

5.2.9 Significant Vegetation

5.2.9.1 Listed Significant Vegetation

The desktop assessment identified six listed significant vegetation communities that have records (or could potentially occur) within the Desktop Study Area (**Section 5.1.3**). Of these, the 'Banksia Woodlands of the Swan Coastal Plain' TEC is considered to occur in the Survey Area.

The 'Banksia Woodlands of the Swan Coastal Plain' is listed as a P3 PEC in WA, and as an Endangered TEC under Commonwealth legislation. DBCA state that the description, area and condition thresholds that apply to the EPBC-listed TEC also apply to the PEC (DBCA, 2023b); therefore, these are discussed together in the context of the EPBC-listed TEC. Note that a number of other DBCA-listed TECs and PECs (based on SCP FCTs from the Gibson et al. (1994) study on the southern SCP) also form components of the EPBC-listed TEC; these other communities are discussed in **Section 5.2.9.2**.

The 'Banksia Woodland of the Swan Coastal Plain' TEC is an ecological community largely confined to the Perth and Dandaragan Plateau IBRA subregions of the SCP IBRA region, extending from near Jurien in the north to Dunsborough in the south, as well as in immediately adjacent pockets on the Whicher and Darling Scarps. The TEC is mainly located on the deep Bassendean and Spearwood sands, and occasionally Quindalup sands (typically on the eastern edge), on shallow sands overlying more complex stratigraphic sequences on the foothills of the Ridge Hill Shelf, Whicher Scarp and Gingin/Dandaragan Scarp. This TEC occurs within an annual rainfall band of approximately 535 to 900 mm, often with summer droughts and high temperatures. This strong seasonal variation in climate results in the TEC being a fire-prone environment, and therefore supports species with a range of life history traits that allow them to persist in fire-prone environments (DoEE, 2016).

This TEC was once continuously distributed across a large region. Currently, it is fragmented into numerous small and scattered patches. It was ranked under Criterion 1 (Decline in geographic distribution) as eligible for listing as Vulnerable; under Criterion 2 (small geographic distribution coupled with demonstratable threat) as eligible for listing as Endangered; and under Criterion 4 (Reduction in community integrity) as eligible for listing as Endangered (DoEE, 2016). Critical habitat for the TEC includes all patches that meet the diagnostic characteristics and condition thresholds for the community, as well as buffer zones, particularly where these zones contain native vegetation. Areas that do not meet minimum condition threshold may also be critical to the survival of the TEC depending upon factors such as size and shape and linkages. As of March 2019, approximately 22.5% of the extant extent of the TEC in the Perth IBRA subregion was in lands managed for conservation (IUCN category I-IV reserves) (DoEE, 2016).

The Approved Conservation Advice for this community (DoEE, 2016) stipulates a stepwise process for identifying occurrences of the TEC community, as presented in **Appendix J**. These steps are followed in the context of identifying whether vegetation of the Survey Area represents this TEC, as outlined below.

The first step involves key diagnostic characteristics (location and physical environment, soils and landform, structure, and composition). The Survey Area satisfies the first two key diagnostic characteristics, as it partially occurs within the SCP IBRA bioregion (albeit at the northern end), and contains areas of well drained, low nutrient soils on sandplain landforms. With regard to the remaining two key diagnostic characteristics, only VT2 and VT3 are considered to possess these characteristics, as the vegetation of VT3 almost always has a basic structure that includes a low woodland dominated by *Banksia attenuata* and *Banksia menziesii*. In the case of VT2, *Banksia prionotes* was sometimes dominant, and contains other

emergent trees such as *Eucalyptus tottiana* and/or *Nuytsia floribunda*. The overstorey of both VTs occurs over a relatively diverse understorey that includes sclerophyllous shrubs and a herbaceous ground layer. It is acknowledged that in some of these areas, *Banksia attenuata* and/or *Banksia menziesii* are not dominant, and may occur as isolated trees only, or may be completely absent. However, as outlined in the Approved Conservation Advice under the fourth step of the identification process (further information to assist in determining the presence of the community), this form variation often occurs in patches of the TEC, and therefore does not preclude such areas from being included as part of a larger occurrence of the TEC.

The next steps involve applying condition and size (spatial area) thresholds to potential patches of vegetation that meet the key diagnostic characteristics; a patch is defined as a discrete and mostly continuous area of the TEC, typically with any breaks (i.e. tracks, roads, or vegetation that does not represent the TEC, being less than 30 m in distance). Where there is a break in native vegetation cover from the edge of the tree canopy of 30 m or more (e.g. due to permanent artificial structures, wide roads or other barriers; or due to water bodies typically more than 30 m wide) then the gap typically indicates that separate patches are present. A total of 27 potential patches of the Banksia Woodland TEC were defined within the Survey Area using this definition; this took into account any patches of vegetation that are intersected by the Survey Area boundary but clearly form part of contiguous vegetation outside the Survey Area, determined via aerial imagery interpretation and existing mapped DBCA TEC extents (DBCA, 2024b).

The Approved Conservation Advice then specifies that a patch of the TEC must meet the ‘Good’ vegetation condition category as per Gibson et al. (1994) to be considered a patch of the TEC under the EPBC Act; this is the same vegetation condition scale presented in EPA Technical Guidance (2016b) that has been used by this current assessment. It then defines minimum patch sizes for each condition rating (‘Good’ and higher). However, as outlined under the fourth step of the Approved Conservation Advice, it is stipulated that a patch can vary in condition, and can include vegetation with a lower condition rating than Good; such areas may still retain important natural values and may be critical to protecting those portions of a patch that meet the condition threshold. In these cases, the condition rating mapped over the largest portion of the patch was used when assessing the patch against the minimum patch size requirements. DoEE also stipulates that vegetation occurring outside the area of study, in this case the Survey Area, needs to be considered when calculating patch sizes within the area of study, in cases where vegetation outside the area of study is contiguous with that inside. As aforementioned, this was also considered when determining the number and size of potential patches.

The assessment of the 27 potential patches against the key diagnostic characteristics is presented in **Appendix K**. In summary, 13 patches of the TEC are considered to occur within the Survey Area, as presented in **Figure 5.6**; of these, only three patches met both the patch size and vegetation condition criteria, while the remaining 10 patches did not meet the patch size criteria and/or the vegetation condition criteria for their mapped extents in the Survey Area, but they represent vegetation that is contiguous with the occurrence of the TEC immediately outside the Survey Area. The remaining 14 patches do not meet the patch size criteria, and are not considered to contribute significantly to the overall function of the ecological community; they are therefore not considered to be patches of the TEC.

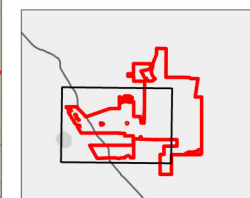
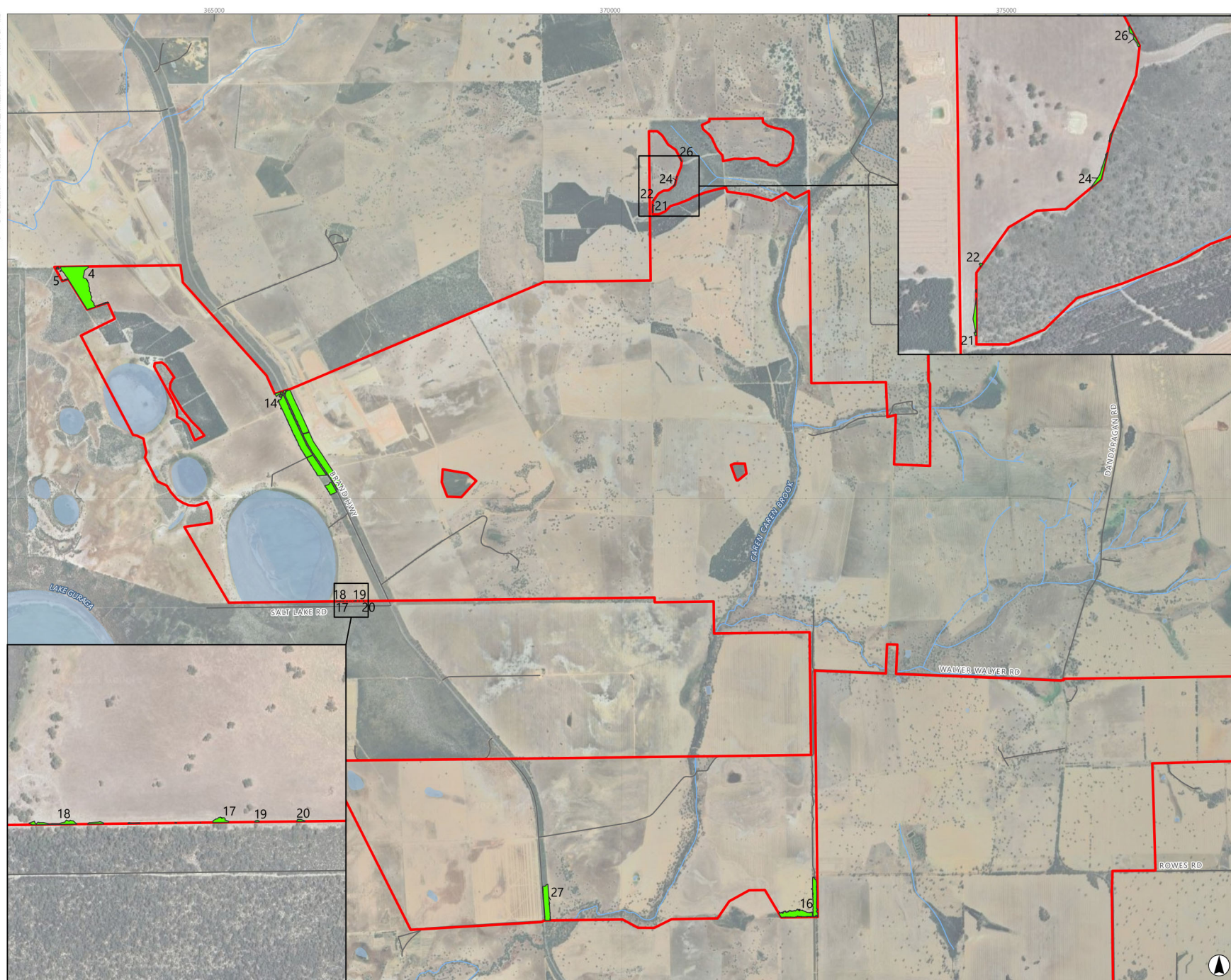
The 13 patches of the TEC comprise a total area of 41.9 ha. No patches (either wholly or partially) of the TEC were considered to be in ‘Pristine’ or ‘Excellent’ condition.

The 'Banksia Woodlands of the Swan Coastal Plain' TEC is already known to occur within the Survey Area based on records from DBCA's TEC and PEC Database (DBCA, 2024b). As mentioned in **Section 5.1.3**, the records provided by this search are generally polygons that were determined by overlaying broad-scale vegetation over remnant vegetation polygons. Ground-truthing by DBCA has not been undertaken to confirm occurrences in this dataset in most cases, and they are therefore considered to be indicative only, with on-ground assessment required to determine the actual extent of the TEC (if it is present at all). Therefore, the TEC as presented in **Figure 5.6** is considered to represent a more accurate extent in the Survey Area than the occurrences contained in DBCA's TEC and PEC database. Consequently, no attempt has been made to correlate the extent of the TEC as defined above and presented in **Figure 5.6** with DBCA's occurrences.

FIGURE 5.6

Significant Vegetation of the Survey Area

- Legend**
- ▬ Survey Area
 - +— Railway
 - Road
 - Watercourse
 - Waterbody
 - Banksia Woodlands of the Swan Coastal Plain ecological community (TEC – Endangered)



0 1 2
Kilometres

Scale: 1:45,000 at A3
GDA2020 MGA Zone 50

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5.2.9.2 Floristic Community Types of the Swan Coastal Plain

The vegetation described by the study of the southern SCP by Gibson et al. (1994), together with supplementary vegetation description published by the Government of Western Australia (2000) (with the latter dataset being made available by Keighery et al. (2012)), is the current baseline used when assessing the significance of vegetation on the southern SCP (as per DBCA's *Vegetation survey methods and analysis to determine floristic community types on the southern Swan Coastal Plain* (DBCA, 2024d). The vast majority of terrestrial TECs and PECs that occur on the southern SCP are Floristic Community Types (FCTs) described by the Gibson et al. (1994) study. This includes multiple FCTs that form components of the 'Banksia Woodland of the Swan Coastal Plain' and 'Clay pans of the Swan Coastal Plain' TECs.

The quadrat datasets associated with both of these studies sampled throughout the southern SCP, and included some upland sites associated with the Darling Scarp. However, the studies did not go as far north on the SCP as the Survey Area, which is located on the very northeastern end of the SCP. Given the SCP and Geraldton Sandplains regions have a very high turnover of species and vegetation communities, it is highly likely the vegetation of the Survey Area is not well represented in the SCP dataset. Therefore, it is not considered appropriate to undertake floristic analyses with the SCP datasets, or otherwise draw comparisons between the vegetation of the Survey Area and the FCTs of the southern SCP.

5.2.9.3 Other Significant Vegetation

As discussed in **Section 5.2.9.1**, portions of VT2 and VT3 are considered representative of the 'Banksia Woodland of the Swan Coastal Plain' TEC and are consequently considered significant in a regional context. No additional VTs are considered potentially significant in a local and/or regional context for reasons other than formal listing (as per EPA guidance (2016a, 2016b) (**Section 1.2**).

5.2.9.4 Likelihood of Occurrence of Further Significant Vegetation

As discussed in **Section 5.1.3**, six listed significant vegetation communities were identified as potentially occurring in the Desktop Study Area. Of these, the 'Banksia Woodlands of the Swan Coastal Plain' TEC is considered to occur in the Survey Area (**Section 5.2.9.1**). **Table 5.10** presents an assessment of the potential presence of the remaining five significant vegetation communities in the Survey Area.

In summary, none of the remaining five listed significant vegetation communities are considered to occur in the Survey Area, however, two communities are unable to be assessed for presence, for reasons previously discussed in **Section 5.2.9.2**.

Table 5.10 Likelihood of Occurrence of Further Significant Vegetation in the Survey Area

Status (EPBC)	Status (WA)	Description	Nearest Known Location	Comment
Banksia Woodlands of the Swan Coastal Plain ecological community TEC – Endangered	Banksia Woodlands of the Swan Coastal Plain PEC – P3	Canopy is most commonly dominated or co-dominated by <i>Banksia attenuata</i> and/or <i>B. menziesii</i> . Other Banksia species that can dominate in the community are <i>B. prionotes</i> or <i>B. ilicifolia</i> . It typically occurs on well drained, low nutrient soils on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands; it is also common on sandy colluvium and aeolian sands of the Ridge Hill Shelf, Whicher Scarp and Dandaragan Plateau and, in other less common scenarios. The description, area and condition thresholds that apply to the EPBC-listed TEC of the same name, also apply to this PEC.	Within Survey Area	Considered to be Present See Section 5.2.9.1 .
	SCP23b: Swan Coastal Plain <i>Banksia attenuata</i> – <i>Banksia menziesii</i> woodlands PEC – P3	These woodlands occur in the Bassendean system, from Melaleuca Park to Gingin. Occurs in reasonably extensive Banksia woodlands north of Perth.	16 km southeast	Unable to be assessed for presence As per Section 5.2.9.2 , the Survey Area is located north of the range assessed by Gibson et al. (1994) and Keighery et al. (2012). Given the SCP and Geraldton Sandplains regions have a very high turnover of species and vegetation communities, it is highly likely the vegetation of the Survey Area is not well represented in the SCP dataset. Therefore, it is not considered appropriate to undertake floristic analyses with the SCP datasets, or otherwise draw comparisons between the vegetation of the Survey Area and the FCTs of the southern SCP.

Status (EPBC)	Status (WA)	Description	Nearest Known Location	Comment
Clay Pans of the Swan Coastal Plain TEC – Critically Endangered	-	The clay pan communities occur where clay substrate is low in the landscape and forms an impermeable layer close to the surface. These wetlands that rely on rainfall and local surface drainage to fill are considered unlikely to be connected to groundwater. The clay pans then dry out to form a relatively impervious substrate in summer. A suite of perennial plants that propagate by underground bulbs, tubers or corms (geophytes), and annual herbs flower sequentially as the clay pans dry out. The clay pans are the most diverse of the SCP wetlands and contain a number of local endemic flora.	NA	Unable to be assessed for presence There are no records of this vegetation community in the Desktop Study Area. This TEC corresponds with five separate ecological community types, four of which (SCP07, 08, 09 and 10a) correspond to FCTs on the southern SCP as defined by Gibson et al. (1994), and the fifth being the ‘Clay pans with shrubs over herbs’ community (117) (DSEWPC, 2012). As discussed in Section 5.2.9.2, the SCP FCTs on the southern SCP cannot be assessed for presence in the Survey Area, as the Survey Area is located on the northern SCP, outside the range of the two studies that defined these FCTs. Additionally, no clay pans were recorded within the Survey Area.
Empodisma peatlands of southwestern Australia TEC - Endangered	-	The assemblage of plants, animals and other organisms associated with a type of freshwater, peat-based wetland that is found in the High Rainfall Province of the south-west of Western Australia. It is typically a sedgeland to shrubland vegetation complex on peaty substrates that almost always includes the perennial grass-like twig rush <i>Empodisma gracillimum</i> (tanglefoot). Empodisma peatlands provide habitat for a diverse range of hydrophilic species, including threatened, regionally endemic, and relictual flora and fauna species.	NA	Not considered to be present There are no records of this vegetation community in the Desktop Study Area. The key diagnostics in the Approved Conservation Advice (DCCEEW, 2023b) are not satisfied by the vegetation within the Survey Area, as <i>Empodisma gracillimum</i> was not recorded by the 2024 survey.

Status (EPBC)	Status (WA)	Description	Nearest Known Location	Comment
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion TEC – Critically Endangered	<i>Melaleuca huegelii</i> – <i>M. systema</i> shrublands of limestone ridges (floristic community type 26a as originally described in Gibson et al. 1994) TEC	The community is known from shallow soils over limestone or massive limestone ridges of Tamala Limestone between Yanchep north of Perth, and south of Perth near Lake Clifton. The community generally comprises species-rich thickets, heaths and scrubs dominated by <i>Melaleuca huegelii</i> (chenille honeymyrtle), <i>Melaleuca systema</i> (coastal honeymyrtle) and <i>Banksia sessilis</i> (parrot bush), commonly over <i>Grevillea preissii</i> (spider net grevillea), <i>Spyridium globulosum</i> (basket bush), and <i>Acacia lasiocarpa</i> (pajang). A suite of herbs commonly occurs under the shrub layer.	NA	Not considered to be present There are no records of this vegetation community in the Desktop Study Area. The key diagnostic characteristics in the Approved Conservation Advice (DCCEEW, 2023a) are not satisfied by the vegetation within the Survey Area, as none of the VTs have shrub layers dominated by <i>Melaleuca huegelii</i> or <i>Melaleuca systema</i> . Additionally, the Survey Area is located north of Yanchep, which is the northern boundary of this TEC.
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community TEC – Critically Endangered	Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands of the Swan Coastal Plain PEC - P3	Mostly confined to Quindalup Dunes and Spearwood Dunes but can also occur on the Bassendean dunes and Pinjarra Plain. It can occur on the banks of rivers and wetlands. Tuart is the key upper canopy species although it may co-occur with trees of other species. Trees commonly co-occurring with Tuart include <i>Agonis flexuosa</i> , <i>Banksia grandis</i> , <i>Banksia attenuata</i> , <i>Eucalyptus marginata</i> ; and less commonly, <i>Corymbia calophylla</i> , <i>Banksia menziesii</i> and <i>Banksia prionotes</i> . An understorey of native plants is typically present, which may include grasses, herbs and shrubs. The description, area and condition thresholds that apply to the EPBC-listed TEC of the same name, also apply to this Priority ecological community.	NA	Not considered to be present There are no records of this vegetation community in the Desktop Study Area. This TEC/PEC is strongly associated with calcareous soils of the western part of the SCP, including those very close to the coast (DoEE, 2019); soils matching this description were not observed in the Survey Area, and do not correlate with the soil landscape mapping for the Survey Area (Section 2.2). The Approved Conservation Advice for this community (DoEE, 2019) lists key diagnostic criteria that must be met in order for patches of vegetation to be considered part of this TEC. The first criterion states that the patch of vegetation must occur within the SCP IBRA bioregion; therefore, this criterion is met. The second criterion relates to soils and landform.

Status (EPBC)	Status (WA)	Description	Nearest Known Location	Comment
				The community primarily occurs on the Spearwood and Quindalup dune systems, but can also occur on the Bassendean dunes, the Pinjarra Plain, and on the banks of rivers and wetlands. Part of the Survey Area occurs on the Bassendean system (Section 2.2), and therefore this criterion is met. The third criterion, and the primary defining feature of the community, relates to the presence and density of <i>Eucalyptus gomphocephala</i> trees. This species was recorded in the Survey Area, however at only one location where it was planted with <i>Eucalyptus camaldulensis</i> along a private driveway. Although this satisfies the third criterion, this patch of vegetation does not meet condition and patch size requirements. The mapped extent of this vegetation is 1.9 ha, in 'Poor' condition (as per the scale presented by DoEE (2019)). Thus, the criterion is not met, and the TEC is not considered to occur.

6.0 Conclusions and Recommendations

A Reconnaissance flora and vegetation assessment was completed for the Project over the Survey Area, with Detailed and Targeted assessments conducted within the D&T Survey Area only. The assessments provide a broad understanding of the ecological values and potential constraints in the area. The assessment mapped and described VTs and vegetation condition across the Survey Area, and identified the likelihood of significant flora and vegetation occurring in both the D&T Survey Area and the broader Survey Area.

Conclusions and recommendations from this assessment are summarised below:

- The majority of the Survey Area has clearly been highly modified since European settlement, as a result of the long history of agricultural activities and other development, and is no longer considered to represent intact remnant vegetation. The vegetation condition of these areas was mapped as 'Degraded' or 'Completely Degraded', and include VTs with primarily only native tree species remaining (including isolated trees), areas with only planted native trees and shrubs, and areas with almost exclusively weed or crop species (Cleared areas).
- Areas where natural vegetation has been completely and apparently permanently removed, with no (or very scattered) native taxa remaining, were mapped as 'PD' (Paddocks and Infrastructure) where discernible at 1:5,000 scale. This includes paddocks, tracks, firebreaks, roads and infrastructure. A total of 14,228.1 ha of PD was mapped, representing 89.9% of the Survey Area. Small areas of vegetation were also mapped as PE (Planted Eucalyptus), PP (Pine Plantations), and TP (Tagasaste and Grape Plantations), representing a total of 301.4 ha (1.9%) of the Survey Area.
- A total of eight Vegetation Types (VTs) were identified in the Survey Area by the Detailed and Reconnaissance survey (four determined by the floristic classification analysis, and four determined by additional reconnaissance data). VT4 represents the largest portion of remnant vegetation in the Survey Area (4.7%). The second largest VT is VT1, covering 1.6% of the Survey Area, and the third largest is VT3 at 0.5%.
- A Targeted flora and vegetation survey was conducted systematically within the D&T Survey Area. A total of five significant flora taxa were located during the targeted surveys. One of these taxa (*Grevillea curviloba* (T)) is considered to be planted or a garden escape, as it is not known from the area, and was found in a patch of disturbed vegetation. Another taxon (*Poranthera moorokatta* (P2)) was not returned by the desktop assessment. All significant flora taxa were located within the Brand Highway road verges, with the exception of one occurrence of *Haemodorum loratum* (P3) located on remnant vegetation in the southwest of the Survey Area.
- A dual likelihood of occurrence assessment was completed for the remaining 173 significant flora taxa returned by the desktop assessment, with all 173 considered to be unlikely to occur within the D&T Survey Area. Seventy-seven of these taxa may possibly occur within the broader Survey Area, where a Targeted assessment was not completed, although it should be noted that none of these significant taxa were found within areas of Very Good and Good vegetation, and the remainder of the Survey Area is primarily Degraded or Completely Degraded. The remaining 96 taxa are considered unlikely to occur.

- A total of 13 patches of the Banksia Woodlands of the Swan Coastal Plain TEC were identified by the 2024 survey, totalling 41.9 ha. All patches occur within mapped areas of VT2 and VT3, and are in either 'Good' or 'Degraded' condition. Those that are in 'Degraded' condition are considered to be contiguous with adjacent vegetation located outside the Survey Area that is representative of the TEC. The patches of 'Good' condition form parts of the Brand Highway road verges, as well as Walyoo Road. No other significant vegetation is considered to occur within the Survey Area.
- Impact to vegetation mapped as 'Very Good' and 'Good' condition in the Survey Area should be avoided as far as possible as part of the ongoing project planning process. This is due to the potential for significant flora taxa, and also the relatively scarcity of vegetation in 'Good' or better condition in the Survey Area and general landscape.
- Remnant native vegetation in a highly cleared landscape is considered to have ecological value, despite often being in 'Degraded' condition and having minimal floristic value. Such vegetation represents the remnants of VSAs that mostly have less than 30% of their pre-European extents remaining, and provides ecological linkages for terrestrial fauna and bird species. Clearing of any native vegetation in WA, regardless of conservation significance, requires approval under the State *Environmental Protection Act 1986* unless an exemption applies. This includes clearing of individual trees within areas mapped as 'IT' (Isolated Trees and Shrubs), and 'PD' (Paddocks and Infrastructure).

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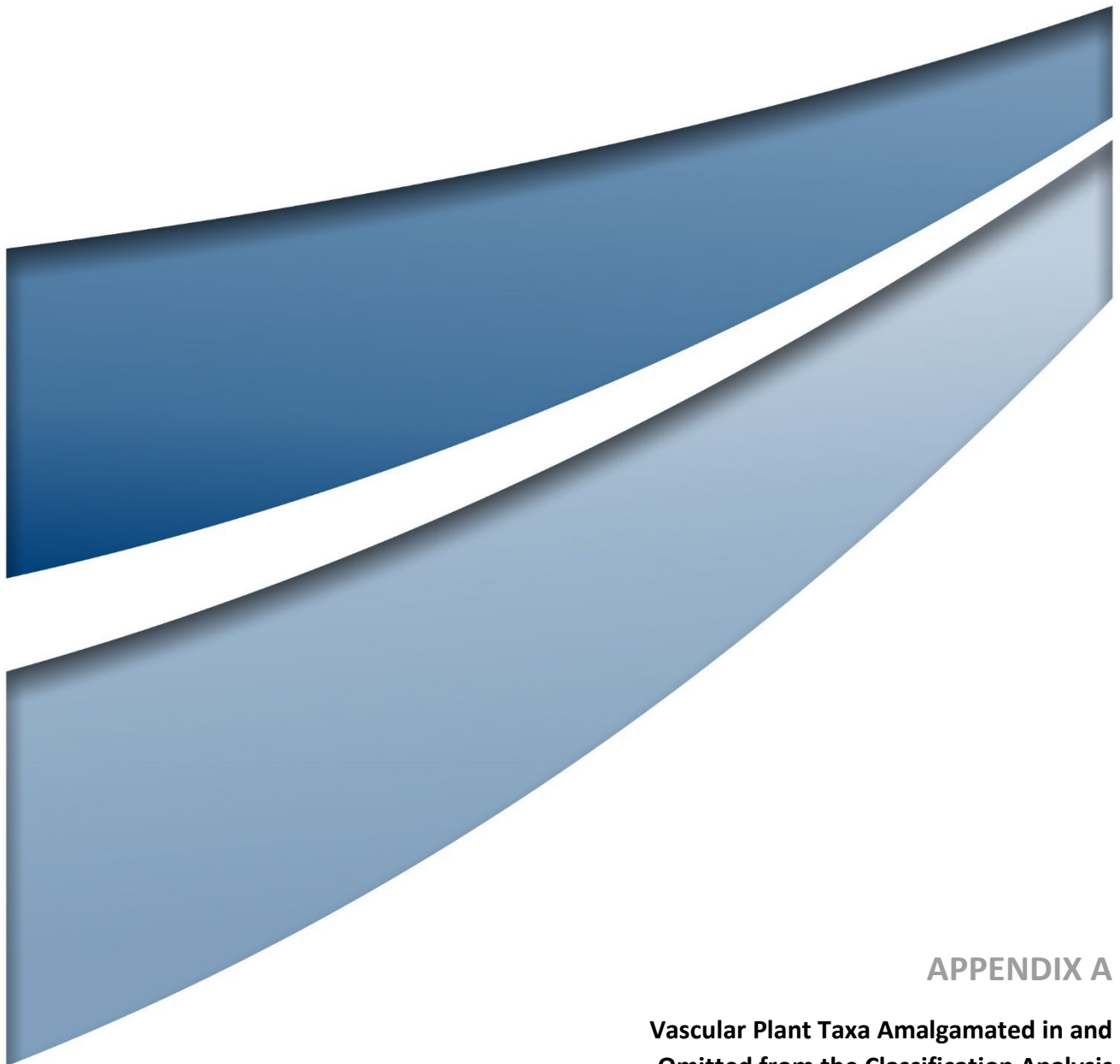
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APPENDIX A

**Vascular Plant Taxa Amalgamated in and
Omitted from the Classification Analysis**

Table A.1 Flora Taxa Amalgamated in the Floristic Classification Analysis

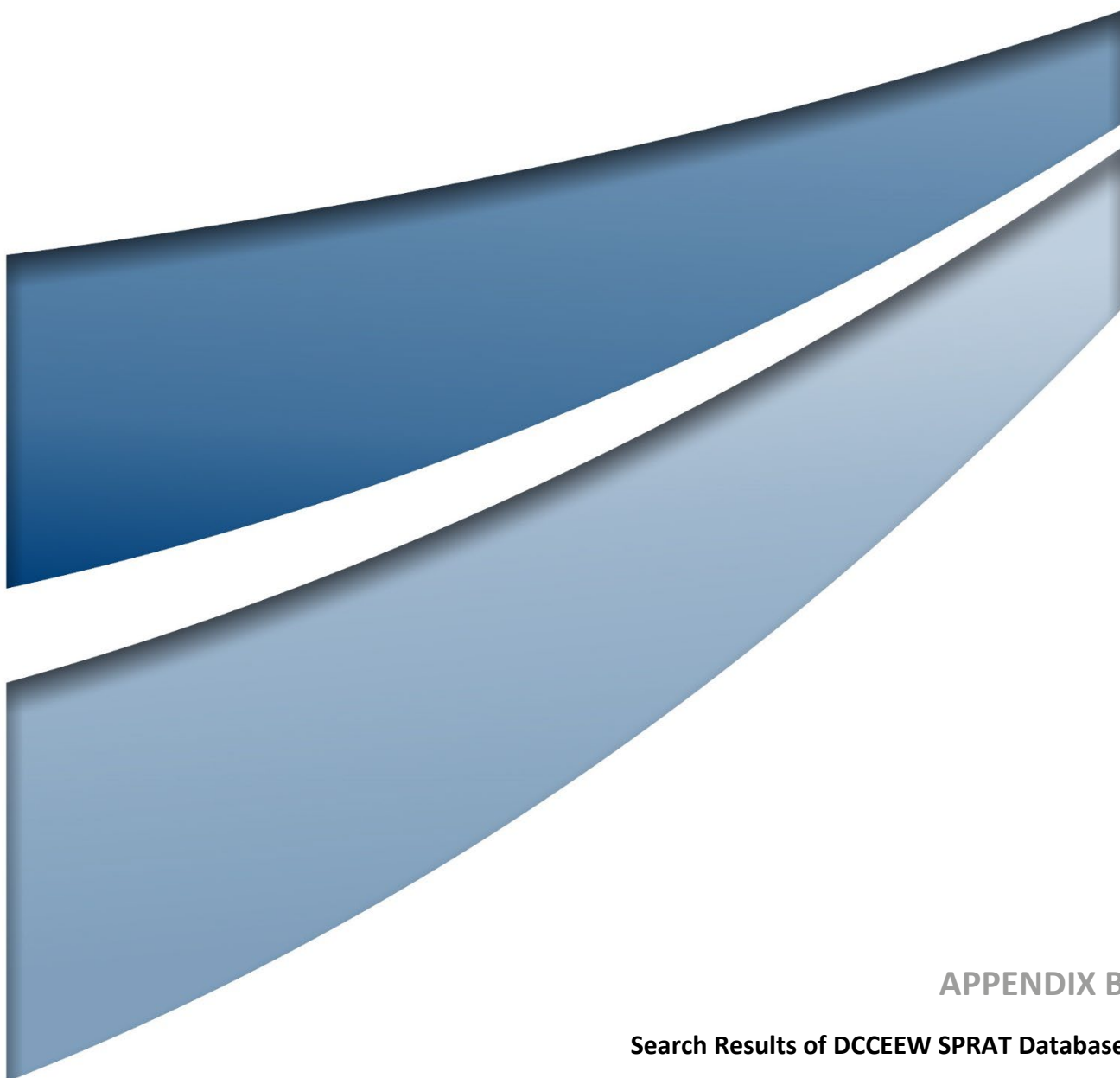
Taxa	Reason for Amalgamation
<i>Acacia pulchella</i> <i>Acacia pulchella</i> var. <i>glaberrima</i>	Likely represent the same entity
<i>Caladenia flava</i> <i>Caladenia flava</i> subsp. <i>flava</i>	Likely represent the same entity
<i>Calothamnus quadrifidus</i> <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>	Likely represent the same entity
<i>Daviesia nudiflora</i> <i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	Likely represent the same entity
<i>Eremaea pauciflora</i> <i>Eremaea pauciflora</i> var. <i>lonchophylla</i> <i>Eremaea pauciflora</i> var. ? <i>lonchophylla</i>	Varieties are difficult to distinguish if material is inadequate, however these also likely represent the same entity
<i>Hibbertia hypericoides</i> <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	Likely represent the same entity
<i>Thysanotus manglesianus</i> <i>Thysanotus patersonii</i>	Taxa can be difficult to distinguish when material is inadequate
<i>Tricoryne elatior</i> <i>Tricoryne</i> ? <i>elatior</i>	Likely represent the same entity

Note: **Table A.2** does not include taxa belonging to the following categories that were removed prior to the classification analysis (as per **Section 3.6**):

- Introduced taxa
- Hybrids
- Singletons.

Table A.2 Flora Taxa Omitted from the Floristic Classification Analysis

Taxon	Reason for Omission
?Goodeniaceae sp.	Indeterminate
<i>Microtis</i> sp.	Indeterminate
<i>Pterostylis</i> sp.	Indeterminate



APPENDIX B

Search Results of DCCEEW SPRAT Database



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 10-Apr-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	54
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	4
Commonwealth Heritage Places:	1
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	19
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	17
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area	In buffer area only
Empodisma peatlands of southwestern Australia	Endangered	Community may occur within area	In buffer area only
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community may occur within area	In buffer area only
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat known to occur within area	In feature area
FISH			
Nannatherina balstoni Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Parantechinus apicalis Dibbler [313]	Endangered	Species or species habitat may occur within area	In feature area
PLANT			
Acacia forrestiana Forest's Wattle [17235]	Vulnerable	Species or species habitat known to occur within area	In feature area
Acacia splendens Splendid Wattle, Dandaragan Wattle [81510]	Endangered	Species or species habitat known to occur within area	In buffer area only
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area	In feature area
Anigozanthos viridis subsp. terraspectans Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat known to occur within area	In feature area
Asterolasia nivea Bindoon Starbush [8225]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Banksia fuscobractea Dark-bract Banksia [83059]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Banksia mimica Summer Honeypot [82765]	Endangered	Species or species habitat known to occur within area	In feature area
Banksia serratuloides subsp. perissa Northern Serrate Dryandra [82767]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Banksia serratuloides subsp. serratuloides Southern Serrate Dryandra [82768]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Caleana dixonii listed as Paracaleana dixonii Sandplain Duck Orchid [87944]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chamelaucium lullfitzii listed as Chamelaucium sp. Gingin (N.G.Marchant 6)			
Gingin Wax [92777]	Endangered (listed as Chamelaucium sp. Gingin	Species or species habitat likely to occur within area	In feature area
Chamelaucium sp. Cataby (G.J.Keighery 11009)			
Griffin's Waxflower [82509]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Conospermum densiflorum subsp. unicephalatum			
One-headed Smokebush [64871]	Endangered	Species or species habitat likely to occur within area	In feature area
Darwinia acerosa			
Fine-leaved Darwinia [9004]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Darwinia carnea			
Mogumber Bell, Narrogin Bell [9736]	Endangered	Species or species habitat may occur within area	In buffer area only
Daviesia dielsii			
Diels' Daviesia [19617]	Endangered	Species or species habitat may occur within area	In buffer area only
Drakaea elastica			
Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
Eleocharis keigheryi			
Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Eremophila scaberula			
Rough Emu Bush [16729]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Eucalyptus absita			
Badgingarra Box [24260]	Endangered	Species or species habitat may occur within area	In buffer area only
Eucalyptus dolorosa			
Dandaragan Mallee, Mount Misery Mallee [56709]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eucalyptus leprophloia Scaly Butt Mallee, Scaly-butt Mallee [56712]	Endangered	Species or species habitat may occur within area	In feature area
Eucalyptus pruiniramis Midlands Gum, Jingymia Gum [56403]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Goodenia arthrotricha [12448]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Grevillea calliantha Foote's Grevillea, Cataby Grevillea, Black Magic Grevillea [56339]	Endangered	Species or species habitat known to occur within area	In buffer area only
Grevillea christineae Christine's Grevillea [64520]	Endangered	Species or species habitat may occur within area	In buffer area only
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat may occur within area	In buffer area only
Hakea megalosperma Lesueur Hakea [10505]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat likely to occur within area	In feature area
Leucopogon obtectus Hidden Beard-heath [19614]	Endangered	Species or species habitat may occur within area	In buffer area only
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat known to occur within area	In feature area
Ptychosema pusillum Dwarf Pea [11268]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Spirogardnera rubescens Spiral Bush [15667]	Endangered	Species or species habitat may occur within area	In buffer area only
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area	In buffer area only
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat may occur within area	In feature area

REPTILE			
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat may occur within area	In feature area
Pseudemydura umbrina Western Swamp Tortoise [1760]	Critically Endangered	Translocated population known to occur within area	In buffer area only

SHARK			
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only

SPIDER			
Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Marine Species			
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Migratory Terrestrial Species			
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Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands	[Resource Information]
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.	
Commonwealth Land Name	State
Defence	Buffer Status

Commonwealth Land Name	State	Buffer Status
Defence - LANCELIN - AIR SAFETY MARKER [50236]	WA	In buffer area only
Unknown		
Commonwealth Land - [52217]	WA	In buffer area only
Commonwealth Land - [52001]	WA	In feature area
Commonwealth Land - [52118]	WA	In buffer area only

Commonwealth Heritage Places		[Resource Information]	
Name	State	Status	Buffer Status
Natural			
Lancelin Defence Training Area	WA	Listed place	In buffer area only

Listed Marine Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris canutus			
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Bashford	Nature Reserve	WA	In buffer area only
Bundarra	Nature Reserve	WA	In buffer area only
Dandarangan	NRS Addition - Gazettal in Progress	WA	In buffer area only
Eneminga	Nature Reserve	WA	In buffer area only
Jam Hill	Nature Reserve	WA	In buffer area only
Minyulo	Nature Reserve	WA	In buffer area only
Moochamulla	Nature Reserve	WA	In buffer area only
Moore River	National Park	WA	In buffer area only
Namming	Nature Reserve	WA	In buffer area only
NTWA Bushland covenant (0048)	Conservation Covenant	WA	In buffer area only
NTWA Bushland covenant (0057)	Conservation Covenant	WA	In buffer area only
Quins Hill	Nature Reserve	WA	In buffer area only
South Mimegarra	Nature Reserve	WA	In buffer area only
Unnamed WA21164	5(1)(g) Reserve	WA	In buffer area only
Unnamed WA25591	Nature Reserve	WA	In buffer area only
Unnamed WA27993	Nature Reserve	WA	In buffer area only
Unnamed WA39571	Nature Reserve	WA	In buffer area only
Unnamed WA46899	Nature Reserve	WA	In buffer area only
Unnamed WA47808	Nature Reserve	WA	In buffer area only

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Guraga Lake	WA	In buffer area only
Karakin Lakes	WA	In buffer area only

EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Bidaminna Project	2022/09360		Assessment	In buffer area only
Caravel Copper Project	2022/09422		Assessment	In buffer area only
Waddi Wind Farm	2023/09639		Assessment	In buffer area only

Controlled action				
Brand Highway Widening and Passing Lanes Project 34.83-164.3 SLK	2017/7864	Controlled Action	Post-Approval	In buffer area only

Not controlled action				
Agricultural Lime Sands Route Upgrade, near Calingiri, WA	2019/8609	Not Controlled Action	Completed	In buffer area only
Brand Hway road formation and seal widening, WA	2016/7740	Not Controlled Action	Completed	In buffer area only
Development of the Dandaragan Wind Farms	2011/6006	Not Controlled Action	Completed	In feature area
Extension of horticulture Farming	2012/6318	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Nilgen Wind Farm	2009/4694	Not Controlled Action	Completed	In buffer area only
Northern Looping project, Karratha to Gingin	2005/2251	Not Controlled Action	Completed	In buffer area only
Upgrade of Orange Springs Road	2019/8478	Not Controlled Action	Completed	In buffer area only
Waddi Wind and Solar Farm, near Dandaragan, WA	2018/8352	Not Controlled Action	Completed	In buffer area only
Walyearing 3D Seismic Survey, Cataby, WA	2017/7982	Not Controlled Action	Completed	In buffer area only

Not controlled action (particular manner)				
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Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
Mineral Sands Mine	2005/2001	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Transmission Line Rebuild and Extension	2009/5105	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
Transmission Line Rebuild and Extension	2009/4972	Referral Decision	Completed	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

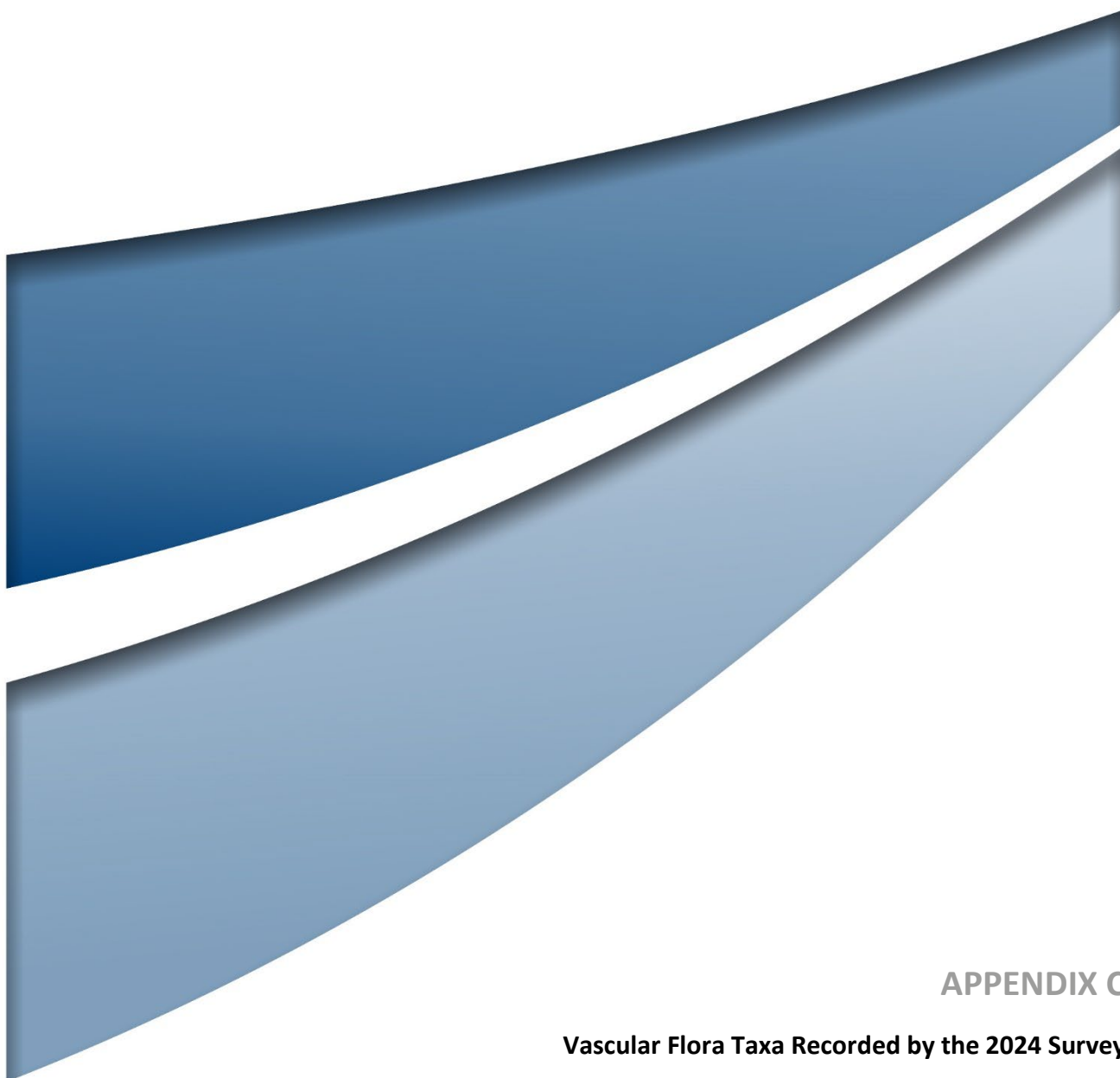
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APPENDIX C

Vascular Flora Taxa Recorded by the 2024 Survey

Family	Taxon
Amaranthaceae	<i>Ptilotus manglesii</i>
	* <i>Ptilotus polystachyus</i>
Anarthriaceae	<i>Lyginia imberbis</i>
Apiaceae	<i>Xanthosia huegelii</i>
Araceae	* <i>Zantedeschia aethiopica</i>
Araliaceae	<i>Hydrocotyle callicarpa</i>
	<i>Trachymene pilosa</i>
Asparagaceae	<i>Acanthocarpus preissii</i>
	<i>Lomandra caespitosa</i>
	<i>Lomandra hermaphrodita</i>
	<i>Lomandra micrantha</i> subsp. <i>micrantha</i>
	<i>Lomandra preissii</i>
	<i>Thysanotus</i> ? <i>dichotomus</i>
	<i>Thysanotus</i> ? <i>multiflorus</i>
	<i>Thysanotus manglesianus</i>
	<i>Thysanotus patersonii</i>
	<i>Thysanotus</i> sp. Coastal plain (N.H. Brittan 66/63)
	<i>Thysanotus sparteus</i>
	<i>Thysanotus patersonii</i>
Asteraceae	* <i>Arctotheca calendula</i>
	* <i>Hypochaeris glabra</i>
	* <i>Lactuca serriola</i>
	* <i>Sonchus oleraceus</i>
	* <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>
	<i>Brachyscome</i> ? <i>iberidifolia</i>
	<i>Hyalosperma cotula</i>
	<i>Olearia paucidentata</i>
	<i>Panaetia lessonii</i>
	<i>Podolepis aristata</i> subsp. <i>aristata</i>
	<i>Podotheca angustifolia</i>
	<i>Podotheca gnaphalioides</i>
	<i>Pterochaeta paniculata</i>
	<i>Rhodanthe citrina</i>
	<i>Rhodanthe laevis</i>
	<i>Waitzia suaveolens</i> var. <i>suaveolens</i>
Campanulaceae	* <i>Wahlenbergia capensis</i>
	<i>Wahlenbergia preissii</i>
Caryophyllaceae	* <i>Petrorhagia dubia</i>
	* <i>Polycarpon tetraphyllum</i>

Family	Taxon
Casuarinaceae	<i>Allocasuarina humilis</i>
	<i>Casuarina obesa</i>
Celastraceae	<i>Stackhousia pubescens</i>
	<i>Tripterococcus brunonis</i>
Centrolepidaceae	<i>Centrolepis drummondiana</i>
Colchicaceae	<i>Burchardia congesta</i>
Crassulaceae	<i>Crassula colorata</i>
	<i>Crassula closiana</i>
Cyperaceae	* <i>Ficinia marginata</i>
	<i>Ammothryon grandiflorum</i>
	<i>Lepidosperma apricola</i>
	<i>Lepidosperma</i> cf. <i>pubisquameum</i>
	<i>Lepidosperma longitudinale</i>
	<i>Machaerina juncea</i>
	<i>Machaerina preissii</i>
	<i>Mesomelaena pseudostygia</i>
	<i>Mesomelaena tetragona</i>
	<i>Morelotia octandra</i>
	<i>Schoenus brevisetis</i>
	<i>Schoenus clandestinus</i>
	<i>Schoenus nanus</i>
	<i>Schoenus pleiostemoneus</i>
	<i>Schoenus subfascicularis</i>
Dilleniaceae	<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>
	<i>Hibbertia racemosa</i>
	<i>Hibbertia striata</i>
Droseraceae	<i>Drosera eneabba</i>
	<i>Drosera erythrorhiza</i>
	<i>Drosera glanduligera</i>
	<i>Drosera menziesii</i>
	<i>Drosera pallida</i>
Ericaceae	<i>Conostephium pendulum</i>
	<i>Styphelia retrorsa</i>
	<i>Styphelia serratifolia</i>
	<i>Styphelia erubescens</i>
Fabaceae	* <i>Acacia iteaphylla</i>
	* <i>Lotus subbiflorus</i>
	* <i>Ornithopus compressus</i>
	* <i>Trifolium campestre</i> var. <i>campestre</i>
	<i>Acacia blakelyi</i>

Family	Taxon
	<i>Acacia costata</i>
	<i>Acacia pulchella</i> var. <i>glaberrima</i>
	<i>Acacia saligna</i>
	<i>Acacia stenoptera</i>
	<i>Acacia auronitens</i>
	<i>Bossiaea eriocarpa</i>
	<i>Chamaecytisus palmensis</i>
	<i>Daviesia angulata</i>
	<i>Daviesia decurrens</i>
	<i>Daviesia divaricata</i> subsp. <i>divaricata</i>
	<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>
	<i>Gompholobium tomentosum</i>
	<i>Isotropis cuneifolia</i>
	<i>Jacksonia floribunda</i>
	<i>Jacksonia furcellata</i>
	<i>Jacksonia nutans</i>
	<i>Jacksonia sternbergiana</i>
	<i>Kennedia prostrata</i>
	<i>Mirbelia trichocalyx</i>
Geraniaceae	<i>*Erodium botrys</i>
Goodeniaceae	<i>Goodenia berardiana</i>
	<i>Goodenia convexa</i>
	<i>Goodenia reinwardtii</i>
	<i>Lechenaultia biloba</i>
	<i>Lechenaultia linarioides</i>
	<i>Scaevola canescens</i>
Gyrostemonaceae	<i>Gyrostemon subnudus</i>
Haemodoraceae	<i>Anigozanthos humilis</i> subsp. <i>humilis</i>
	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>
	<i>Conostylis androstemma</i>
	<i>Conostylis aurea</i>
	<i>Conostylis candicans</i>
	<i>Conostylis teretifolia</i> subsp. <i>teretifolia</i>
	<i>Haemodorum laxum</i>
	<i>Haemodorum loratum</i> (P4)
	<i>Haemodorum paniculatum</i>
	<i>Haemodorum spicatum</i>
	<i>Haemodorum venosum</i>
Hemerocallidaceae	<i>Caesia</i> sp. Wongan (K.F. Kenneally 8820)
	<i>Chamaescilla corymbosa</i>

Family	Taxon
	<i>Dianella revoluta</i>
	<i>Sowerbaea laxiflora</i>
	<i>Tricoryne elatior</i>
Iridaceae	* <i>Gladiolus caryophyllaceus</i>
	* <i>Romulea rosea</i>
	<i>Orthrosanthus laxus</i> var. <i>laxus</i>
	<i>Patersonia occidentalis</i>
Juncaceae	* <i>Juncus acutus</i> subsp. <i>acutus</i>
	<i>Juncus pallidus</i>
Lamiaceae	* <i>Mentha</i> sp.
Loganiaceae	<i>Orianthera spermacoea</i>
	<i>Phyllangium divergens</i>
Loranthaceae	<i>Amyema miquelii</i>
	<i>Nuytsia floribunda</i>
Malvaceae	<i>Guichenotia sarotes</i>
Montiaceae	<i>Calandrinia corrigioloides</i>
	<i>Calandrinia granulifera</i>
Myrtaceae	^ <i>Corymbia maculata</i>
	^ <i>Eucalyptus sideroxylon</i>
	^ <i>Agonis flexuosa</i>
	^ <i>Callistemon</i> sp.
	^ <i>Eucalyptus camaldulensis</i>
	^ <i>Eucalyptus gomphocephala</i>
	^ <i>Eucalyptus occidentalis</i>
	<i>Apectospermum spinescens</i>
	<i>Babingtonia camphorosmae</i>
	<i>Babingtonia grandiflora</i>
	<i>Calothamnus hirsutus</i>
	<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>
	<i>Calothamnus sanguineus</i>
	<i>Calytrix ecalycata</i> subsp. <i>brevis</i> (P3)
	<i>Calytrix leschenaultii</i>
	<i>Corymbia calophylla</i>
	<i>Eremaea pauciflora</i> var. <i>lonchophylla</i>
	<i>Ericomyrtus serpyllifolia</i>
	<i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i>
	<i>Eucalyptus macrocarpa</i> subsp. <i>elachantha</i> (P4)
	<i>Eucalyptus marginata</i> subsp. <i>thalassica</i>
	<i>Eucalyptus rudis</i> subsp. <i>rudis</i>
	<i>Eucalyptus todtiana</i>

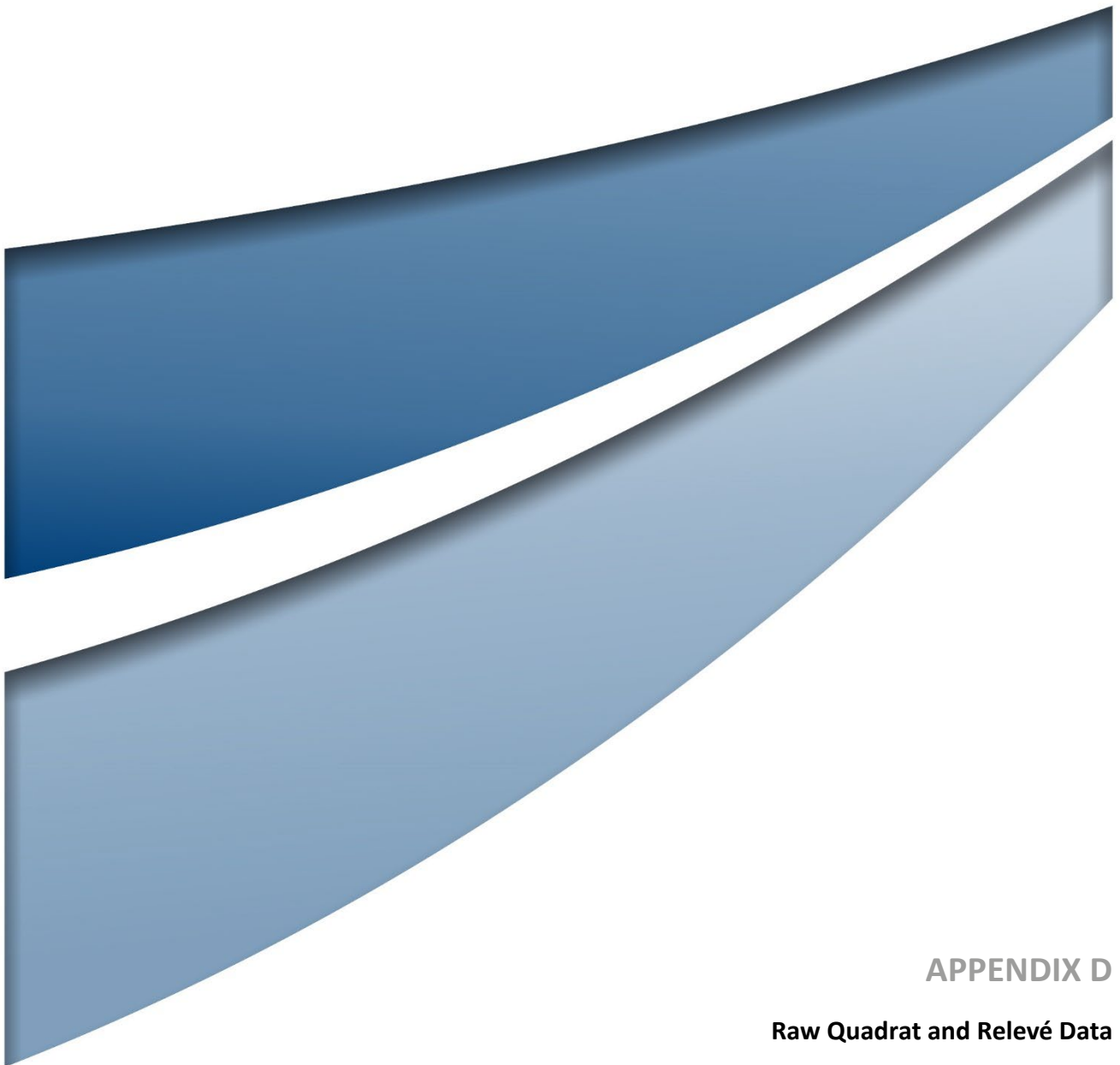
Family	Taxon
	<i>Hypocalymma angustifolium</i>
	<i>Hypocalymma balbakiae</i>
	<i>Hypocalymma</i> sp.
	<i>Hypocalymma angustifolium</i>
	<i>Hypocalymma xanthopetalum</i>
	<i>Kunzea glabrescens</i>
	<i>Leptospermopsis erubescens</i>
	<i>Melaleuca clavifolia</i>
	<i>Melaleuca preissiana</i>
	<i>Melaleuca raphiophylla</i>
	<i>Melaleuca ciliosa</i>
	<i>Scholtzia laxiflora</i>
	<i>Scholtzia parviflora</i>
Orchidaceae	<i>Caladenia flava</i> subsp. <i>flava</i>
	<i>Diuris tinkeri</i>
	<i>Microtis media</i> subsp. <i>media</i>
	<i>Pterostylis vittata</i>
	<i>Pyrorchis nigricans</i>
Orobanchaceae	<i>*Parentucellia latifolia</i>
Phyllanthaceae	<i>Lysiandra calycina</i>
	<i>Poranthera microphylla</i>
	<i>Poranthera moorokatta</i> (P2)
Pinaceae	<i>*Pinus</i> sp.
Pittosporaceae	<i>Billardiera fraseri</i>
Poaceae	<i>*Aira caryophyllea</i>
	<i>*Aira cupaniana</i>
	<i>*Avellinia festucoides</i>
	<i>*Briza maxima</i>
	<i>*Briza minor</i>
	<i>*Bromus diandrus</i>
	<i>*Corynephorus fasciculatus</i>
	<i>*Ehrharta calycina</i>
	<i>*Ehrharta longiflora</i>
	<i>*Eragrostis curvula</i>
	<i>*Lolium rigidum</i>
	<i>*Pentameris airoides</i> subsp. <i>airoides</i>
	<i>*Vulpia bromoides</i>
	<i>Amphipogon turbinatus</i>
	<i>Austrostipa elegantissima</i>
	<i>Austrostipa macalpinei</i>

Family	Taxon
	<i>Neurachne alopecuroidea</i>
Polygalaceae	<i>Comesperma integerrimum</i>
Primulaceae	* <i>Lysimachia arvensis</i>
Proteaceae	<i>Banksia attenuata</i>
	<i>Banksia carlinoides</i>
	<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>
	<i>Banksia hewardiana</i>
	<i>Banksia menziesii</i>
	<i>Banksia prionotes</i>
	<i>Banksia shuttleworthiana</i>
	<i>Conospermum stoechadis</i> subsp. <i>stoechadis</i>
	<i>Grevillea biformis</i> subsp. <i>biformis</i>
	<i>Grevillea curviloba</i> (T)
	<i>Grevillea eriostachya</i>
	<i>Grevillea vestita</i> subsp. <i>vestita</i>
	<i>Hakea conchifolia</i>
	<i>Hakea costata</i>
	<i>Hakea incrassata</i>
	<i>Hakea lissocarpha</i>
	<i>Hakea prostrata</i>
	<i>Hakea stenocarpa</i>
	<i>Hakea trifurcata</i>
	<i>Petrophile brevifolia</i>
	<i>Petrophile macrostachya</i>
	<i>Stirlingia latifolia</i>
	<i>Synaphea spinulosa</i>
Pteridaceae	<i>Cheilanthes austrotenuifolia</i>
Restionaceae	<i>Alexgeorgea nitens</i>
	<i>Caustis dioica</i>
	<i>Chordifex sinuosus</i>
	<i>Desmocladius asper</i>
	<i>Desmocladius lateriticus</i>
	<i>Lepidobolus preissianus</i> subsp. <i>preissianus</i>
Rhamnaceae	<i>Polianthion wichurae</i>
Rubiaceae	* <i>Galium divaricatum</i>
	<i>Opercularia vaginata</i>
Rutaceae	<i>Boronia scabra</i> subsp. <i>scabra</i>
Stylidiaceae	<i>Levenhookia murfetii</i>
	<i>Levenhookia stipitata</i>
	<i>Stylidium adpressum</i>

Family	Taxon
	<i>Stylidium calcaratum</i>
	<i>Stylidium stenosepalum</i>
Thymelaeaceae	<i>Pimelea floribunda</i>
Typhaceae	<i>Typha</i> sp.
Violaceae	<i>Pigea calycina</i>
Vitaceae	* <i>Vitis vinifera</i>
Xanthorrhoeaceae	<i>Xanthorrhoea drummondii</i>
	<i>Xanthorrhoea preissii</i>
Zamiaceae	<i>Macrozamia fraseri</i>

^indicates a non-endemic Australian native, planted taxon.

*indicates an introduced taxon.



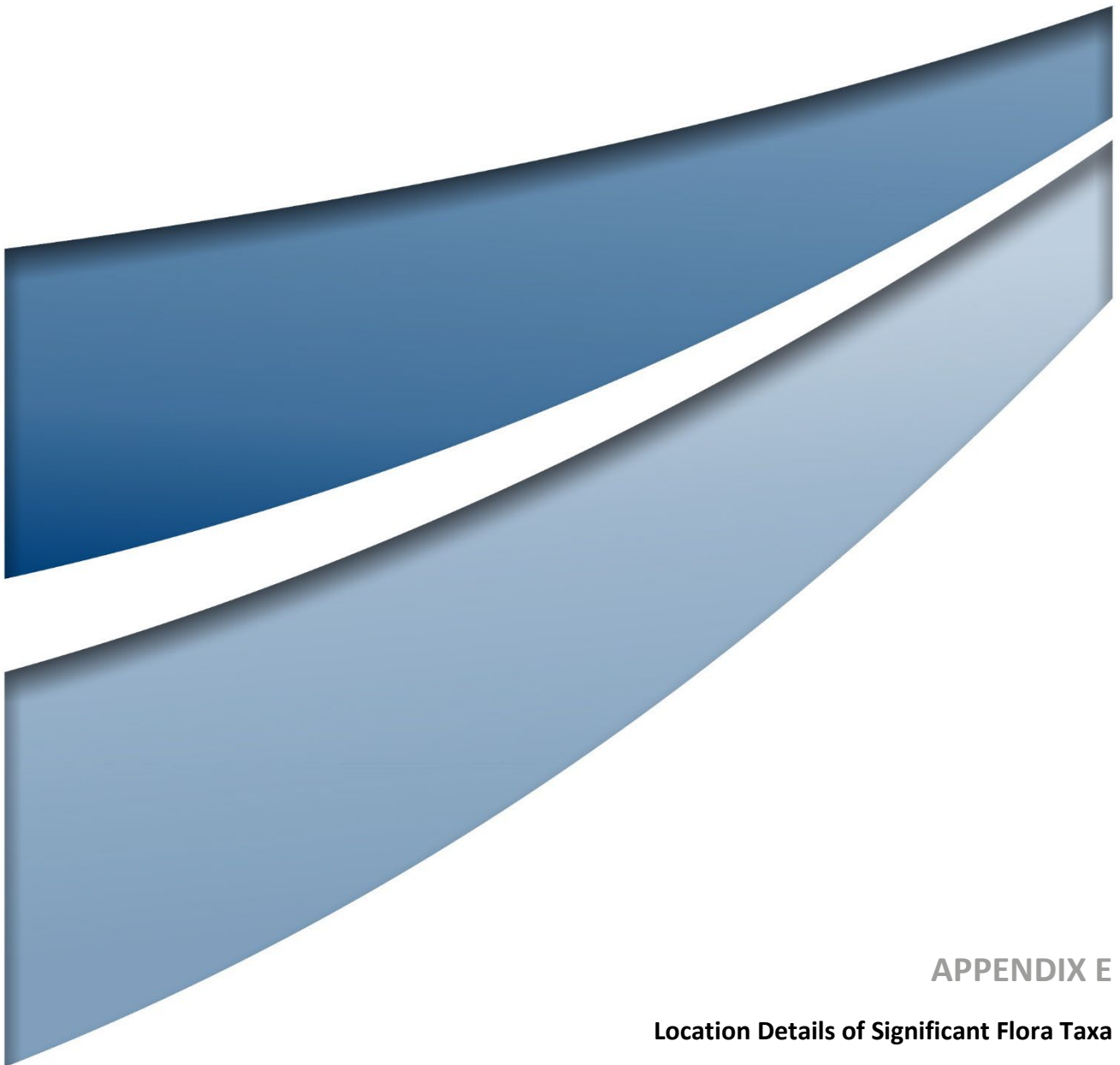
APPENDIX D

Raw Quadrat and Relevé Data

GOVERNMENT AGENCY REFERENCE ONLY

NOT FOR PUBLIC DISSEMINATION

CONTAINS LOCATIONS OF SIGNIFICANT FLORA TAXA



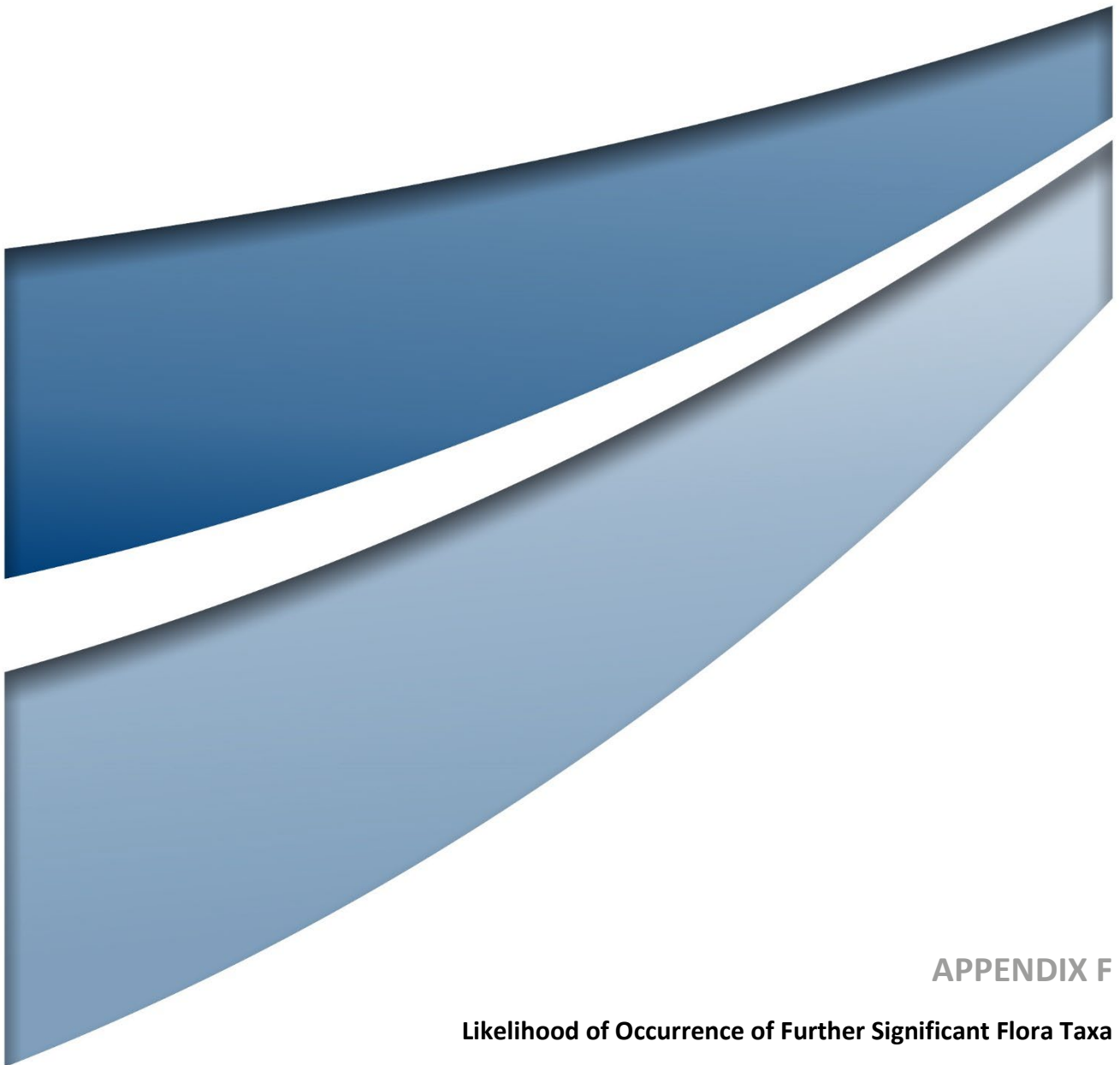
APPENDIX E

Location Details of Significant Flora Taxa

GOVERNMENT AGENCY REFERENCE ONLY

NOT FOR PUBLIC DISSEMINATION

CONTAINS LOCATIONS OF SIGNIFICANT FLORA TAXA



APPENDIX F

Likelihood of Occurrence of Further Significant Flora Taxa

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Acacia aristulata</i>	T	September to December	Ridges and hills with chert, brown or red clayey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area.
<i>Acacia cummingiana</i>	P3	May to June, August	Sandplains, lateritic breakaways with grey or yellow sand and lateritic gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record approximately 6 km northeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Acacia denticulosa</i>	T	September to December	Rock outcrops of greenstone or granite, clay loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 6 km southeast of Survey Area; Survey Area is outside this taxon's known distribution. Record likely cultivated population.
<i>Acacia epacantha</i>	P3	July to August	Breakaways, slopes, flats and along drainage lines with gravelly sand or clay loam over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 6 km north of Survey Area; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Acacia forrestiana</i>	T	November to December	Gullies, hills, breakaways.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 3 km east of Survey Area; Survey Area is within this taxon's known distribution.
<i>Acacia plicata</i>	P3	August to October	Hillslopes and drainage lines with loamy and clayey soils, often over sandstone or siltstone.	Unlikely Habitat is not present within D&T Survey Area, grows almost exclusively in Wandoo woodland.	Unlikely Habitat is not present within Survey Area, grows almost exclusively in Wandoo woodland. Nearest record approximately 5 km northwest of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Acacia ridleyana</i>	P3	April, November to December	White or brown or yellow or grey sand or loam or gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.
<i>Acacia splendens</i>	T	May, August	Laterite breakaways, brown sandy loam, sometimes alluvial flats.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 5 km north of Survey Area; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Allocasuarina grevilleoides</i>	P3	September to November	Slopes, outcrops and plains with rocky or gravelly brown sand or clay loam over laterite or granite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 16 km southwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Allocasuarina ramosissima</i>	P3	May to September	Breakaways, slopes and plains with gravelly grey, brown or white sand or loam over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Andersonia gracilis</i>	T	August to November	Winter-wet areas, near swamps. White-grey sand, sandy clay and gravelly loam.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record immediately adjacent to Survey Area.
<i>Andersonia</i> sp. <i>Mysosma</i> (E.A. Griffin 2213)	P2	September to November	Breakaways and grey sand with lateritic boulders or gravel.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 12km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Angianthus micropodioides</i>	P3	September to November	Saline flats, winter-wet depressions and adjacent dunes. Grey or brown clay loam or sand.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 1 km west of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Anigozanthos humilis</i> subsp. Badgingarra (S.D. Hopper 7114)	P2	September to December	Slopes, plains, flats and winter-wet areas with white or grey sand. Banksia woodland, low wet heath.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record immediately adjacent to Survey Area.
<i>Anigozanthos humilis</i> subsp. <i>chrysanthus</i>	P4	August to November	Slopes, plains and winter-wet areas with white, grey or yellow sand. Banksia woodland, low wet heath.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record immediately adjacent to Survey Area.
<i>Anigozanthos viridis</i> subsp. <i>terraspectans</i>	T	August to September	Grey sand, clay loam. Winter-wet depressions.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 3 km southwest of Survey Area.
<i>Arnocrinum gracillimum</i>	P2	October to November	Flats and plains with white, grey, yellow or lateritic sand over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record 30 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Asterolasia drummondii</i>	P4	July to September	Lateritic hills, sandplains and breakaways with lateritic gravel and sand or loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record 4 km northwest of Survey Area; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Asterolasia grandiflora</i>	P4	September to October	Slopes, gullies and breakaways of laterite, with brown loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record 60 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Babingtonia delicata</i>	P1	November	Winter-wet closed depressions, wetlands and lakes with white, yellow or grey clayey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record within Survey Area, north of Salt Lake Road (2004), however this record's coordinates are erroneous, and should be located along Salt Lake Road outside the Survey Area.
<i>Babingtonia urbana</i>	P3	December to March	Wetlands with clay, winter-wet flats.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 5 km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Banksia cataglypta</i>	T	June to July	Hillslopes and breakaways with grey sand and laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record 60 km from Survey Area; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Banksia chamaephyton</i>	P4	October to December	Slopes, breakaways and flats with grey or white sand over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 13 km southeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Banksia dallanneyi</i> subsp. <i>pollostata</i>	P3	August to September	Grey/yellow sand. Flats, lateritic rises.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record within Survey Area, however the locality of this record is 'Bundarra Nature Reserve, Gillingarra Road', which is not located in the Survey Area. Survey Area is within this taxon's known distribution.
<i>Banksia fuscobractea</i>	T	September to February	Laterite hills and rises, grey sand or brown loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Nearest record approximately 13 km southeast of Survey Area; Survey Area is outside this taxon's known distribution, and has a very restricted range.
<i>Banksia kippistiana</i> var. <i>paenepeccata</i>	P3	October to November	Hills and slopes with white-yellow or grey sand over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record approximately 3 km south of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Banksia mimica</i>	T	September to January	Flats or gentle slopes with grey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Nearest record approximately 12 km southeast of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Banksia nana</i>	P3	October	Hills with white/grey sand and/or gravel over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Suitable habitat present within Survey Area. Nearest record approximately 6 km north of Survey Area; however the Survey Area is outside this taxon's known distribution.
<i>Banksia prionophylla</i>	T	July	Dry grey sand with laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record approximately 3 km northwest of Survey Area; known distribution is from a single location.
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>	P3	September to October	White/grey sand over laterite, usually on plains or lower slopes.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat present within Survey Area. Nearest record approximately 6 km southeast of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Banksia serratuloides</i> subsp. <i>perissa</i>	T	August to September	Hillsides, slopes and breakaways with white/grey sand or brown loam with laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 30 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Banksia serratuloides</i> subsp. <i>serratuloides</i>	T	August to October	Lateritic sandy clay flats, slopes and valleys.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 30 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Beaufortia bicolor</i>	P3	November to December	Sandplains with white sand over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record approximately 12 km northwest of Survey Area; however the Survey Area is outside this taxon's known distribution.
<i>Beaufortia eriocephala</i>	P3	June, September to December	Ridges, low rises and flats with brown, grey or white sand or sandy clay and lateritic gravel over laterite or sometimes granite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat present within Survey Area. Nearest record immediately adjacent to Survey Area on Brand Highway; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Boronia ericifolia</i>	P2	April to September	Breakaways with greenstone, slopes with brown loam and laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 13 km northeast of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Boronia scabra</i> subsp. <i>condensata</i>	P2	August	Upper slopes and lateritic breakaways with grey/brown sandy clay or loam with laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within Survey Area. Nearest record approximately 13 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Caladenia multiplex</i>	P2	Mid-August to September. Latest record from 13 September.	Red-brown loam, slopes and creek lines, winter-wet areas.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Nearest record approximately 9 km east of Survey Area; however this record has erroneous coordinates, and is located further east. Survey Area is outside this taxon's known distribution.
<i>Caladenia speciosa</i>	P4	Late August to October. Latest record from 25 October	Flats, swampy areas with black sand; clay pans. Also grey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Calectasia elegans</i>	T	September to October	Plains with deep grey or pale yellow sand.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record approximately 17 km Southeast of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Calothamnus accedens</i>	P4	September to January	Slopes or rises with brown clay loam.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 17 km southwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Calothamnus brevifolius</i>	P4	January to February or April	White/grey or yellow sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 4 km west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Calothamnus pachystachyus</i>	P4	September to November	Hills and breakaways with laterite, sandy slopes with laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Suitable habitat is present within Survey Area. Nearest record is approximately 16 km southwest of Survey Area; Survey area is within this taxon's known distribution.
<i>Calytrix ecalycata</i> subsp. <i>brevis</i>	P3	August to September	Sandplains and low rises with white/grey or yellow sand.	Known to Occur	Known to Occur

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Catacolea enodis</i>	P2	Unknown	Deep white sand over laterite. Flats.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 25 km northwest of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Chamaescilla gibsonii</i>	P3	August to November	Brown or grey sandy clay. Winter-wet clay pans and flats.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.
<i>Chamelaucium lullfitzii</i>	T	September to December	Hilltops, slopes and undulating plains with gravelly sand.	Unlikely No suitable habitat present within D&T Survey Area, and is outside the known range of this taxon.	Unlikely No suitable habitat is present within Survey Area, and is outside the known range of this taxon.
<i>Chamelaucium</i> sp. Cataby (G.J. Keighery 11009)	T	September to December	Lateritic breakaways.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area. Nearest record is approximately 5 km west of Survey Area.
<i>Chordifex reseminans</i>	P2	March to May	Flats and winter-wet depressions with white-grey sand over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record approximately 3 km south of Survey Area; Survey Area is within taxon's known distribution.
<i>Chorizema humile</i>	T	August to September	Plains with granite, Rock outcrops of granite with red-brown soil.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Comesperma rhadinocarpum</i>	P3	October to November	Undulating plains, valley slopes and flats with grey, brown or yellow sandy loam or sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record approximately 14 km southeast of Survey Area; Survey Area is within taxon's known distribution.
<i>Conospermum densiflorum</i> subsp. <i>unicephalum</i>	T	September to December	Plains with red-brown soil and clays, laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Unlikely No suitable habitat is present with Survey Area. Nearest record is approximately 30 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Conostephium magnum</i>	P4	July to September	Sand dunes and slopes with white-grey sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 7 km southwest of Survey Area; Survey Area is on boundary of this taxon's known distribution.
<i>Cristonia biloba</i> subsp. <i>pubescens</i>	P2	June to July	Hillslopes and ridges with white sand or brown loam and gravel.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Dampiera tephrea</i>	P3	August to October	Flats, riverbanks and slopes with sand or loam, often with limestone.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is located within the Survey Area, however this record has erroneous coordinates; the locality description states Regans Ford, further south of the Survey Area.
<i>Darwinia acerosa</i>	T	August to September	Granite outcrops with brown soils.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Darwinia carnea</i>	T	October to November	Breakaways, brown loamy sand over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Daviesia dielsii</i>	T	July	Sandy, often gravelly soils.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat is present within Survey Area, however nearest record is approximately 30 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Desmocladius biformis</i>	P3	September to October	Hills, slopes and undulating plains with white or brown sand or sandy clay over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km southeast of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Desmocladius elongatus</i>	P4	August to December	Slopes, plains and uplands with white or grey sand over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat is present within Survey Area, however nearest record is approximately 15 km from Survey Area; Survey Area outside this taxon's known distribution.
<i>Desmocladius microcarpus</i>	P2	August to October	Slopes with grey or cream sand over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km southeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Desmocladius nodatus</i>	P3	October to November	Moist sites in open woodland with shrubs.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to Survey Area; Survey Area is on the boundary of this taxon's known distribution.
<i>Dillwynia dillwynioides</i>	P3	August to January	Saline flats, winter-wet depressions and wetlands. Grey, brown or black sandy loam, sometimes peaty.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat is present within Survey Area, however nearest record is approximately 13 km south of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Diplolaena andrewsii</i>	T	August to November	Brown sandy loam over granite. Granite outcrops and slopes.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Dodonaea hackettiana</i>	P4	April to October	Limestone ridges, dunes, plains and low rises. Grey sand over limestone.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Drakaea elastica</i>	T	October to November	Winter-wet depressions. Grey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to Survey Area; Survey Area is within this taxon's known distribution.
<i>Drosera leioblastus</i>	P1	September to October	White siliceous sand with laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 7 km northwest of the Survey Area; Survey Area is on boundary of this taxon's known distribution.
<i>Drosera prophylla</i>	P3	June to July	Hilltops, lateritic breakaways and ridges and slopes with gravelly sand over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eleocharis keigheryi</i>	T	August to November	Clay, sandy loam. Emergent in freshwater: creeks, claypans.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km northwest of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Eremaea</i> sp. Cairn Hill (B. Morgan 532)	P2	October to November	White to light brown sand, plains with laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 8 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Eremophila glabra</i> subsp. <i>chlorella</i>	T	July to November	Winter-wet depressions, lake edges and flats with grey-white sandy clay or sand.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 16 km east of the Survey Area; Survey Area is within this taxon's known distribution.
<i>Eremophila scaberula</i>	T	August to November	Plains with sandy clay, laterite.	Unlikely No suitable habitat present within D&T Survey Area, and is outside this taxon's known range.	Unlikely This taxon is restricted to Salmon gum woodland, which is not present within Survey Area. Nearest record is approximately 50 km from Survey Area; Survey Area is outside this taxon's known distribution.
<i>Eucalyptus abdita</i>	P2	February	Laterite, sandy clay with gravel over laterite. Slopes, breakaways.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Suitable habitat not present within the Survey Area. Survey Area is on the boundary of this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Eucalyptus absita</i>	T	May	Flats with sandy loam or grey sand.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Habitat is not present within Survey Area. Nearest record is approximately 5 km north of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Eucalyptus annuliformis</i>	P1	July	Laterite hills.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within the Survey Area. Nearest record is approximately 2 km east of Survey Area; this taxon's distribution is limited to this area.
<i>Eucalyptus argutifolia</i>	T	Year round	Limestone outcrops on hills and breakaways with brown-orange sand.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus crispata</i>	T	March to June	Lateritic breakaways and slopes with brown-grey sand or loam with lateritic gravel.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus dolorosa</i>	T	February	Lateritic slopes and breakaways with gravelly/rocky brown loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus leprophloia</i>	T	July to November	Breakaways and slopes with grey or white sand or sandy clay over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus macrocarpa</i> subsp. <i>elachantha</i>	P4	August to December	Hillslopes, ridges, sandplains with white or grey sand over laterite.	Known to Occur	Known to Occur

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Eucalyptus pruiniramis</i>	T	December to Feb	Skeletal soils over sandstone or laterite. Rocky hillslopes.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus recta</i>	T	January	Pale yellow or white sand, low rises with laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Eucalyptus x balanites</i>	T	February, June to July	Plains with brown sandy loam.	Unlikely Suitable habitat is present within D&T Survey Area, however parent taxa (<i>Eucalyptus decipiens</i> and <i>Eucalyptus lane-poolei</i>) do not occur in the Survey Area.	Unlikely Suitable habitat is present within Survey Area, however parent taxa (<i>Eucalyptus decipiens</i> and <i>Eucalyptus lane-poolei</i>) do not occur in the Survey Area. Nearest record is approximately 70 km north of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Eucalyptus x carnabyi</i>	P4	October to November	Grey sand, sandy loam. Lateritic ridges.	Unlikely Suitable habitat is present within D&T Survey Area, however the parent taxa do not occur in the Survey Area.	Unlikely Suitable habitat is present within Survey Area, however the parent taxa do not occur in the Survey Area. Nearest record is approximately 14 km east of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Gastrolobium hamulosum</i>	T	August to October	Flats, slopes, ridges with sandy, often gravelly soils or clay.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 50 km northeast of Survey Area; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Gastrolobium nudum</i>	P2	October to December	Hilltops and ridges with clay and laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Glyceria drummondii</i>	T	July to October	Seasonally flooded clay pans within clay plains, in hollows. Brown or red-brown clay.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat present within the Survey Area. Nearest record is approximately 50 km southeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Gompholobium gairdnerianum</i>	P3	September to November	Hills, slopes and ridges with white, brown or grey sandy clay or sand over laterite or occasionally sandstone.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Goodenia arthrotricha</i>	T	November to March	Granite slopes with brown loam clay.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Gratiola pedunculata</i>	P2	November to March	Grey black clay. Edges of swamps and winter wet areas.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Survey Area is on the boundary of this taxon's known distribution.
<i>Grevillea calliantha</i>	T	April, August to October	Plains and lower slopes with sandy loam over laterite or occasionally ironstone.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km north-northwest of Survey Area; Survey Area is on the boundary of this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Grevillea christineae</i>	T	July to September	Laterite hills and slopes.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Grevillea curviloba</i>	T	August to October	Grey, white or brown sand or sandy loam. Flats, drainage lines and lower slopes.	Known to Occur Record within the Survey Area is likely planted or a garden escape. Survey Area is outside this taxon's known distribution.	Known to Occur Record within the Survey Area is likely planted or a garden escape. Survey Area is outside this taxon's known distribution.
<i>Grevillea drummondii</i>	P4	June to September	Laterite hills with brown loam.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat within Survey Area. Nearest record is within the Survey Area, however these records have erroneous coordinates, and are not located within the Survey Area.
<i>Grevillea florida</i>	P3	July to September	Sandplains and slopes with brown sand, sandy clay and lateritic gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km east of Survey Area; Survey Area is within this taxon's known distribution.
<i>Grevillea olivacea</i>	P4	June to September	White or grey sand. Coastal dunes, limestone rocks.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Two historical records 30 and 60 years old. No suitable habitat. Survey Area is outside this taxon's primary distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Grevillea pythara</i>	T	August to October	Slopes. Brown or yellow sandy or gravelly loam.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Survey Area is greater than 100 km from this taxon's known distribution.
<i>Grevillea rudis</i>	P4	April to January	Hills and slopes with white, grey, yellow or red sand, often with gravel and laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area. Nearest record is approximately 2.5 km west of Survey Area; however this record is considered to have erroneous coordinates. Survey Area is on the boundary of this taxon's known distribution.
<i>Grevillea saccata</i>	P4	April, June to November	Hills and slopes with yellow or brown sand or loam, often with gravel and laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km north of Survey Area; Survey Area is on the boundary of this taxon's known distribution.
<i>Grevillea gillingarra</i>	T	September	Red lateritic loam, creek edges and steep slopes.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Grevillea synapheae</i> subsp. A Flora of Australia (S.D. Hopper 6333)	P1	September	Laterite breakaways.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Grevillea synapheae</i> subsp. <i>minyulo</i>	P1	September to October	Slopes with yellow brown or grey gravelly sand. Laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area. Nearest record is approximately 9 km northwest of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Grevillea thyrsoidea</i> subsp. <i>thyrsoidea</i>	P3	February, August to September	Hills and plains with grey, white or brown sand or clay loam, often with laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to Survey Area (1976); Survey Area is on the boundary of this taxon's known distribution.
<i>Guichenotia alba</i>	P3	July to August	Sandy and gravelly soils. Low lying flats, depressions.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 4 km north of Survey Area; Survey Area is on the boundary of this taxon's known distribution.
<i>Gyrostemon</i> sp. Mogumber (T.J. Hawkeswood 250)	P1	Unknown	Unknown.	Unlikely Known from only a single record (1980) approximately 14 km southwest of the D&T Survey Area.	Unlikely Known from only a single record (1980) approximately 14 km southwest of Survey Area.
<i>Haemodorum loratum</i>	P3	November	Uplands and sandplains with grey, white or yellow sand and gravel.	Known to Occur	Known to Occur

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Hakea longiflora</i>	P3	June to July	High in landscape; hills, breakaways and plains with white, grey or yellow gravelly sand or sandy loam over laterite or occasionally sandstone.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Hakea megalosperma</i>	T	April to June	High in landscape; hills, breakaways, slopes and flats with white, grey or brown sand or sandy loam over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Haloragis platycarpa</i>	T	October to December	Cracking clay, winter-wet, margins of wetlands or plains with brown loam.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 40 km east of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Hemiandra gardneri</i>	T	August to November	Plains with yellow or grey sand or clayey sand.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 40 km northeast of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Hemigenia curvifolia</i>	P2	September to October	Plains with white or yellow sand.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area. Nearest record is approximately 5 km north of Survey Area, however this record's coordinates are erroneous; Survey Area is outside this taxon's known distribution, further east.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Hensmania stoniella</i>	P3	September to November	Flats and slopes with white, grey or lateritic sand, sometimes winter wet.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 7 km southwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Hypocalymma lateriticola</i>	P1	August to September	Laterite plains with grey or yellow sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Hypocalymma quadrangulare</i>	P3	July to October	Slopes and plains with sand.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area. However, nearest record is approximately 15 km southwest of Survey Area; Survey Area is outside this taxon's known distribution, which is generally sub-coastal.
<i>Hypocalymma serrulatum</i>	P2	April to July, November, January	Drainage lines, edges of and slopes above winter-wet depressions with grey sand.	Unlikely Nearest record is immediately adjacent to Survey Area, however this record has erroneous coordinates and should be located in Badgingarra National Park; D&T Survey Area is outside this taxon's known, restricted distribution.	Unlikely Nearest record is immediately adjacent to Survey Area, however this record has erroneous coordinates and should be located in Badgingarra National Park; Survey Area is outside this taxon's known, restricted distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Hypocalymma tetrapterum</i>	P3	August	Grey sand, loam, lateritic gravel. Riverbanks, breakaways.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 5 km northwest of Survey Area; Survey Area is on the boundary of this taxon's known distribution.
<i>Hypocalymma x proliferum</i>	P1	August to September	Sandy plains over clay, riverbanks, slopes.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area. Nearest record is approximately 10 km west of the Survey Area.
<i>Hypolaena robusta</i>	P4	October to November	Flats, grey sand. Banksia to <i>Eucalyptus tottiana</i> woodland.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 4 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Isopogon autumnalis</i>	P3	February, April	Sandplains with white/grey sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km southeast of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Isotropis cuneifolia</i> subsp. <i>glabra</i>	P3	August to October	Low rises and winter-wet depressions and flats with grey or brown sand or clay.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km southeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Jacksonia anthoclada</i>	P3	November	Slopes with brown, yellow or white sand over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 30 km north of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Jacksonia carduacea</i>	P3	July, November to December	Plains and flats with white, grey or yellow sand, sometimes over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 5 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Lasiopetalum rupicola</i>	P1	August to September	Hilltops with laterite and brown loam.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Lechenaultia galactites</i>	P3	June, September to October	Yellow or brown sand over laterite, plains.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 6 km north of Survey Area; however this record cannot be verified, and the Survey Area is outside this taxon's current accepted distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Lepidobolus quadratus</i>	P3	August to September	Dry kwongan, hillslopes and rises with grey-white sand and lateritic gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Although there is a record within the Survey Area, this record is from 1972 and has erroneous coordinates.
<i>Lepidosperma rostratum</i>	T	June to December	Peaty sand or clay. Winter-wet swamps.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely No suitable habitat is present within Survey Area. Nearest record is approximately 60 km south of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Lepyrodia curvescens</i>	P2	September to November	Seasonally inundated swamplands, depressions and flats with white/grey sand or peaty sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 7 km west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Leucopogon foliosus</i>	P3	September to November	Uplands and slopes with yellow/white sand with gravel, over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 3 km northwest of Survey Area; Survey Area is on the boundary of this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Leucopogon squarrosus</i> subsp. <i>trigynus</i>	P2	June to September	Coastal habitats. Grey sand, low lying flats.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 13 km south of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Lyginia excelsa</i>	P2	March to November	Undulating plains, flats and depressions with white/grey sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 4 km southwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Macarthuria keigheryi</i>	T	September to October	Dunes, plains and low rises above winter-wet areas with white, brown or grey sand or clay loam. Banksia woodland, recently burnt areas.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Meionectes tenuifolia</i>	P3	October to December	Seasonally inundated areas, Edge of wetlands. Clay or clayey loam over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.
<i>Melaleuca sciotostyla</i>	T	August to October	Hills and Breakaways, bases of ridges. Clay loam with laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Paracaleana dixonii</i>	T	Late October to Late November	Flats, plains and slopes with grey sand, sometimes with laterite gravel.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely Suitable habitat not considered present within Survey Area. Nearest record approximately 13 km south of Survey Area. This record is from the DBCA TPFL Database, and does not have a vouchered specimen attached. Survey Area on edge of this taxon's known distribution.
<i>Persoonia filiformis</i>	P3	November to December	Plains and slopes with yellow or white sand over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 5 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Persoonia rudis</i>	P3	September to January	Flats and slopes with white, grey or yellow sand, often over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Petrophile bitermata</i>	P3	August to September	Lateritic hills, ridges.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Petrophile clavata</i>	P2	September	Hilltops, slopes and ridges with grey sand and laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Phlebocarya pilosissima</i> subsp. <i>pilosissima</i>	P3	August to October	Slopes with sand over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Platysace ramosissima</i>	P3	October to November	Undulating plains and flats with yellow, brown or grey sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 5 km southwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Podotheca pritzelii</i>	P3	September to October	Salt lakes and saline habitats.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 8 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Poranthera moorokatta</i>	P2	September to November	Very gently inclined areas, grey/white sand. Dampland.	Known to Occur	Known to Occur Not returned by database searches, nearest record is 24 km north west of the Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Ptychosema pusillum</i>	T	September to October	Low plains, slopes and dunes with white or grey sand. Banksia woodland on margins of seasonal wetlands.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent with west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Regelia megacephala</i>	P4	November to February	Quartz hills.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Rhetinocarpha suffruticosa</i>	P1	December to January	Low rises with gravelly clay loam over laterite.	Unlikely No suitable habitat present within D&T Survey Area, and is outside this taxon's known range.	Unlikely Suitable habitat is present within Survey Area. Nearest record is approximately 5 km north of Survey Area, but has erroneous coordinates; Survey Area is outside this taxon's known distribution.
<i>Roycea pycnophylloides</i>	T	September to October	Salt lakes and saline habitats.	Unlikely No suitable habitat present within D&T Survey Area, and is outside this taxon's known range.	Unlikely No suitable habitat is present within Survey Area. Nearest record is approximately 200 km southeast of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Rumex drummondii</i>	P4	August to November	Creek-lines with black peaty sandy clay over limestone; winter wet depressions.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Schoenus griffinianus</i>	P4	September to October	Undulating sandplains, lower slopes, flats and depressions with grey sand.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 15 km southeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Schoenus pennisetis</i>	P3	August to September	Low lying areas, edge of wetlands. Grey/brown sand or sandy loam.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 1.5 km west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Spirogardnera rubescens</i>	T	August to January	Slopes and plains, gravelly sandy loam.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Unlikely Nearest record is approximately 60 km southeast of Survey Area; Survey Area is outside this taxon's known distribution, and is only known from two disjunct areas.
<i>Stylidium aceratum</i>	P3	September to November	Claypans, winter-wet flats. Brown clay.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to west of Survey Area; Survey Area is within this taxon's known distribution.
<i>Stylidium aeonioides</i>	P4	September to November	Hillsides and breakaways, low heath and open woodland with sandy clay loam over laterite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Stylidium carnosum</i> subsp. Narrow leaves (J.A. Wege 490)	P1	September to October	Hillslopes and plains with white-grey sand and lateritic gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km northeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Stylidium hymenocraspedum</i>	P3	September to October	Sand over laterite. Hillslopes. Heath, Banksia and Eucalyptus low open woodland.	Unlikely Suitable habitat may be present within D&T Survey Area, however the Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area, however the Survey Area is outside this taxon's known distribution.
<i>Stylidium longitubum</i>	P4	July to November	Seasonal damplands, brown clay loam.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.
<i>Stylidium milleri</i>	P2	September to October	Grey sand over laterite, plains.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within the Survey Area. There is a historical record within the Survey Area, however it has vague location details and cannot be verified.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Stylidium nonscandens</i>	P3	September to November	Sand over laterite. Hillslopes and crests. Banksia woodland, heath, mallee shrubland.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 14 km south of Survey Area; Survey Area is within this taxon's known distribution.
<i>Stylidium periscelanthum</i>	P3	September to October	Wet flats, low granitic hills with loamy clay, moist soils pockets.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely No suitable habitat is present within Survey Area. Nearest record is approximately 8 km northwest of Survey Area but has erroneous coordinates; Survey Area outside this taxon's known distribution.
<i>Stylidium</i> sp. Moora (J.A. Wege 713)	P2	September to November	Sand or clay loam hills and slopes over laterite or granite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area, however, nearest record is approximately 8 km south of Survey Area and has erroneous records; Survey Area is outside this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Stylidium striatum</i>	P4	September to December	Brown or yellow sandy clay with laterite. Slopes and flats.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area, however, nearest record is approximately 2 km southwest of Survey Area and is considered to be a misidentification of an unrelated taxon from the <i>S. brunonianum</i> group; Survey Area is outside this taxon's known distribution, which is only known from near Perth.
<i>Stylidium torticarpum</i>	P3	September to November	Adjacent to drainage lines, depressions, and beneath breakaways, heath or mallee shrubland on sandy clay or clay loam over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Suitable habitat may be present within Survey Area. Nearest record is approximately 14 km north of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Stylidium vinosum</i>	P1	September to November	White or yellow sand over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 15 km southeast of Survey Area; Survey Area is on the boundary of this taxon's known distribution.

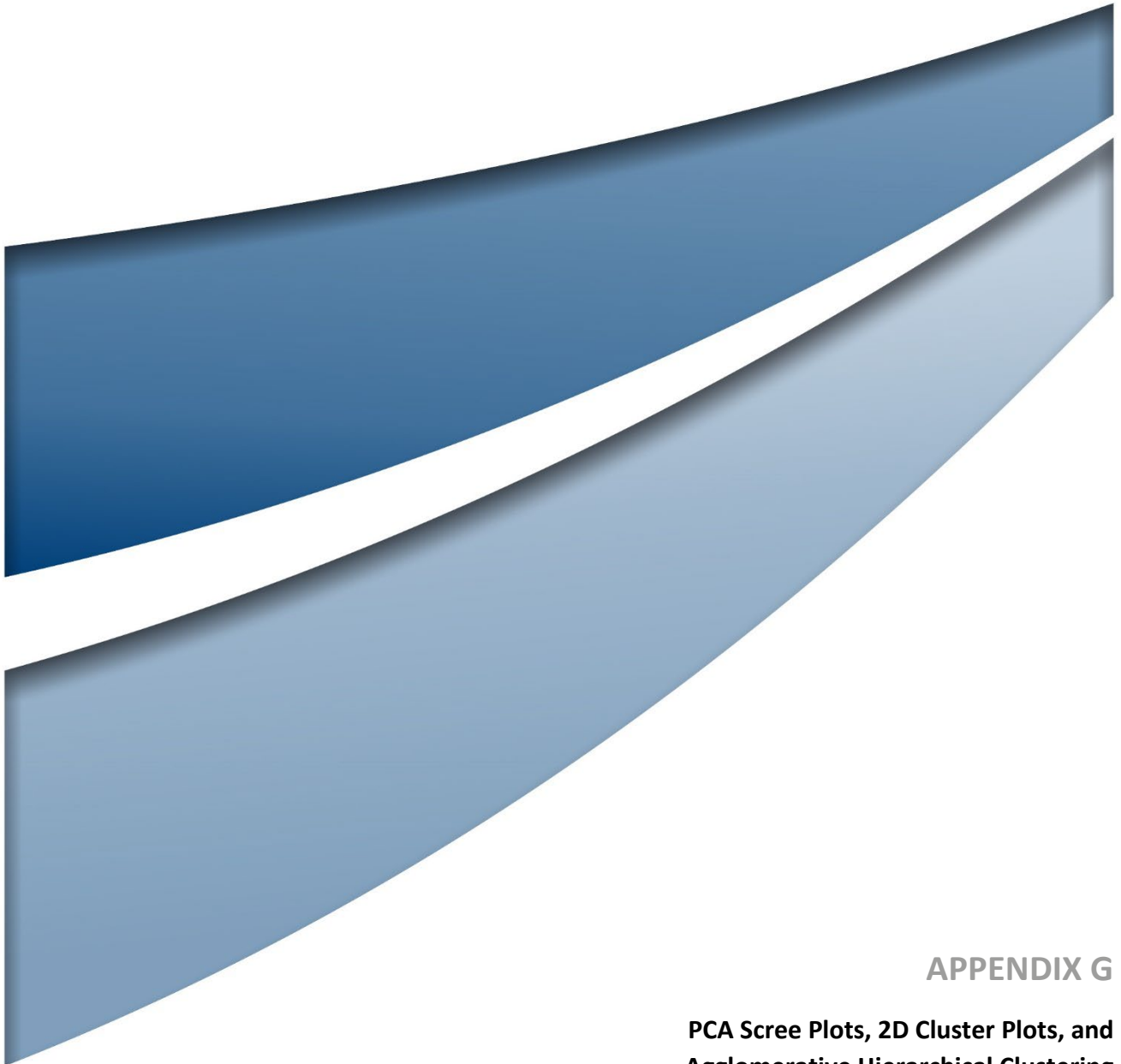
Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Styphelia allittii</i>	P3	April to June	Slopes with brown soils over laterite, gullies and creeks.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to Survey Area (1964); Survey Area is within this taxon's known distribution.
<i>Styphelia obtecta</i>	T	October to November	Plains with white, grey or yellow sand.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 100 km north of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Synaphea endothrix</i>	P3	July to October	Ridges and hills with brown, yellow or white gravelly sand over laterite.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely No suitable habitat is present within Survey Area. Survey Area is outside this taxon's known distribution.
<i>Synaphea panhesya</i>	P1	November	Laterite. Slopes.	Unlikely D&T Survey Area is outside this taxon's known distribution.	Unlikely Nearest record is approximately 20 km south of Survey Area; Survey Area is outside this taxon's known distribution.
<i>Synaphea quartzitica</i>	T	July to September	Chert slopes, rocky quartz gullies.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Synaphea sparsiflora</i>	P2	August to September	Slopes / crests of hills and lateritic ridges with grey / brown sand.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Tetratheca angulata</i>	P3	September to December	Low hill crests, breakaways with massive laterite boulders with sandy to gravelly laterite soils.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Trithuria australis</i>	P4	October to November	Clay. Pools in swamps and winter-wet flats.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.
<i>Thelymitra apiculata</i>	P4	June to July	Hillslopes with grey sand, lateritic gravel and laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is immediately adjacent to west of Survey Area (1981); Survey Area is within this taxon's known distribution.
<i>Thelymitra dedmaniarum</i>	T	November to January	Grey loam. Granite.	Unlikely No suitable habitat present within D&T Survey Area.	Unlikely No suitable habitat is present within Survey Area.
<i>Thelymitra stellata</i>	T	September to November	Ridges and tops of lateritic hills with grey or brown sand or loam and lateritic gravel.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area.
<i>Thysanotus glaucus</i>	P4	October to March	White, grey or yellow sand, sandy gravel.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. There are two historical records within the Survey Area, however these cannot be verified, and are from 1973.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Verticordia huegelii</i> var. <i>tridens</i>	P3	October to November	Flats, clay loam, over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km north of Survey Area; Survey Area is within this taxon's known distribution.
<i>Verticordia insignis</i> subsp. <i>eomagis</i>	P3	August to November	Sandplains and rocky rises with sandy soils over laterite.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 6 km northeast of Survey Area; Survey Area is within this taxon's known distribution.
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	May to January	Sand, sandy clay, winter wet depressions.	Unlikely Although suitable habitat may be present, the D&T Survey Area was systematically searched by the 2024 survey with no individuals of this taxon recorded.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 3 km northwest of Survey Area; Survey Area is within this taxon's known distribution.
<i>Verticordia paludosa</i>	P4	January, April, August	Grey sand, open depressions, winter-wet flats, drainage lines.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Nearest record is approximately 10 km south of Survey Area; Survey Area is within this taxon's known distribution.

Taxon	Status (WA)	Flowering Period [^]	Habitat [^]	Likelihood of Occurrence	
				D&T Survey Area	Survey Area
<i>Verticordia rutilastra</i>	P3	September to November	Lateritic breakaways and slopes with white or brown gravelly sand or sandy loam.	Unlikely No suitable habitat present within D&T Survey Area.	Possible Suitable habitat is present within Survey Area. Survey Area is within this taxon's known distribution.

[^]Flowering and Habitat information retrieved from Florabase (WA Herbarium, 1998-).



APPENDIX G

**PCA Scree Plots, 2D Cluster Plots, and
Agglomerative Hierarchical Clustering
Analysis Dendrograms of Survey Area Quadrats**

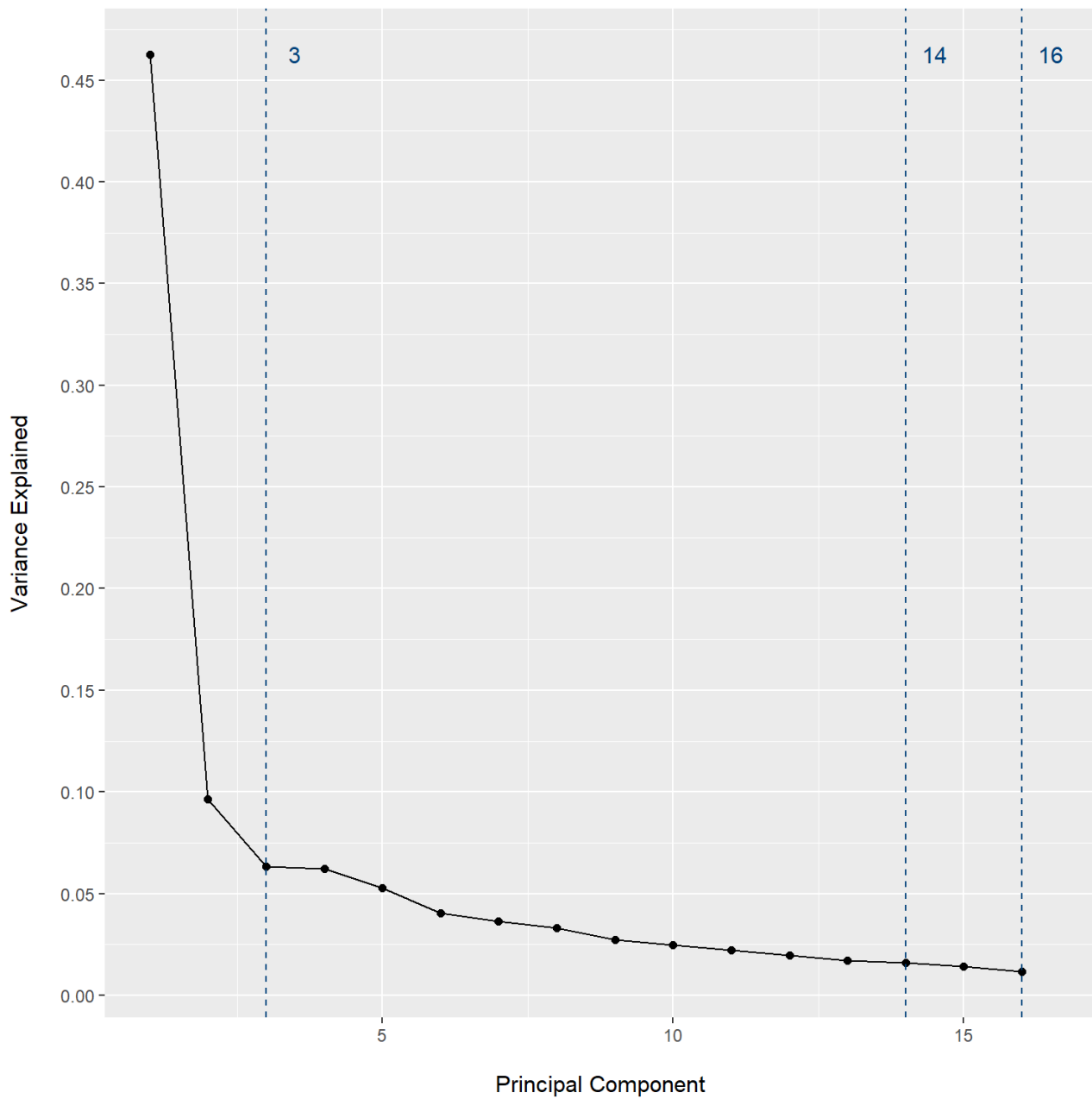


Figure G.1 PCA Scree Plot

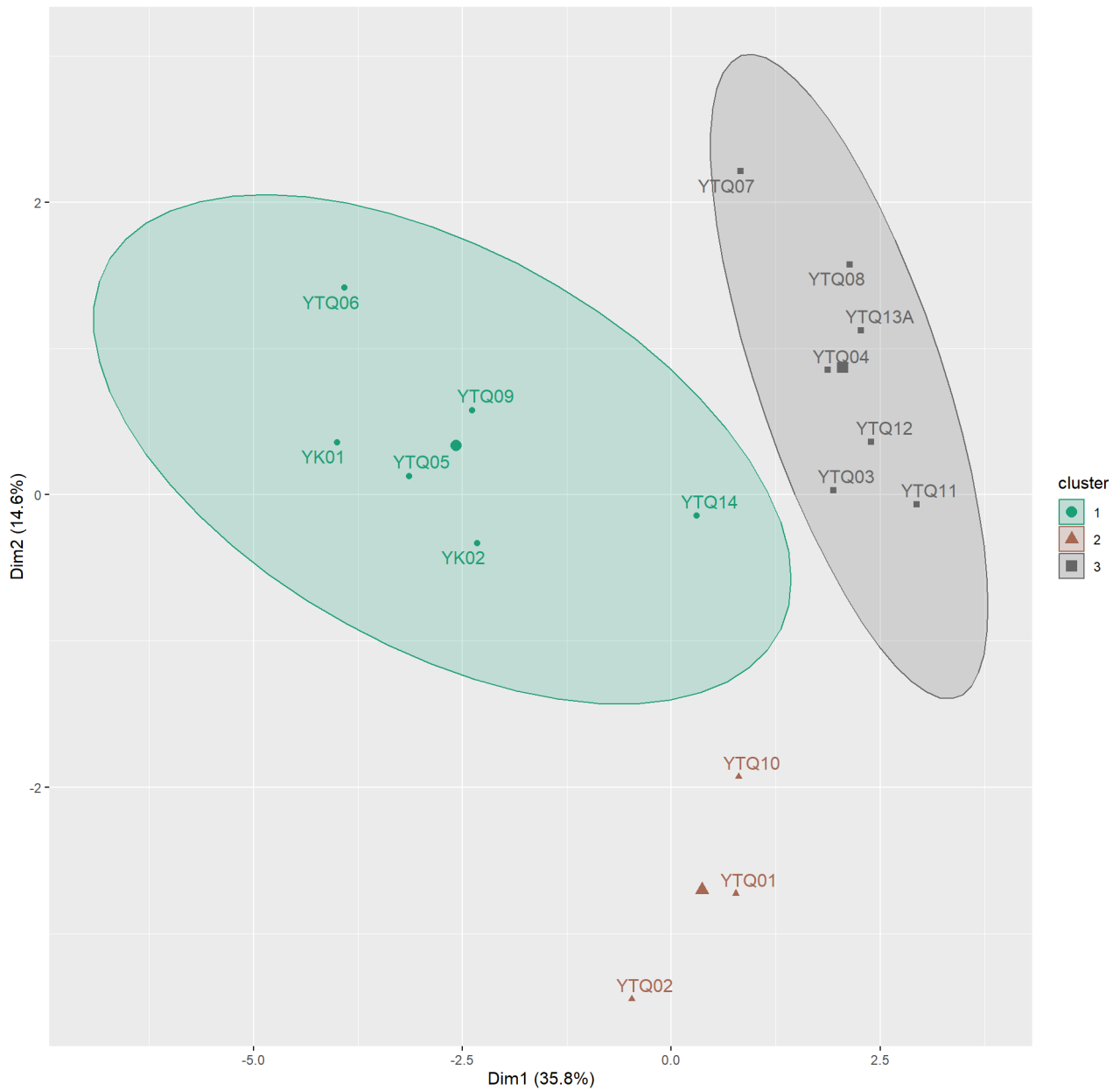


Figure G.2 2D Cluster Plot

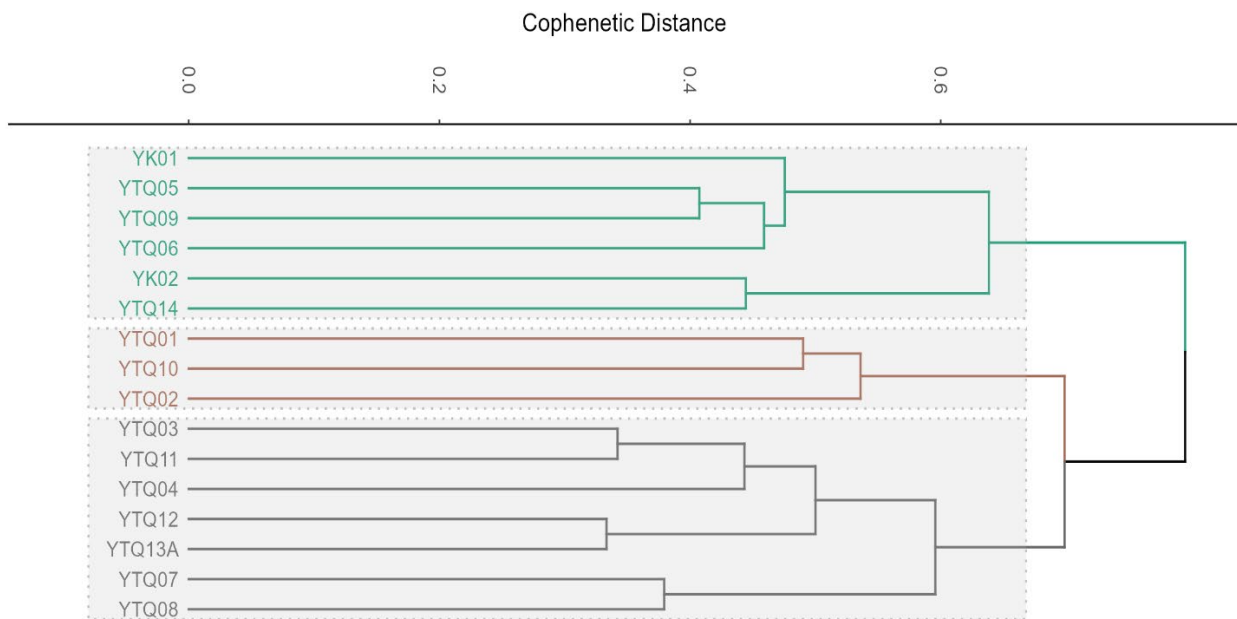


Figure G.3 Hierarchical Clustering Analysis Dendrogram

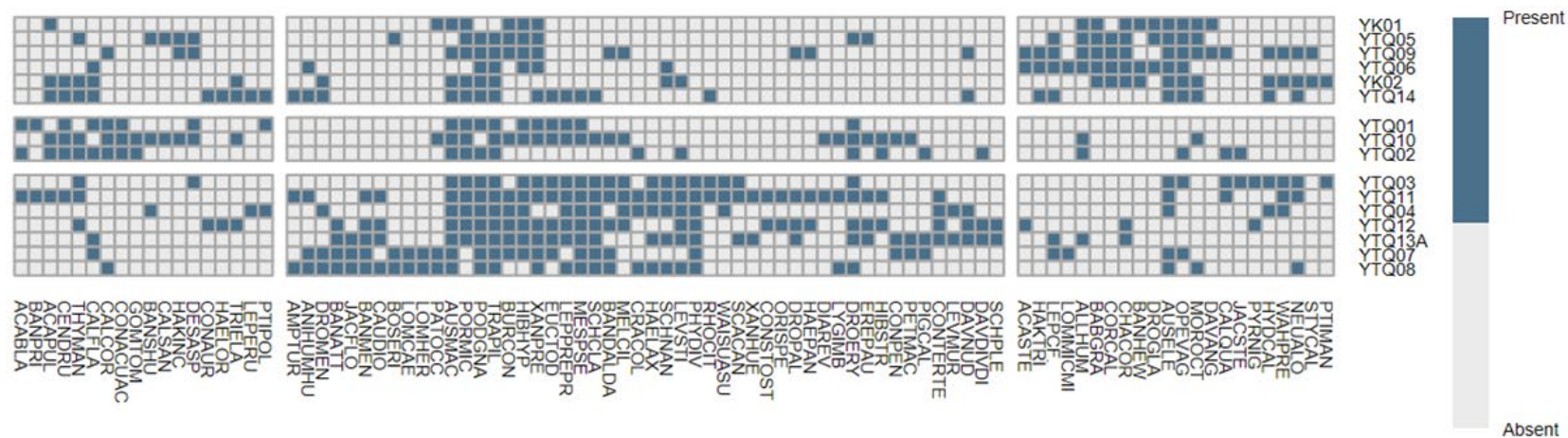
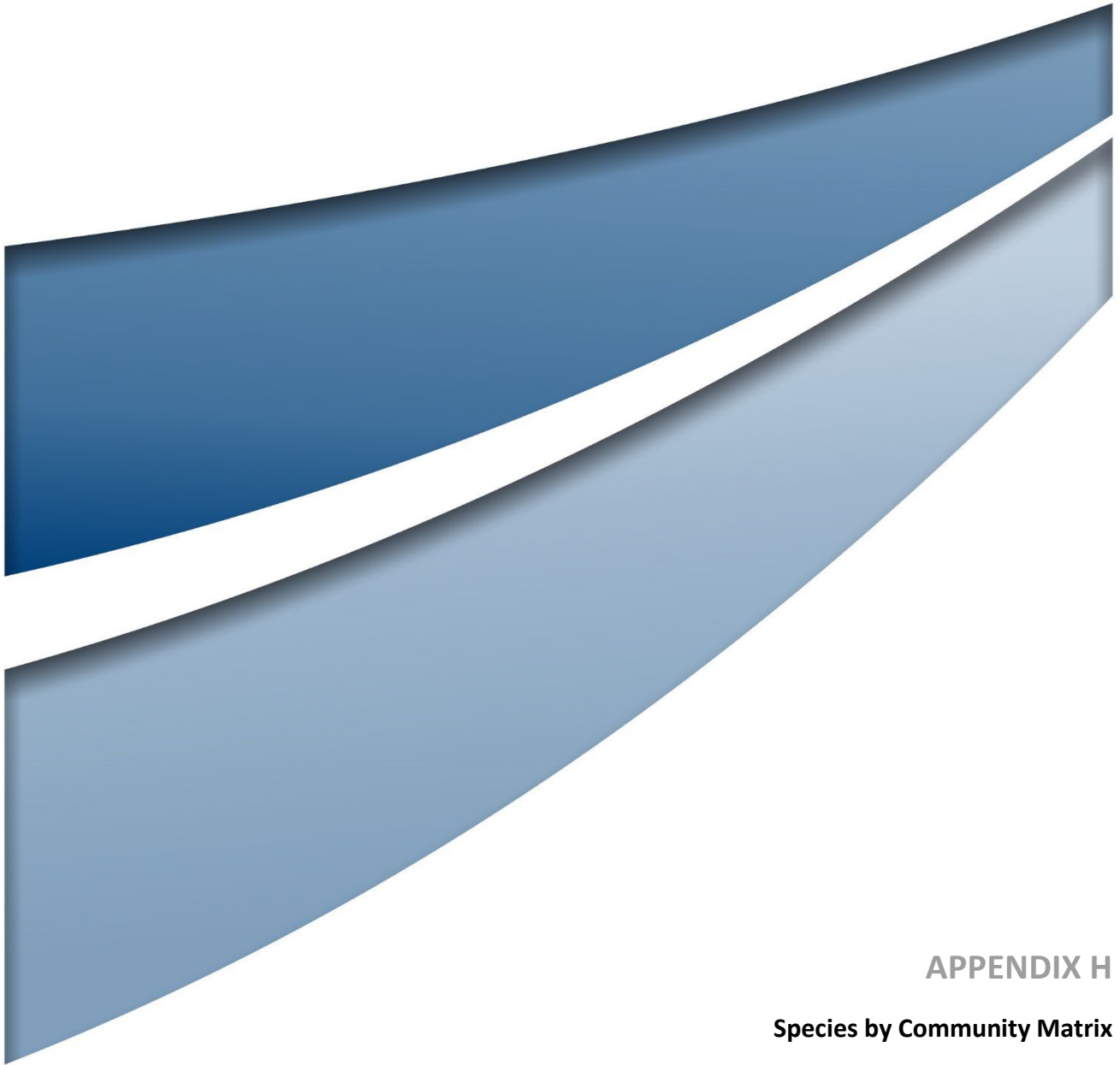


Figure G.4 Matrix of Vascular Plant Taxa Recorded within Quadrats in Each VT in the Survey Area

Note that this taxon group matrix is produced using the floristic classification analyses dataset, and therefore reflects the taxa exclusions (i.e. annual/ephemeral taxa, introduced taxa, hybrids and singletons) and amalgamations (as per Appendix A). For a comprehensive list of all taxa present within each quadrat and VT, refer to **Appendix D** and **Appendix H**, respectively



APPENDIX H

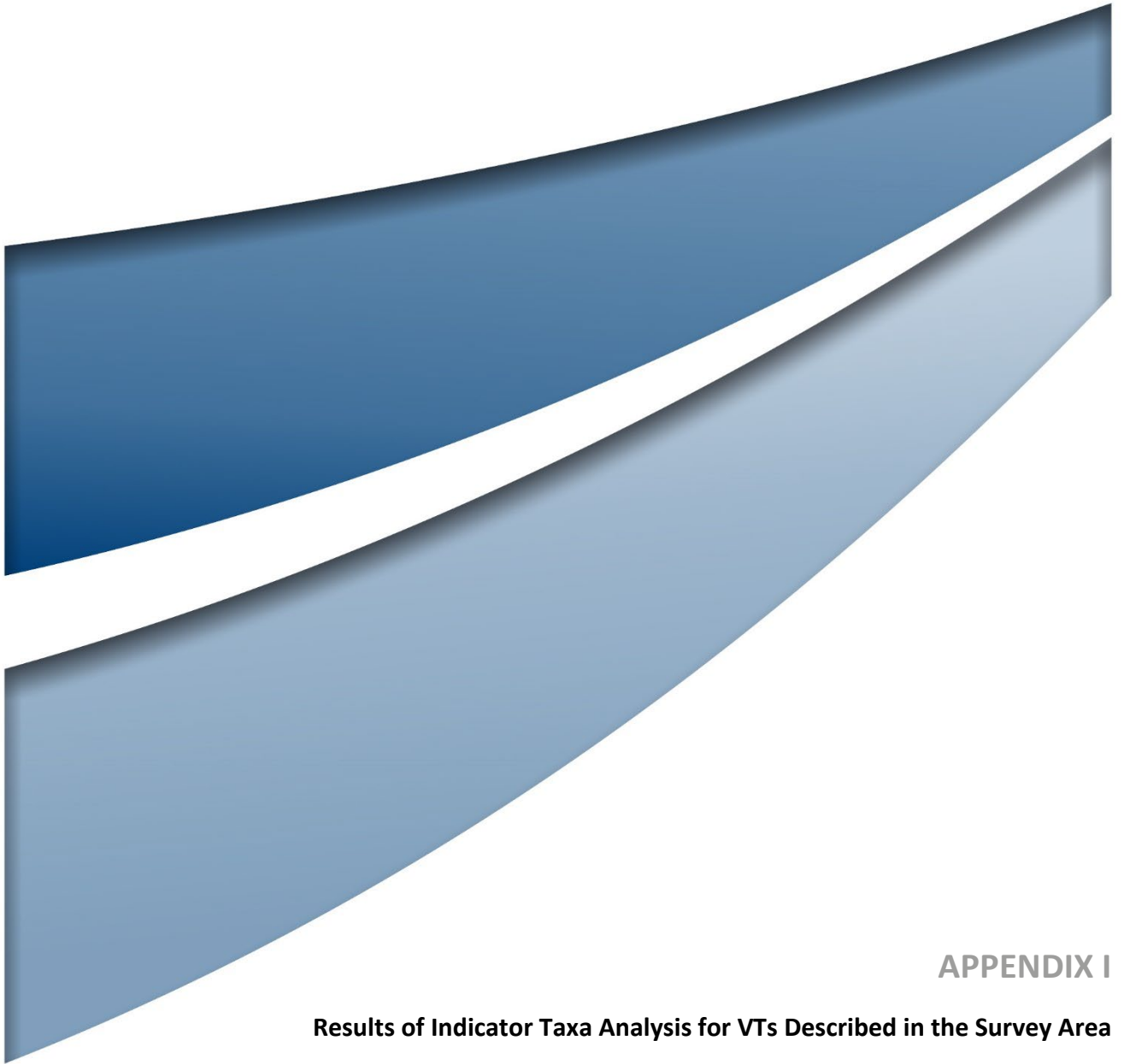
Species by Community Matrix

Taxon	Vegetation Type			
	1	2	3	4
<i>Acacia blakelyi</i>		X	X	
<i>Acacia costata</i>	X			
<i>Acacia pulchella</i>	X	X	X	
<i>Acacia pulchella</i> var. <i>glaberrima</i>	X	X		
<i>Acacia stenoptera</i>	X		X	
<i>Acanthocarpus preissii</i>			X	
<i>Alexgeorgea nitens</i>			X	
<i>Allocasuarina humilis</i>	X	X	X	
<i>Amphipogon turbinatus</i>	X		X	
<i>Amyema miquelii</i>			X	
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>	X		X	
<i>Apectospermum spinescens</i>			X	
<i>Austrostipa elegantissima</i>	X		X	
<i>Babingtonia grandiflora</i>	X			
<i>Banksia attenuata</i>			X	
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	X	X	X	
<i>Banksia hewardiana</i>	X			
<i>Banksia menziesii</i>			X	
<i>Banksia prionotes</i>		X	X	
<i>Banksia shuttleworthiana</i>	X	X	X	
<i>Billardiera fraseri</i>			X	
<i>Bossiaea eriocarpa</i>	X		X	
<i>Burchardia congesta</i>	X	X	X	
<i>Caladenia flava</i>	X	X	X	
<i>Caladenia flava</i> subsp. <i>flava</i>	X		X	
<i>Calothamnus hirsutus</i>			X	
<i>Calothamnus quadrifidus</i>			X	
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>	X	X	X	
<i>Calothamnus sanguineus</i>	X	X		
<i>Caustis dioica</i>			X	
<i>Chamaescilla corymbosa</i>	X		X	
<i>Chordifex sinuosus</i>			X	
<i>Conospermum stoechadis</i> subsp. <i>stoechadis</i>			X	
<i>Conostephium pendulum</i>		X	X	
<i>Conostylis aculeata</i> subsp. <i>aculeata</i>		X		
<i>Conostylis aurea</i>	X		X	
<i>Conostylis teretifolia</i> subsp. <i>teretifolia</i>			X	
<i>Corymbia calophylla</i>	X			
<i>Daviesia angulata</i>	X			

Taxon	Vegetation Type			
	1	2	3	4
<i>Daviesia divaricata</i> subsp. <i>divaricata</i>		X	X	
<i>Daviesia nudiflora</i>	X		X	
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	X		X	
<i>Desmocladus asper</i>	X	X	X	
<i>Desmocladus lateriticus</i>	X			
<i>Dianella revoluta</i>		X	X	
<i>Drosera eneabba</i>			X	
<i>Drosera erythrorhiza</i>	X	X	X	
<i>Drosera menziesii</i>	X		X	
<i>Drosera pallida</i>	X		X	
<i>Eremaea pauciflora</i> var. <i>?lonchophylla</i>			X	
<i>Eremaea pauciflora</i>	X	X	X	
<i>Eremaea pauciflora</i> var. <i>lonchophylla</i>			X	
<i>Eucalyptus rudis</i> subsp. <i>rudis</i>				X
<i>Eucalyptus tottiana</i>	X	X	X	
<i>Gompholobium tomentosum</i>		X		
<i>Grevillea eriostachya</i>			X	
<i>Haemodorum laxum</i>			X	
<i>Haemodorum ?loratum</i>	X		X	
<i>Haemodorum paniculatum</i>	X		X	
<i>Haemodorum spicatum</i>			X	
<i>Haemodorum venosum</i>	X			
<i>Hakea costata</i>	X			
<i>Hakea incrassata</i>	X	X		
<i>Hakea lissocarpha</i>	X			
<i>Hakea stenocarpa</i>	X			
<i>Hakea trifurcata</i>	X			
<i>Hibbertia hypericoides</i>	X	X	X	
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	X			
<i>Hibbertia striata</i>		X	X	
<i>Hypocalymma angustifolium</i>			X	
<i>Hypocalymma</i> sp.			X	
<i>Isotropis cuneifolia</i>			X	
<i>Jacksonia floribunda</i>			X	
<i>Jacksonia sternbergiana</i>		X	X	
<i>Lechenaultia biloba</i>	X			
<i>Lechenaultia linarioides</i>		X		
<i>Lepidobolus preissianus</i> subsp. <i>preissianus</i>	X	X	X	
<i>Lepidosperma apricola</i>	X			

Taxon	Vegetation Type			
	1	2	3	4
<i>Lepidosperma cf. pubisquameum</i>	X		X	
<i>Lepidosperma longitudinale</i>				X
<i>Leptospermopsis erubescens</i>	X		X	
<i>Lomandra caespitosa</i>			X	
<i>Lomandra hermaphrodita</i>			X	
<i>Lomandra micrantha</i> subsp. <i>micrantha</i>	X		X	
<i>Lyginia imberbis</i>		X	X	
<i>Machaerina preissii</i>				X
<i>Macrozamia fraseri</i>		X		
<i>Melaleuca ciliosa</i>	X	X	X	
<i>Melaleuca clavifolia</i>		X		
<i>Melaleuca raphiophylla</i>				X
<i>Mesomelaena pseudostygia</i>	X	X	X	
<i>Microtis media</i> subsp. <i>media</i>	X			
<i>Mirbelia trichocalyx</i>		X		
<i>Morelotia octandra</i>	X	X	X	
<i>Neurachne alopecuroidea</i>	X		X	
<i>Nuytsia floribunda</i>		X		
<i>Olearia paucidentata</i>	X			
<i>Opercularia vaginata</i>	X	X	X	
<i>Orianthera spermacoea</i>			X	
<i>Orthrosanthus laxis</i> var. <i>laxis</i>	X			
<i>Patersonia occidentalis</i>	X	X	X	
<i>Petrophile brevifolia</i>		X		
<i>Petrophile macrostachya</i>		X	X	
<i>Pigea calycina</i>		X	X	
<i>Polianthion wichurae</i>	X			
<i>Pterostylis vittata</i>	X			
<i>Ptilotus manglesii</i>	X		X	
<i>Ptilotus polystachyus</i>	X	X	X	
<i>Pyrorchis nigricans</i>			X	
<i>Scaevola canescens</i>			X	
<i>Schoenus clandestinus</i>	X	X	X	
<i>Schoenus pleiostemoneus</i>			X	
<i>Scholtzia laxiflora</i>		X		
<i>Sowerbaea laxiflora</i>			X	
<i>Stackhousia pubescens</i>	X			
<i>Stirlingia latifolia</i>			X	
<i>Stylidium adpressum</i>			X	

Taxon	Vegetation Type			
	1	2	3	4
<i>Styphelia retrorsa</i>	X			
<i>Styphelia serratifolia</i>		X		
<i>Thysanotus ?dichotomus</i>		X	X	
<i>Thysanotus manglesianus</i>	X	X	X	
<i>Thysanotus patersonii</i>	X	X	X	
<i>Thysanotus sparteus</i>			X	
<i>Tricoryne ?elator</i>	X			
<i>Tricoryne elator</i>	X	X	X	
<i>Tripterococcus brunonis</i>	X			
<i>Xanthorrhoea drummondii</i>	X			
<i>Xanthorrhoea preissii</i>	X	X	X	
<i>Xanthosia huegelii</i>			X	



APPENDIX I

Results of Indicator Taxa Analysis for VTs Described in the Survey Area

Note: INDVAL values are only shown for taxa that are significant at $p < 0.05$, and for VTs that are sampled by more than one quadrat.

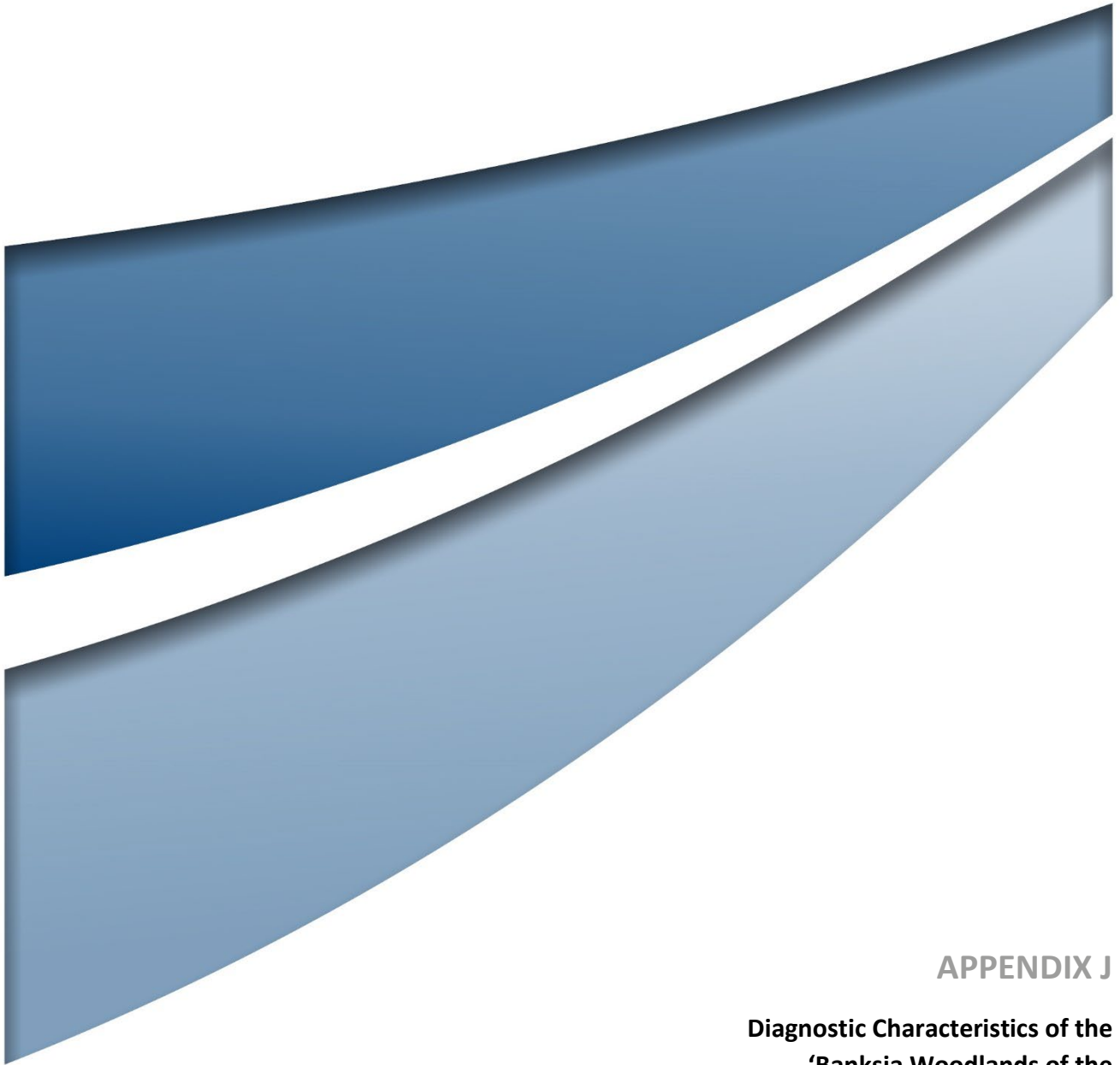
p values are indicated by:

* = $p < 0.05$

** = $p < 0.01$

*** = $p < 0.001$.

VT	Code	Species Name	INDVAL	p Value	Significance
1	AUSELE	<i>Austrostipa elegantissima</i>	0.5833	0.0068	**
	BABGRA	<i>Babingtonia grandiflora</i>	0.8333	0.0014	***
	CHACOR	<i>Chamaescilla corymbosa</i>	0.6206	0.0426	*
	CORCAL	<i>Corymbia calophylla</i>	0.6667	0.0166	*
	OPEVAG	<i>Opercularia vaginata</i>	0.6176	0.0128	*
2	ACABLA	<i>Acacia blakelyi</i>	0.549	0.0408	*
	CALCOR	<i>Calandrinia corrigioloides</i>	0.7636	0.0178	*
	CENDRU	<i>Centrolepis drummondiana</i>	0.6774	0.0378	*
	CONACUAC	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>	1	0.0032	***
	DROERY	<i>Drosera erythrorhiza</i>	0.5316	0.0398	*
	GOMTOM	<i>Gompholobium tomentosum</i>	0.6667	0.0278	*
3	BANATT	<i>Banksia attenuata</i>	0.5714	0.0374	*
	BANMEN	<i>Banksia menziesii</i>	0.7143	0.0218	*
	CAUDIO	<i>Caustis dioica</i>	0.5714	0.0294	*
	CONTERTE	<i>Conostylis teretifolia</i> subsp. <i>teretifolia</i>	0.5714	0.0386	*
	HAELAX	<i>Haemodorum laxum</i>	0.7143	0.0224	*
	MESPSE	<i>Mesomelaena pseudostygia</i>	0.5455	0.0264	*
	PHYDIV	<i>Phyllangium divergens</i>	1	0.0002	***
	SCHCLA	<i>Schoenus clandestinus</i>	0.6667	0.0078	**



APPENDIX J

**Diagnostic Characteristics of the
'Banksia Woodlands of the
Swan Coastal Plain' EPBC-listed TEC**

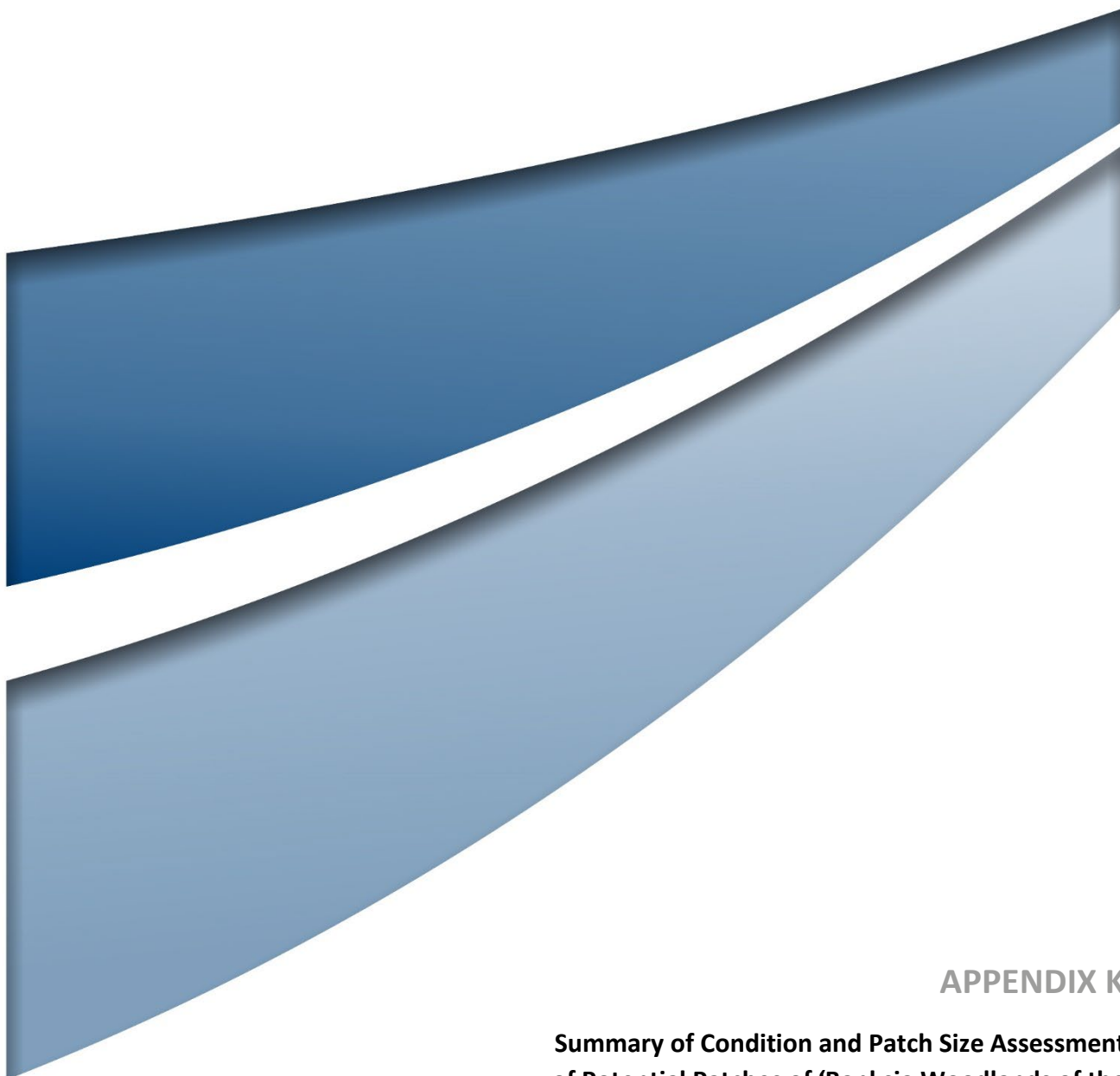
Criterion		Description
Location and Physical Environment (must satisfy criterion 1)		
1		Patch is located within the Swan Coastal Plain IBRA Bioregion
Soils and Landform (must satisfy criterion 2(a) OR 2(b))		
2	(a)	Patch occurs on well-drained, low nutrient soils on sandplain landforms OR
	(b)	Patch occurs on sandy colluvium and aeolian sands of the Dandaragan Plateau
Structure and Vegetation (must satisfy criteria 3(a) AND 3(b), sometimes also satisfying criteria 3(c) and 3(d))		
3	(a)	Is a low woodland to forest AND
	(b)	Patch includes at least one of the following <i>Banksia</i> species as dominant or co-dominant in the upper layer: • <i>Banksia attenuata</i> • <i>Banksia menziesii</i> • <i>Banksia prionotes</i> • <i>Banksia ilicifolia</i>
	(c)	Patch includes emergent trees of medium or tall (> 10 m) height above the <i>Banksia</i> canopy, often including: • <i>Corymbia calophylla</i> • <i>Eucalyptus marginata</i> • <i>Eucalyptus gomphocephala</i> • <i>Nuytsia floribunda</i> • <i>Allocasuarina fraseriana</i> • <i>Callitris arenaria</i> • <i>Callitris pyramidalis</i> • <i>Xylomelum occidentale</i>
	(d)	Patch has an often highly species-rich understorey that consists of: • a layer of sclerophyllous shrubs of various heights • a herbaceous ground layer of cord rushes, sedges and perennial and ephemeral forbs, that sometimes includes grasses
Vegetation Condition (must satisfy criterion 4(a) OR 4(b))		
4	(a)	Vegetation condition of patch is Pristine to Good using the following indicative measures: • Low native species diversity to native species diversity fully retained • 0 % to 50 % weed cover OR
	(b)	Vegetation condition of patch is Degraded to Very Degraded but retains important natural values
Patch Size (must satisfy criterion 5(a) OR 5(b))		
5	(a)	Patch size meets the minimum size according to its condition, as below: • Pristine – no minimum patch size applies • Excellent – 0.5 ha or 5,000 m² (e.g. 50 m x 100 m) • Very Good – 1 ha or 10,000 m² (e.g. 100 m x 100 m) • Good – 2 ha or 20,000 m² (e.g. 200 m x 100 m) OR
	(b)	Patch is smaller than the above requirements but contributes to the overall function of the ecological community (e.g. contributes β -diversity and connectivity)

Contra-indicators	Description
1	Patch is clearly dominated by <i>Banksia littoralis</i> (indicates a different, dampland community)
2	Patch is clearly dominated by <i>Bankia burdettii</i> (indicates a tall shrubland and not the Banksia Woodlands ecological community)
3	Patch represents FCT 20c (corresponds with a separate EPBC ecological community listing, 'Shrublands and Woodlands of the eastern Swan Coastal Plain', which occurs mainly on the transitional soils of the Ridge Hill Shelf, on the Swan Coastal Plain adjacent to the Darling Scarp, but also extends marginally onto the alluvial clays deposited on the eastern fringe of the Swan Coastal Plain)

Key

Colour	Definition
	Must be satisfied
	May or may not be satisfied
	Must not be satisfied

Source: Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community (DoEE, 2016).



APPENDIX K

**Summary of Condition and Patch Size Assessment
of Potential Patches of 'Banksia Woodlands of the
Swan Coastal Plain' TEC Within the Survey Area**

Potential Patch Number	Area Mapped (ha)				Criteria Outcome		Other Considerations	Overall Outcome
	Very Good	Good	Degraded	Total	Vegetation Condition*	Patch Size^		
1	-	-	0.16	0.16	Not Met	Not Met	Does not contribute significantly to the overall function of the ecological community – small island of vegetation that does not contribute to connectivity.	Not part of the TEC
2	-	-	0.16	0.16	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet the vegetation condition requirements.	Not part of the TEC
3	-	-	1.0	1.0	Not Met	Not Met	Does not contribute significantly to the overall function of the ecological community – small island of vegetation that does not contribute to connectivity.	Not part of the TEC
4	-	-	10.70	10.70	Not Met	Met	Contributes to the overall function of the ecological community – contiguous vegetation in 'Good' or better condition occurs outside the Survey Area to the west.	Part of the TEC
5	-	-	0.003	0.003	Not Met	Not Met	Contributes to the overall function of the ecological community – contiguous vegetation in 'Good' or better condition occurs outside the Survey Area to the west.	Part of the TEC
6	-	-	0.21	0.21	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC
7	-	-	10.8	10.8	Not Met	Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC
8	-	-	0.73	0.73	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC

Potential Patch Number	Area Mapped (ha)				Criteria Outcome		Other Considerations	Overall Outcome
	Very Good	Good	Degraded	Total	Vegetation Condition*	Patch Size^		
9	-	-	0.04	0.04	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC
10	-	-	0.01	0.01	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC
11	-	-	3.30	3.30	Not Met	Met	Although the patch size criterion has been met, the vegetation condition criterion has not been met.	Not part of the TEC
12	-	-	2.25	2.25	Not Met	Met	Although the patch size criterion has been met, the vegetation condition criterion has not been met.	Not part of the TEC
13	-	-	0.30	0.30	Not Met	Not Met	Does not contribute significantly to the overall function of the ecological community – small island of vegetation that does not contribute to connectivity.	Not part of the TEC
14	4.8	17.6	0.41	22.8	Met	Met	Not required to be assessed; patch meets vegetation condition and patch size requirements.	Part of the TEC
15	-	-	0.34	0.34	Not Met	Not Met	Although connected to a larger patch of vegetation outside the Survey Area, the condition of the overall vegetation is considered to be 'Degraded', and thus does not meet vegetation condition requirements.	Not part of the TEC
16	5.18	-	-	5.18	Met	Met	Not required to be assessed; patch meets vegetation condition and patch size requirements.	Part of the TEC
17	-	-	0.01	0.01	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the south, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC

Potential Patch Number	Area Mapped (ha)				Criteria Outcome		Other Considerations	Overall Outcome
	Very Good	Good	Degraded	Total	Vegetation Condition*	Patch Size^		
18	-	-	0.02	0.02	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the south, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
19	-	-	0.0009	0.0009	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the south, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
20	-	-	0.002	0.002	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the south, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
21	-	-	0.04	0.04	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the east, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
22	-	-	0.003	0.003	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the east, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
23	-	-	0.05	0.05	Not Met	Not Met	Does not contribute significantly to the overall function of the ecological community – neighbouring patch of vegetation outside the Survey Area is considered to not meet vegetation and/or patch size requirements.	Not part of the TEC
24	-	-	0.04	0.04	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the east, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC

Potential Patch Number	Area Mapped (ha)				Criteria Outcome		Other Considerations	Overall Outcome
	Very Good	Good	Degraded	Total	Vegetation Condition*	Patch Size^		
25	-	-	0.47	0.47	Not Met	Not Met	Does not contribute significantly to the overall function of the ecological community – small island of vegetation that does not provide connectivity.	Not part of the TEC
26	-	-	0.02	0.02	Not Met	Not Met	Patch contributes significantly to the overall function of the ecological community – part of the neighbouring vegetation to the east, outside the Survey Area, that meets vegetation condition and patch size requirements.	Part of the TEC
27	-	3.04	-	3.04	Met	Met	Not required to be assessed; patch meets vegetation condition and patch size requirements.	Part of the TEC
Total	9.98	20.64	31.06	61.67				

* Criteria 4(a) and (b) of the key diagnostic characteristics (**Appendix J**).

^ Criteria 5(a) and (b) of the key diagnostic characteristics (**Appendix J**).

