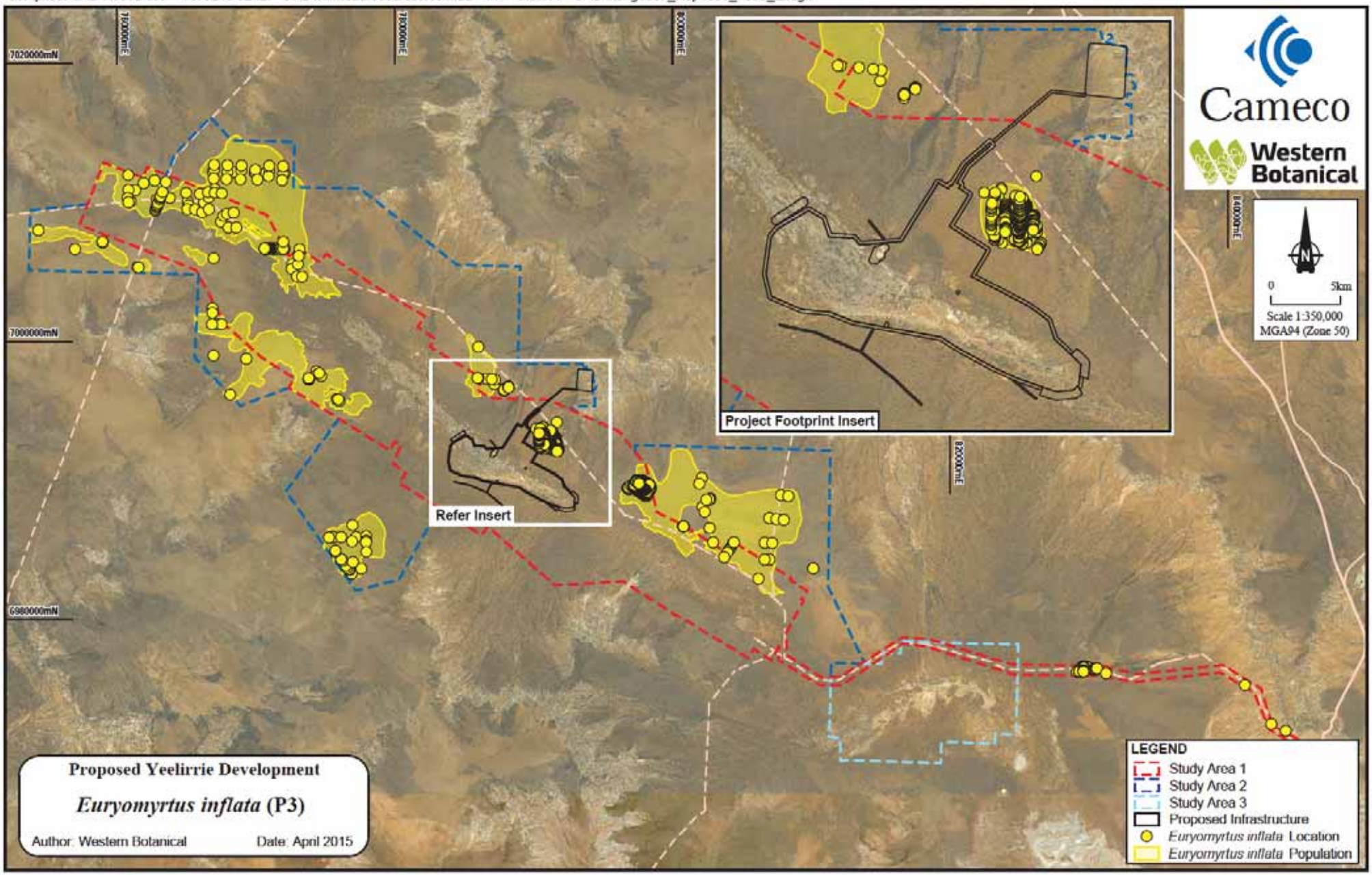

5.2.7. *Neurachne lanigera* (Priority 1)

Neurachne lanigera is a tufted perennial grass 0.15 – 0.3 m tall (Plate 8). It has a woolly base, conspicuous leaf hairs, and whitish-grey spike-like panicle or raceme inflorescence 1.5 – 3.5 cm in length (Plate 8) (Jessop *et al.* 2006). It typically occurs on shallow sand over rocky outcrops and sandplains in red sand and laterite soil (Western Australian Herbarium 1998-). *Neurachne lanigera* has a Priority 1 conservation status within Western Australia.

Specimens found within the Yeelirrie Project during WB653 represented a borderline range extension of ~98 km south of the nearest previous record. Following the lodgement of these voucher specimens to the Western Australian Herbarium *Neurachne lanigera* is no longer considered a range extension for the Yeelirrie Project (Figure 19).

Neurachne lanigera was recorded at a single location with an estimated 300 plants in Study Area 2 within the SACSG vegetation unit, north of the Yeelirrie orebody area (Figure 20). Scattered individuals co-occurred with *Triodia basedowii* hummock grasses. A focussed assessment of population size was not undertaken, as this species was not identified until after all field surveys had been completed.

Plate 8. Photos of *Neurachne lanigera* showing plant habit, woolly base, conspicuous leaf hairs, and inflorescence.

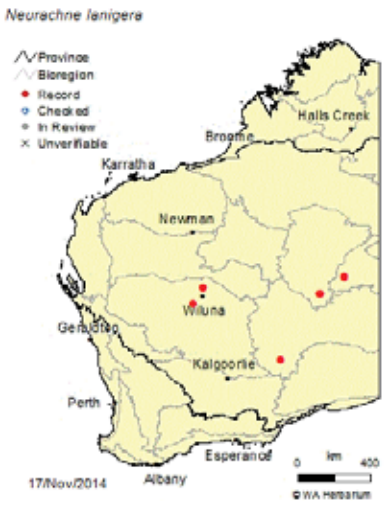

Figure 19. Distribution map of *Neurachne lanigera* within Western Australia (Western Australian Herbarium 1998-).

Figure 20. Records of *Neurachne lanigera*, Priority 1, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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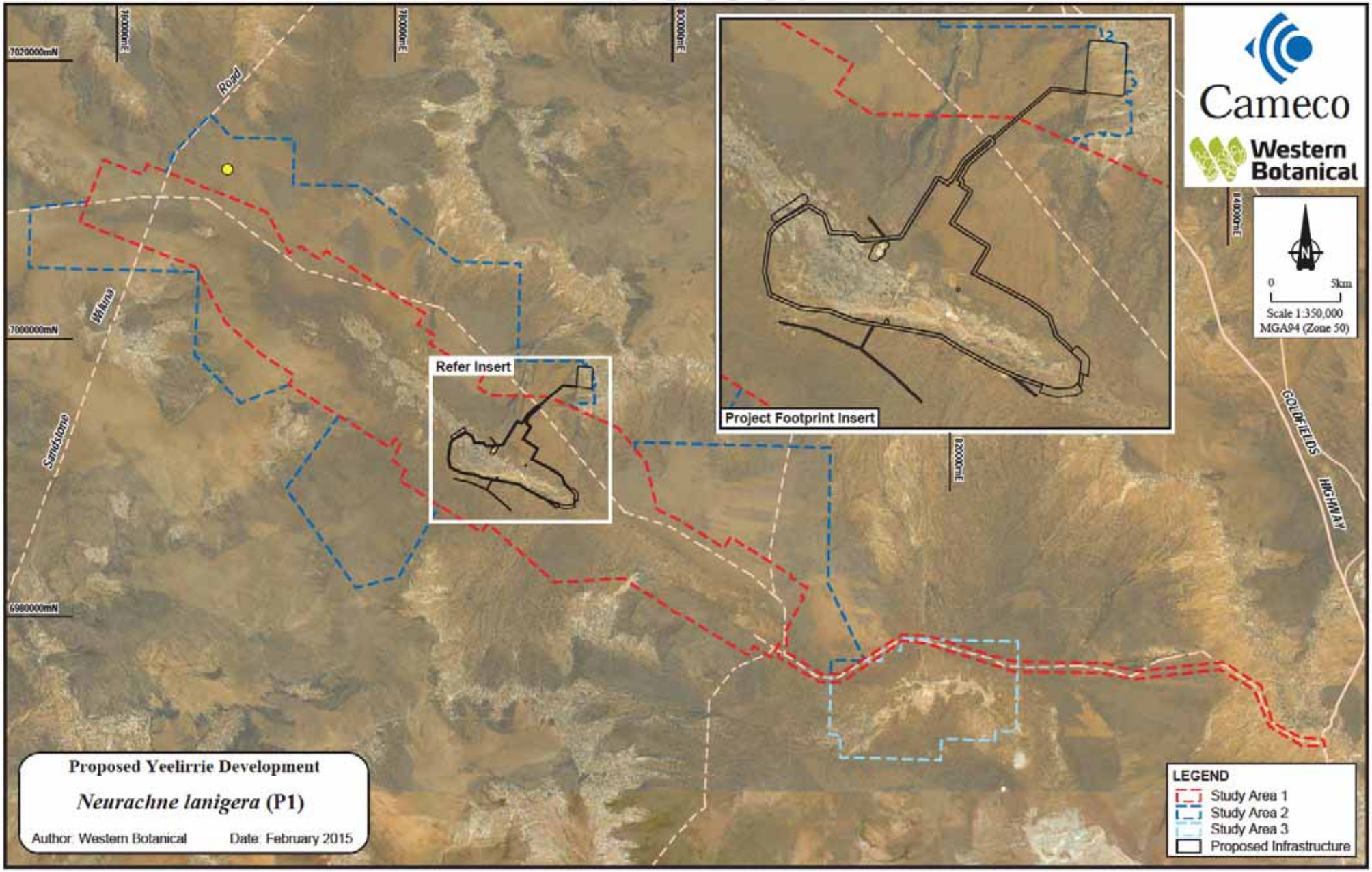

5.2.8. *Olearia arida* (Priority 4)

Olearia arida is an erect shrub to 0.5 m with discolorous (due to abaxial surface hairs) and slightly crenulate leaves (Plate 9). It typically occurs on undulating low rises of red or yellow sand (Western Australian Herbarium 1998-) (Figure 21). *Olearia arida* has a Priority 4 conservation status within Western Australia.

Prior to WB653 *Olearia arida* was known only to occur in the south-western portion of the Great Victoria Desert IBRA region. Specimens found within the Yeelirrie Project during WB653 represented a disjunct range extension of ~400 km and a new record for the Murchison IBRA region. Following the lodgement of voucher specimens to the Western Australian Herbarium, *Olearia arida* is no longer considered a range extension for the Yeelirrie Project.

Two subpopulations of *Olearia arida* were found on the roadside of the Yeelirrie – Albion Downs Road approximately 15 km west of the intersection with the Goldfields Highway, outside of the project footprint (Figure 22). The two subpopulations are within the SAWS and SAMA vegetation communities in the Sand Plain System.

Plate 9. Photo of *Olearia arida* showing leaf structure and flower.

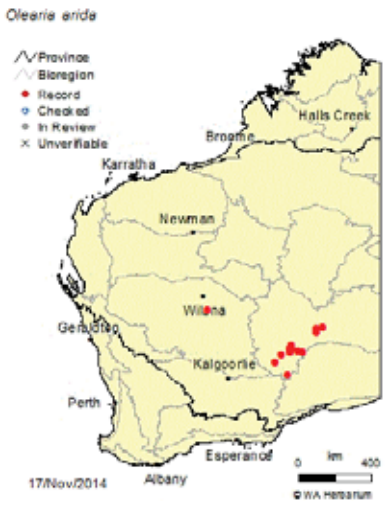

Figure 21. Distribution of *Olearia arida* within Western Australia (Western Australian Herbarium 1998-).

Figure 22. Records of *Olearia arida*, Priority 4, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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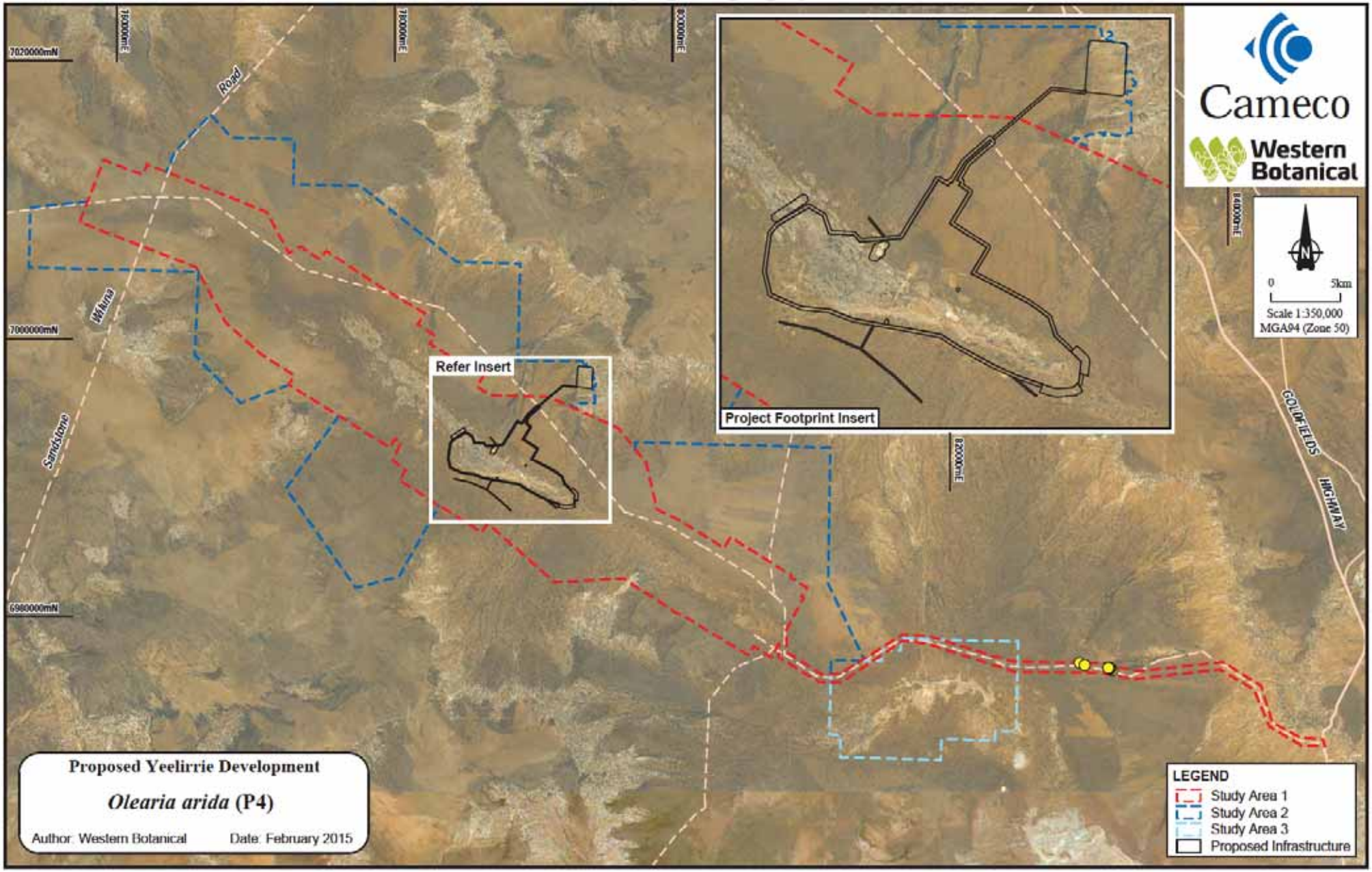

5.2.9. *Rhagodia* sp. Yeelirrie Station (K.A. Shepherd et al. KS1396) (Priority 1)

Rhagodia sp. Yeelirrie Station (K.A. Shepherd et al. KS1396) is an erect, compact shrub, growing to 1.9 m tall and 1.5 m across (Plate 10). Flowers are yellow-green with both male and female flowers present on the same plant (Plate 10). *Rhagodia* sp. Yeelirrie Station was formally recognised as a new taxon as a result of the WB653 survey and subsequently designated with a Priority 1 conservation status.

Rhagodia sp. Yeelirrie Station grows on sparsely vegetated playas within the Calcrete System in fine surface silt accompanied by large sinkholes and water accumulating depressions. Scattered individuals of *Rhagodia* sp. Yeelirrie Station also occur within *Melaleuca interioris* and *Acacia aneura* shrubland (PLAMi) vegetation, which fringes the CRsS vegetation unit.

The distribution of *Rhagodia* sp. Yeelirrie Station within Western Australia is presented in Figure 23. Three widely disjunct populations are known; Rowles Lagoon (approximately 67 km north-west of Kalgoorlie and 380 km south-south-east of Yeelirrie), Pinnacles Station near Lake Noondie (130 km south-south-east of Yeelirrie), and Yeelirrie Station within Study Area 1). The Pinnacles Station population was recorded during Western Botanical's regional survey of Study Area 7 but has not been counted and the Rowles Lagoon population has no population estimate.

Five populations of *Rhagodia* sp. Yeelirrie Station with a total population size of approximately 2,200 plants were recorded within Study Area 1 in the CRsS vegetation unit, for which it is the characteristic species. One population of approximately 100 plants, representing 4.5% of the known local population is reported by WB653 as occurring within the project's footprint. Table 10 provides updated location details, and Figure 24 presents an updated distribution map For the Yeelirrie Project.

Plate 10. Photos of *Rhagodia* sp. Yeelirrie Station (K.A. Shepherd et al. KS1396) showing growth habit (left) and both male and female flowers occurring on the same plant (right).

Figure 23. Distribution map of Rhagodia sp. Yeelirrie Station (K.A. Shepherd et al. KS1396) inWestern Australia (Western Australian Herbarium 1998-).

Table 10. Locations of *Rhagodia* sp. Yeelirrie Station populations (datum GDA94).

Population Number	Zone	Easting	Northing	Approximate number of individuals
1	50J	778726	6998513	118
2	50J	782509	6996659	300
3	50J	778065	7000121	374
4	50J	777750	7000670	1,308
5 (Within Project Footprint)	50J	787189 787175 787327	6991784 6991884 6992021	100
Total number of individuals				2,200

Figure 24. Records of *Rhagodia* sp. Yeelirrie Station (K.A. Shepherd et al. KS1396), Priority 1, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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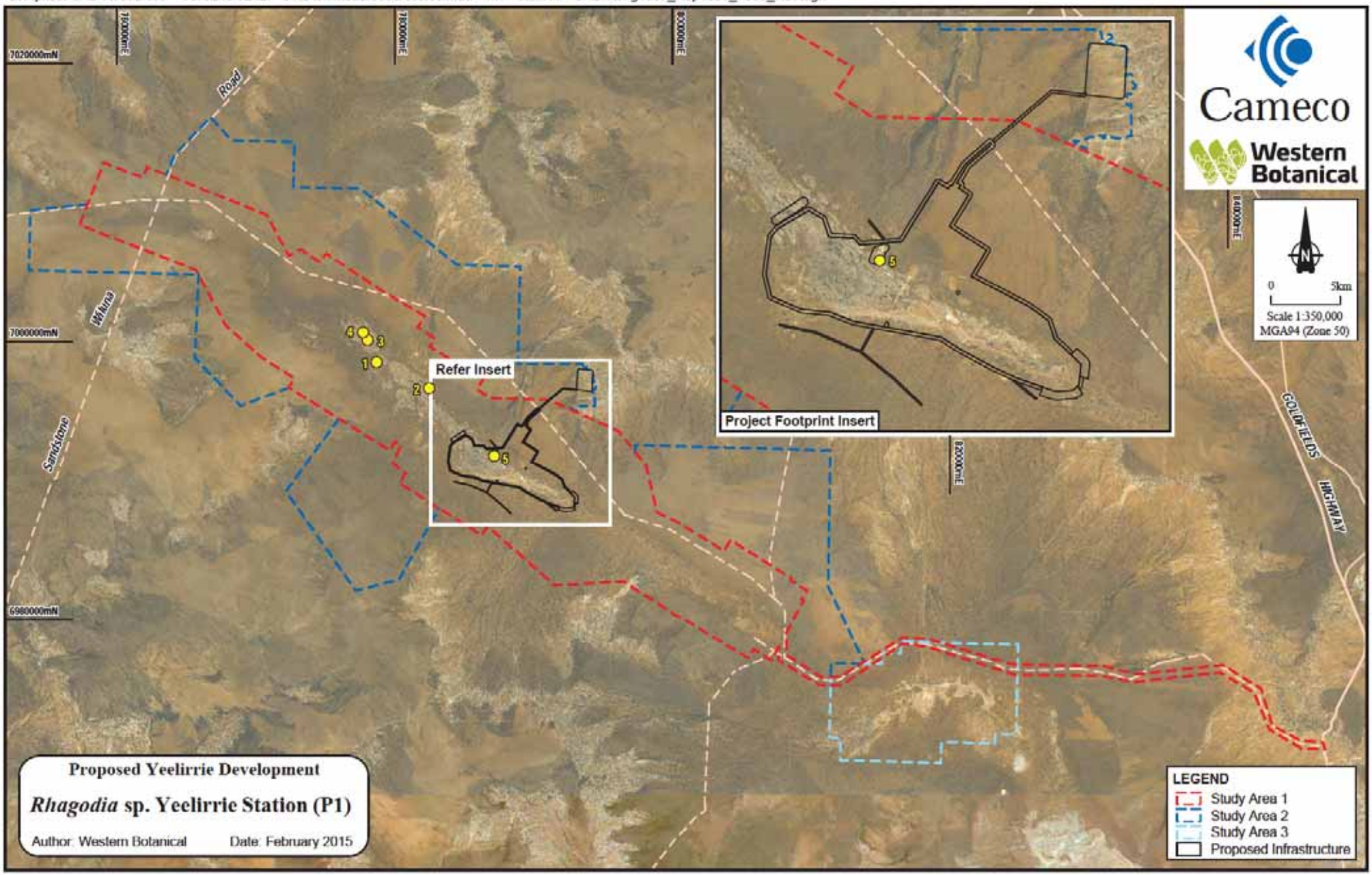

5.2.10. *Sauropus ramosissimus* (Priority 3)

Sauropus ramosissimus is a slender, much-branched shrub, growing to 0.3 m (Western Australian Herbarium 1998-) (Plate 11). It is often heavily grazed by wildlife and stock and therefore may be difficult to observe. Flowers are small and green in colour and occur following spring rainfall. *Sauropus ramosissimus* possesses a Priority 3 conservation status within Western Australia.

Sauropus ramosissimus distribution is scattered across eastern states of Australia and in Northern Territory. In Western Australia it is found primarily in the Murchison IBRA region with a record each in the Gascoyne, Gibson Desert, and Great Victorian Desert IBRA regions. The FloraBase distribution map (Western Australian Herbarium 1998-) for *Sauropus ramosissimus* does not match distributions records. As such, the Australian Virtual Herbarium (Council of Heads of Australasian Herbaria 2014) distribution map is provided in Figure 25. It is recorded growing on rocky ironstone and laterite outcrops, slopes, and flats in orange or red loamy sand (Western Australian Herbarium 1998-).

Two populations of *S. ramosissimus* were recorded within Study Area 2 (Figure 26). One population of ten plants was recorded on low granite outcrops in the central-northern margins of Study Area 2 in the GRMS vegetation unit. The second population was found top of a small weathered granite breakaway plateau in the WGBP vegetation unit (within the BRX unit).

Plate 11. Photos of *Sauropus ramosissimus* showing growth habit and branch and stem habit.

Figure 25. Distribution map of *Sauropus ramosissimus* in Western Australia (Council of Heads of Australasian Herbaria 2014).

Figure 26. Records of *Sauropus ramosissimus*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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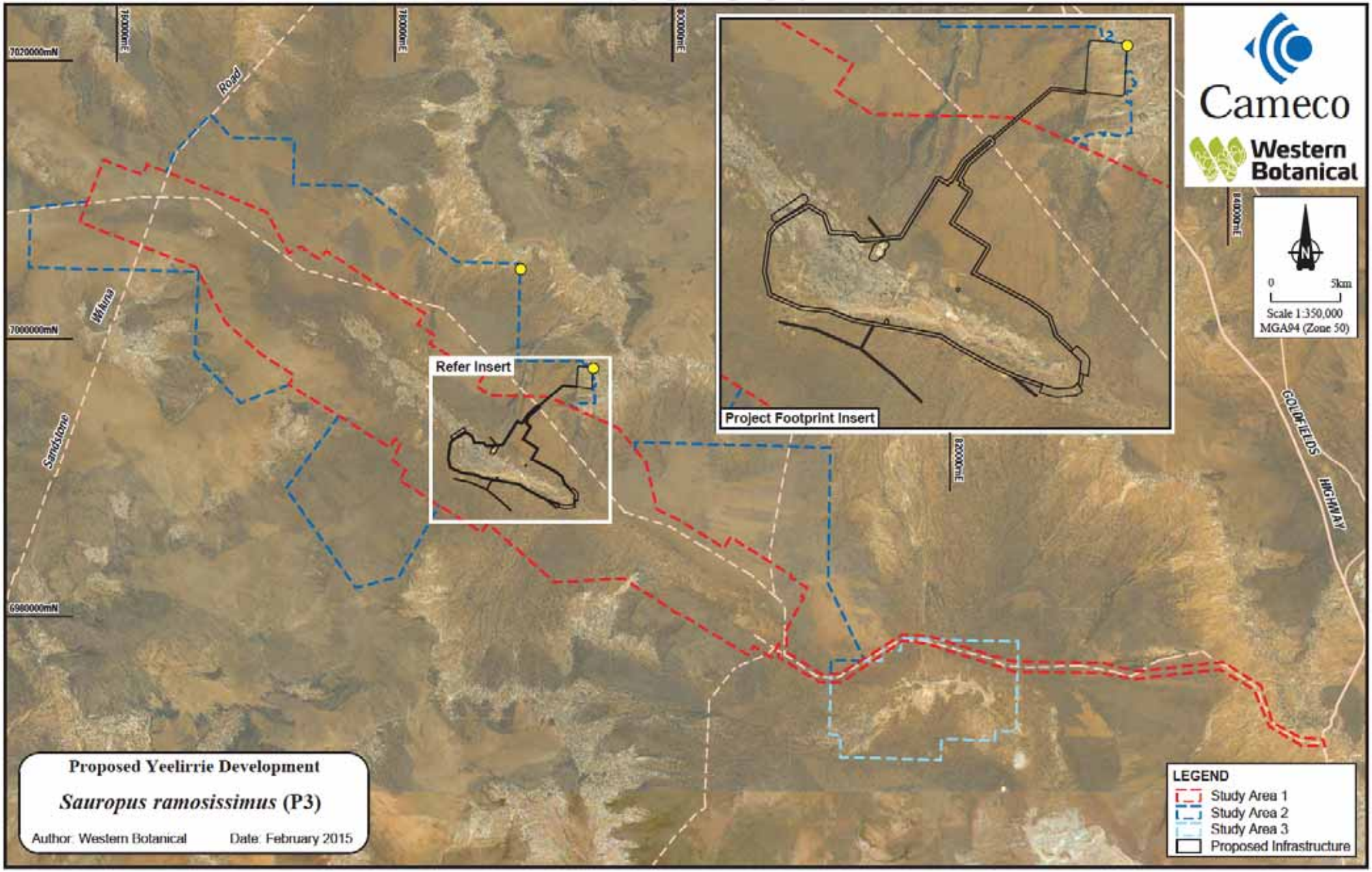

5.2.11. *Sida picklesiana* (Priority 3)

Since WB653, *Sida* sp. Mt Keith (G. Cockerton & G. O'Keefe LCH 10489) has been included within the newly described species *Sida picklesiana*, a Priority 3 taxon (see Markey *et al.* 2011).

Sida picklesiana is a woody perennial shrub, 0.4 – 1.0 (-1.5) m high and 0.8 – 1.0 (-1.2) m wide, growing with a compact, rounded, densely branched twiggy habit (Markey *et al.* 2011) (Plate 12). Leaves are 0.6-1.2 mm long by 0.4-0.7 mm wide with crenulate margins (Plate 12). It typically grows in deep to skeletal sandy clay and sandy clay loam on exposed rocky habitats including hills, granite breakaways, footslopes of banded iron formations, and associated stony plains (Markey *et al.* 2011). *Sida picklesiana* is primarily distributed south of Wiluna in the Murchison IBRA region and near Doolgunna Station in the Gascoyne IBRA region (Figure 27).

At the Yeelirrie Project a single population containing 397 individuals of *Sida picklesiana* was found within Study Area 2 (Figure 28). They were growing along both the slopes and plateaux within the WGBP vegetation unit (part of the Archaean granite Breakaway (BRX) complex) and the *Acacia* shrubland of the WGAG vegetation unit.

Plate 12. Photos of *Sida picklesiana* showing growth habit, leaves and flower.

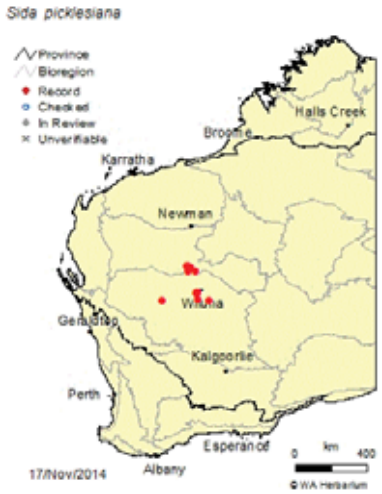

Figure 27. Distribution map of *Sida picklesiana* within Western Australia (Western Australian Herbarium 1998-).

Figure 28. Records of *Sida picklesiana*, Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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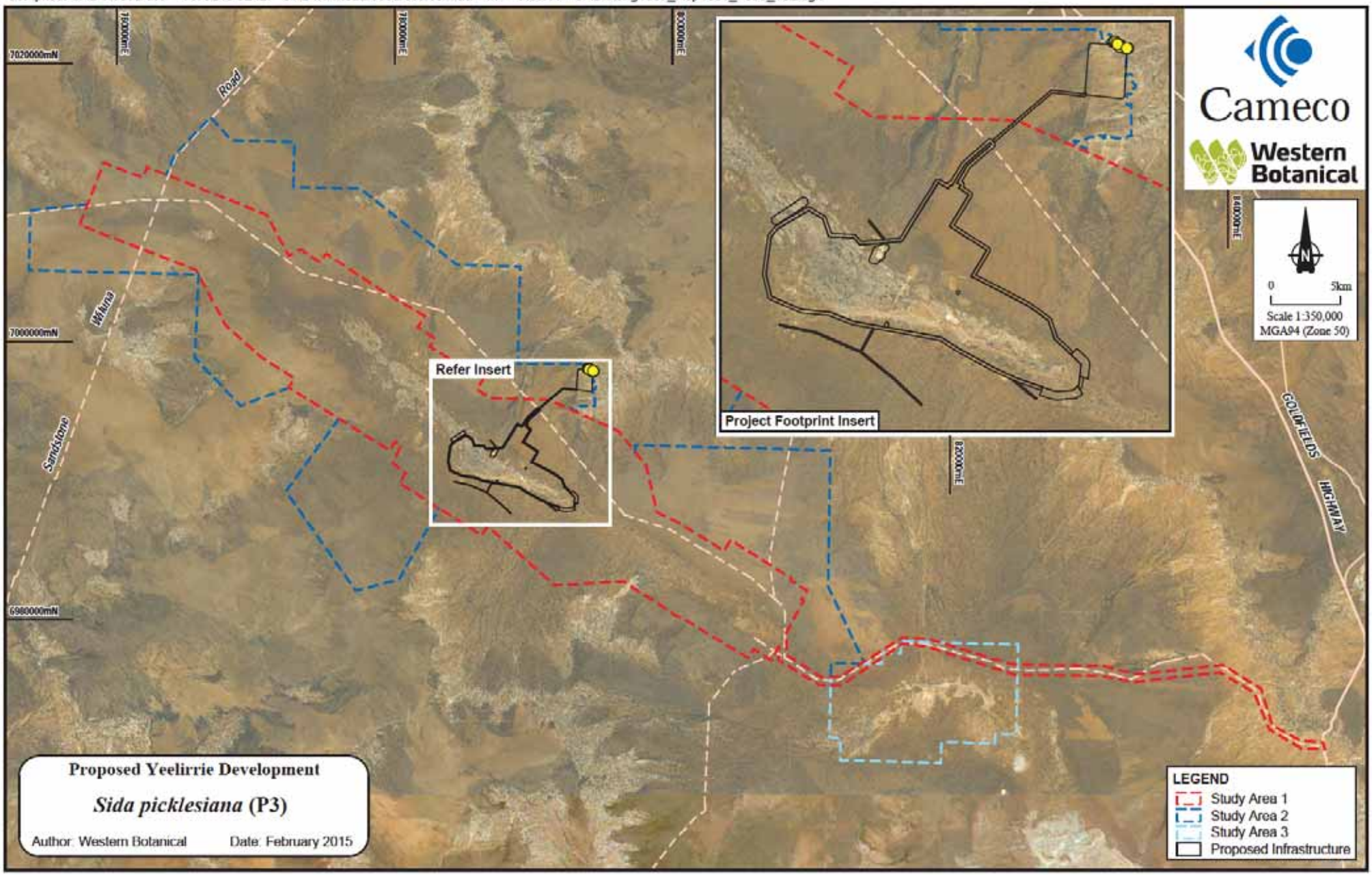

5.2.12. *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) (Priority 3)

Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362) is an upright to sprawling shrub up to 2.5 m in height, producing white to pink flowers from October to December (Plate 13). It is recorded occurring on rocky Archaean granite breakaways, stony rises, and rocky granite outcroppings in association with *Acacia aneura sens. lat.* (Western Australian Herbarium 1998-). Since WB653 the conservation status of *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) has been downgraded from Priority 1 to Priority 3 in Western Australia.

Known from a narrow distribution in the eastern Murchison Biogeographic region, there are currently 15 voucher collections listed on FloraBase (Western Australian Herbarium 1998-) (Figure 29). *Thryptomene* sp. Leinster is associated with the Barr-Smith Range, which extends from the south of Wiluna to approximately 60 km south of Leinster and is often plentiful within it's known range.

Thryptomene sp. Leinster has previously been referred to as the closely related species *T. decussata*, but differs in morphology with the following attributes; a) leaves are smaller and of a different shape – leaves are very broad ovate to sub-orbicular in shape with a truncate base, b) oil glands on the leaves are more closely packed, and c) difference in anther arrangement (Malcolm Trudgen pers. comm.).

A single population of 168 plants was recorded on a Quartz ridge in the central north-western part of the Study Area 2 (Figure 30) within the Qtz (Quartz Ridge) vegetation unit. Similar quartz ridges in Study Area 2 did not support *T.* sp. Leinster.

Plate 13. Photos of *Thryptomene* sp. Leinster (BJ. Lepschi & L.A. Craven 4362) showing growth habit, leaf arrangement, and flowers.

Figure 29. Distribution map of *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362) within Western Australia (Western Australian Herbarium 1998-).

Figure 30. Records of *Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362), Priority 3, within and near local Study Areas (1, 2, and 3) at Yeelirrie.

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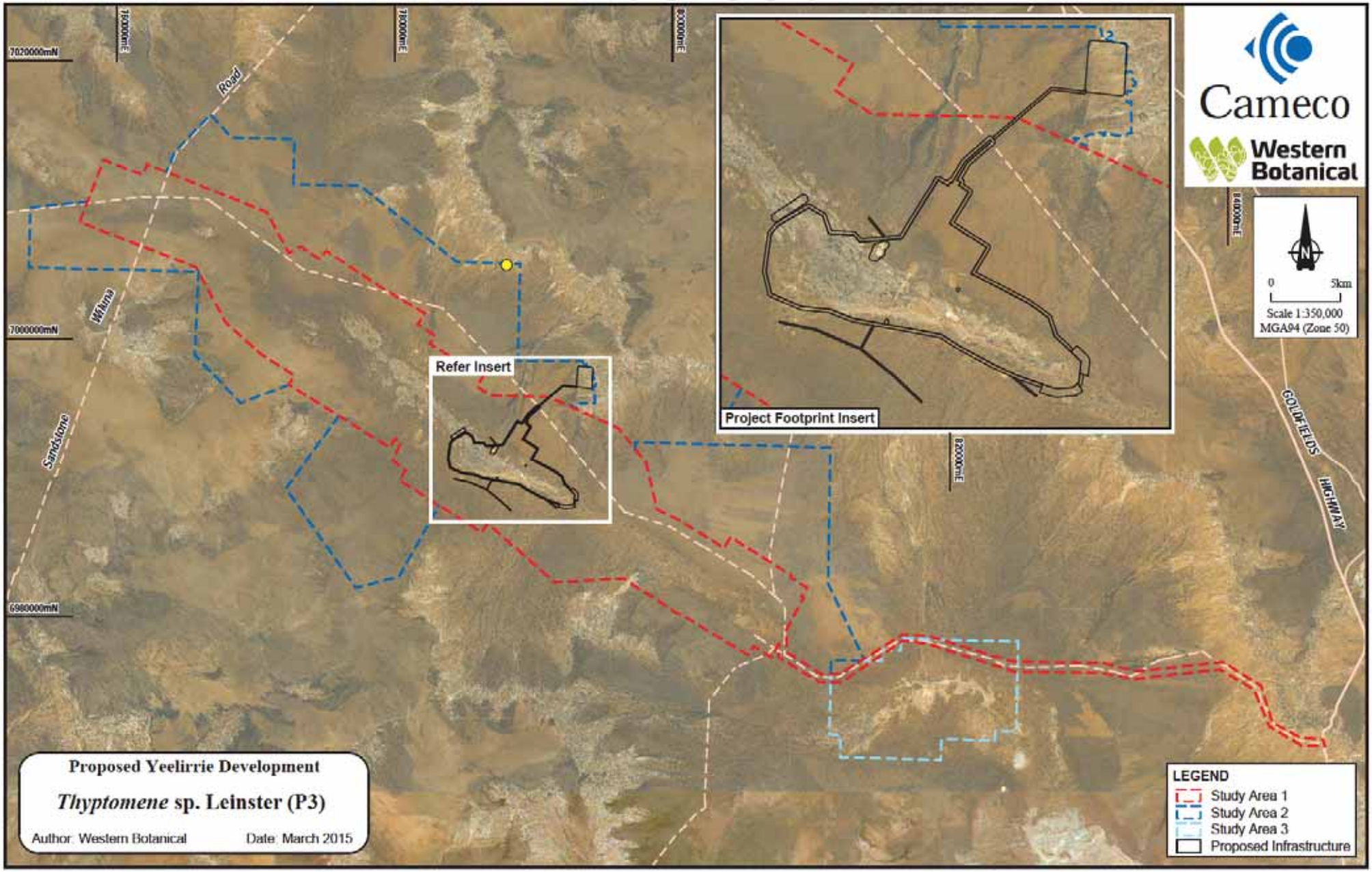

5.3. Flora of Interest

Locations of all Flora of Interest (presented in the subheadings below) found at the Yeelirrie Project are mapped in Figure 31.

Figure 31. Recorded locations of Flora of Interest in and around Study Areas 1, 2, and 3.

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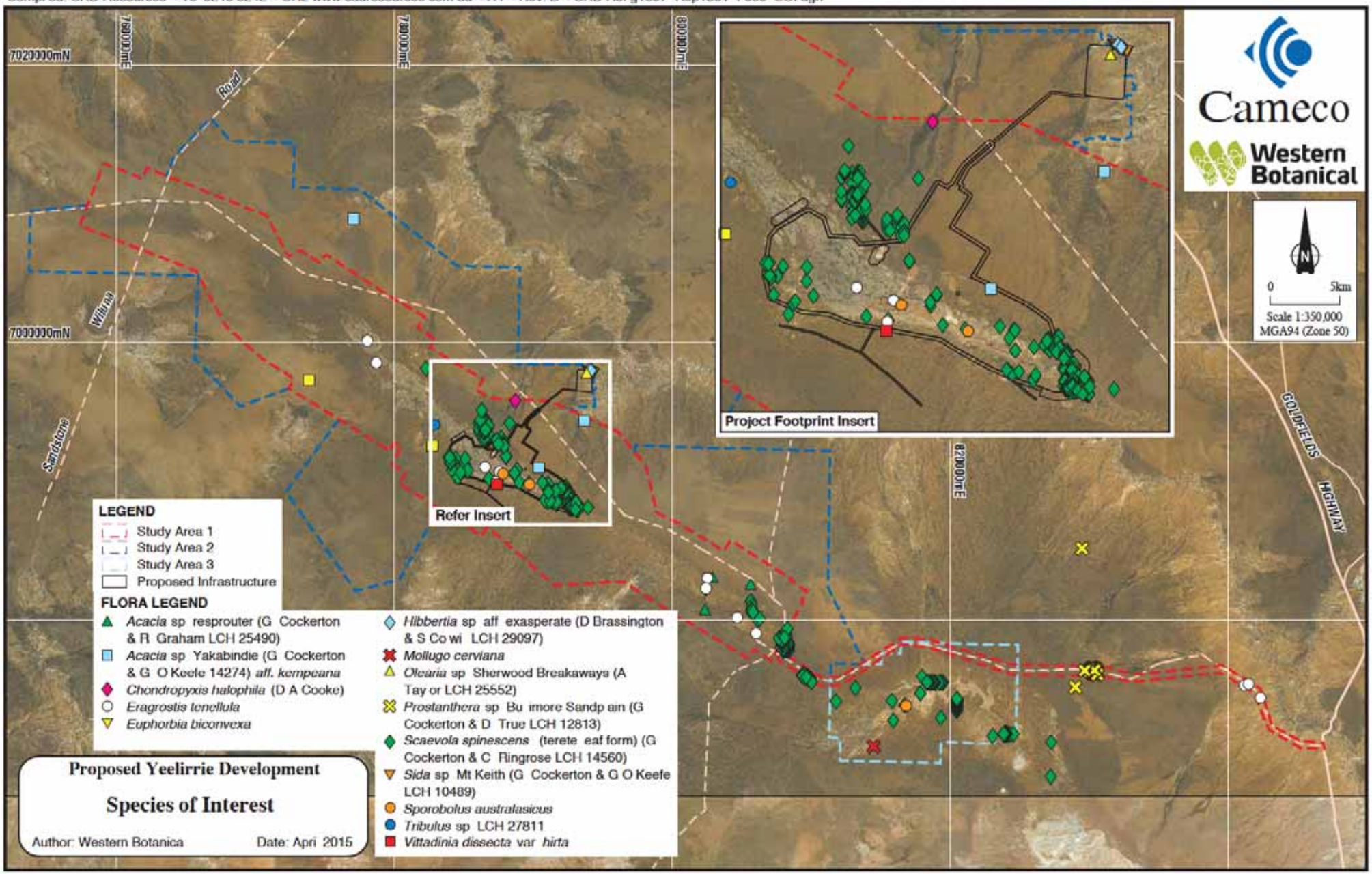


Cameco

Western Botanical

Proposed Yeelirrie Development

Species of Interest

Author: Western Botanica Date: April 2015

5.3.1. *Acacia* sp. (G. Cockerton & R. Graham LCH 25491)

Acacia sp. (G. Cockerton & R. Graham LCH 25491) was presented in WB653 and is precautionarily retained as a Flora of Interest for this addendum revision. It is a tree 6 - 8 m high (Plate 14), with flat phyllodes that are slightly curved, 2 x 130 mm, yellow-green in colour, with a large amount of resin. The tree has rough grey bark, brittle branchlets, and timber with a dark centre. During WB653 it did not key to any known *Acacia* species and fruits and flowers are required to be collected for further identification.

With the revision of mulgas (*Acacia aneura sens. lat.*) in 2012 (Maslin & Reid), *Acacia* sp. (G. Cockerton & R. Graham LCH 25491) may now fall within a recognised taxon. Clarification of this species identity would require collection of further flowering and fruiting material. As reported in WB653, this species is not considered to be of conservation significance and was not recorded in the proposed project footprint. This *Acacia* was recorded in a population of 50 plants that formed a grove in SAMU vegetation unit located approximately 4 km north-west of the Yeelirrie Homestead (Figure 31). Associated species were *A. ayersiana*, *A. ramulosa* var. *linophylla* and *Triodia basedowii*.

Plate 14. Photo of *Acacia* sp. (G. Cockerton & R. Graham LCH 25491) showing growth habit.

5.3.2. Acacia sp. resprouter (G. Cockerton & R. Graham LCH 25490)

Acacia sp. resprouter (G. Cockerton & R. Graham LCH 25490) was presented in WB653 and is precautionarily retained as a Flora of Interest for this addendum revision. It is a shrub to 1.7 m high that resprouts at the base from lignotuber after fire. It was recorded as a dominant *Acacia* in one area of SAWS vegetation unit north of Three Mile Well on Yeelirrie Station and is associated with *Hakea lorea* subsp. *lorea*, *Triodia basedowii* and *T. melvillei* (Plate 15). *Acacia* sp. resprouter (G. Cockerton & R. Graham LCH 25490) has affinities with *A. coolgardiensis* subsp. *coolgardiensis* and *A. resinosa*. Further investigation of flowering and fruiting material is needed to determine its identity. Western Botanical has also noted a small population of this Acacia

occurring at Lake Way Station. It is not considered to be of conservation significance. A map showing its distribution within the local Study Area is provided in Figure 31.

Plate 15. Photos of *Acacia* sp. resprouter (G. Cockerton & R. Graham LCH 25490) showing habit within SAWS vegetation unit (left) and leaf arrangement (right).

5.3.3. *Acacia* sp. Yakabindie (G. Cockerton & G. O'Kefe LCH 14274) aff. *kempeana*

Acacia sp. Yakabindie (G. Cockerton & G. O'Kefe LCH 14274) aff. *kempeana* was presented in WB653 and is precautionarily retained as a Flora of Interest for this addendum revision.

It grows as a large shrub to 4 m with striking, characteristic, yellow-green and highly fragrant foliage (Plate 16). The species has many similarities to the widespread *Acacia kempeana*, but the golden-brown phyllode resin and terminal stems give the plant a characteristic yellow-green colour and a strong cinnamon-honey fragrance. This strongly contrasts with *A. kempeana* that is blue-green in colour and has no noted fragrance. The phyllode shape is similar to *A. kempeana*; however, differs in venation and resin characteristics (Plate 16).

Overall, approximately 447 plants in 11 populations are known primarily from Yakabindie Station, approximately 100 km south of Wiluna. It is also known from the Pilbara region where it has been widely collected. Scattered individuals have been noted by Western Botanical on Yakabindie Station (Dingo Creek), Albion Downs borefield (near Bore 6) and north-east of Mt Keith Nickel Operation.

One plant was recorded in Study Area 1 in SAMA vegetation east of proposed high-grade stockpile, and a single population of approximately 30 plants in Study Area 2, also in the SAMA vegetation unit. Another individual plant was recorded on the northern boundary of the survey area within the GPoS vegetation unit. Locations of plants within the local study areas are presented in

Figure 31. The collection of flowering and fruiting material is required to further the taxonomy of this species complex.

Plate 16. Photos of *Acacia* sp. Yakabindie (G. Cockerton & G. O'Keefe LCH 14274) aff. *kempeana* showing growth habit and leaves.

5.3.4. Chondropyxis halophila

Chondropyxis halophila is a semi-succulent annual herb 1 – 7 cm tall (Western Australian Herbarium 1998-). Its distribution covers southern Murchison, southern Yalgoo, northern Avon Wheatbelt, and western Coolgardie IBRA regions, and also the south of the Yalgoo region (Figure 32). It typically grows on sand and gypseous soils on the margins of salt lakes (FloraBase 1998-). At Mt Keith, it has been noted in drainage lines (G. Cockerton pers. obs.).

The occurrence of *Chondropyxis halophila* at the Yeelirrie Project represents a range extension of ~208 km. Within the local Project Area it occurs on playa margins within the GRMS vegetation unit and in drainage lines of the DRMS vegetation units (Figure 31).

Figure 32. Distribution map of *Chondropyxis halophila* within Western Australia (Western Australian Herbarium 1998-).

5.3.5. Eragrostis tenellula

Eragrostis tenellula is a caespitose, erect to semi-prostrate annual grass, 0.06 to 0.5 (1.3) m tall Western Australian Herbarium 1998-) (Plate 17). It is widespread across Australia and common in the north and northwest of Western Australia (Figure 33). It typically occurs on clay, lateritic or basalitic loam, and yellow sand on seasonally flooded sites and banks/beds of watercourses (Western Australian Herbarium 1998-).

The occurrence of *Eragrostis tenellula* at the Yeelirrie Project represents a southward range extension of ~152 km (Western Australian Herbarium 1998-). However, Australia's Virtual Herbarium (Council of Heads of Australasian Herbaria 2014) has additional records indicating a 112 km southwards range extension. It occurs infrequently within the local Project Area on in depressions or shallow playas within the PLEmc and PLCsMp vegetation units (Figure 31).

Plate 17. Photo of *Eragrostis tenellula* (Simon & Alfonso 2014, photo by E. Anderson) showing typical growth habit.

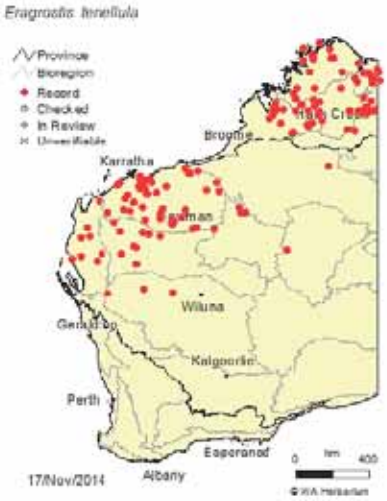


Figure 33. Distribution of *Eragrostis tenellula* within Western Australia (Western Australian Herbarium 1998-).

5.3.6. Euphorbia biconvexa

Euphorbia biconvexa is an open annual herb to 0.4 m high (Western Australian Herbarium 1998-) (Plate 18). Its distribution is widespread in the northern half of Western Australia with most collections made in the Pilbara IBRA region and the north of the Gascoyne IBRA region (Figure 34). It typically occurs on sandy and loamy soils, amongst rocks and in drainage channels (Western Australian Herbarium 1998-).

The occurrence of *Euphorbia biconvexa* at the Yeelirrie Project represents a southward range extension of ~300 km. Within the local Project Area it occurs at one location on heavy clay mixed with coarse sand within the PLAET vegetation unit (Figure 31). It has also been recorded by Western Botanical at Mt Keith and Yakabindie, some 80 km to the north-east and east of Yeelirrie, respectively.

Plate 18. Photo of *Euphorbia biconvexa* and showing leaf and fruit arrangement (Western Australian Herbarium 1998-).

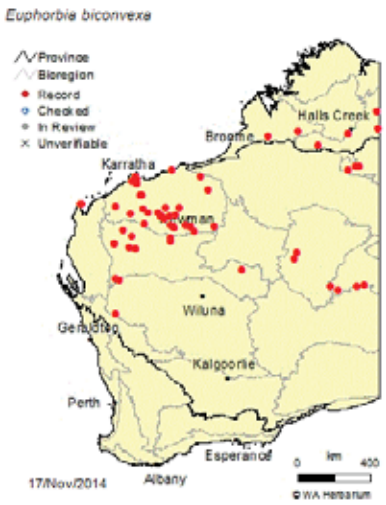


Figure 34. Distribution map of *Euphorbia biconvexa* within Western Australia (Western Australian Herbarium 1998-).

5.3.7. *Hibbertia* sp. aff. *exasperata* (D. Brassington & S. Colwill LCH 29097)

Hibbertia sp. aff. *exasperata* (D. Brassington & S. Colwill LCH 29097) is an erect shrub to 1.2 m high with pungent, green leaves (Plate 19). This species is restricted to the Archaean granite breakaway system, which is a part of the Sherwood Land System.

Hibbertia sp. aff. *exasperata* is currently considered to be a part of the *H. exasperata* group of at least four to five closely related species (Wheeler 2004). Further collections of reproductive material and a review of the *H. exasperata sens. lat.* group are required to determine its taxonomic status. The distribution of *Hibbertia exasperata*, which *H.* sp. aff. *exasperata* has affinity to, is presented in Figure 35.

The population on the Barr-Smith Range in the Yeelirrie – Mt Keith – Yakabindie region, within the central Murchison IBRA region represents an approximately 372 km northerly range extension for this species from Mt Jackson in the northern Coolgardie region and an approximately 378 km north-easterly range extension from Mt Gibson in the northern Avon-Wheatbelt region. The occurrence of this species complex in the Murchison IBRA region is novel.

Within the Yeelirrie Project, one population of 71 individuals of *Hibbertia* sp. aff. *exasperata* was recorded within the BRX complex on the breakaways of the Barr-Smith Range in the northern section of Study Area 2 (Figure 31). This population may extend beyond the boundary of Study Area 2 in association with the breakaway system. Western Botanical also knows this species from the same landform existing 20 km south-east of this site, within the same Barr-Smith Range, on Yakabindie Station.

The collection of good flowering and fruiting material is required for the taxonomy of this species to be clarified.

Plate 19. Photos of *Hibbertia* sp. aff. *exasperata* (D. Brassington & S. Colwill LCH 29097) showing growth habit and leaf arrangement.

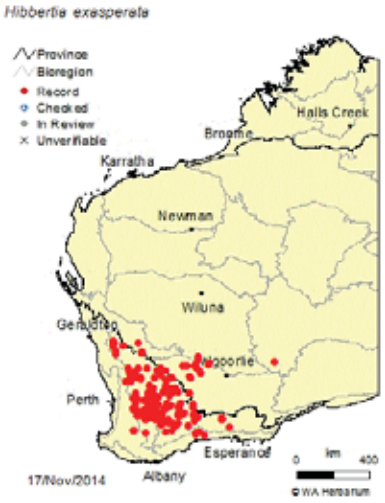


Figure 35. Distribution map of *Hibbertia exasperata* within Western Australia (Western Australian Herbarium 1998-).

5.3.8. Mollugo cerviana

Mollugo cerviana is an erect, ephemeral, annual herb growing 0.03 to 0.2 m high with white flowers (Western Australian Herbarium 1998-). It is sparsely distributed across Western Australia with ten collections held by Western Australian Herbarium (Figure 36). It typically occurs on saline sand and sandy clay on sand dunes and edges of salt lakes (Western Australian Herbarium 1998-). The occurrence of *Mollugo cerviana* at the Yeelirrie Project (Figure 31) represents a range extension of ~385 km from the nearest recorded collection, though within the overall range of the sparse collections made of this species in WA.

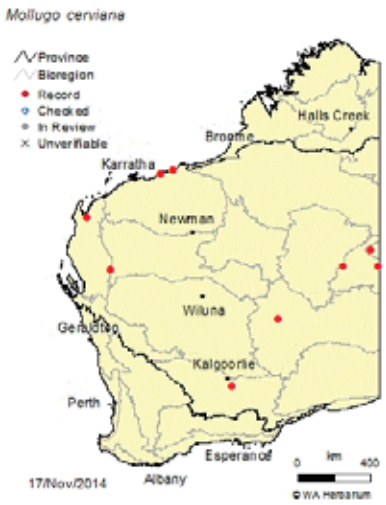


Figure 36. Distribution map of *Mollugo cerviana* within Western Australia (Western Australian Herbarium 1998-).

5.3.9. *Olearia* sp. Sherwood Breakaways (A. Taylor LCH 25552)

Olearia sp. Sherwood Breakaways (A. Taylor LCH 25552) was reported in WB653 as a novel species. Formal recognition of this species has not occurred since WB653; it is retained as a Flora of Interest in this addendum revision as a precaution for possible future recognition.

Olearia sp. Sherwood Breakaways (A. Taylor LCH 25552) is a small, sparse, and obnoxiously fragrant shrub to 0.6 m high. It has an upright habit with few branches, producing white to pale purple flowers with yellow centres following spring rainfall (Plate 20). This species has affinities to *O. stuartii* but has multiple distinct differences:

- *Olearia* sp. Sherwood Breakaways is highly fragrant whereas *O. stuartii* has no fragrance;
- The capillary bristles of *Olearia* sp. Sherwood Breakaways are larger than the bracts, whereas the capillary bristles *of O. stuartii* are the same length as the bracts;
- The leaves of *Olearia* sp. Sherwood Breakaways are shorter and narrower than the leaves of *O. stuartii*;
- *Olearia* sp. Sherwood Breakaways have noticeably more glandular hairs on its foliage than that of *O. stuartii*; and
- *Olearia* sp. Sherwood Breakaways leaves are lobed at the ends, whereas *O. stuartii* leaves have lobed sides.

Olearia sp. Sherwood Breakaways is very restricted in its habitat preference, occurring in small, disjunct populations on breakaways of the Barr-Smith Range in the local region, with one population noted on Banded Ironstones at the Brooking Hills. *Olearia* sp. Sherwood Breakaways is also known from small, disjunct populations elsewhere on the breakaway plateau of the Barr-Smith Range on Mt Keith, Albion Downs and Yakabindie Stations. Should the conservation status

of this species be reviewed, based on the known numbers of individuals and distribution of populations, the species would potentially qualify as a priority species.

A preliminary review undertaken by the Western Australian Herbarium (S. Dillon pers. comm. 22/12/2014) revised *Olearia stuartii* specimens held at the Western Australian Herbarium. The relevant preliminary findings included: (i) numerous misidentifications of *O. stuartii* and *O. humilis*, (ii) recognition of a new species referred to as the non-viscid BIF entity and here as *Olearia* sp. Yilgarn BIF (G. Cockerton et. al. s..n.), and (iii) a new species referred to as the viscid BIF entity and here as *Olearia* sp. Sherwood Breakaways (A. Taylor LCH 25552). Further work is required to fully elucidate the complex taxonomy of the *Olearia stuartii* group.

At the Yeelirrie Project a population (70 individuals) of *Olearia* sp. Sherwood Breakaways was found on a small plateau in the Weathered Granite Plateau (WGBP) community of the BRX complex (Figure 31).

Plate 20. Photos of *Olearia* sp. Sherwood Breakaways (A. Taylor LCH 25552) showing growth habit, leaf detail, and flowers.

5.3.10. *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & D. True 12813)

As reported in WB653 *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & D. True 12813) still remains curated within *Prostanthera althoferi* subsp. *althoferi*. However, *Prostanthera* sp. Bullimore Sandplain has been precautionarily retained in this addendum revision as a Flora of Interest.

WB653 reported that at least two taxa exist within *Prostanthera althoferi* subsp. *althoferi* collection at the Western Australian Herbarium. The two forms differ slightly in leaf size and morphology and have major differences in growth habit and habitat preference. Western Botanical has tentatively applied the phrase name *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & D. True LCH 12813) to the taxon recorded in Study Area 1 and elsewhere on the sand plains of the Murchison BGR, including Yeelirrie, to distinguish it from typical *P. althoferi* subsp. *althoferi* on the rocky hills further to the south-west in the Coolgardie IBRA region. As the taxonomic review has not yet been conducted, this phrase name has not yet been accepted within the Western Australian Herbarium and does not appear on the Census of Vascular Flora. Neither form of *Prostanthera althoferi* subsp. *althoferi* warrants conservation significance, as both species curated under *P. althoferi* subsp. *althoferi* are considered common and widespread. It is discussed here as it is of taxonomic interest only and to recognise that a revision of this genus is required.

The 'Type' (true form) of *Prostanthera althoferi* subsp. *althoferi* is a low, dense, divaricately shrub to 1 m high by 1.5 m wide and grows on the rocky outcrops and banded ironstone (BIF) and chert hills and limonitic gravely plains in the Yilgarn and south-western part of the North-eastern Goldfields (Figure 37).

Prostanthera sp. Bullimore Sandplain (G. Cockerton & D. True LCH 12813) is a shrub to 2 m high by 2 m wide (Plate 21) and grows exclusively on the Aeolian orange sand plains of the Bullimore land system in the North-eastern Goldfields and Central Desert (Western Botanical, 2008c).

Prostanthera sp. Bullimore Sandplain was recorded within the Sand Plain System on the northern and southern roadsides of the Yeelirrie Albion Downs Road approximately 20 km west of the Yeelirrie Albion Downs Road and Goldfields Highway intersection. A map showing its distribution at Yeelirrie is provided in (Figure 31). A total of 335 individuals were recorded within a 500 m wide buffer, 250 m either side of the current road alignment. A single individual was also recorded near the junction of the Sandstone Wiluna Road and Meekatharra Road. It occurs within the SASP, SAMA, SAGS and SAWS vegetation communities with *Acacia effusifolia, Eremophila forrestii* subsp. *forrestii, Leptosema chambersii* and *Triodia basedowii* (dominant).

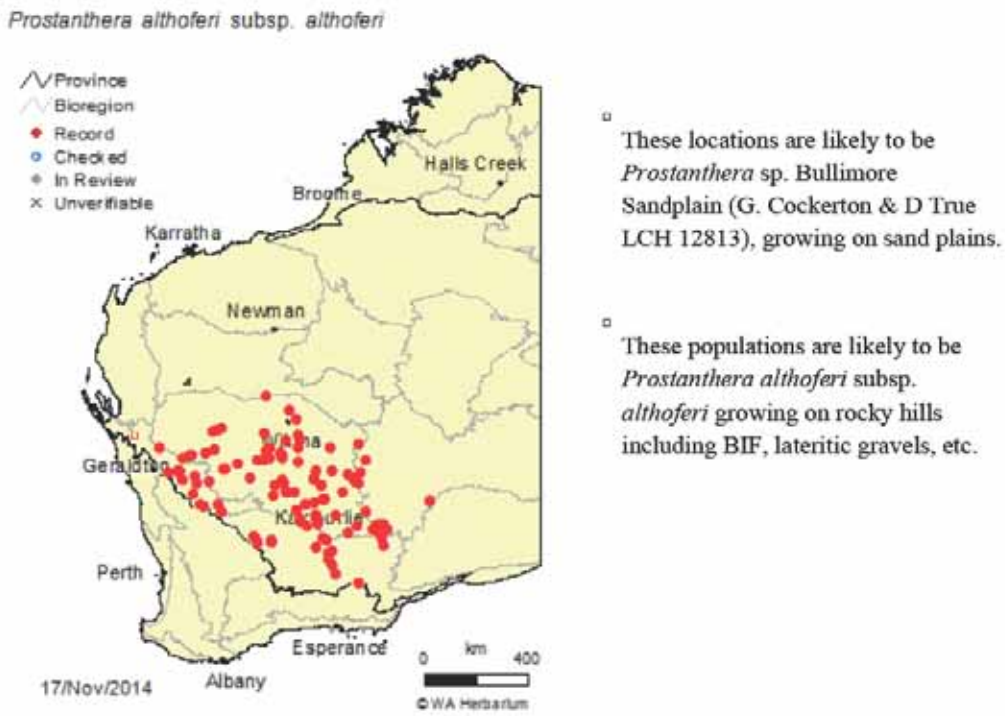


Figure 37. Distribution map of *Prostanthera althoferi* subsp. *althoferi* within Western Australia (modified from Western Australian Herbarium 1998-).

Plate 21. Photos of *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & D. True LCH 12813) showing growth habit and leaf arrangement.

5.3.11. *Scaevola spinescens* terete leaf form (G. Cockerton & C. Ringrose LCH 14560)

Scaevola spinescens terete leaf form (G. Cockerton & C. Ringrose LCH 14560) is a rigid, spiny shrub to 1.8 m high and 2.5 m wide with white, cream or yellow flowers from January to December in response to rainfall (Plate 22). It is found infrequently on the margins of playas and scalded areas and scattered throughout a number of other vegetation units. It is known from three locations: (i) Study Area 1, (ii) an un-named lake on Yakabindie Station, downstream of Study

Area 1, and (iii) Lake Miranda, south-east of Albion Downs Station. All three populations are within the Yeelirrie paleodrainage system. Areas of sparse populations were found within the Sand Plain and Playa Systems of Study Area 1, while the densest populations were recorded north of the airstrip (Figure 31). In total, 782 individuals were recorded. The taxon occurs within the SAWS, SAMU, HPMS, WABS, PLAPoS, PLAET, PLAMi, PLEmc, PLEml, PLEsp, CMxS, CEgW, CErG, CLaS, CMGbS, CMiS and CMpS vegetation units.

The group known as *Scaevola spinescens* requires further taxonomic differentiation of the several morhpologically distinct entities contained. The group known as *Scaevola spinescens* in the broad sense (*sens. lat.*) is widely distributed across the state, occurring in 18 Biogeographic regions, and is recognised as requiring taxonomic revision (L. Sage pers. comm. 2008) (Figure 38). There are at least five forms of *S. spinescens* that, in the opinion of the author, could be separated at the sub-species level. These are:

- Pilbara form - little known by the author of this form;
- Broad leaf, non-spinescent form associated with granitoid, often saline landforms, salt lake margins and gypsiferous dunes;
- Narrow leaf, very spinescent form associated with limonitic landforms in the North-eastern goldfields and on the banded ironstone ranges of the Yilgarn region;
- Terete leaf, spinescent form - associated with calcrete, shallow sandsheet over calcrete and margins of claypans in the Yeelirrie – Lake Miranda palaeodrainage; and
- Recurved branch form - noted at Shark Bay.

The broad leaf, non-spinescent form; narrow leaf, spinescent form; and terete leaf, spinescent forms have been found to occur on different soils and geology within Study Area 1. The broad leaf form (mostly non-spiny) is common in the understory of *Casuarina pauper* woodlands on calcrete. The narrow leaf, spiny form is found infrequently as scattered individuals within the Playa and Sand Plain Systems. This form is very abundant and common on the limonitic landforms east of the survey area near Mt Keith and Leinster. Neither of these two forms have conservation significance.

Locations of these forms are only indicative at this stage and should not be taken as the full extent of occurrence. The Western Australian Herbarium and Leigh Sage (DPaW, Goodeniaceae specialist) are currently involved in conducting taxonomic investigations into the *S. spinescens* group.

Western Botanical has recorded and identified herbarium collections of *Scaevola spinescens* terete leaf form at Yeelirrie (Figure 31) and surrounding areas of the northeast goldfields (Figure 39). *Scaevola spinescens* (unspecified forms) was reported by Meissner 2011 in surveys of the Calcrete paleochannels of the north-eastern Goldfields. Records were at Lake Darlot, Lake Maitland, Lake Mason, Lake Miranda, Lake Way, Nowathana and Yeelirrie. Many of these may prove to be *Scaevola spinescens* terete leaf form.

Plate 22. Photos of *Scaevola spinescens* terete leaf form (G. Cockerton & C. Ringrose LCH 14560) showing growth habit and branch, leaf, and flower arrangement.

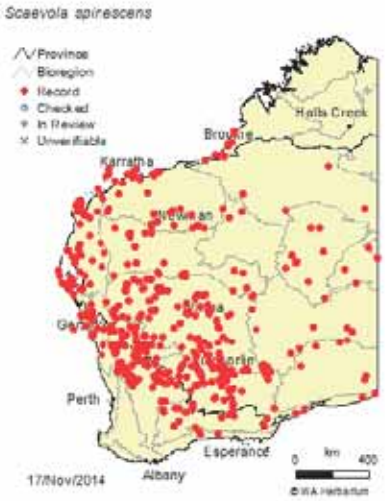


Figure 38. Distribution map of *Scaevola spinescens* (sens. lat.) within Western Australia (Western Australian Herbarium 1998-).

Figure 39. Western Botanical records and select Western Australian Herbarium records of *Scaevola spinescens* terete leaf form (G. Cockerton & C. Ringrose LCH 14560) in the north-eastern Goldfields.

5.3.12. Sporobolus australasicus

Sporobolus australasicus is an annual/ephemeral grass with an oblong or pyramidal compound inflorescence (Simon & Alfonso 2014) (Plate 23). It is widespread across northern Australia with some records southward approaching Wiluna (Figure 40). The grass typically occurs on loam, clay, sand, and limestone on coastal samphire flats, floodplains, and rocky rises (Western Australian Herbarium 1998-).

The occurrence of *Sporobolus australasicus* at the Yeelirrie Project (Figure 31) represents a southwards range extension of ~175 km (Western Australian Herbarium 1998-). However, Australia's Virtual Herbarium (Council of Heads of Australasian Herbaria 2014) has additional records indicating a ~131 km range extension. *Sporobolus australasicus* was recorded at one location on brown sandy-clay-loam with calcrete within the CLaS vegetation unit.

Plate 23. Photo of *Sporobolus australasicus* (Simon & Alfonso 2014, photo by D. Albrecht) showing its growth habit.

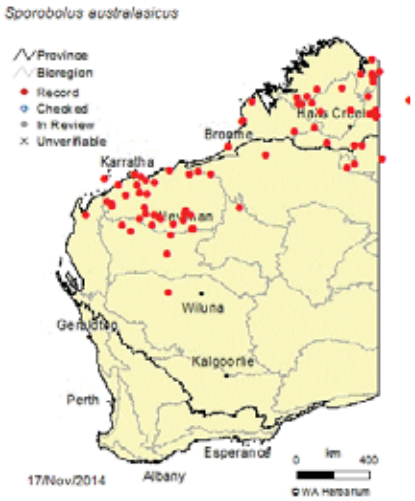


Figure 40. Distribution of *Sporobolus austrolasicus* within Western Australia (Western Australian Herbarium 1998-).

5.3.13. *Tribulus* sp. LCH 27811

Tribulus sp. LCH 27811 is a taxon found subsequent to report WB653. It was recorded at Quadrat YQS081 (50J 82898 mE, 6994057 mN) within the PLAET community (Figure 31). It was recorded as having similarities to *T. suberosus*. However, this is a distinctive and shrubby species of stony hills. This taxon requires recollection and review of its identification.

5.3.14. *Vittadinia dissecta* var. *hirta*

Vittadinia dissecta var. *hirta* is an erect, much-branched, viscid annual or perennial, short-lived herb, 0.1-0.4 m high (Western Australian Herbarium 1998-) (Plate 24). It is widespread across Australia and has an unusual distribution in Western Australia split into four disjunct areas (Figure 41). *Vittadinia dissecta* var. *hirta* is recorded to occur on sandy clay or loam and alluvium on flats, claypans, and marine plains (Western Australian Herbarium 1998-).

At Yeelirrie, *Vittadinia dissecta* var. *hirta* occurs in the rehabilitated southern Stockpile area (Figure 31). The occurrence of *Vittadinia dissecta* var. *hirta* at the Yeelirrie Project represents a range extension of ~340 km from the nearest record to the south-east (Western Australian Herbarium 1998-). However, Australia's Virtual Herbarium (Council of Heads of Australasian Herbaria 2014) has several additional records indicating a ~312 km range extension from the north-west (Figure 41).

The combination of disjunct populations, variable habitats, and significant range extensions indicates an appreciable uncertainty in the taxonomy of this species. Revision of *Vittadinia* is needed (Mike Hislop 2014, pers. comm. Oct. 2014) and would likely result in the recognition of additional taxa.

Plate 24. Photo of *Vittadinia dissecta* var. *hirta* (Council of Heads of Australasian Herbaria 2014, photo Don Wood).

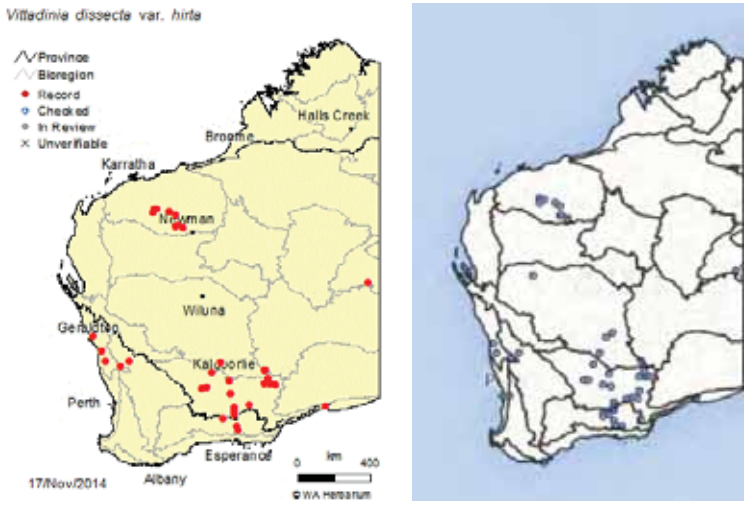


Figure 41. Distribution maps of *Vittadinia dissecta* var. *hirta* (Western Australian Herbarium 1998- (left), Council of Heads of Australasian Herbaria 2014 (right).

6. DPaW Database Searches

6.1. Threatened and Priority Flora

Searches of DEC's Threatened and Priority Flora databases were conducted as part of WB653. The results of the DEC flora search presented in Appendix 3 of WB653 corresponds to search reference 46-0211. The search area coordinates for 46-0211 are incorrectly reported in the methods section of WB653 and should read: Zone 50 J (GDA94) 740000 7030000, 860000 7030000, 760000 6951000, 740000 6951000.

As part of this addendum revision of WB653 a search of DPaW's Threatened and Priority Flora database (reference 16-0215), mirroring the previous DEC database search (reference 46-0211), was performed to check for any changes to flora listings for the Yeelirrie Project. A summary of the search results is presented in Appendix 4, including coordinates of known locations of threatened and priority flora.

After accounting for taxonomic name changes, a comparison of the two database search results reveals the addition of four Priority species records within the search area since WB653 (Table 11).

Table 11. Additional Priority species records returned by DPaW Threatened and Priority flora database search since WB653.

Species / Taxon	Conservation Status	Further Details
Acacia burrowsiana	Priority 3	Not reported by WB653. A distinctive species readily identified and not present at Yeelirrie.
Hybanthus floribundus subsp. *chloroxanthus*	Priority 3	New specimens collected since WB653. Common in some creeklines off iron-rich gravely hills between Leinster, Yakabindie and Mt Keith.
Maireana prosthecochaeta	Priority 3	A non-WAHerb record within the search area. Recorded by New South Wales Herbarium
Paspalidium distans	Priority 3	Identification re-determination of a specimen since WB653. Specimen inspected at Western Australian Herbarium, and identification may be incorrect.

6.2. Threatened and Priority Ecological Communities

WB653 in 2011 reported that no flora related Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) were found for the Yeelirrie Project. As part of this addendum revision of WB653 a search of DPaW's Threatened and Priority Ecological Communities database (reference #09-0315EC), mirroring the DEC database search in WB653

(reference 39-0211), was performed to recheck for the presence of TECs and PECs within and near the Yeelirrie project.

As for the previous search, no flora-related TECs or PECs listed for calcrete assemblages were found to occur within the vicinity of the local study area. Similarly, the search returned the same instances of Priority 1 PEC communities associated with Banded Ironstone Formations, but none occur within the Local Study Areas of the Yeelirrie Project, and these are not discussed further.

7. Review of Vegetation and Mapping

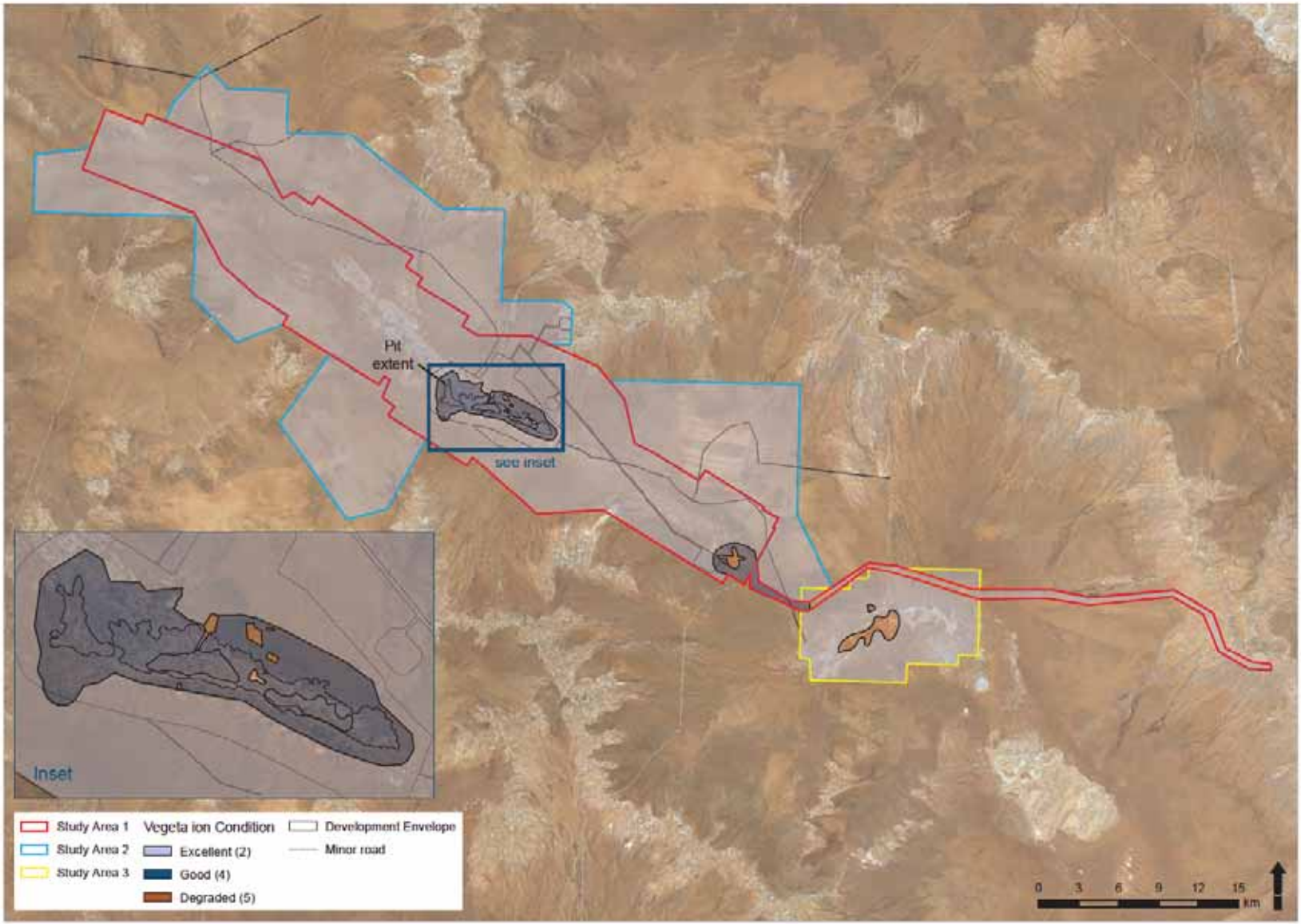
7.1. Vegetation Condition Mapping

This addendum report provides the addition of a Vegetation Condition map of the Local Study Area (areas 1, 2, and 3), (Figure 42). Vegetation condition was based on the Keighery (1994) scale (as presented in Government of Western Australia 2000) (Appendix 5) using information within WB653 and using aerial imagery. No additional fieldwork beyond WB653 was performed, and the vegetation condition map is considered current as at February 2011.

Due to a history of pastoral management and grazing, the majority of the vegetation within the Local Study Area is of 'excellent' condition rather than 'pristine', on the Keighery scale. The area immediate surrounding the Yeelirrie homestead and the airstrips is considered 'degraded', improving to 'good' with distance from the homestead. Within the mining footprint, exploration activities and some weed incursion have reduced the vegetation condition to 'good', with exploration tracks and roads and some isolated patches previously completely cleared having a condition of 'degraded'. As *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglass 25025) is preferentially grazed (predominantly cattle), areas supporting this species in the Eastern Population are of a lower 'degraded' vegetation condition.

Importantly, the vegetation condition map (Figure 42) does not present individual roads and tracks as separate vegetation condition polygons. Generally, within the Local Study Area, the vegetation condition of ungraded vehicle tracks is considered 'good', graded roads considered 'degraded', and major graded roads considered 'completely degraded'.

Figure 42. Vegetation condition map for the Yeelirrie Project, current as of the publication of WB653 (February 2011).


Pit
extent
see inset
Inset
Study Area 1
Study Area 2
Study Area 3
Vegeta ion Condition
Excellent (2)
Good (4)
Degraded (5)
Development Envelope
Minor road
0 3 6 9 12 15
km

7.2. Changes Due to Update of Flora

The vegetation units and mapping presented in WB653 were reviewed with consideration made to the flora updates within this Addendum Report. The majority of updates to flora are changes to species names only (albeit with a variety of causes, see Section 4). Consequences of these species name changes are essentially cosmetic. For completeness, a summary of species name changes that affect WB653 vegetation unit descriptions are presented in Table 12.

Table 12. Summary of species name changes within WB653 vegetation unit descriptions.

Vegetation Unit	Species Name (WB653)	Updated Species Name	Impact to Vegetation Unit
SAWS	*Rulingia loxophylla*	*Androcalva loxophylla*	None. Species name change only.
CErG	*Salsola tragus*	*Salsola australis*	None. Species name change only.

Taxonomic revision of Mulga (*Acacia aneura* and close relatives) by Maslin and Reid (2012) has the potential to impact on vegetation units and mapping presented in WB653. Various forms of *Acacia aneura* were collected during WB653 field surveys. The *Acacia aneura* variants differed by location; Study Area 1 contained 8 variants, Study Area 2 contained 30 variants, while Study Area 3 contained one variant. For the purposes of statistical analysis, vegetation unit descriptions, and vegetation mapping all of these variants were treated collectively as *Acacia aneura sens. lat.*

An update of original *A. aneura sens. lat.* specimens to comply with the Mulga revision would likely produce additional taxa within the dataset. When following the convention of NVIS 6.0 (National Heritage Trust, 2003) for the description of vegetation units (three dominant species per strata) the increased number of Mulga species within the project area would likely result in the splitting of some Mulga vegetation associations into additional units or mosaics/complexes. However, undertaking such an update for the purposes of this report revision is not practical or cost feasible as:

- The Mulga revision has not produced any taxa of conservation significance, nor has it resulted in the formation of any Threatened Ecological Communities or Priority Ecological Communities.
- The majority of original specimens are not available for re-identification.
- Extensive additional fieldwork would be required to collect additional voucher specimens to verify existence and ranges of each Mulga taxon.
- A re-run of multivariate statistical analysis would be required to ensure any splitting of Mulga vegetation units is valid and to assist description of new vegetation units.
- Additional fieldwork may be necessary to determine boundaries of any vegetation units at a higher resolution than the existing units.

However, improved distribution knowledge of the various component varieties of Mulga at Yeelirrie would facilitate a finer scale description of vegetation units and lead to better targeted planning for future rehabilitation of any impacted Mulga vegetation associations.

7.3. Potential Changes Due to Enhanced Analysis

A review of analysis methods used in WB653 (see Section 3.2) identified improvements that would enhance the validation/correction of vegetation unit definitions and mapping boundaries. A summary of potential changes to vegetation units and mapping that may occur if improvements to analysis were adopted is presented in Table 13. The tabled summary of potential changes is the result of preliminary data checks and an estimate only. The majority of vegetation units and mapping presented in WB653 would likely remain unchanged.

Table 13. Summary of potential changes to vegetation maps due to improved analysis.

Potential Change	Likelihood	Impact	Details
Merging of minor vegetation units	Probable	Minor	With the addition species data included within analysis, some minor vegetation units may be merged. Some mapped polygons would be reassigned, however, polygon boundaries would likely remain unchanged.
Adjustment of some vegetation unit polygon boundaries	Probable	Minor	Performing a secondary analysis of releve sites would likely reveal areas of mapped vegetation that belong to an adjacent vegetation unit.
Splitting of major vegetation units	Possible	Moderate	Additional data within analysis may reveal a major, widespread, vegetation unit to contain another related, but distinct, vegetation unit at the NVIS Association of mapping. This may require ground truthing to determine new map polygon boundaries. Such a division would be most likely in the broad sandplain communities of the Bullimore Land System, in particular the SAWS Vegetation Association.
Merging of major vegetation units	Unlikely	Moderate	Major (widespread) vegetation units are well represented in quadrats and releves numbers, providing high confidence they would remain unchanged.
Splitting of minor vegetation units	Unlikely	Minor	Data exploration indicates additional quadrat and releve data would likely bring poorly sampled minor vegetation units together rather than produce additional minor units.

7.4. Clarifications to Mapping, Vegetation Unit Descriptions, and Sites

A review of the vegetation unit descriptions presented in WB653 (Appendix 8) found minor errors regarding the location of units SACSG and DRMpS within Study Area 1. Table 11 of WB653 correctly reports that 11.38 ha of SACSG and 3.35 ha of DRMpS occur within Study Area 1. However, the vegetation unit descriptions of SACSG and DRMpS erroneously state that neither of

the two units occurs in Study Area 1. Vegetation maps of WB653 correctly display SACSG and DRMpS within Study Area 1. However, these two vegetation units do not appear on the map legend and their polygons have no text label. To clarify:

- One polygon of SACSG (11.38 ha) is located at 76500 E 7010800 N on sheet 2 of the vegetation map, adjacent to the boundary of Study Area 1 and continuing into Study Area 2.
- One polygon of DRMpS (3.35 ha) is located at 792800 E 6994990 S on sheet 10 of the vegetation map, adjacent to the boundary of Study Area 1 and continuing into Study Area 2.

Some errors in the reported coordinates of releve sites were identified within Appendix 12 of WB653. Releves receiving corrections are re-presented in Appendix 6 of this addendum report.

8. Conclusion & Recommendations

This *Addendum Report* (WB839) has performed a review and update of the Level 2 flora survey *Baseline flora and vegetation survey of the Yeelirrie Project* (WB653). The updates and corrections offered in this addendum report supersede the existing content of WB653.

The key change resulting from the update is the upgrade in conservation status of *Atriplex* sp. Yeelirrie Station to Threatened Flora. Reported conservation statuses of four other Priority flora (*Sida picklesiana, Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362), *Calytrix erosipetala,* and *Alyxia tetanifolia*) have been revised since WB653.

The vast majority of updates presented in this addendum are cosmetic or descriptive changes, and do not significantly alter the findings of WB653. Additional information, including the summary of field site intensity and the vegetation condition map, are complementary to WB653 and assist to meet the recommended reporting criteria of Guidance Statement 51. When accounting for updates and notifications presented within this Addendum Report, the content of WB653 is considered correct and valid to April 2015.

As a result of the updates and review of WB653 presented in this addendum report, the below recommendations are offered. These recommendations are not considered significant for the purpose of impact assessment of the Yeelirrie Project.

- Recollection and confirmation of five species (*Lawrencia repens, Zygophyllum apiculatum, Enchylaena lanata, Polycarpaea arida,* and *Polycarpaea* aff. *corymbosa*) within the mining envelope that are acknowledged as unconfirmed range extensions (but unlikely to be of conservation significance). Not considered significant for the purpose of impact assessment of the Yeelirrie Project.
- Vouchering of non-sterile material of two Flora of Interest that occur within the mining envelope (*Acacia* sp. Yakabindie (G. Cockerton & G. O'Keefe 14274) aff. *kempeana,* and *Scaevola spinescens* (terete leaf form) (G. Cockerton & C. Ringrose LCH 14560)) to the Western Australian Herbarium, to assist resolution of taxonomic status. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.
- An enhanced data analysis, incorporating spring survey data, releve data, and broader host of flora, to reconfirm vegetation unit definitions and mapping boundaries. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.
- Continuation of existing management of the Declared Pest *Cylindropuntia fulgida* var. *mamillata* (*Opuntia sp.* in WB653) as required by the *Biosecurity and Agriculture Management Act 2007*. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.
- Due to the taxonomic revision of Mulga (*Acacia aneura* sens. lat.) (Maslin et al. 2012) performed since WB653, a low-intensity recollection of Mulga at the Local Study Area subsequent to the PER process is recommended to facilitate better definition of Mulga

communities and to aid future rehabilitation efforts. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.

- Preparation of a Conservation Species Management Plan to assist management of Threatened and Priority Flora within the proposed Yeelirrie Project. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.
- Initiation of a population and demography study of the Threatened Flora *Atriplex* sp. Yeelirrie Station, to enhance knowledge of the species and facilitate its management. Not considered significant for the purpose of impact assessment of the Yeelirrie Project.

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Western Botanical (2008c). *Flora and vegetation of the proposed clearing within the Koonoonooka Sand Quarry*. Report WB507. Consultant report prepared for BHP Billiton, Nickel West, Leinster Operations, Leinster, WA.

Western Botanical (2009a). *Significant flora assessment of remainder of proposed confirmation drilling program – Phase 1B, Yeelirrie Uranium Deposit, March 2009*. Report WB567. Consultant report prepared for URS Corporation.

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10. List of Participants

Role / Position	Name
Project Manager / Director	Geoff Cockerton
Senior Botanist / Analyst	Dr David Leach

Appendix 1.
List of specimens vouchered with Western Australian Herbarium for WB653.

Collector initials: AD – Amy Douglass, BE – Ben Eckermann, BW – Bridget Watkins, CA – Cassie Adam, CJ – Cheyne Jowett, CR – Carolyn Ringrose, DB – Daniel Brassington, GC – Geoff Cockerton, JB – Jessie-Leigh Brown, KM – Kellie McMaster, LW – Lewis Trotter, PT – Philip Trevenen, RD – Renee. D'Herville, RG – Rebecca Graham, SC – Simon Colwill, SF – Sophie Fox, SR – Susan Regan.

Table 14: Specimens listed here retain taxa names and conservation status used in WB653 prior to this Addendum Report to best enable cross-referencing of the vouchering submission.

Table 15: Specimens listed here were lodged after the publication of WB653 and have current taxa names and conservation statuses.

Table 14. Specimens lodged to Western Australian Herbarium following (but as part of) the publication WB653. Taxa names and conservation status used for the original specimen lodgement are retained to enable cross-reference of records.

LCH Number	Family	Species Name	Cons. Status (at WB653)	Date Collected	Collectors
26748	Apocynaceae	*Alyxia tetanifolia*	P3	12/02/2010	RG, DB
25428	Asteraceae	*Olearia arida*	P4	17/05/2009	GC AD
27720	Asteraceae	*Olearia arida*	P4	16/09/2010	RG
29794	Asteraceae	*Olearia stuartii*		04/11/2010	GC, DB, SC
25024	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	28/04/2009	LT, AD
25025	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	28/04/2009	LT, AD
25019	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	29/04/2009	CJ, AD
25022	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	29/04/2009	CJ, AD
25023	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	01/05/2009	GC, RG
25020	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	22/05/2009	GC, LT
25021	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	22/05/2009	GC, LT
25350	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	16/09/2009	CJ
25349	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	16/09/2009	CJ
26265	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	17/09/2009	CJ
26266	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	18/09/2009	CJ
26267	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	18/09/2009	CJ
26280	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	24/09/2009	AD
26281	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	24/09/2009	AD
26172	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	18/11/2009	RG, CJ
26175	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	03/12/2009	RG, CJ
26176	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	03/12/2009	RG, CJ
26177	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	03/12/2009	RG, CJ
26326	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	09/03/2010	GC
26327	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	P1	09/03/2010	GC
26698	Chenopodiaceae	*Rhagodia drummondii*		19/05/2009	AD, BW
26697	Chenopodiaceae	*Rhagodia eremaea*		09/06/2009	RG, LT

LCH Number	Family	Species Name	Cons. Status (at WB653)	Date Collected	Collectors
26307	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	05/06/2009	RG, LT
28262	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	20/08/2010	CJ, SC
28263	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	23/08/2010	RG, JB
28264	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	23/08/2010	RG, JB
28265	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	23/08/2010	RG, JB
26299	Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K. Shepherd 1396)	P1	13/02/2010	RG, DB
26579	Fabaceae	*Acacia aneura*		07/06/2009	RG, AD
26730	Fabaceae	*Acacia aneura x ayersiana* hybrid		13/03/2010	RD, RG, DB
26598	Fabaceae	*Acacia aptaneura?*		03/08/2009	RG, AD, LT
26342	Fabaceae	*Acacia caesaneura?*		15/01/2010	RG, DB
28273	Fabaceae	*Acacia craspedocarpa* hybrid		01/10/2010	RG, DB
30000	Fabaceae	*Acacia craspedocarpa* hybrid		02/10/2010	DB, RG
29999	Fabaceae	*Acacia fuscaneura*		02/10/2010	DB, RG
30002	Fabaceae	*Acacia fuscaneura-pteraneura* intergrade		15/01/2010	RG, DB
29998	Fabaceae	*Acacia fuscaneura-pteraneura* intergrade		02/10/2010	DB, RG
28313	Fabaceae	*Acacia fuscaneura-pteraneura* intergrade		03/10/2010	RG, DB
28305	Fabaceae	*Acacia incurvaneura*		30/09/2010	RG, DB
25441	Fabaceae	*Acacia oswaldii*		14/03/2009	GC
25440	Fabaceae	*Acacia oswaldii*		15/03/2009	CJ
19656	Fabaceae	*Acacia pteraneura*		02/10/2010	DB, RG
28315	Fabaceae	*Acacia ramulosa* hybrid		03/10/2010	RG, DB
25539	Fabaceae	*Bossiaea eremaea*	P3	14/03/2009	GC, RG
24472	Fabaceae	*Bossiaea eremaea*	P3	19/03/2009	CA, PT
24471	Fabaceae	*Bossiaea eremaea*	P3	19/03/2009	CA, PT
25529	Fabaceae	*Daviesia* aff. *grahamii* (G. Cockerton & B. Watkins 25336)		27/04/2009	GC, RG
25528	Fabaceae	*Daviesia* aff. *grahamii* (G. Cockerton & B. Watkins 25336)		07/06/2009	RG, AD
14598	Fabaceae	*Templetonia incrassata*		08/12/2008	GC, CR
26296	Fabaceae	*Templetonia incrassata*		14/03/2009	CA
26297	Fabaceae	*Templetonia incrassata*		14/03/2009	CA
26301	Fabaceae	*Templetonia incrassata*		30/07/2009	AD, RG
26302	Fabaceae	*Templetonia incrassata*		30/07/2009	AD, RG
25346	Fabaceae	*Templetonia incrassata*		16/09/2009	CJ
26293	Fabaceae	*Templetonia incrassata*		11/02/2010	RG, DB
24825	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		01/04/2009	GC
26305	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		28/06/2009	CJ, RG

LCH Number	Family	Species Name	Cons. Status (at WB653)	Date Collected	Collectors
26304	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		25/09/2009	AD
26926	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		18/05/2010	AD, JB, SF
26781	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		22/05/2010	SR, SF
26779	Goodeniaceae	*Scaevola spinescens* Terete leaf form (G. Cockerton & C. Ringrose 14560)		29/05/2010	SR, AD, SF
26797	Malvaceae	*Abutilon malvifolium*		04/05/2010	DB, JB
26815	Malvaceae	*Abutilon otocarpum*		03/05/2010	DB, JB
25434	Malvaceae	*Abutilon oxycarpum* subsp. *prostratum*		19/05/2009	GC
28252	Malvaceae	*Lawrencia repens*		16/08/2010	JB, CJ
28253	Malvaceae	*Lawrencia repens*		23/08/2010	DB, SC
28251	Malvaceae	*Lawrencia repens*		24/08/2010	RG, JB
26816	Malvaceae	*Sida ectogama*		05/05/2010	DB, JB
26743	Malvaceae	*Sida fibulifera*		19/01/2010	DB, CJ, JB
26135	Malvaceae	*Sida phaeotricha*		19/05/2009	GC, CJ
26740	Malvaceae	*Sida phaeotricha*		15/01/2010	RG, DB
25424	Malvaceae	*Sida* sp. Mt Keith (G. Cockerton & G. O'Keefe LCH10489)	Species of Interest	24/04/2009	RG, CJ
26739	Malvaceae	*Sida* sp. Excedentifolia (J.L. Egan 1925)		15/01/2010	RG, DB
26322	Malvaceae	*Sida* sp. Excedentifolia (J.L. Egan 1925)		10/02/2010	DB, RG
29765	Myrtaceae	*Calytrix erosipetala*	P3	04/11/2010	GC, DB, SC
29817	Myrtaceae	*Calytrix uncinata*	P3	21/11/2010	DB, SC
29946	Myrtaceae	*Euryomyrtus inflata*	P3	17/11/2010	DB, SC
26250	Myrtaceae	*Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	P3	12/03/2009	
26254	Myrtaceae	*Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	P3	13/05/2009	GC
29966	Myrtaceae	*Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	P3	03/11/2010	GC, DB, SC
29679	Phyllanthaceae	*Sauropus ramosissimus*	P3	11/11/2010	DB, SC
26652	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	22/04/2009	CJ, AD
25340	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	25/04/2009	GC et al.
26807	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	03/05/2010	DB, JB
26948	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	19/05/2010	JB, AD, SF
26979	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	19/05/2010	JB, AD, SF
27199	Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH26770)	Species of Interest	03/08/2010	DB, SF
29806	Poaceae	*Neurachne lanigera*	P1	22/11/2010	DB, SC

LCH Number	Family	Species Name	Cons. Status (at WB653)	Date Collected	Collectors
26727	Poaceae	*Sporobolus australasicus*		13/03/2010	RD, RG, DB
26170	Scrophulariaceae	*Eremophila arachnoides* subsp. *arachnoides*	P3	21/11/2009	CJ
26285	Scrophulariaceae	*Eremophila arachnoides* subsp. *arachnoides*	P3	13/02/2010	DB, RG
26288	Scrophulariaceae	*Eremophila arachnoides* subsp. *arachnoides*	P3	14/02/2010	JB
26292	Scrophulariaceae	*Eremophila* sp. Wiluna Calcrete (GC & K Stratford 1983)		17/05/2009	GC, AD
25337	Scrophulariaceae	*Eremophila subfloccosa* subsp. aff. *lanata*		18/05/2009	GC, CJ

Table 15. Specimens lodged to Western Australian Herbarium as part of this Addendum Report.

LCH Number	Family	Species Name	Cons. Status (Current)	Date Collected	Collectors
36923	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36924	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36925	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36926	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36927	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36928	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36929	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36930	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
36931	Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	22/08/2014	GC (DRF Permit 35-1415)
25081	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		19/09/2009	GC, BE
25083	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		22/09/2009	GC, BE
26304	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		25/09/2009	AD
26779	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		29/05/2010	SR, AD, SF
26781	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		22/05/2010	SR, SF
26926	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		18/05/2010	AD, JB, SF
30093	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		10/08/2008	AD, KM
32057	Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)		27/08/2008	GC, SR

Appendix 2.
Revised local species list (Study Areas 1, 2, & 3).

Family	Species / Taxon	Status
Acanthaceae	*Harnieria kempeana* subsp. *muelleri*	
Aizoaceae	*Tetragonia cristata*	
Aizoaceae	*Tetragonia eremaea*	
Aizoaceae	*Trianthema triquetrum*	
Amaranthaceae	*Alternanthera angustifolia*	
Amaranthaceae	*Alternanthera nodiflora*	
Amaranthaceae	*Amaranthus mitchellii*	
Amaranthaceae	*Ptilotus aervoides*	
Amaranthaceae	*Ptilotus gaudichaudii*	
Amaranthaceae	*Ptilotus helipteroides*	
Amaranthaceae	*Ptilotus nobilis* / sp. Goldfields (R. Davis 10796)	Previously *P. exaltatus*
Amaranthaceae	*Ptilotus obovatus* "typical Goldfields form"	
Amaranthaceae	*Ptilotus obovatus* "upright form" (G. Cockerton & G. O'Keefe 12281)	
Amaranthaceae	*Ptilotus polystachyus*	
Amaranthaceae	*Ptilotus roei*	
Amaranthaceae	*Ptilotus rotundifolius*	
Amaranthaceae	*Ptilotus schwartzii* var. *georgei*	
Amaranthaceae	*Ptilotus sessilifolius*	
Apiaceae	*Apiaceae* sp. Indet. (LCH 28380)	
Apiaceae	*Daucus glochidiatus*	
Apocynaceae	*Cynanchum floribundum*	Range Extension
Apocynaceae	*Marsdenia australis*	
Apocynaceae	*Rhyncharrhena linearis*	
Araliaceae	*Trachymene bialata*	
Asparagaceae	*Thysanotus manglesianus*	
Asparagaceae	*Thysanotus speckii*	Unverified ID and Range Extension
Asteraceae	**Sonchus oleraceus*	Weed
Asteraceae	*Actinobole oldfieldianum*	
Asteraceae	*Asteraceae* sp. Indet.	
Asteraceae	*Brachyscome ciliaris*	
Asteraceae	*Brachyscome ciliocarpa*	
Asteraceae	*Calocephalus francisii*	
Asteraceae	*Calocephalus knappii*	
Asteraceae	*Calocephalus multiflorus*	
Asteraceae	*Calotis hispidula*	
Asteraceae	*Calotis multicaulis*	
Asteraceae	*Calotis plumulifera*	
Asteraceae	*Centipeda thespidioides*	
Asteraceae	*Cephalipterum drummondii*	
Asteraceae	*Chondropyxis halophila*	Range Extension
Asteraceae	*Chrysocephalum puteale*	
Asteraceae	*Chthonocephalus pseudevax*	
Asteraceae	*Cotula australis*	
Asteraceae	*Cratystylis subspinescens*	
Asteraceae	*Dielitzia tysonii*	
Asteraceae	*Erymophyllum ramosum* subsp. *ramosum*	
Asteraceae	*Gnephosis arachnoidea*	
Asteraceae	*Gnephosis drummondii*	Unverified ID and Range Extension

Family	Species / Taxon	Status
Asteraceae	*Gnephosis tenuissima*	
Asteraceae	*Helipterum craspedioides*	
Asteraceae	*Isoetopsis graminifolia*	
Asteraceae	*Lemooria burkittii*	
Asteraceae	*Minuria cunninghamii*	
Asteraceae	*Myriocephalus occidentalis*	Unverified ID and Range Extension
Asteraceae	*Myriocephalus rudallii*	
Asteraceae	*Olearia arida*	Priority 4 (P4)
Asteraceae	*Olearia incana*	
Asteraceae	*Olearia* sp. Sherwood Breakaways (A. Taylor LCH25552)	Flora of Interest
Asteraceae	*Pluchea dentex*	
Asteraceae	*Podolepis capillaris*	
Asteraceae	*Pogonolepis stricta*	
Asteraceae	*Rhodanthe battii*	
Asteraceae	*Rhodanthe charsleyae*	
Asteraceae	*Rhodanthe chlorocephala*	
Asteraceae	*Rhodanthe floribunda*	
Asteraceae	*Rhodanthe maryonii*	
Asteraceae	*Rhodanthe sterilescens*	
Asteraceae	*Schoenia cassiniana*	
Asteraceae	*Senecio glossanthus*	
Asteraceae	*Senecio pinnatifolius*	
Asteraceae	*Senecio* sp. Indet. (LCH 27490)	
Asteraceae	*Streptoglossa cylindriceps*	
Asteraceae	*Taplinia saxatilis*	
Asteraceae	*Tietkensia corrickiae*	
Asteraceae	*Trichanthodium skirrophorum*	
Asteraceae	*Vittadinia dissecta var. hirta*	Range Extension
Asteraceae	*Vittadinia eremaea*	
Asteraceae	*Vittadinia* sp. Indet. (LCH 26565)	
Asteraceae	*Vittadinia* sp. Indet. (LCH 26755)	
Asteraceae	*Vittadinia sulcata*	
Boraginaceae	*Halgania cyanea* subsp. Allambi Stn (B. W. Strong 676)	
Boraginaceae	*Halgania erecta*	
Boraginaceae	*Halgania integerrima*	
Boraginaceae	*Heliotropium ammophilum*	
Boraginaceae	*Heliotropium heteranthum*	
Boraginaceae	*Trichodesma zeylanicum*	
Brassicaceae	*Arabidella trisecta*	Unverified ID and Range Extension
Brassicaceae	*Lepidium oxytrichum*	
Brassicaceae	*Lepidium phlebopetalum*	
Brassicaceae	*Menkea australis*	
Brassicaceae	*Menkea villosula*	
Cactaceae	**Opuntia fulgida* var. *mamillata*	Weed of National Significance
Campanulaceae	*Isotoma petraea*	
Campanulaceae	*Lobelia winfridae*	
Campanulaceae	*Wahlenbergia gracilenta*	Unverified ID and Range Extension
Campanulaceae	*Wahlenbergia tumidifructa*	

Family	Species / Taxon	Status
Caryophyllaceae	*Polycarpaea arida*	Unverified ID and Range Extension
Caryophyllaceae	*Polycarpaea* sp. aff. *corymbosa*	Range Extension
Casuarinaceae	*Casuarina pauper*	
Celastraceae	*Stackhousia* sp. Mt Keith (G. Cockerton & G. O'Keefe 11017)	
Centrolepidaceae	*Centrolepis* sp.	
Chenopodiaceae	*Atriplex bunburyana*	
Chenopodiaceae	*Atriplex codonocarpa*	
Chenopodiaceae	*Atriplex holocarpa*	
Chenopodiaceae	*Atriplex semilunaris*	
Chenopodiaceae	*Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas 25025)	Threatened (T)
Chenopodiaceae	*Dissocarpus paradoxus*	
Chenopodiaceae	*Dysphania kalpari*	
Chenopodiaceae	*Dysphania melanocarpa* forma *melanocarpa*	
Chenopodiaceae	*Dysphania rhadinostachya* subsp. *rhadinostachya*	
Chenopodiaceae	*Enchylaena lanata*	Unverified ID and Range Extension
Chenopodiaceae	*Enchylaena tomentosa* var. *tomentosa*	
Chenopodiaceae	*Eremophea spinosa*	
Chenopodiaceae	*Eriochiton sclerolaenoides*	
Chenopodiaceae	*Maireana* aff. *trichoptera* (LCH27428)	
Chenopodiaceae	*Maireana carnosa*	
Chenopodiaceae	*Maireana eriosphaera*	
Chenopodiaceae	*Maireana georgei*	
Chenopodiaceae	*Maireana glomerifolia*	
Chenopodiaceae	*Maireana planifolia*	
Chenopodiaceae	*Maireana pyramidata*	
Chenopodiaceae	*Maireana* sp. Indet. (LCH 26610)	
Chenopodiaceae	*Maireana thesioides*	
Chenopodiaceae	*Maireana tomentosa*	
Chenopodiaceae	*Maireana tomentosa* subsp. "red fruits"	
Chenopodiaceae	*Maireana tomentosa* subsp. *tomentosa*	
Chenopodiaceae	*Maireana triptera*	
Chenopodiaceae	*Maireana villosa*	
Chenopodiaceae	*Rhagodia drummondii*	
Chenopodiaceae	*Rhagodia eremaea*	
Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K.A. Shepherd *et al.* KS 1396)	Priority 1 (P1)
Chenopodiaceae	*Salsola australis*	
Chenopodiaceae	*Sclerolaena convexula*	
Chenopodiaceae	*Sclerolaena cornishiana*	
Chenopodiaceae	*Sclerolaena cuneata*	
Chenopodiaceae	*Sclerolaena densiflora*	
Chenopodiaceae	*Sclerolaena diacantha*	
Chenopodiaceae	*Sclerolaena eriacantha*	
Chenopodiaceae	*Sclerolaena fimbriolata*	
Chenopodiaceae	*Sclerolaena fusiformis*	
Chenopodiaceae	*Sclerolaena lanicuspis*	
Chenopodiaceae	*Sclerolaena obliquicuspis*	
Chenopodiaceae	*Sclerolaena patenticuspis*	
Chenopodiaceae	*Sclerolaena* sp. Indet. (LCH 26549)	
Chenopodiaceae	*Sclerolaena* sp. Indet. (LCH 26551)	
Colchicaceae	*Wurmbea deserticola*	

Family	Species / Taxon	Status
Convolvulaceae	**Cuscuta planiflora*	Weed
Convolvulaceae	*Bonamia erecta*	
Convolvulaceae	*Convolvulus angustissimus* subsp. *angustissimus*	
Convolvulaceae	*Duperreya commixta*	
Convolvulaceae	*Duperreya sericea*	
Crassulaceae	*Crassula colorata* var. *acuminata*	
Cucurbitaceae	**Citrullus lanatus*	Weed
Cupressaceae	*Callitris columellaris*	
Cupressaceae	*Callitris preissii*	
Cyperaceae	*Bulbostylis barbata*	
Cyperaceae	*Cyperus bulbosus*	
Cyperaceae	*Cyperus iria*	
Cyperaceae	*Isolepis congrua*	
Cyperaceae	*Schoenus subaphyllus*	
Dilleniaceae	*Hibbertia* sp. aff. *exasperata* (D. Brassington & S. Colwill LCH 29097)	Flora of Interest
Elatinaceae	*Bergia perennis* subsp. *exigua*	
Euphorbiaceae	*Bertya dimerostigma*	
Euphorbiaceae	*Euphorbia australis*	
Euphorbiaceae	*Euphorbia biconvexa*	Range Extension
Euphorbiaceae	*Euphorbia boophthona*	
Euphorbiaceae	*Euphorbia drummondii*	
Euphorbiaceae	*Euphorbiaceae* sp. Indet. (LCH 27469)	
Euphorbiaceae	*Monotaxis luteiflora*	
Fabaceae	*Acacia ?caesaneura* narrow phyllode variant	ID predates Mulga revision
Fabaceae	*Acacia ?coolgardiensis*	
Fabaceae	*Acacia aneura* var. *?intermedia*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *alata* (narrow phyllode variant)	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *argentea*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. curved flat 40-90 x 4mm silver grey green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat 2 x 30 mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey 5 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey curved 3 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey falcate 4 x 30mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight 5 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to falcate 2 x 20mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 2 x 55mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 2 x 80mm phyllode	ID predates Mulga revision

Family	Species / Taxon	Status
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 3 x 20mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 3 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 3 x 65mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 4 x 65mm) phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly curved 4.5 x 40mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat blue grey straight to slightly falcate anastomosing veins 6 x 30mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green slightly curved 3 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green straight 1.5 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green straight to falcate 4 x 40mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green straight to falcate 4 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green straight to slightly curved 1.5 x 35mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat green straight to slightly curved 4.5 x 70mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green slightly curved 1 x 25mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green slightly curved 2 x 40mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green slightly curved 8 x 80mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green straight 8 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green straight to curved 2 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. flat grey green straight to slightly curved 2 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *latifolia*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *macrocarpa*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *microcarpa*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. slightly curved flat 30-70 x 3-5mm grey green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. straight flat 30-50 x 3-4mm grey green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. straight to slightly curved flat 30-80 x 2mm grey green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. subterete blue grey straight to slightly curved 1 x 30mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. subterete green straight 1 x 60mm phyllode	ID predates Mulga revision

Family	Species / Taxon	Status
Fabaceae	*Acacia aneura* var. subterete green straight to slightly curved 1 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. subterete grey green straight to curved 1 x 50mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. subterete slightly curved 50-70 x 1mm olive green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. subterete straight 20-80 x 1mm grey green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. *tenuis*	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. terete green straight 1 x 60mm phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. terete straight 30-110 x 1mm grey olive green phyllode	ID predates Mulga revision
Fabaceae	*Acacia aneura* x *craspedocarpa* falcate phyllode form	ID predates Mulga revision
Fabaceae	*Acacia aptaneura*	ID predates Mulga revision
Fabaceae	*Acacia ayersiana*	
Fabaceae	*Acacia balsamea*	
Fabaceae	*Acacia burkittii*	
Fabaceae	*Acacia caesaneura*	ID predates Mulga revision
Fabaceae	*Acacia colletioides*	
Fabaceae	*Acacia craspedocarpa* (broad lanceolate phyllode form)	
Fabaceae	*Acacia effusifolia*	
Fabaceae	*Acacia exocarpoides*	
Fabaceae	*Acacia fuscaneura*	ID predates Mulga revision
Fabaceae	*Acacia fuscaneura-pteraneura* integrade	ID predates Mulga revision
Fabaceae	*Acacia heteroneura* var. *jutsonii*	
Fabaceae	*Acacia heteroneura* var. *prolixa*	
Fabaceae	*Acacia incurvaneura*	ID predates Mulga revision
Fabaceae	*Acacia jamesiana*	
Fabaceae	*Acacia ligulata*	
Fabaceae	*Acacia longispinea*	
Fabaceae	*Acacia macraneura*	ID predates Mulga revision
Fabaceae	*Acacia minyura*	
Fabaceae	*Acacia oswaldii* (short phyllode variant)	
Fabaceae	*Acacia pachyacra*	
Fabaceae	*Acacia paraneura*	
Fabaceae	*Acacia prainii*	
Fabaceae	*Acacia pruinocarpa*	
Fabaceae	*Acacia pteraneura*	ID predates Mulga revision
Fabaceae	*Acacia pteraneura* x *?incurvaneura*	ID predates Mulga revision
Fabaceae	*Acacia quadrimarginea*	
Fabaceae	*Acacia ramulosa* var. *linophylla*	

Family	Species / Taxon	Status
Fabaceae	*Acacia ramulosa* var. *linophylla* x *aneura*	
Fabaceae	*Acacia sibilans*	
Fabaceae	*Acacia* sp. (G. Cockerton & R. Graham LCH25491)	Flora of Interest
Fabaceae	*Acacia* sp. Indet. (LCH 25449)	
Fabaceae	*Acacia* sp. Indet. (LCH 26640)	
Fabaceae	*Acacia* sp. Indet. (LCH 26641)	
Fabaceae	*Acacia* sp. Indet. (LCH 28020)	
Fabaceae	*Acacia* sp. Indet. (LCH 28101)	
Fabaceae	*Acacia* sp. resprouter (G. Cockerton & R. Graham LCH 25490)	Flora of Interest
Fabaceae	*Acacia* sp. Yakabindie (G. Cockerton & G. O'Keefe 14274) aff. *kempeana*	Flora of Interest
Fabaceae	*Acacia subtessarogona*	
Fabaceae	*Acacia tetragonophylla*	
Fabaceae	*Acacia thoma*	
Fabaceae	*Acacia victoriae*	
Fabaceae	*Bossiaea eremaea*	P3
Fabaceae	*Daviesia grahamii*	
Fabaceae	*Glycine canescens*	
Fabaceae	*Indigofera brevidens*	
Fabaceae	*Indigofera georgei*	
Fabaceae	*Indigofera* sp. Indet. (LCH 28290)	
Fabaceae	*Kennedia prorepens*	
Fabaceae	*Leptosema chambersii*	
Fabaceae	*Mirbelia rhagodioides*	
Fabaceae	*Petalostylis cassioides*	
Fabaceae	*Phyllota humilis*	
Fabaceae	*Senna artemisioides* subsp. *filifolia*	
Fabaceae	*Senna artemisioides* subsp. *helmsii*	
Fabaceae	*Senna artemisioides* subsp. *petiolaris*	
Fabaceae	*Senna artemisioides* subsp. x *artemisioides*	
Fabaceae	*Senna artemisioides* subsp. x *sturtii*	
Fabaceae	*Senna charlesiana*	
Fabaceae	*Senna glutinosa* subsp. *chatelainiana*	
Fabaceae	*Senna pleurocarpa* var. *angustifolia*	
Fabaceae	*Senna* sp. Austin (A. Strid 20210)	
Fabaceae	*Swainsona canescens*	
Fabaceae	*Swainsona formosa*	
Fabaceae	*Swainsona forrestii*	
Fabaceae	*Swainsona gracilis*	
Fabaceae	*Swainsona kingii*	
Fabaceae	*Swainsona microphylla*	
Fabaceae	*Swainsona olneri*	
Fabaceae	*Swainsona oroboides*	
Fabaceae	*Swainsona* sp. Indet. (LCH 26827)	
Fabaceae	*Swainsona* sp. Indet. (LCH 29965)	
Fabaceae	*Swainsona tenuis*	
Fabaceae	*Templetonia incrassata*	
Fabaceae	*Trigonella suavissima*	
Frankeniaceae	*Frankenia laxiflora*	
Frankeniaceae	*Frankenia pauciflora* var. *pauciflora*	
Frankeniaceae	*Frankenia setosa*	
Frankeniaceae	*Frankenia* sp. Indet. (LCH 26567)	

Family	Species / Taxon	Status
Frankeniaceae	*Frankenia* sp. Indet. (LCH 28202)	
Gentianaceae	*Schenkia australis*	
Geraniaceae	**Erodium aureum*	Weed
Geraniaceae	*Erodium crinitum*	
Geraniaceae	*Erodium cygnorum*	
Goodeniaceae	*Brunonia australis*	
Goodeniaceae	*Dampiera roycei*	
Goodeniaceae	*Goodenia krauseana*	Unverified ID and Range Extension
Goodeniaceae	*Goodenia mimuloides*	
Goodeniaceae	*Goodenia mueckeana*	
Goodeniaceae	*Goodenia occidentalis*	
Goodeniaceae	*Goodenia peacockiana*	
Goodeniaceae	*Goodenia pinnatifida*	Unverified ID and Range Extension
Goodeniaceae	*Goodenia tenuiloba*	
Goodeniaceae	*Goodenia triodiophila*	
Goodeniaceae	*Scaevola parvifolia* subsp. *acuminata*	
Goodeniaceae	*Scaevola spinescens* (broad leaf form)	
Goodeniaceae	*Scaevola spinescens* (narrow leaf form)	
Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)	Species of Interest
Goodeniaceae	*Velleia connata*	
Goodeniaceae	*Velleia glabrata*	
Goodeniaceae	*Velleia hispida*	
Goodeniaceae	*Velleia rosea*	
Goodeniaceae	*Velleia* sp. Indet. (LCH 25402)	
Gyrostemonaceae	*Codonocarpus cotinifolius*	
Haloragaceae	*Glischrocaryon angustifolium*	
Haloragaceae	*Glischrocaryon flavescens*	
Haloragaceae	*Gonocarpus confertifolius* var. *confertifolius*	
Haloragaceae	*Haloragis odontocarpa* forma *rugosa*	
Haloragaceae	*Haloragis trigonocarpa*	
Hemerocallidaceae	*Dianella revoluta*	
Lamiaceae	*Dicrastylis brunnea*	
Lamiaceae	*Dicrastylis flexuosa*	
Lamiaceae	*Dicrastylis sessilifolia*	
Lamiaceae	*Newcastelia cephalantha*	
Lamiaceae	*Newcastelia cephalantha*	
Lamiaceae	*Newcastelia hexarrhena*	
Lamiaceae	*Prostanthera albiflora*	
Lamiaceae	*Prostanthera campbellii*	
Lamiaceae	*Prostanthera campbellii* x *althoferi*	
Lamiaceae	*Prostanthera* sp. Bullimore Sandplain (G. Cockerton & D. True 12813)	Flora of Interest
Lamiaceae	*Prostanthera wilkieana*	
Lamiaceae	*Spartothamnella teucriiflora*	
Lamiaceae	*Teucrium racemosum*	
Loranthaceae	*Amyema gibberula* var. *gibberula*	
Loranthaceae	*Amyema hilliana*	
Loranthaceae	*Amyema microphylla*	
Loranthaceae	*Lysiana casuarinae*	

Family	Species / Taxon	Status
Loranthaceae	*Lysiana exocarpi* subsp. *exocarpi*	
Loranthaceae	*Lysiana murrayi*	
Malvaceae	*Abutilon* aff. *oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	
Malvaceae	*Abutilon cryptopetalum*	
Malvaceae	*Abutilon fraseri*	
Malvaceae	*Abutilon malvifolium*	Unverified ID and Range Extension
Malvaceae	*Abutilon otocarpum*	
Malvaceae	*Abutilon oxycarpum*	
Malvaceae	*Abutilon oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	
Malvaceae	*Abutilon* sp. Indet. (LCH 27801)	
Malvaceae	*Abutilon* sp. Indet. (LCH 27839)	
Malvaceae	*Abutilon* sp. Indet. (LCH 28248)	
Malvaceae	*Abutilon* sp. Indet. (LCH 28256)	
Malvaceae	*Abutilon* sp. Indet. (LCH 28258)	
Malvaceae	*Alyogyne pinoniana*	
Malvaceae	*Androcalva loxophylla*	
Malvaceae	*Androcalva luteiflora*	
Malvaceae	*Brachychiton gregorii*	
Malvaceae	*Hibiscus burtonii*	
Malvaceae	*Hibiscus solanifolius*	
Malvaceae	*Hibiscus* sp. Gardneri (A.L. Payne PRP 1435)	
Malvaceae	*Keraudrenia velutina* subsp. *elliptica*	
Malvaceae	*Lawrencia densiflora*	
Malvaceae	*Lawrencia repens*	Unverified ID and Range Extension
Malvaceae	*Lawrencia squamata*	
Malvaceae	*Sida calyxhymenia*	
Malvaceae	*Sida cardiophylla*	
Malvaceae	*Sida ectogama*	
Malvaceae	*Sida fibulifera*	
Malvaceae	*Sida intricata*	
Malvaceae	*Sida phaeotricha*	
Malvaceae	*Sida picklesiana*	Priority 3 (P3)
Malvaceae	*Sida platycalyx*	
Malvaceae	*Sida* sp. dark green fruits (S. van Leeuwen 2260)	
Malvaceae	*Sida* sp. Excedentifolia (J.L. Egan 1925)	
Malvaceae	*Sida* sp. Golden calyces glabrous (H.N. Foote 32)	
Malvaceae	*Sida* sp. Indet. (LCH 19675)	
Malvaceae	*Sida* sp. Indet. (LCH 24817)	
Malvaceae	*Sida* sp. Indet. (LCH 26813)	
Malvaceae	*Sida* sp. Indet. (LCH 26814)	
Malvaceae	*Sida* sp. Indet. (LCH 27213)	
Malvaceae	*Sida* sp. Indet. (LCH 27800)	
Malvaceae	*Sida* sp. Indet. (LCH 27807)	
Malvaceae	*Sida* sp. Indet. (LCH 27830)	
Malvaceae	*Sida* sp. Indet. (LCH 27833)	
Malvaceae	*Sida* sp. Indet. (LCH 27834)	
Malvaceae	*Sida* sp. Indet. (LCH 27837)	
Malvaceae	*Sida* sp. Indet. (LCH 27850)	
Malvaceae	*Sida* sp. Indet. (LCH 28249)	
Malvaceae	*Sida* sp. Indet. (LCH 28254)	

Family	Species / Taxon	Status
Malvaceae	*Sida* sp. Indet. (LCH 28517)	
Malvaceae	*Sida* sp. tiny glabrous fruit (A.A. Mitchell PRP1152)	Unverified ID and Range Extension
Marsileaceae	*Marsilea hirsuta*	
Molluginaceae	*Mollugo cerviana*	Range Extension
Myrtaceae	*Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	Priority 3 (P3)
Myrtaceae	*Calothamnus aridus*	
Myrtaceae	*Calytrix amethystina*	
Myrtaceae	*Calytrix erosipetala*	
Myrtaceae	*Calytrix uncinata*	Priority 3 (P3)
Myrtaceae	*Corymbia lenziana*	
Myrtaceae	*Enekbatus cryptandroides*	Range Extension
Myrtaceae	*Enekbatus eremaeus*	
Myrtaceae	*Eucalyptus camaldulensis*	
Myrtaceae	*Eucalyptus gongylocarpa*	
Myrtaceae	*Eucalyptus gypsophila*	
Myrtaceae	*Eucalyptus kingsmillii*	
Myrtaceae	*Eucalyptus leptopoda* subsp. *elevata*	
Myrtaceae	*Eucalyptus leptopoda* subsp. *subluta*	
Myrtaceae	*Eucalyptus longissima*	
Myrtaceae	*Eucalyptus lucasii*	
Myrtaceae	*Eucalyptus mannensis* subsp. *mannensis*	
Myrtaceae	*Eucalyptus trivalva*	
Myrtaceae	*Euryomyrtus inflata*	Priority 3 (P3)
Myrtaceae	*Homalocalyx thryptomenoides*	
Myrtaceae	*Melaleuca interioris*	
Myrtaceae	*Melaleuca leiocarpa*	
Myrtaceae	*Melaleuca xerophila*	
Myrtaceae	*Micromyrtus flaviflora*	
Myrtaceae	*Thryptomene* sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	Priority 3 (P3)
Nyctaginaceae	*Boerhavia coccinea*	
Nyctaginaceae	*Boerhavia repleta*	
Oleaceae	*Jasminum calcareum*	
Oleaceae	*Jasminum didymum* subsp. *lineare*	
Ophioglossaceae	*Ophioglossum lusitanicum*	
Phrymaceae	*Peplidium aithocheilum*	
Phrymaceae	*Peplidium muelleri*	
Phrymaceae	*Peplidium* sp. C Evol. Fl. Fauna Arid Aust. (N.T. Burbidge & A. Kanis 8158)	
Phyllanthaceae	*Phyllanthus erwinii*	
Phyllanthaceae	*Poranthera microphylla*	
Phyllanthaceae	*Sauropus ramosissimus*	Priority 3 (P3)
Pittosporaceae	*Pittosporum angustifolium*	
Plantaginaceae	*Stemodia florulenta*	
Poaceae	**Cenchrus ciliaris*	Weed
Poaceae	*Amphipogon caricinus* var. *caricinus*	
Poaceae	*Aristida contorta*	
Poaceae	*Aristida holathera* var. *holathera*	
Poaceae	*Austrostipa elegantissima*	
Poaceae	*Austrostipa scabra*	
Poaceae	*Cymbopogon ambiguus*	
Poaceae	*Dactyloctenium radulans*	

Family	Species / Taxon	Status
Poaceae	*Digitaria brownii*	
Poaceae	*Enneapogon caerulescens*	
Poaceae	*Enteropogon ramosus*	
Poaceae	*Eragrostis australasica*	
Poaceae	*Eragrostis dielsii*	
Poaceae	*Eragrostis eriopoda*	
Poaceae	*Eragrostis falcata*	
Poaceae	*Eragrostis kennedyae*	
Poaceae	*Eragrostis lacunaria*	
Poaceae	*Eragrostis leptocarpa*	
Poaceae	*Eragrostis pergracilis*	
Poaceae	*Eragrostis setifolia*	
Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH 26770)	
Poaceae	*Eragrostis tenellula*	Range Extension
Poaceae	*Eragrostis xerophila*	
Poaceae	*Eriachne helmsii*	
Poaceae	*Eriachne mucronata* (xerophytic form)	Requires verification
Poaceae	*Eriachne ovata*	
Poaceae	*Eriachne pulchella* subsp. *pulchella*	
Poaceae	*Iseilema membranaceum*	
Poaceae	*Lachnagrostis filiformis*	
Poaceae	*Monachather paradoxus*	
Poaceae	*Neurachne lanigera*	Priority 1 (P1)
Poaceae	*Neurachne minor*	
Poaceae	*Paspalidium basicladum*	
Poaceae	*Paspalidium clementii*	
Poaceae	*Paspalidium gracile*	
Poaceae	*Perotis rara*	
Poaceae	*Sporobolus australasicus*	Range Extension
Poaceae	*Sporobolus caroli*	
Poaceae	*Thyridolepis mitchelliana*	
Poaceae	*Tragus australianus*	
Poaceae	*Triodia basedowii*	
Poaceae	*Triodia melvillei*	
Poaceae	*Tripogon loliiformis*	
Polygalaceae	*Comesperma integerrimum*	
Polygalaceae	*Comesperma viscidulum*	Priority 4 (P4)
Polygalaceae	*Polygala glaucifolia*	
Polygalaceae	*Polygala* sp. Indet. (LCH 27730)	
Polygonaceae	**Acetosa vesicaria*	Weed
Polygonaceae	**Emex australis*	Weed
Polygonaceae	*Muehlenbeckia florulenta*	
Portulacaceae	**Portulaca oleracea*	Weed
Portulacaceae	*Calandrinia balonensis*	
Portulacaceae	*Calandrinia creethiae*	
Portulacaceae	*Calandrinia eremaea*	
Portulacaceae	*Calandrinia pleiopetala*	Unverified ID and Range Extension
Portulacaceae	*Calandrinia ptychosperma*	
Portulacaceae	*Calandrinia pumila*	
Portulacaceae	*Calandrinia* sp. Indet. (LCH 27778)	

Family	Species / Taxon	Status
Primulaceae	**Lysimachia arvensis*	Weed
Proteaceae	*Grevillea acacioides*	
Proteaceae	*Grevillea berryana*	
Proteaceae	*Grevillea didymobotrya* subsp. *didymobotrya*	
Proteaceae	*Grevillea juncifolia* subsp. *juncifolia*	
Proteaceae	*Grevillea nematophylla* subsp. *supraplana*	
Proteaceae	*Grevillea sarissa* subsp. *sarissa*	
Proteaceae	*Hakea francisiana*	
Proteaceae	*Hakea lorea* subsp. *lorea*	
Proteaceae	*Hakea minyma*	
Proteaceae	*Hakea preissii*	
Pteridaceae	*Cheilanthes brownii*	
Pteridaceae	*Cheilanthes sieberi* subsp. *sieberi*	
Rubiaceae	*Psydrax latifolia*	
Rubiaceae	*Psydrax rigidula*	
Rubiaceae	*Psydrax suaveolens*	
Santalaceae	*Exocarpos aphyllus*	
Santalaceae	*Exocarpos sparteus*	
Santalaceae	*Santalum acuminatum*	
Santalaceae	*Santalum lanceolatum*	
Santalaceae	*Santalum spicatum*	
Sapindaceae	*Diplopeltis stuartii* var. *stuartii*	
Sapindaceae	*Dodonaea adenophora*	
Sapindaceae	*Dodonaea microzyga* var. *acrolobata*	
Sapindaceae	*Dodonaea petiolaris*	
Sapindaceae	*Dodonaea rigida*	
Sapindaceae	*Dodonaea viscosa* subsp. *mucronata*	
Scrophulariaceae	*Eremophila alternifolia*	
Scrophulariaceae	*Eremophila arachnoides* subsp. *arachnoides*	Priority 3 (P3)
Scrophulariaceae	*Eremophila battii*	
Scrophulariaceae	*Eremophila clarkei*	
Scrophulariaceae	*Eremophila compacta* subsp. *compacta*	
Scrophulariaceae	*Eremophila conglomerata*	
Scrophulariaceae	*Eremophila decipiens* subsp. *decipiens*	
Scrophulariaceae	*Eremophila eriocalyx*	
Scrophulariaceae	*Eremophila exilifolia*	
Scrophulariaceae	*Eremophila falcata*	
Scrophulariaceae	*Eremophila flabellata*	
Scrophulariaceae	*Eremophila foliosissima*	
Scrophulariaceae	*Eremophila forrestii* subsp. *forrestii*	
Scrophulariaceae	*Eremophila galeata*	
Scrophulariaceae	*Eremophila georgei*	
Scrophulariaceae	*Eremophila gilesii* subsp. *variabilis*	
Scrophulariaceae	*Eremophila glabra* subsp. *tomentosa*	
Scrophulariaceae	*Eremophila granitica*	
Scrophulariaceae	*Eremophila hygrophana*	
Scrophulariaceae	*Eremophila jucunda* subsp. *jucunda*	
Scrophulariaceae	*Eremophila latrobei* subsp. *filiformis*	
Scrophulariaceae	*Eremophila latrobei* subsp. *glabra*	
Scrophulariaceae	*Eremophila latrobei* subsp. *latrobei*	
Scrophulariaceae	*Eremophila longifolia*	
Scrophulariaceae	*Eremophila maculata* subsp. *brevifolia*	

Family	Species / Taxon	Status
Scrophulariaceae	*Eremophila malacoides*	
Scrophulariaceae	*Eremophila margarethae*	
Scrophulariaceae	*Eremophila oppositifolia*	
Scrophulariaceae	*Eremophila oppositifolia* subsp. *angustifolia*	
Scrophulariaceae	*Eremophila platycalyx* subsp. *platycalyx*	
Scrophulariaceae	*Eremophila platythamnos* subsp. *platythamnos*	
Scrophulariaceae	*Eremophila serrulata*	
Scrophulariaceae	*Eremophila shonae* subsp. *shonae*	
Scrophulariaceae	*Eremophila spectabilis* subsp. *brevis*	
Scrophulariaceae	*Eremophila spuria*	
Scrophulariaceae	*Eremophila subfloccosa* subsp. *lanata*	
Solanaceae	*Duboisia hopwoodii*	
Solanaceae	*Lycium australe*	
Solanaceae	*Nicotiana occidentalis* subsp. *obliqua*	
Solanaceae	*Nicotiana rosulata*	
Solanaceae	*Nicotiana rotundifolia*	
Solanaceae	*Nicotiana simulans*	
Solanaceae	*Solanum centrale*	
Solanaceae	*Solanum cleistogamum*	
Solanaceae	*Solanum lasiophyllum*	
Solanaceae	*Solanum nummularium*	
Solanaceae	*Solanum plicatile*	
Solanaceae	*Solanum* sp. Indet. (LCH 27173)	
Stylidiaceae	*Stylidium induratum*	
Thymelaeaceae	*Pimelea microcephala*	
Thymelaeaceae	*Pimelea microcephala* subsp. *microcephala*	
Thymelaeaceae	*Pimelea trichostachya*	
Zygophyllaceae	**Tribulus terrestris*	Weed
Zygophyllaceae	*Tribulus astrocarpus*	
Zygophyllaceae	*Tribulus* sp. Indet. (LCH 27811)	
Zygophyllaceae	*Zygophyllum apiculatum*	Unverified ID and Range Extension
Zygophyllaceae	*Zygophyllum aurantiacum* subsp. *aurantiacum*	
Zygophyllaceae	*Zygophyllum compressum*	
Zygophyllaceae	*Zygophyllum iodocarpum*	
Zygophyllaceae	*Zygophyllum ovatum*	
Zygophyllaceae	*Zygophyllum* sp. Indet (LCH 25540)	
Zygophyllaceae	*Zygophyllum* sp. Indet (LCH 25541)	
Zygophyllaceae	*Zygophyllum* sp. Indet (LCH 25542)	

Appendix 3.
Revised regional species list (Study Areas 4 - 16).

Family	Species / Taxon	Status
Aizoaceae	*Gunniopsis quadrifida*	
Amaranthaceae	*Amaranthus mitchellii*	
Amaranthaceae	*Ptilotus nobilis* / sp. Goldfields (R. Davis 10796)	Previously *P. exaltatus*
Amaranthaceae	*Ptilotus obovatus* (Typical Goldfields form)	
Amaranthaceae	*Ptilotus schwartzii*	
Apocynaceae	*Alyxia tetanifolia*	Priority 3 (P3). Range Extension.
Apocynaceae	*Marsdenia australis*	
Asteraceae	*Chrysocephalum puteale*	
Asteraceae	*Pluchea dentex*	
Asteraceae	*Podolepis capillaris*	
Asteraceae	*Vittadinia* sp. Indet.	
Casuarinaceae	*Casuarina pauper*	
Chenopodiaceae	*Atriplex bunburyana*	
Chenopodiaceae	*Atriplex semilunaris*	
Chenopodiaceae	*Atriplex vesicaria*	
Chenopodiaceae	*Chenopodium curvispicatum*	Unverified ID and Range Extension
Chenopodiaceae	*Dissocarpus paradoxus*	
Chenopodiaceae	*Dysphania kalpari*	
Chenopodiaceae	*Dysphania melanocarpa* forma *melanocarpa*	
Chenopodiaceae	*Enchylaena tomentosa* var. *tomentosa*	
Chenopodiaceae	*Maireana amoena*	
Chenopodiaceae	*Maireana georgei*	
Chenopodiaceae	*Maireana pentatropis*	
Chenopodiaceae	*Maireana pyramidata*	
Chenopodiaceae	*Maireana* sp. Indet.	
Chenopodiaceae	*Maireana trichoptera*	
Chenopodiaceae	*Maireana triptera*	
Chenopodiaceae	*Rhagodia drummondii*	
Chenopodiaceae	*Rhagodia eremaea*	
Chenopodiaceae	*Rhagodia* sp. Yeelirrie Station (K.A. Shepherd KS1396)	Priority 1 (P1)
Chenopodiaceae	*Salsola australis*	
Chenopodiaceae	*Sclerolaena convexula*	
Chenopodiaceae	*Sclerolaena cuneata*	
Chenopodiaceae	*Sclerolaena diacantha*	
Chenopodiaceae	*Sclerolaena obliquicuspis*	
Chenopodiaceae	*Sclerolaena* sp. Indet.	
Chenopodiaceae	*Tecticornia pterygosperma* subsp. *pterygosperma*	Range Extension
Chenopodiaceae	*Tecticornia undulata*	
Colchicaceae	*Wurmbea deserticola*	
Cyperaceae	*Bulbostylis barbata*	
Euphorbiaceae	*Euphorbia drummondii*	
Fabaceae	*Acacia aneura* (indeterminate variant)	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. slightly curved 10-20x2mm yellow green	ID predates Mulga revision
Fabaceae	*Acacia aneura* var. straight to slightly curved flat 30-80x2mm grey green	ID predates Mulga revision
Fabaceae	*Acacia ayersiana*	
Fabaceae	*Acacia burkittii*	

Family	Species / Taxon	Status
Fabaceae	*Acacia colletioides*	
Fabaceae	*Acacia jamesiana*	
Fabaceae	*Acacia jennerae*	
Fabaceae	*Acacia ligulata*	
Fabaceae	*Acacia macraneura*	ID predates Mulga revision
Fabaceae	*Acacia oswaldii*	
Fabaceae	*Acacia paraneura*	
Fabaceae	*Acacia* sp. resprouter (G. Cockerton & R. Graham LCH 25490)	Flora of Interest
Fabaceae	*Acacia* sp. Yakabindie (G. Cockerton & G. O'Keefe 14274) aff. *kempeana*	Flora of Interest
Fabaceae	*Acacia steedmanii*	Unverified ID and Range Extension
Fabaceae	*Acacia tetragonophylla*	
Fabaceae	*Acacia victoriae*	
Fabaceae	*Senna artemisioides* subsp. *filifolia*	
Fabaceae	*Senna artemisioides* subsp. *helmsii*	
Fabaceae	*Senna artemisioides* subsp. x *artemisioides*	
Fabaceae	*Senna* sp. Indet.	
Fabaceae	*Senna stowardii*	
Fabaceae	*Swainsona* sp. Indet.	
Fabaceae	*Templetonia incrassata*	
Frankeniaceae	*Frankenia cinerea*	
Frankeniaceae	*Frankenia laxiflora*	
Frankeniaceae	*Frankenia pauciflora*	
Geraniaceae	*Erodium cygnorum*	
Goodeniaceae	*Goodenia maideniana*	
Goodeniaceae	*Scaevola spinescens* (broad form)	
Goodeniaceae	*Scaevola spinescens* terete leaf form (G. Cockerton & C Ringrose 14560)	Species of Interest
Loranthaceae	*Amyema linophylla* subsp. *linophylla*	Range Extension
Loranthaceae	*Amyema microphylla*	
Malvaceae	*Abutilon* aff. *oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	
Malvaceae	*Abutilon malvifolium*	Unverified ID and Range Extension
Malvaceae	*Sida ectogama*	
Malvaceae	*Sida platycalyx*	
Malvaceae	*Sida* sp. Excedentifolia (J.L. Egan 1925)	
Molluginaceae	*Mollugo cerviana*	Range Extension
Myrtaceae	*Calytrix amethystina*	
Myrtaceae	*Eucalyptus gypsophila*	
Myrtaceae	*Eucalyptus longissima*	
Myrtaceae	*Melaleuca interioris*	
Myrtaceae	*Melaleuca xerophila*	
Myrtaceae	*Verticordia* sp. Indet.	
Nyctaginaceae	*Boerhavia coccinea*	
Phrymaceae	*Peplidium muelleri*	
Pittosporaceae	*Pittosporum angustifolium*	
Poaceae	*Aristida contorta*	
Poaceae	*Aristida holathera*	
Poaceae	*Austrostipa elegantissima*	
Poaceae	*Cymbopogon ambiguus*	

Family	Species / Taxon	Status
Poaceae	*Dactyloctenium radulans*	
Poaceae	*Enneapogon caerulescens*	
Poaceae	*Enteropogon ramosus*	
Poaceae	*Eragrostis dielsii*	
Poaceae	*Eragrostis eriopoda*	
Poaceae	*Eragrostis kennedyae*	
Poaceae	*Eragrostis* sp. Yeelirrie Calcrete (S. Regan LCH 26770)	
Poaceae	*Eriachne helmsii*	
Poaceae	*Eriachne pulchella* subsp. *pulchella*	
Poaceae	*Paspalidium basicladum*	
Poaceae	*Perotis rara*	
Poaceae	*Poaceae* sp. Indet.	
Poaceae	*Sporobolus australasicus*	Range Extension
Poaceae	*Sporobolus caroli*	
Poaceae	*Tragus australianus*	
Poaceae	*Triodia basedowii*	
Polygalaceae	*Polygala glaucifolia*	
Portulacaceae	*Portulaca oleracea*	
Proteaceae	*Grevillea berryana*	
Proteaceae	*Grevillea paradoxa*	
Proteaceae	*Grevillea sarissa* subsp. *sarissa*	
Proteaceae	*Hakea preissii*	
Santalaceae	*Exocarpos aphyllus*	
Santalaceae	*Santalum lanceolatum*	
Scrophulariaceae	*Eremophila arachnoides* subsp. *arachnoides*	Priority 3 (P3)
Scrophulariaceae	*Eremophila battii*	
Scrophulariaceae	*Eremophila decipiens*	
Scrophulariaceae	*Eremophila exilifolia*	
Scrophulariaceae	*Eremophila falcata*	
Scrophulariaceae	*Eremophila galeata*	
Scrophulariaceae	*Eremophila glabra* subsp. *albicans* x *glabra*	
Scrophulariaceae	*Eremophila glabra* subsp. *tomentosa*	
Scrophulariaceae	*Eremophila latrobei* subsp. *latrobei*	
Scrophulariaceae	*Eremophila longifolia*	
Scrophulariaceae	*Eremophila maculata* subsp. *brevifolia*	
Scrophulariaceae	*Eremophila malacoides*	
Scrophulariaceae	*Eremophila pantonii*	
Scrophulariaceae	*Eremophila spectabilis* subsp. *brevis*	
Solanaceae	*Duboisia hopwoodii*	
Solanaceae	*Lycium australe*	
Solanaceae	*Nicotiana simulans*	
Solanaceae	*Solanum cleistogamum*	
Solanaceae	*Solanum lasiophyllum*	
Solanaceae	*Solanum nummularium*	
Zygophyllaceae	**Tribulus terrestris*	Weed
Zygophyllaceae	*Zygophyllum compressum*	
Zygophyllaceae	*Zygophyllum* sp. Indet.	

Appendix 4.
Summary of DPaW Threatened and Priority Flora Database Search

Search reference 16-0215.

Table 16: Summary of Threatened and Priority flora identified by DPaW searches.

Table 17: Coordinates of known Threatened and Priority flora populations (DPaW search results only).

Table 16. Summary of Threatened and Priority flora identified by DPaW searches.

Species / Taxon	Cons. Code	DPaW Record	WB Record	Habitat (Western Australian Herbarium 1998-)	Flowering Period (Western Australian Herbarium 1998-)
Acacia burrowsiana	3	*		Red-brown loams with ironstone rubble, calcrete soils, laterite, quartz. Flats adjacent to watercourses, crests of low rises, breakaways.	
Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	1	*		Sand patches inside rocks, brown sandy clay, granite. Depressions in rock outcrops, breakaways, flats.	Sep
Atriplex sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	*	*	Self-mulching red clay	Sporadically following rainfall
Austroparmelina macrospora	3	*			
Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	3	*	*	Orange sand. Flats.	Oct
Beyeria lapidicola	1	*		Red-orange sandy clay, fine gravel, banded ironstone outcroppings	
Bossiaea eremaea	3	*	*	Deep red sand.	Jul - Sep
Calytrix praecipua	3	*		Skeletal sandy soil over granite or laterite. Breakaways, outcrops.	Jun - July or Sep - Nov.
Calytrix uncinata	3	*	*	White or red sand, sandy clay. Granite or sandstone breakaways, rocky rises.	Aug - Nov.
Comesperma viscidulum	4	*	*		
Eremophila arachnoides subsp. *arachnoides*	3	*	*		
Eremophila congesta	1	*		Lateritic outcrops in greenstone hills, stony quartzite slopes.	Aug - Sep
Eremophila flaccida subsp. *attenuata*	3	*		Stony clay over quartzite. Hillslopes, ridges.	May, Oct
Eremophila pungens	4	*			
Euryomyrtus inflata	3	*	*		
Grevillea inconspicua	4	*		Loam, gravel. Along drainage lines on rocky outcrops, creeklines.	Jun - Aug
Hemigenia exilis	4	*		Laterite. Breakaways, slopes.	Apr or Sep - Nov
Homalocalyx echinulatus	3	*		Laterite. Breakaways, sandstone hills.	Jun - Sep, Dec
Hybanthus floribundus subsp. *chloroxanthus*	3	*		Dar red-brown soil, never sandy, rich in iron oxide, laterite. Rocky areas, creek banks, along drainage lines.	Aug - Oct

Species / Taxon	Cons. Code	DPaW Record	WB Record	Habitat (Western Australian Herbarium 1998-)	Flowering Period (Western Australian Herbarium 1998-)
Maireana prosthecochaeta	3	*		Laterite. Hills, salty places.	Jul
Murbelia stipitata	3	*		Red sandy loam.	Aug
Neurachne lanigera	1	*	*	Red sand, laterite. Rocky outcrops, plains.	Jul - Aug or Oct
Olearia arida	4	*	*	Red or yellow sand. Undulating low rises.	Jul - Sep
Olearia mucronata	3	*		Schistose hills, along drainage channels.	Aug - Dec or Jan
Paspalidium distans	3	*		Loam. River banks.	Mar - Sep
Prostanthera ferricola	3	*		Shallow red-brown skeletal sandy loam on baded ironstone, laterite, basalt or quartz. Gently inclined mid to upper slopes of hills, rocky crests, outcrops.	Jul-Sep
Rhagodia sp. Yeelirrie Station (K.A. Shepherd et al. KS 1396)	1	*	*	Fine silty soils, large sink holes and depressions.	Sporadically following rainfall
Sauropus ramosissimus	3	*	*	Skeletal red loam, lateritic or granite breakaways, ironstone outcropping.	
Sida picklesiana	3	*	*	Sandy loam, quartz, and ironstone gravels.	Apr, Aug
Stackhousia clementii	3	*		Skeletal soils. Sanstone hills.	
Stenanthemum mediale	1	*		Red clayey sand.	Apr - Aug
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	*		Red clayey sand. Flat floodways, lake beds, saline alluvial plains, drainage sumps.	
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	*	*	Shallow red sandy loam. Low granite breakaways, sandstone outcrops.	Oct
Tribulus adelacanthus	3	*		Red brown shallow sandy clay loam soils	Aug
Verticordia jamiesonii	3	*		Lateritic breakaways	Sep - Oct

Table 17. Coordinates of known Threatened and Priority flora populations (DPaW search results only).

Species / Taxon	Cons. Code	Locations (DPaW Search Results) Grid	Easting	Northing	Population Size
Acacia burrowsiana	3	50 J	748320	6990558	
Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	1	51 J	264358	6959197	50
Atriplex sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	T	51 J	221716	6973910	99,571
		51 J	224113	6974604	58,521
		51 J	223211	6974982	3,444
		51 J	224836	6975243	3,982
		51 J	224100	6975427	2,337
		51 J	223637	6975484	21,882
		51 J	224473	6975746	14
		51 J	222878	6976462	905
		50 J	790639	6989457	
		50 J	787339	6990415	
		50 J	787631	6990529	80,542
		50 J	787517	6990582	
Austroparmelina macrospora	3	Place name search (no coordinates)			
Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	3	50 J	778428	7012070	
Beyeria lapidicola	1	50 J	792569	7024209	
Bossiaea eremaea	3	51 J	209976	6984248	
		50 J	790413	6991010	
Calytrix praecipua	3	50 J	745797	6992589	
		50 J	742832	6998429	
		50 J	741410	6998904	
		50 J	743941	6999236	
Calytrix uncinata	3	51 J	266730	6961290	
		51 J	252874	6963083	
		51 J	258715	6965482	
		51 J	261344	6972927	
		51 J	262546	6973097	
Comesperma viscidulum	4	50 J	769804	7012149	
Eremophila arachnoides subsp. *arachnoides*	3	50 J	786075	6992213	
Eremophila congesta	1	Place name search (no coordinates)			
Eremophila flaccida subsp. *attenuata*	3	Place name search (no coordinates)			
Eremophila pungens	4	51 J	256034	6989325	
		51 J	259982	6989981	
		51 J	260119	6990037	
		51 J	255404	6990788	
		50 J	743986	6999090	
		51 J	248495	7016612	
Euryomyrtus inflata	3	50 J	780164	6953594	
		50 J	779897	6965214	
		51 J	217881	6978964	
		51 J	224744	7004655	
		50 J	763030	7010403	

Species / Taxon	Cons. Code	Locations (DPaW Search Results) Grid	Easting	Northing	Population Size
Grevillea inconspicua	4	51 J	258190	6954157	315
		51 J	258709	6954290	283
		51 J	259113	6954729	915
		51 J	256317	6955760	
		51 J	258278	6956684	500
		51 J	258566	6958730	
		51 J	261703	6959112	
		51 J	258640	6959216	
		51 J	252949	6959388	
		51 J	259124	6959719	58
		51 J	260752	6960767	92
		51 J	259503	6961366	
		51 J	261507	6961521	28
		51 J	260348	6961744	364
		51 J	259467	6963214	
		51 J	260290	6964761	99
		51 J	259648	6965242	902
		50 J	751761	6976038	
		51 J	260204	6977343	
		50 J	747871	6980983	12
		50 J	752335	6981231	
		51 J	229394	6981070	
		50 J	749795	6982237	
		50 J	750883	6987060	
Hemigenia exilis	4	51 J	258100	6958690	
		51 J	258147	6959114	420
		51 J	259482	6963883	1000
		51 J	261215	6965241	70
		51 J	260365	6966518	5
		51 J	259856	6967247	1,500
		51 J	260763	6967265	150
		51 J	260512	6967445	100
		51 J	259351	6967792	300
		51 J	259512	6967980	100
		51 J	260326	6968550	20
		51 J	259641	6969830	3
		51 J	259309	6969916	5
		51 J	256963	6985792	303
Homalocalyx echinulatus	3	Place name search (no coordinates)			
Hybanthus floribundus subsp. *chloroxanthus*	3	51 J	260228	6963724	
		51 J	260231	6964758	
Maireana prosthecochaeta	3	Place name search (no coordinates)			
Mirbelia stipitata	3	50 J	783763	7019806	
Neurachne lanigera	1	50 J	767999	7012190	300
Olearia arida	4	51 J	237621	6977919	
Olearia mucronata	3	51 J	254081	6985281	

Species / Taxon	Cons. Code	Locations (DPaW Search Results) Grid	Easting	Northing	Population Size
Paspalidium distans	3	51 J	238108	7024962	
Prostanthera ferricola	3	Place name search (no coordinates)			
Rhagodia sp. Yeelirrie Station (K.A. Shepherd et al. KS 1396)	1	50 J	787328	6992021	
Sauropus ramosissimus	3	51 J	262383	6989423	
		50 J	742864	6997927	
		50 J	741410	6998904	
		50 J	743911	6999161	
Sida picklesiana	3	51 J	260605	6989533	
		50 J	793913	6998064	
Stackhousia clementii	3	Place name search (no coordinates)			
Stenanthemum mediale	1	51 J	211278	6978812	
		51 J	211414	6978961	
		50 J	751690	6986744	
		50 J	748576	6990629	
		50 J	744898	6995513	
		50 J	743398	6997412	200
		50 J	745582	6997464	
		50 J	743099	6997762	
		50 J	744260	6998140	
		50 J	741371	6998831	
		50 J	741410	6998904	
		50 J	743911	6999161	
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	51 J	247165	7023429	500
		51 J	247165	7023430	
		51 J	247535	7023445	
		51 J	247122	7023437	
		51 J	247095	7023456	
		51 J	246754	7023839	500
		51 J	246754	7023840	
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	51 J	261345	6972926	200
		51 J	261344	6972927	
		51 J	254477	6990384	
		51 J	254476	6990385	
Tribulus adelacanthus	3	51 J	255595	6988232	
Verticordia jamiesonii	3	51 J	260000	6970010	
Xanthoparmelia nashii	3	Place name search (no coordinates)			

Appendix 5.
Keighery Vegetation Condition Scale

From Government of Western Australia 2000

Code	Description
Pristine (1)	Pristine or nearly so, no obvious signs of disturbance.
Excellent (2)	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good (3)	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good (4)	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded (5)	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded (6)	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix 6.
Corrected quadrat and releve summaries of WB653.

BHP Billiton Yeelirrie **Site** R009

Described by Geoff Cockerton **Date:** 25/04/2009 **Type:** Releve

Season: Poor

Location: Yeelirrie study area 1

MGA Zone: 51J 214142 **mE** 6977819 **mN**

Vegetation Code: SAMU

Landscape Association: Sand Plain System

Fire Age: Long unburnt

Species List:

Name
Acacia ayersiana
Acacia ramulosa var. *linophylla*
Acacia tetragonophylla
Amyema hilliana
Eremophila latrobei subsp. *latrobei*
Grevillea berryana
Grevillea sarissa subsp. *sarissa*
Melaleuca interioris
Santalum lanceolatum
Senna artemisioides subsp. *filifolia*
Spartothamnella teucriiflora
Triodia basedowii

BHP Billiton Yeelirrie **Site** R010

Described by Geoff Cockerton **Date:** 25/04/2009 **Type:** Releve

Season: Poor

Location: Yeelirrie study area 1

MGA Zone: 51J 215190 **mE** 6977163 **mN**

Vegetation Code: SAMU

Landscape Association: Sand Plain System

Fire Age: Long unburnt

Species List:

Name
Acacia ayersiana
Acacia ramulosa var. *linophylla*
Triodia basedowii

BHP Billiton Yeelirrie Site R011

Described by Geoff Cockerton **Date:** 25/04/2009 **Type:** Releve
Season: Poor

Location: Yeelirrie study area 1

MGA Zone: 51J 215191 **mE** 6977008 **mN**
Vegetation Code: SAMU
Landscape Association: Sand Plain System
Fire Age: 10 years

Species List:

Name
Acacia ayersiana
Acacia colletioides
Duboisia hopwoodii
Grevillea berryana
Marsdenia australis
Santalum lanceolatum
Scaevola spinescens terete leaf form (G Cockerton & C Ringrose 14560)
Senna artemisioides subsp. *filifolia*
Triodia basedowii

BHP Billiton Yeelirrie Site R012

Described by Geoff Cockerton **Date:** 25/04/2009 **Type:** Releve
Season: Poor

Location: Yeelirrie study area 1

MGA Zone: 51J 215210 **mE** 6976442 **mN**
Vegetation Code: SAMU
Landscape Association: Sand Plain System
Fire Age: Long unburnt

Species List:

Name
Acacia ayersiana
Acacia pachyacra
Acacia prainii
Alyogyne pinoniana
Dicrastylis sessilifolia
Eremophila glabra subsp. *tomentosa*
Eucalyptus trivalva
Keraudrenia velutina subsp. *velutina*
Leptosema chambersii
Scaevola spinescens terete leaf form (G Cockerton & C Ringrose 14560)
Senna artemisioides subsp. *filifolia*
Solanum lasiophyllum
Triodia basedowii

BHP Billiton Yeelirrie **Site** R013

Described by Geoff Cockerton **Date:** 24/04/2009 **Type:** Releve

Season: Poor

Location: Yeelirrie study area 1

MGA Zone: 51J 215784 **mE** 6976522 **mN**

Vegetation Code: PLEml

Landscape Association: Playa System

Fire Age: Long unburnt

Species List:

Name
Acacia aneura var. *macrocarpa*
Acacia macraneura
Acacia tetragonophylla
Eragrostis sp. (inadequate material)
Eremophila longifolia
Eremophila malacoides
Grevillea sarissa subsp. *sarissa*
Scaevola spinescens terete leaf form (G Cockerton & C Ringrose 14560)
Senna artemisioides subsp. *filifolia*
Solanum nummularium

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