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**Declared Rare and Priority Flora
Survey for Sussex Location 296:
Cape Naturaliste Road,
Dunsborough**

Prepared for: Busselton Survey Office

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BSD Consultants Pty Ltd

EXECUTIVE SUMMARY

BSD Consultants was commissioned in September 2003 by the Busselton Survey Office to undertake a Declared Rare Flora (DRF) and Priority Flora (PF) survey for a proposed residential subdivision on Part Sussex Location 296, Cape Naturaliste Road in Dunsborough.

The principle aim of the survey was to check for the presence of any flora species of conservation significance (DRF and PF) within the boundaries of the proposed subdivision area. A request for a database search of records of flora species of conservation significance in the Dunsborough-Cape Naturaliste area was sent to the Department of Conservation and Land Management (CALM) prior to the field survey, to establish a target species list for the survey.

The broad level vegetation community types present on the lot were assessed for specific DRF and PF habitat potential, based on the CALM species listing for the area.

The scope of work included:

- Liaison with the Department of CALM to establish the target DRF and PF species for the survey,
- A compilation of the base data and aerial photography into base mapping,
- A field survey to search for species of conservation significance (DRF and PF) known from the area,
- Carrying out herbarium identifications and preparation of voucher specimen information for any species of DRF or PF found during the survey,
- Preparation and submission of a DRF survey report to the client via the Busselton Survey Office, and
- Production of a site map for inclusion in the report showing broad level vegetation community types and populations of DRF and/or PF if any are located.

Vegetation community types, which are known to be the preferred habitats for any of the listed DRF and PF species, were closely searched for the presence of these species. All of the listed DRF species for the area are known to occur on sandier soils in Jarrah/Marri/*Banksia*/Peppermint woodland, therefore the search efforts were particularly concentrated in this vegetation type. A large proportion of the listed PF species are known (from previous collections) to occur in seasonally or permanently damp areas, therefore the vegetation associated with the drainage lines on the property was closely searched for these species.

One species of Declared Rare Flora and two species of Priority Flora, were located on Pt. Sussex Location 296. These species are;

- *Caladenia excelsa* – a DRF orchid species,
- *Johnsonia inconspicua* – a P3 herbaceous species, and
- *Acacia semitrullata* – a P3 small shrub species.

All three of these species were located on the sandier areas of the property in the Jarrah/*Banksia* woodland over mixed shrub species community type.

The vegetation community types present on the property are not listed as Threatened Ecological Communities (TEC's) by the Department of CALM, and occur frequently in the southwest of WA.

The DRF orchid species, *Caladenia excelsa*, is located close to the north-western boundary of the property, in an area of shrubland heath on sandy soil, a sub-community of the Jarrah/*Banksia* woodland community type. The two P3 species, *Acacia semitrullata* and *Johnsonia inconspicua*, were present only as very occasional individuals in the Jarrah/*Banksia* woodland over shrub heath vegetation community type. These species are relatively restricted in their distributions in the southwest of WA, but as they are listed as P3 species, there are sufficient numbers of individuals and populations, some of these in protected/conservation areas, to ensure that the species are not at threat of extinction.

Under the current proposed subdivision plan for Part Sussex Location 296, the lots are of a relatively large size (approximately 0.5 to 1.0 hectare), particularly in the north-western corner of the property where the population of *Caladenia excelsa* was found. These large lots have specified building envelopes, outside of which no native vegetation can be cleared, therefore this population will not be disturbed during subdivision civil works.

An application to the Minister for the Environment to "take" the DRF species, under the WA Wildlife Conservation Act (1950) will not be necessary, as the population will not be impacted as a result of the proposed subdivision. No EPBC Act referrals or approvals will therefore need to be lodged.

Therefore, do we need a mechanism to
protect pop in the lots?
Probably not.

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1. INTRODUCTION

1.1 BACKGROUND

BSD Consultants was commissioned in September 2003 by the Busselton Survey Office to undertake a Declared Rare Flora (DRF) and Priority Flora (PF) survey for a proposed residential subdivision on Part Sussex Location 296, Cape Naturaliste Road in Dunsborough.

The area of the flora survey is shown in **Figure 1** (locality plan).

The principle aim of the survey was to check for the presence of any flora species of conservation significance within the boundaries of the proposed subdivision area. A request for a database search of records of flora species of conservation significance in the Dunsborough-Cape Naturaliste area was sent to the Department of Conservation and Land Management (CALM) prior to the field survey, to establish a target species list for the survey.

In order to ensure that the field survey was completed at the most suitable time of the year, liaison with the Busselton office of the Department of CALM was undertaken to confirm whether the DRF orchid species to be targeted in the field survey were flowering at the beginning of October, which was chosen as the most suitable time for the survey.

Species of flora and fauna are defined as 'rare' or 'priority' conservation status where their populations are restricted geographically or threatened by local processes. CALM recognises these threats of extinction and consequently applies regulations towards population and species protection (**Table 1**). Declared Rare Flora species are gazetted under subsection 2 of section 23F of the *Wildlife Conservation Act 1950* and therefore it is an offence to "take" or damage rare flora without the approval of the Minister for the Environment. Section 23F of the Act defines "to take" as "...to gather, pick, cut, pull up, destroy, dig up, remove or injure the flora to cause or permit the same to be done by any means".

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) promotes the conservation of biodiversity by providing strong protection for plants at a species level. Sections 178 and 179 provide the lists and categories of threatened species under the Act, and are presented in **Table 2**. The Act also provides for the strong protection of vegetation communities, or Threatened Ecological Communities (TEC), which are listed under section 181 of the Act and are described as 'Critically Endangered', 'Endangered' or 'Vulnerable' under section 182.

Table 1: Definition of Rare and Priority Flora Species (CALM, 2003)

Conservation Code	Category
R: Declared Rare	<p>Declared Rare Flora – Extant Taxa</p> <p>Taxa that have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection and have been gazetted as such.</p>
P1: Priority 1	<p>Priority One – Poorly Known Taxa</p> <p>Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.</p>
P2: Priority 2	<p>Priority Two – Poorly Known Taxa</p> <p>Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (ie. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but urgently need further survey.</p>
P3: Priority 3	<p>Priority Three – Poorly Known Taxa</p> <p>Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (ie. not currently endangered), either due to the number of known populations (generally <5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but need further survey.</p>
P4: Priority 4	<p>Priority 4 – Rare Taxa</p> <p>Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years.</p>

Table 2: Categories of Threatened Species (EPBC Act, Section 179,1999)

Category Code	Category
1	<p>Extinct</p> <p>Taxa which are known only to survive in cultivation, in captivity or as a naturalised population, well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</p>
2	<p>Critically Endangered</p> <p>Taxa which are facing a very high risk of extinction in the wild in the immediate or near future, as determined in accordance with the prescribed criteria.</p>
3	<p>Endangered</p> <p>Taxa which are not critically endangered and are facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.</p>
4	<p>Vulnerable</p> <p>Taxa which are not endangered and are facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</p>
5	<p>Conservation Dependant</p> <p>A species that is the focus of a specific conservation program; the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.</p>

1.2 PURPOSE OF ASSESSMENT AND SCOPE OF WORKS

The purpose of this report is to document the results of the search for Declared Rare and Priority Flora species at Pt. Sussex Location 296 in Dunsborough.

The broad level vegetation community types present on the lot were assessed for specific DRF and PF habitat potential, based on the CALM species listing for the area.

The scope of work included:

- Liaison with the Department of CALM to establish the target DRF and PF species for the survey,
- A compilation of the base data and aerial photography into base mapping,
- A field survey to search for species of conservation significance (DRF and PF) known from the area,
- Carrying out herbarium identifications and preparation of voucher specimen information for any species of DRF or PF found during the survey,
- Preparation and submission of a DRF survey report to the client via the Busselton Survey Office, and
- Production of a site map for inclusion in the report showing broad level vegetation community types and populations of DRF and/or PF if any are located.

2. METHODOLOGY

Prior to the fieldwork component, a desktop analysis of the existing information of the DRF and PF database records on species known to occur in the region (Department of CALM, 2003) was undertaken. Department of CALM DRF and PF records for an area of 6 kilometres by 5.5 kilometres, including Sussex Location 296 and its surrounding areas including Dunsborough, were used as the target species to search for during the field survey. Forty species were listed for the search area, a number of which were not likely to be present on the property searched due to the unsuitability of the habitat. The DRF and PF records for the area, as listed by CALM, are presented in **Appendix A**.

The following species, from the list of forty taxa listed for the area by CALM, are those that were considered to possibly be present on the site due to the suitability of the habitat/s present.

- **DECLARED RARE FLORA SPECIES**

- *Caladenia excelsa*: an orchid species found on the Leeuwin-Naturaliste Ridge, growing in deep sandy soils amongst dense, low shrubs in Jarrah, Marri and *Banksia* woodlands.
- *Caladenia huegelii*: an orchid species of scattered occurrence along the Swan Coastal Plain from just north of Perth to Yallingup. It grows in deep sandy soil in mixed Jarrah and *Banksia* woodland.
- *Caladenia procera*: an orchid species confined to a small area south west of Busselton, which grows in Jarrah, Marri and Peppermint woodland on alluvial, loamy flats.
- *Caladenia viridescens*: an orchid species confined to a small area near Cape Naturaliste, which favours Marri and Peppermint woodlands in well drained lateritic and sandy soils.
- *Daviesia elongata* subsp. *elongata*: a low shrub species growing on sandy soils or sandy loam areas of Jarrah/Marri woodland or *Eucalyptus/Banksia* woodland with Peppermint.
- *Drakaea micrantha*: an orchid species usually found in open sandy patches in *Banksia*/Jarrah woodland where it grows under thickets of Spearwood (*Kunzea ericifolia/glabrescens*). Also recorded from low woodland or mallee heath in open patches on sand.
- *Eucalyptus phylacis*: a mallee or small tree confined to an area west of Busselton. It grows on the crest of a near coastal ridge, in loamy granitic and lateritic soils. Habitat consists of low, open Jarrah and Marri woodland over low to medium shrubs.

- **PRIORITY ONE FLORA SPECIES**

Only one PI species was listed for the area (*Senecio gilbertii*), but as Sussex Location 296 does not provide suitable habitat for the species, it was not targeted during the field survey.

- **PRIORITY TWO FLORA SPECIES**

- *Boronia capitata* subsp. *gracilis*: slender shrub to 0.6m high, which grows in white/grey or black sand in winter-wet swamps or on hillslopes. The wet, creekline areas on the property may provide suitable habitat for this species.

- **PRIORITY THREE FLORA SPECIES**

- *Acacia semitrullata*: a slender, erect, pungent shrub to 0.7m high. Found growing on white/grey sand, sometimes over laterite or clay, on sandplains or swampy areas.

- *Aotus cordifolia*: an erect or straggling shrub to 1.5m high. Found in peaty soils of swamp areas, and in seasonally wet areas in Marri woodland, amongst dense creekside shrubs.

- *Chorizema reticulatum*: an erect wiry shrub to 0.5m high, growing in sand over laterite. Known to occur in Jarrah/Marri/Sheoak woodland over mixed shrub species.

- *Conospermum paniculatum*: a spreading, open shrub to 1.25m high. Preferred habitat is sandy or clayey soils in swampy areas, plains or slopes. Known to occur in Jarrah/Marri woodland with *Banksia grandis*, *Xylomelum occidentale* and mixed understorey shrubs.

- *Cyathochaeta teretifolia*: a rhizomatous, grass-like sedge to 2m high and 1m wide. Preferred habitat is grey sand and/or sandy clay in swamps and on creek edges. Known records are from Marri woodland and Paperbark woodland along creek edges.

- *Johnsonia inconspicua*: a rhizomatous, grass-like herb to 0.3m high. Found growing in white-grey or black sand, in low dunes or winter-wet flats. Known records are from *Banksia* woodland and Jarrah low woodland, with a few known from Peppermint woodland.

- *Lepyrodia heleocharoides*: a rhizomatous, sedge-like rush growing in moist, peaty sand. Found in dry or seasonally inundated heath or woodland, swamps. Known from moist areas of Jarrah/Marri woodland and also from sandy Jarrah/*Banksia* woodland areas.

- *Tetratheca parvifolia*: a small shrub to 0.3m high, known to grow in Jarrah/Marri woodland or forest, on sandy clay with gravel over laterite.

- **PRIORITY FOUR FLORA SPECIES**

- *Acacia flagelliformis*: a rush-like, erect or sprawling shrub to 0.75m high. Grows in sandy soils in winter-wet areas. Specimens have previously been collected from brown sandy clay in Marri woodland.

- *Anthotium junciforme*: a herb to 0.4m high, growing on sandy clay and clay in winter-wet depressions and drainage lines.

- *Caladenia arrecta*: an orchid species which grows in loam, gravel, laterite and moist situations. It is known to grow in coastal *Banksia* woodland, Sheoak woodland and dense Jarrah forest.

- *Eucalyptus marginata* x *megacarpa*: a hybrid tree species to 8m high found growing in sandy loam and interdunal areas (including Peppermint woodland on brown sandy loam, brown calcareous loam and brown loamy sand over lateritic sand).
- *Eucalyptus rudis* subsp. *cratyantha*: a tree species between 5 to 20m high, growing in loamy areas of winter-wet flats, creeklines and riversides of flats and hillsides.
- *Jacksonia sparsa* ms.: an erect and slender shrub to 3m high, growing on white or grey sand in Jarrah/Marri or Jarrah/*Banksia* woodland areas.
- *Tyrbastes glaucescens*: a rush species found growing in sandy areas along creeklines of Jarrah/Marri forest.
- *Verticordia lehmannii*: a slender shrub to 1m high growing on sandy clay of winter-wet flats.

2.1 FIELD SURVEY SEARCH

A qualified botanist from BSD Consultants completed the field-based assessment over two days in early October 2003. The timing of the field survey was determined following conversation with a staff member from the Busselton office of the Department of CALM, and was considered the most opportune for visibility of most of the listed DRF and PF species for the area during their flowering period.

Based on an aerial photograph (**Figure 2**) and groundtruthing of the property, broad level vegetation community types were mapped, and are shown in **Figure 3**. Each of these vegetation community types was searched for any species of DRF and/or PF by walking transects in a zigzag manner to enable coverage of the greatest area. Species identified in each of the vegetation community types were recorded and are listed in **Appendix B**.

Vegetation community types, which are known to be the preferred habitats for any of the listed DRF and PF species, were closely searched for the presence of these species. All of the listed DRF species for the area are known to occur on sandier soils in Jarrah/Marri/*Banksia*/Peppermint woodland, therefore the search efforts were particularly concentrated in this vegetation type. A large proportion of the listed PF species are known (from previous collections) to occur in seasonally or permanently damp areas, therefore the vegetation associated with the drainage lines on the property was closely searched for these species.

3. RESULTS

3.1 FLORA SPECIES OF CONSERVATION SIGNIFICANCE

One species of Declared Rare Flora and two species of Priority Flora, were located on Pt. Sussex Location 296. These species are;

- *Caladenia excelsa* – a DRF orchid species,
- *Johnsonia inconspicua* – a P3 herbaceous species, and
- *Acacia semitrullata* – a P3 small shrub species.

All three of these species were located on the sandier areas of the property in the Jarrah/*Banksia* woodland over mixed shrub species community type.

One population of the DRF species, *Caladenia excelsa*, composed of three individual plants, was found in the Jarrah/*Banksia* woodland/heath area, growing amongst mixed shrub species. This species is listed as 'Endangered' under the EPBC Act listing.

The location of this population is shown on **Figure 3**.

The two P3 species, *Johnsonia inconspicua* and *Acacia semitrullata*, were recorded as occasional occurrences (the *Johnsonia inconspicua* observed on two occasions and the *Acacia semitrullata* on three occasions). Both of these species were growing in the understorey of the Jarrah/*Banksia* woodland present on the white-grey sandy areas. *Johnsonia inconspicua* was seen as a few scattered individuals underneath dense shrub cover of the low-medium sized shrub species of the heath areas in the Jarrah/*Banksia* woodland.

Herbarium sized specimens were collected of each of these species, and the specimen of the DRF orchid will be submitted to the WA Herbarium as a voucher specimen. A copy of the rare flora report form for the DRF orchid species will be sent to the WA Herbarium and the Busselton office of the Department of CALM.

3.2 VEGETATION COMMUNITY TYPES

Four broad level vegetation community types were mapped for the property, and are shown in **Figure 3**. These community types are:

- Marri (*Corymbia calophylla*) woodland over mixed shrub and herb species on heavier soils;
- Banksia (mixed species)/Jarrah (*Eucalyptus marginata*) woodland with some individuals of Marri and Peppermint (*Agonis flexuosa*) over mixed shrub and herb species on sandy soils;
- Creekline riparian vegetation of Stout Paperbark/Moonah (*Melaleuca preissiana*) and Blackbutt (*Eucalyptus patens*) over mixed shrub, sedge and rush species; and
- Peppermint/Marri woodland on sandier soils upslope from creeklines.

None of these vegetation community types are listed as a "Threatened Ecological Community" (TEC) by the Department of CALM.

3.2.1 *Marri woodland over mixed shrub and herb species on heavier soils*

This vegetation type was characterised by the dominance of the overstorey stratum by *Corymbia calophylla* (Marri), with few other tree species. It was associated with heavier soils with a higher clay content and which remained moist for longer periods than the sandy soils. There were scattered individuals of the tree species *Nuytsia floribunda*, *Banksia grandis* and *Agonis flexuosa* present in the Marri woodland.

Characteristic shrub species in the understorey stratum were *Acacia pulchella*, *Calothamnus sanguineus*, *Dampiera linearis*, *Dryandra lindleyana*, *Hakea lissocarpha*, *Hibbertia hypericoides*, *Hovea elliptica*, *Hypocalymma angustifolium*, *Kunzea ericifolia/glabrescens*, *Spyridium globulosum*, *Trymalium ledifolium* and *Xanthorrhoea preissii*. A number of herb and sedge species were also present in this stratum including; *Austrostipa* sp., *Caesia micrantha*, *Caladenia attingens*, *Chamaescilla corymbosa*, *Desmocladius fasciculatus*, *Lagenophora huegelii*, *Mesomelaena tetragona*, *Schoenus grandiflorus* and *Stylidium eriopodum/repens*.

3.2.2 *Banksia/Jarrah woodland with some individuals of Marri and Peppermint over mixed shrub and herb species on sandy soils*

This vegetation community type is present on the sandy soils upslope from the drainage lines. It is characterised by a high level of shrub and herbaceous species diversity in the understorey stratum, and by the presence of various *Banksia* species, small individuals of Jarrah (*Eucalyptus marginata*), Woody Pear (*Xylomelum occidentale*), WA Christmas Tree (*Nuytsia floribunda*) and Peppermint (*Agonis flexuosa*) in the overstorey stratum. There are also some shrub heath areas within this vegetation community type, which have very few, if any, tree species present.

The dominant tree species were Jarrah, Peppermint, Woody Pear, WA Christmas Tree, *Banksia attenuata* and *B. ilicifolia*. Some of the more common shrub species in the highly diverse understorey stratum were *Acacia pulchella*, *Adenanthos meisneri*, *Allocasuarina humilis*, *Bossiaea eriocarpa*, *Calothamnus sanguineus*, *Dasypogon bromeliifolius*, *Gompholobium tomentosum*, *Hibbertia hypericoides*, *Hovea trisperma*, *Isotropis cuneifolia*, *Jacksonia furcellata*, *Lysinema ciliatum*, *Macrozamia riedlei*, *Melaleuca thymoides*, *Philothea spicata*, *Pimelea angustifolia*, *P. rosea* and *Stirlingia latifolia*. A large number of herbaceous species (orchids, grasses, herbs, rushes and sedges) are also present in the understorey stratum and all species recorded are listed in **Appendix B**.

The DRF orchid species, *Caladenia excelsa*, was located in a shrub heath area of this vegetation community type, near the north-western boundary of Part Location Sussex 296. **Figure 3** shows the location of this population.

The two Priority 3 species, *Acacia semitrullata* and *Johnsonia inconspicua* were also recorded as occurring in this vegetation community type. They were present as occasional scattered individuals in the shrub understorey.

3.2.3 *Creekline riparian vegetation of Stout Paperbark/Moonah and Blackbutt over mixed shrub, sedge and rush species*

This vegetation type is associated with the drainage lines which are present on the site, and which likely flow throughout the year. The dominant overstorey species are *Corymbia calophylla* (Marri), *Eucalyptus patens* (Blackbutt) and *Melaleuca preissiana* (Stout Paperbark/Moonah).

There are a number of different herb, sedge and rush species present in the understorey stratum which are listed in **Appendix B**, as well as the shrub species *Acacia divergens*, *Astartea* sp., *Chorizema* sp., *Hibbertia hypericoides*, *H. perfoliata*, *Mirbelia dilatata*, *Pteridium esculentum*, *Taxandria linearifolia* and *Xanthorrhoea preissii*.

3.2.4 *Peppermint/Marri woodland on sandier soils upslope from creeklines*

This vegetation type is found upslope from the creeklines, in the interzone between the wet drainage lines and the sandy Jarrah/*Banksia* areas. It is dominated by the tree species, Peppermint (*Agonis flexuosa*), Marri (*Corymbia calophylla*) and WA Christmas Tree (*Nuytsia floribunda*) over few shrub, herb and sedge species, including some introduced annual and perennial pasture/ornamental species.

The species recorded as occurring within this vegetation community type are listed in **Appendix B**.

3.3 VEGETATION CONDITION

Most of the vegetation on Part Location Sussex 296 is in a good to very good condition due to few past disturbances, and very little evidence of grazing by livestock. The highest level of disturbance was seen associated with the tracks crossing through the vegetation, around houses and sheds, small localised areas of dumped rubbish near the sheds and on the edges of the property boundary (fences and firebreaks).

There was little evidence seen of recent fires through the vegetation on the property, and there were only few weeds species present, especially in the areas of the intact vegetation. The invasive, bulbous perennial *Zantedeschia aethiopica* (Arum Lily), is present in a low to medium density in the creekline adjacent to the southern boundary of the property. This species is listed as a 'Declared Plant' species (weed) by the Shire of Busselton.

4. SUMMARY AND CONCLUSION

One Declared Rare species and two Priority 3 species were located on the property during the DRF and PF survey. The vegetation community types present are not listed as TEC's by the Department of CALM, and occur frequently in the southwest of WA.

The DRF orchid species, *Caladenia excelsa*, is located close to the north-western boundary of the property, in an area of shrubland heath on sandy soil, a sub-community of the Jarrah/*Banksia* woodland community type. The two P3 species, *Acacia semitrullata* and *Johnsonia inconspicua*, were present only as very occasional individuals in the Jarrah/*Banksia* woodland over shrub heath vegetation community type. These species are relatively restricted in their distributions in the southwest of WA, but as they are listed as P3 species, there are sufficient numbers of individuals and populations, some of these in protected/conservation areas, to ensure that the species are not at threat of extinction.

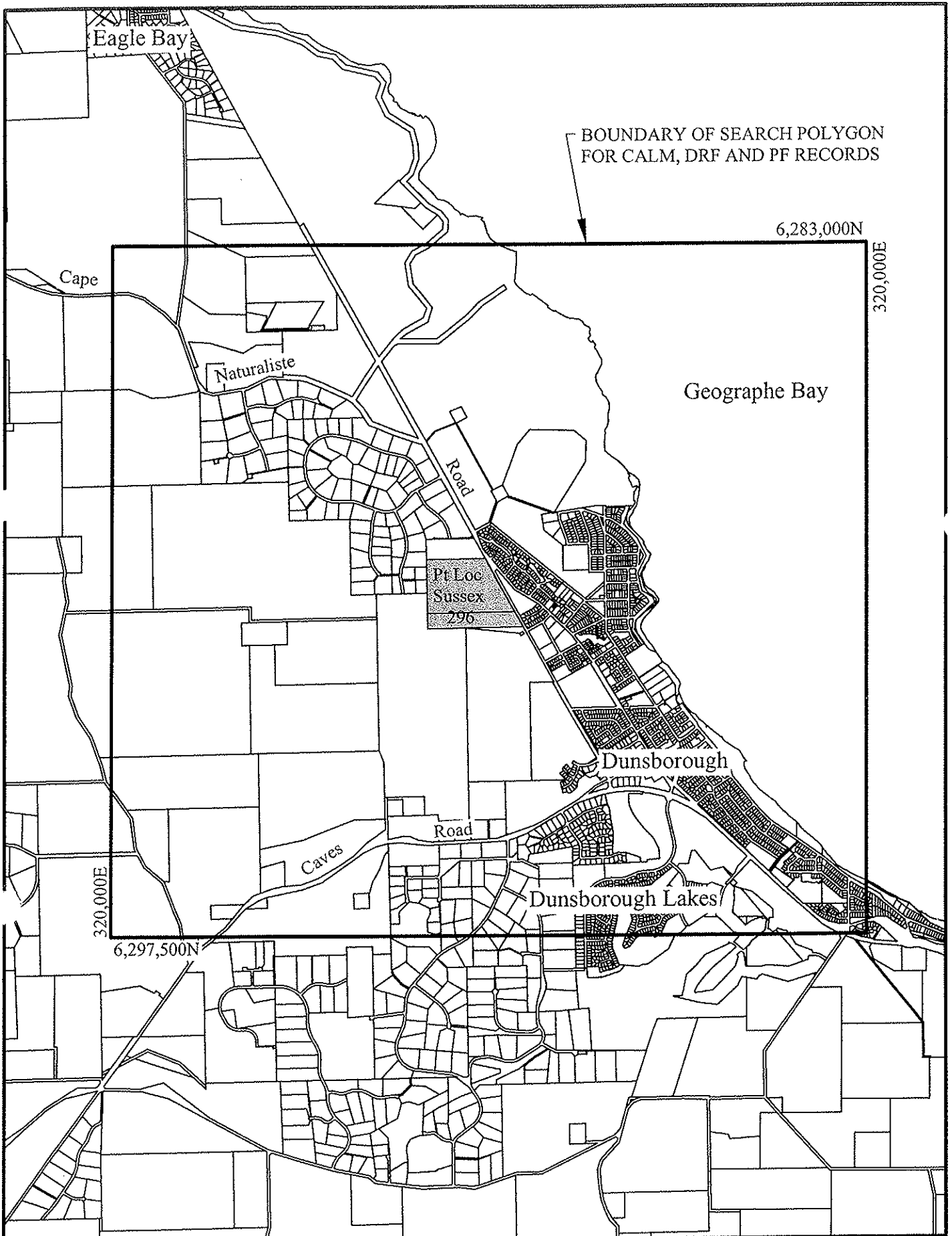
The area was thoroughly searched for all the DRF species likely to occur on the property, particularly the area of Jarrah/*Banksia* woodland and shrub heath vegetation, which is the preferred habitat for all of the DRF species potentially occurring on the site. Orchid species, such as *Caladenia excelsa*, can be quite difficult to locate due to their ephemeral nature and their brief flowering periods. Most species are only visible when they are flowering, as the vegetative material is minimal and is well camouflaged against the surrounding vegetation. Therefore, the possibility exists that there may be additional individuals of *Caladenia excelsa*, on the property which were not visible or not seen during this field survey, despite a detailed coverage of all the vegetation types present.

Under the current proposed subdivision plan for Part Sussex Location 296, the lots are of a relatively large size (approximately 0.5 to 1.0 hectare), particularly in the north-western corner of the property where the population of *Caladenia excelsa* was found. These large lots have specified building envelopes, outside of which no native vegetation can be cleared, therefore this population will not be disturbed during subdivision civil works.

In order to successfully manage the DRF population, it is recommended that the area around the population be fenced off to restrict trampling or other disturbances, and to ensure the long-term survival of this population. Weed management around the population is also an issue, especially the potential for very invasive weed species to move in and displace the native flora species (particularly the annual and small ephemeral species such as orchids), following disturbance to areas of intact native vegetation. The population should be monitored in its flowering period following the subdivision site works to see how it is being impacted.

An application to the Minister for the Environment to "take" the DRF species, under the WA Wildlife Conservation Act (1950) will not be necessary, as the population will not be impacted as a result of the proposed subdivision. No EPBC Act referrals or approvals will therefore need to be lodged.

FIGURES



PROJECT FLORA SURVEY FOR SUSSEX LOCATION 296

DRAWING TITLE FIGURE 1 LOCALITY PLAN

PRINCIPAL BUSSELTON SURVEY OFFICE

ORIGINAL
A4

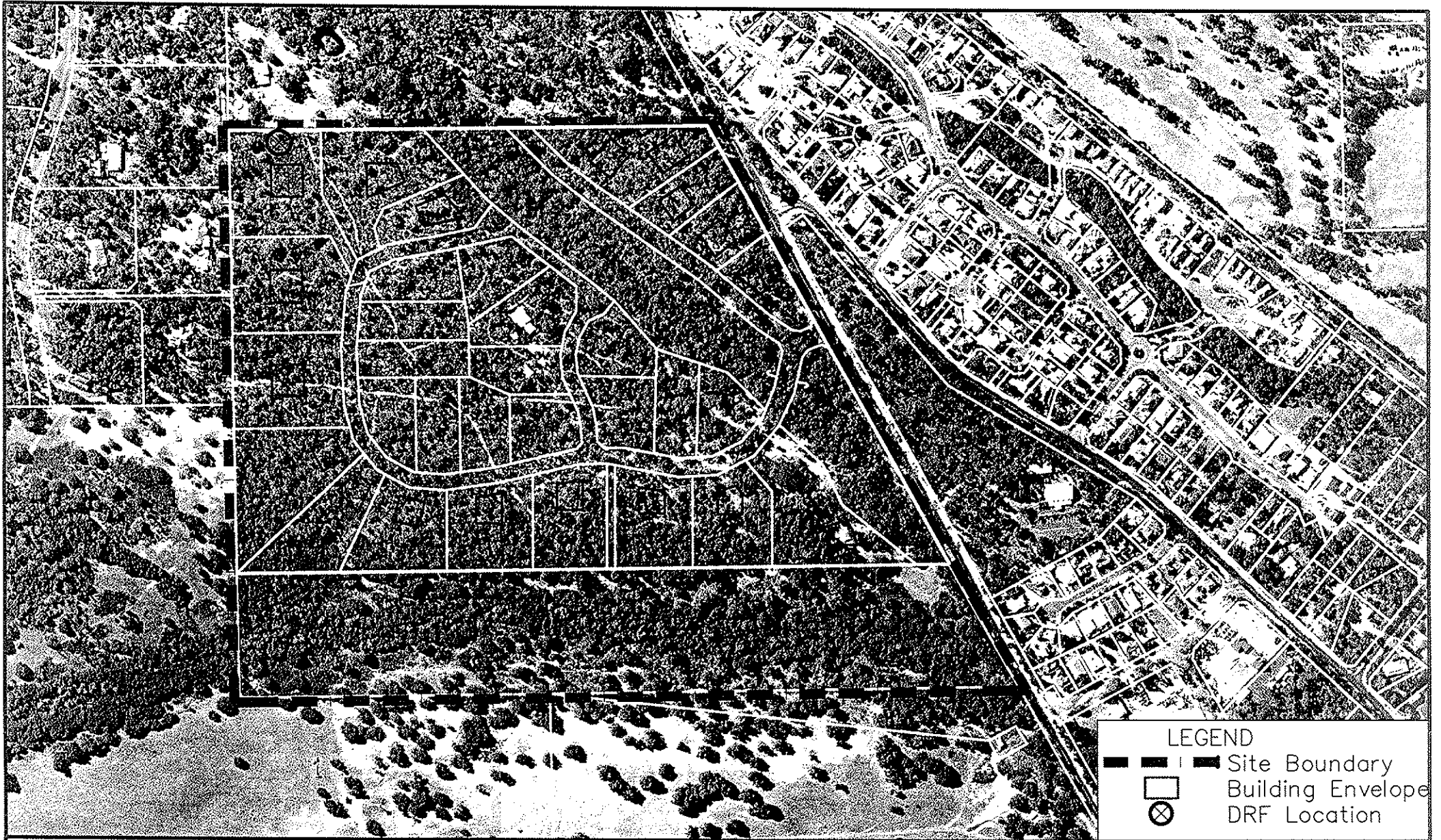
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Date 31.10.03	Scale 1 : 40,000
Designed RO	Checked <i>[Signature]</i>
Drawn MJC	Approved <i>[Signature]</i>
Local Authority SHRE OF BUSSELTON	Sheet Of
Project Number V031-014/170-SK03	Drawing Number Revision



LEGEND


-  Site Boundary
-  Building Envelope
-  DRF Location

PROJECT FLORA SURVEY FOR SUSSEX LOCATION 296

DRAWING TITLE FIGURE 2
AERIAL PHOTOGRAPH OF AREA SURVEYED AND PROPOSED SUBDIVISION LAYOUT

PRINCIPAL BUSSELTON SURVEY OFFICE

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Date 31.10.03 Scale 1 : 5,000

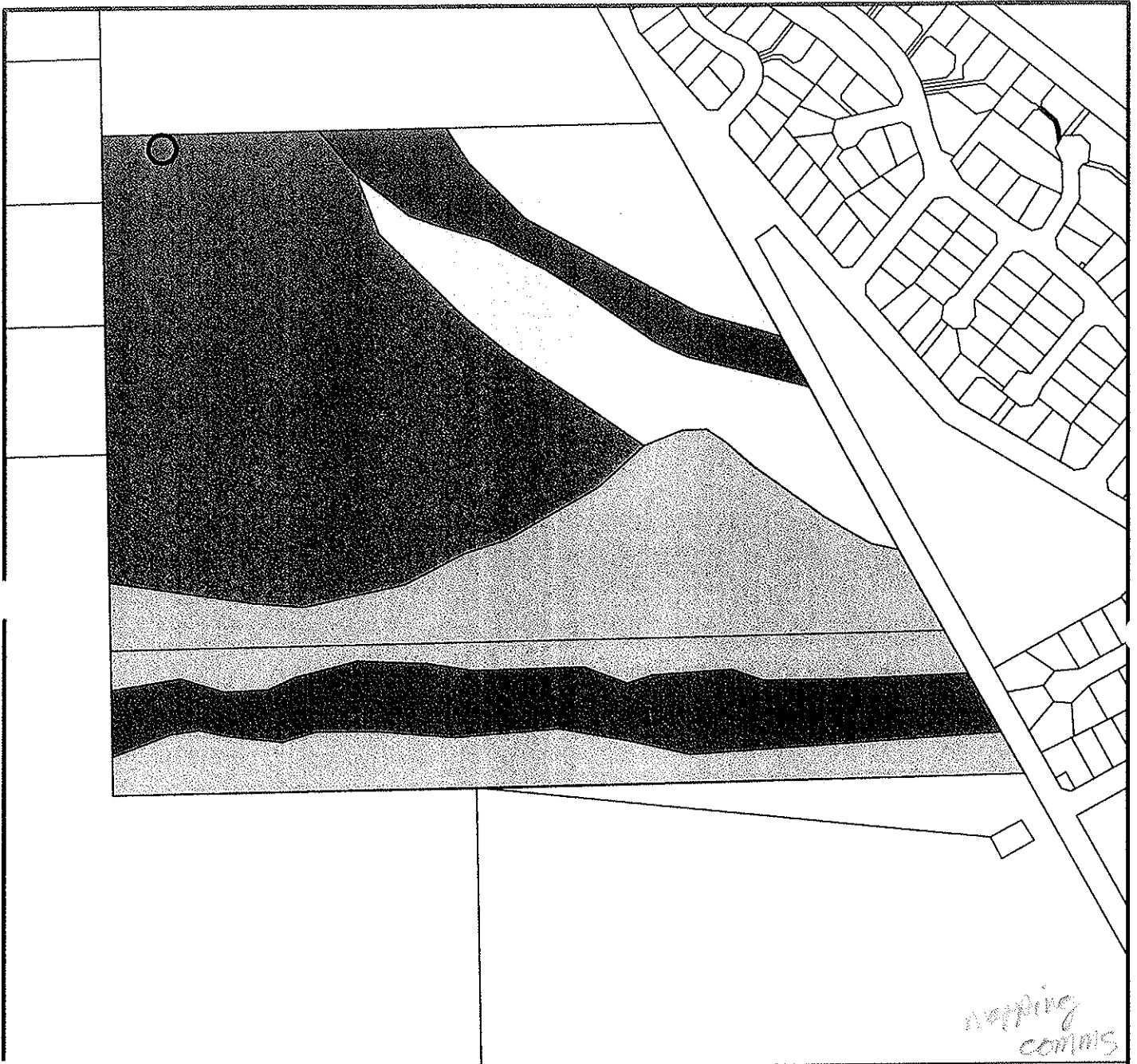
Designed _____ Checked *[Signature]*






Drawn MJC Approved _____

Local Authority _____ Sheet 01

SHIRE OF BUSSELTON

Project Number Drawing Number Revision
V031-014V170-SK01



-  Creekline riparian vegetation of Stout Paperbark/Moonah (*Melaleuca preissiana*) and Blackbutt (*Eucalyptus patens*) over mixed shrub, sedge and rush species — (3)
-  Marri (*Corymbia calophylla*) woodland over mixed shrub and herb species on heavier soils. — (1)
-  Peppermint (*Agonis flexuosa*)/Marri woodland on sandier soils upslope from creeklines. — (4)
-  Banksia (mixed species)/Jarrah (*Eucalyptus marginata*)/Peppermint woodland and heath of mixed shrub and herb species on sandy soils. — (2)
-  Population of DRF species *Caladenia excelsa*

PROJECT FLORA SURVEY FOR SUSSEX LOCATION 296

DRAWING TITLE FIGURE 3. VEGETATION COMMUNITY PLAN

PRINCIPAL BUSSELTON SURVEY OFFICE

ORIGINAL A4

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Date 30.10.03	Scale 1 : 5,000
Designed RQ	Checked <i>[Signature]</i>
Drawn MJC	Approved <i>[Signature]</i>
Local Authority SHIRE OF BUSSELTON	Sheet <i>[Blank]</i> of <i>[Blank]</i>
Project Number V031-014/170-SK02	Drawing Number <i>[Blank]</i> Revision <i>[Blank]</i>

APPENDIX A

**Declared Rare and Priority Flora Records Listed by the Department of
CALM for the Area**

2001F001173VO11
Melanie Harding
(08) 9334 0431
(08) 9334 0278
melanieh@calm.wa.gov.au

BSD Consultants
PO Box 155
SUBIACO WA 6904

Attention: Raimond Orifici

Dear Raimond

REQUEST FOR RARE FLORA INFORMATION

I refer to your request of 6 October 2003 for information on rare flora in the Dunsborough area. The search coordinates used were: 33° 29' 24" – 33° 42' 36" S and 114° 58' 48" – 115° 12' 00" E.

A search was undertaken for this area of (1) the Department's *Threatened (Declared Rare) Flora* database (for results, if any, see "Summary of Threatened Flora Data" – coordinates are GDA94), (2) the *Western Australian Herbarium Specimen* database for priority species opportunistically collected in the area of interest (for results, if any, see "WAHERB Specimen Database General Enquiry" – coordinates are AGD84) and (3), the Department's *Declared Rare and Priority Flora List* [this list, which may also be used as a species target list, contains species that are declared rare (Conservation Code R or X for those presumed to be extinct), poorly known (Conservation Codes 1, 2 or 3), or require monitoring (Conservation Code 4) – for results, if any, see "Declared Rare and Priority Flora List"]. The results are provided electronically.

Attached also are the conditions under which this information has been supplied. Your attention is specifically drawn to the seventh point that refers to the requirement to undertake field investigations for the accurate determination of rare flora occurrence at a site. *The information supplied should be regarded as an indication only of the rare flora that may be present and may be used as a target list in any surveys undertaken.*

An invoice for \$200 (plus GST) to supply this information will be forwarded.

It would be appreciated if any populations of rare flora encountered by you in the area could be reported to this Department to ensure their ongoing management.

If you require any further details, or wish to discuss rare flora management, please contact my Principal Botanist, Dr Ken Atkins, on (08) 9334 0425.

Yours faithfully

.....
for Keiran McNamara
EXECUTIVE DIRECTOR

13 October, 2003

Attached

ATTACHMENT

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

RARE FLORA INFORMATION

CONDITIONS IN RESPECT OF SUPPLY OF INFORMATION

1. All requests for data to be made in writing to the Executive Director, Department of Conservation and Land Management, Attention: Administrative Officer Flora, Wildlife Branch.
2. The data supplied may not be supplied to other organisations, nor be used for any purpose other than for the project for which they have been provided, without the prior written consent of the Executive Director, Department of Conservation and Land Management.
3. Specific locality information for Declared Rare Flora is regarded as confidential, and should be treated as such by receiving organisations. Specific locality information for DRF may not be used in public reports without the written permission of the Executive Director, Department of Conservation and Land Management. Publicly available reports may only show generalised locations or, where necessary, show specific locations without identifying species. The Department is to be contacted for guidance on the presentation of rare flora information.
4. Note that the Department of Conservation and Land Management respects the privacy of private landowners who may have rare flora on their property. Rare flora locations identified in the data as being on private property should be treated in confidence, and contact with property owners made through the Department of Conservation and Land Management.
5. Receiving organisations should note that while every effort has been made to prevent errors and omissions in the data provided, they may be present. The Department of Conservation and Land Management accepts no responsibility for this.
6. Receiving organisations must also recognise that the database is subject to continual updating and amendment, and such considerations should be taken into account by the user.
7. It should be noted that the supplied data do not necessarily represent a comprehensive listing of the rare flora of the area in question. Its comprehensiveness is dependant on the amount of survey carried out within the specified area. The receiving organisation should employ a botanist, if required, to undertake a survey of the area under consideration.
8. Acknowledgment of the Department of Conservation and Land Management as source of the data is to be made in any published material. Copies of all such publications are to be forwarded to the Department of Conservation and Land Management. Attention: Principal Botanist, Wildlife Branch.

THE DEPARTMENT OF CONSERVATION AND LAND
MANAGEMENT

DECLARED RARE AND PRIORITY FLORA LIST

for Western Australia

CONSERVATION CODES

R: Declared Rare Flora - Extant Taxa

Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.

X: Declared Rare Flora - Presumed Extinct Taxa

Taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such.

1: Priority One - Poorly known Taxa

Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

2: Priority Two - Poorly Known Taxa

Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

3: Priority Three - Poorly Known Taxa

Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.

4: Priority Four - Rare Taxa

Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

ABBREVIATIONS USED IN THREATENED FLORA DATABASE PRINTOUTS

VESTING

AGR Chief Exec Dept of Agriculture
 ALT Aboriginal Land Trust
 BAP Baptist Union of WA Inc
 BSA Boy Scouts Association
 CC Conservation Commission -NPNCA
 CGT Crown Grant in Trust
 COM Commonwealth of Australia
 CRO Crown Freehold-Govt Ownership
 DOL Dept of Land Administration
 DPU Ministry for Planning
 EXD Exec Direc CALM
 FRE Freehold
 HOW Homeswest
 ILD Industrial Lands Develop. Auth
 JOI Joint Vesting-NPNCA & Shire
 LAC LandCorp
 LFC Lands and Forests Commission
 MAG Minister for Agriculture
 MED Ministry of Education
 MHE Minister for Health
 MIN Minister for Mines
 MPL Ministry for Planning
 MPR Minister for Prisons
 MRD Main Roads WA
 MTR Minister for Transport
 MWA Minister for Water Resources
 MWO Minister for Works
 NAT Natural Trust of Australia WA
 NON Not Vested
 NPN NPNCA
 OTH Other
 PRI Private
 RAI Westrail
 SEC Western Power
 SHI Shire
 SPC State Planning Commission
 TEL Telstra
 TGR Timber Govt Requirement
 TOW TOWN
 UNK Unknown
 WAT Water Corporation
 WEL Minister Community Welfare
 WRC Water & Rivers Commission
 XPL Ex-Pastoral Lease

PURPOSES

ABR Aboriginal Reserve
 AER Aerodrome
 CAM Camping
 CAR Caravan park
 CEM Cemetery
 CFA Conservation of Fauna
 CFF Conservation Of Flora & Fauna
 CFL Conservation of Flora
 CHU Church
 CPK Car Park
 COM Common
 CON Conservation Park
 DEF Defence
 DRA Drain
 EDE Educational Endowment

EDU Educational purposes UWA
 ENE Enjoyment of Natural Environ.
 EXC Excepted from sale
 EXL Exploration Lease
 EXP Experimental Farm
 FIR Firing Range
 FOR State Forest
 GHA Grain Handling
 GOL Golf
 GRA Gravel Pit
 GRE Green Belt
 GVT Government Requirements
 HAR Harbour Purposes
 HEP Heritage Purposes
 HER Heritage trail
 HOS Hospital
 KEN Kennels
 MIN Mining lease
 MUN Municipal Purposes
 NPK National Park
 NRE Nature Reserve
 OTH Other
 PAC Public access
 PAR Parkland (& Recreation)
 PAS Pastoral lease
 PFL Protection of Flora
 PIC Picnic ground
 PLA Plantation
 POS Public Open Space
 PPA Public parkland
 PRS Prison site
 PUT Public Utility
 QUA Quarry
 RAD Radio Station
 RAC Racecourse
 REC Recreation
 REH Rehabilitation
 RNP Re-establish Native Plants
 RRE Railway Reserve
 RUB Rubbish
 SAN Sand
 SCH School-site
 SET Settlers requirements
 SHI Shire Requirements
 SHO Showgrounds
 SNN Sanitary
 STO Stopping place
 TIM Timber
 TOU Tourism
 TOW Town-site
 TRA Training Ground
 TRI Trig station
 TVT Television transmitting
 UNK Unknown
 UTI Utilities
 VCL Vacant Crown Land
 VER Road Verge
 VPF Vermin Proof Fence
 WAT Water
 WCO Water & Conservation of F & F
 WOO Firewood

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
DECLARED RARE AND PRIORITY FLORA LIST
16 April 2003

SPECIES / TAXON	CONS CODE	CALM REGION	DISTRIBUTION	FLOWER PERIOD
Acacia lateritica glabrous variant (BR Maslin 6765)	3	CF	Dunsborough, Scott River, Margaret River	
→ Acacia subracemosa (add to WA Herbarium list)	2	CF	Karridale, Boranup, Mammoth Cave, Gracetown, Leeuwin Naturaliste NP	Sep-Nov
Aotus cordifolia	3	CF,SW	Red Hill, Byford, Witchcliffe, Upper Swan, Dwellingup, Helena Valley, Forrestdale, Dunsborough, Jarrahdale, Banjup	Aug-Dec
Boronia anceps	3	CF,SF	Scott River, Walpole, Cape Naturaliste, Cowaramup	Sep-Jan
Boronia tenuis	4	CF,SW	Kalamunda, Lesmurdie Falls, Oakley Dam, North Dandalup, Dunsborough	
Caladenia caesarea subsp. maritima	R	CF	Dunsborough	Aug-Sep
Caladenia longicauda subsp. clivicola	4	CF	Harvey, Dardanup, Dunsborough, Pinjarra, Lesmurdie, Cape Naturaliste	Sep
Caladenia viridescens	R	CF	Dunsborough	Sep-Oct
Dryandra sessilis var. cordata	2	CF,SF	Cape Naturaliste, Cape Leeuwin, Walpole	Sep-Oct
Eucalyptus rudis subsp. cratyantha	4	CF	Yallingup, Eagle Bay, Mandurah, Cape Naturaliste, Meelup, Busselton	-
Hydrocotyle hamelinensis ms	2	CF,SW	Cape Naturaliste, Rottnest Is.	Oct
Millotia tenuifolia var. laevis	2	SW,CF	Dunsborough, Cape Naturaliste, Collie, Red Hill	Sep-Oct
Wurmbea calcicola	R	CF	Cape Naturaliste	May-Jun

Summary of Threatened Flora Data						
Taxon Name	Cons.	Pop ID	Latitude	Longitude	Purpose	Vesting
Acacia flagelliformis	4	11	33^40'04.7"	115^08'30.4"	PAR	NON
Acacia lateriticola glabrous variant(B.R.Maslin 6765) pn	3	2	33^35'10.7"	115^05'05.4"	VER	SHI
Acacia semitrullata	3	10	33^38'55.7"	115^04'35.4"		PRI
Acacia semitrullata	3	18	33^42'10.7"	115^11'05.4"	TOW	SHI
Acacia semitrullata	3	20	33^42'16.7"	115^11'18.4"	TOW	SHI
Boronia tenuis	4	8A	33^34'30.7"	115^05'20.4"	CFF	SHI
Boronia tenuis	4	8B	33^33'57.7"	115^04'35.4"	CFF	SHI
Boronia tenuis	4	8C	33^33'42.7"	115^04'27.4"	CFF	SHI
Boronia tenuis	4	8D	33^33'11.7"	115^03'37.4"		PRI
Caladenia busselliana	R	1A	33^40'07.6"	115^08'21.0"	PAR	NON
Caladenia busselliana	R	1B	33^40'04.1"	115^08'27.6"	VER	SHI
Caladenia busselliana	R	1C	33^40'12.0"	115^08'24.0"		PRI
Caladenia busselliana	R	2	33^42'08.0"	115^11'11.0"	PAR	SHI
Caladenia caesarea subsp. maritima	R	1A	33^33'54.7"	115^04'41.4"	CON	SHI
Caladenia caesarea subsp. maritima	R	1B	33^33'49.7"	115^04'28.4"	CON	SHI
Caladenia caesarea subsp. maritima	R	1C	33^33'55.7"	115^04'15.4"	CON	SHI
Caladenia caesarea subsp. maritima	R	1D	33^34'01.7"	115^04'55.4"	CON	SHI
Caladenia caesarea subsp. maritima	R	2	33^32'44.7"	115^03'17.4"	REC	SHI
Caladenia caesarea subsp. maritima	R	3	33^34'53.7"	115^05'46.4"	CON	SHI
Caladenia caesarea subsp. maritima	R	4	33^34'13.9"	115^05'11.3"	CON	SHI
Caladenia caesarea subsp. maritima	R	5	33^33'11.7"	115^03'31.4"		PRI
Caladenia excelsa	R	2A	33^38'27.7"	115^03'27.4"	OTH	CC
Caladenia excelsa	R	2B	33^38'27.7"	115^03'27.4"	VER	MRD
Caladenia excelsa	R	7	33^38'36.7"	115^02'18.4"	OTH	CC
Caladenia excelsa	R	8A	33^39'16.7"	115^02'04.4"	VER	MRD
Caladenia excelsa	R	8B	33^39'17.7"	115^02'02.4"	NPK	CC
Caladenia excelsa	R	9	33^42'31.7"	115^01'41.5"	WAT	NON
Caladenia excelsa	R	10A	33^39'36.7"	115^02'00.4"	VER	MRD
Caladenia excelsa	R	10B	33^39'35.7"	115^01'59.4"	REC	SHI
Caladenia excelsa	R	10C	33^39'37.7"	115^01'59.4"	GRA	NON
Caladenia excelsa	R	10D	33^39'33.7"	115^02'04.4"	RUB	SHI
Caladenia excelsa	R	11	33^38'54.7"	115^02'07.4"	OTH	CC
Caladenia excelsa	R	15A	33^39'44.7"	115^03'47.4"		PRI
Caladenia excelsa	R	15B	33^39'41.7"	115^03'55.4"		PRI
Caladenia excelsa	R	19A	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	19B	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	19C	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	19D	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	19E	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	19F	33^39'10.7"	115^03'28.4"		PRI
Caladenia excelsa	R	20	33^35'57.7"	115^05'31.4"	VER	SHI
Caladenia excelsa	R	22	33^37'21.7"	115^04'55.4"		PRI
Caladenia excelsa	R	25	33^36'06.0"	115^05'23.0"		PRI
Caladenia excelsa	R	26	33^38'43.0"	115^03'20.0"		PRI
Caladenia longicauda subsp. clivicola	4	1A	33^34'40.7"	115^03'35.4"	VER	SHI
Caladenia longicauda subsp. clivicola	4	1B	33^34'40.7"	115^03'20.4"	VER	SHI
Caladenia longicauda subsp. clivicola	4	3	33^35'10.7"	115^04'05.4"	VER	SHI
Caladenia longicauda subsp. clivicola	4	4	33^32'40.7"	115^03'05.4"	NRE	CC
Caladenia procera	R	1A	33^42'03.1"	115^11'18.8"	VER	SHI
Caladenia procera	R	1B	33^42'03.1"	115^11'18.8"	PAR	SHI
Caladenia viridescens	R	1A	33^35'26.7"	115^04'58.4"	VER	SHI
Caladenia viridescens	R	1B	33^35'21.0"	115^04'41.0"	VER	SHI
Caladenia viridescens	R	1C	33^35'16.5"	115^04'46.1"	CON	SHI
Caladenia viridescens	R	2	33^35'44.6"	115^06'14.0"	CON	SHI
Caladenia viridescens	R	3A	33^35'46.7"	115^05'24.4"	CON	SHI
Caladenia viridescens	R	3B	33^36'02.0"	115^05'26.0"	VER	SHI

<i>Caladenia viridescens</i>	R	4	33^40'20.0"	115^08'28.0"	PAR	NON
<i>Caladenia viridescens</i>	R	5	33^33'24.7"	115^01'50.4"	NPK	CC
<i>Caladenia viridescens</i>	R	6	33^36'00.0"	115^06'00.0"	CON	SHI
<i>Caladenia viridescens</i>	R	7	33^34'58.7"	115^05'53.4"	CON	SHI
<i>Calothamnus graniticus</i> subsp. <i>graniticus</i>	4	1	33^33'35.7"	115^00'23.4"	REC	CC
<i>Calothamnus graniticus</i> subsp. <i>graniticus</i>	4	2	33^32'39.7"	115^00'35.4"	NPK	CC
<i>Calothamnus graniticus</i> subsp. <i>graniticus</i>	4	3	33^34'04.7"	115^05'05.4"	CON	SHI
<i>Calothamnus graniticus</i> subsp. <i>graniticus</i>	4	4	33^35'12.7"	115^06'02.4"	CON	SHI
<i>Calothamnus graniticus</i> subsp. <i>graniticus</i>	4	5	33^34'48.7"	115^05'40.4"	CON	SHI
<i>Conospermum paniculatum</i>	3	4	33^42'13.7"	115^11'27.4"	PAR	SHI
<i>Daviesia elongata</i> subsp. <i>elongata</i>	R	1	33^42'16.7"	115^11'06.5"	OTH	SHI
<i>Drakaea micrantha</i> ms	R	22	33^38'55.7"	115^06'05.4"		PRI
<i>Dryandra sessilis</i> var. <i>cordata</i>	2	1	33^32'07.7"	115^01'11.4"	NPK	CC
<i>Dryandra sessilis</i> var. <i>cordata</i>	2	7	33^33'26.7"	115^03'46.4"		PRI
<i>Dryandra sessilis</i> var. <i>cordata</i>	2	10	33^38'55.7"	115^02'05.4"		UNK
<i>Eucalyptus marginata</i> x <i>megacarpa</i>	4	1	33^33'25.7"	115^01'50.4"	VER	SHI
<i>Eucalyptus phylacis</i>	R	1A	33^34'58.7"	115^05'17.4"	VER	SHI
<i>Eucalyptus phylacis</i>	R	1B	33^34'55.7"	115^05'22.4"	CON	SHI
<i>Eucalyptus rudis</i> subsp. <i>cratyantha</i>	4	2	33^33'10.7"	115^03'45.4"		UNK
<i>Hydrocotyle hamelinensis</i> ms	2	1	33^32'10.7"	115^01'50.4"	NPK	CC
<i>Hydrocotyle hamelinensis</i> ms	2	2	33^37'38.7"	115^01'47.4"	NPK	CC
<i>Lepyrodia heleocharoides</i>	3	6	33^42'30.7"	115^11'27.5"	TOW	SHI
<i>Tyrbastes glaucescens</i>	4	5	33^41'59.7"	115^11'08.4"	TOW	SHI
<i>Wurmbea calcicola</i>	R	1	33^32'05.7"	115^01'36.4"	NPK	CC

WAHERB SPECIMEN DATABASE
GENERAL ENQUIRY

(1) *Acacia flagelliformis*
Court (Mimosaceae)
CONSERVATION STATUS:P4
Coll.: G.J. Keighery 13333 Date: 27 05 1992
(PERTH 04458745)
LOCALITY Yallingup Siding, WA
LAT 33 Deg 40 Min 9.000 Sec S LONG
115 Deg 8 Min 25.000 Sec E
Erect multistemmed shrub to 1 m. Flowers
yellow, in full flower. Low rise, in winter
flats. Brown sandy clay.
Eucalyptus calophylla woodland.
Abundance: scattered through area.

Possible
occurrence
Not seen during
survey.

(2) *Acacia inops*
Maiden & Blakely (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: B.K. Masters s.n. Date: 03 10 1979 (
PERTH 125687)
LOCALITY Yallingup Siding WA
LAT 33 Deg 39 Min 0.000 Sec S LONG
115 Deg 2 Min 0.000 Sec E
Low flexuose plant. Edge of permanently
moist soil of a swamp. Growing at the base
of larger shrubs.
Previous det.: *Acacia inops* Maiden & Blakely

able along
creeklines,
not seen during
survey.

(3) *Acacia lateritica* glabrous
variant(B.R.Maslin 6765)
PN (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: B.R. Maslin 6765 Date: 14 10 1990 (
PERTH 01400630)
LOCALITY 4 km NW of Dunsborough
township on road to Cape Naturaliste, WA
LAT 33 Deg 34 Min 40.000 Sec S LONG
115 Deg 4 Min 7.000 Sec E
Erect, openly branched shrubs 0.4-0.5 (0.8) m
tall. Young new shoots dull red-
dish, soon aging light green. Pinnules smooth,
glabrous, flat, dull dark grey-
ish green above, paler green below. Heads
bright deep lemon yellow, flowering just
ending. Legumes numerous, pendulous.
Lateritic loam on side of hill. Jarrah-Marri
forest. Abundance: locally
common.

ossible.
not seen
during

Acacia lateritica glabrous
variant(B.R.Maslin 6765)
PN (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: H. Cole 45 Date: 21 08 1999 (PERTH
05521610)
LOCALITY 50 m NW from junction Castle
Rock Road and Meelup Beach Road, on Cape
Naturaliste Road, WA

LAT 33 Deg 35 Min 5.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Open shrub 1 m high x 500 mm wide. Flowers
yellow. Hillside. Stony, brown sandy
clay over granite.
Tall Forest, *Acacia alata*, *Hypocalymma*
robustum.
Frequency:occasional.

Acacia lateritica glabrous
variant(B.R.Maslin 6765)
PN (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: K.H. Rechinger 58842 Date: 20 10 1982
(PERTH 301027)
LOCALITY Between Dunsborough and Cape
Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 3 Min 0.000 Sec E
In Eucalyptus forest.
Previous det.: *Acacia lateritica* (Glabrous
variant) Maslin

Acacia lateritica glabrous
variant(B.R.Maslin 6765)
PN (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: R.J. Cumming 885 Date: 12 08 1980 (
PERTH 00300446)
LOCALITY 2km N of Dunsborough WA
LAT 33 Deg 35 Min 7.000 Sec S LONG
115 Deg 5 Min 53.000 Sec E
Bush to 0.5 m, flowers light yellow.
Growing on laterite. With *Eucalyptus*
marginata and *Acacia pulchella*.
Abundance: common.
Previous det.: *Acacia lateritica* glabrous
variant(B.R.Mas
Frequency:common.

(4) *Acacia semitrullata* **PRESENT**
Maslin (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: H. Cole 233 Date: 07 10 1999 (
PERTH 05666562)
LOCALITY RSM 183 Commonage Road.
Dunsborough, WA
LAT 33 Deg 39 Min 3.000 Sec S LONG
115 Deg 6 Min 0.000 Sec E
Open shrub 600 mm high x 500 mm wide.
Flowers yellow. Seeds pods sickle shape.
Hillside. Litter, brown sandy clay over laterite.
Forest, *Bossiaea ornata*, *Burtonia scabra*.
Frequency:occasional.

Acacia semitrullata
Maslin (Mimosaceae)
CONSERVATION STATUS:P3
Coll.: B.J. Keighery & G.J. Keighery 36 Date:
13 04 1992 (PERTH 04463498)

LOCALITY Location: Carbanup townsite on Carbanup River, 15 km WSW of Busselton (plot carb-3). WA

LAT 33 Deg 42 Min 17.000 Sec S LONG 115 Deg 11 Min 1.000 Sec E

Slender shrub to 0.6m. Soil: Grey/brown sand. Topography/drainage: Well drained gentle NE facing slope.

Geomorphology: Bassendean sands.

Vegetation: Eucalyptus calophylla Open Low Woodland A over Banksia

attenuata, Allocasuarina fraseriana Low Woodland B over Jacksonia sparsa, Acacia extensa Low Scrub A over Stirlingia latifolia, Adenanthos meisneri Low Heath C.

Acacia semitrullata

Maslin (Mimosaceae)

CONSERVATION STATUS:P3

Coll.: G.J. Keighery 12895 Date: 05 06 1993 (PERTH 04181409)

LOCALITY Carbanup River Townsite WA

LAT 33 Deg 42 Min 21.000 Sec S LONG 115 Deg 11 Min 13.000 Sec E

Slender erect open shrub to 70 cm. Flowers pale yellow, in full flower. Grey over white sand.

Banksia attenuata low woodland.

Frequency:locally common.

Acacia semitrullata

Maslin (Mimosaceae)

CONSERVATION STATUS:P3

Coll.: R.J. Cumming 894 Date: 11 08 1980 (PERTH 127159)

LOCALITY About 5 km E of Yallingup WA

LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E

Spindly bush 0.3 m. Flowers white.

Sandy soil on top of hill. Banksia attenuata-grandis woodland.

Abundance: Common.

Previous det.: Acacia semitrullata Maslin

Frequency:Common.

Anthotium junciforme

(de Vriese)D.A.Morrison (Goodeniaceae)

CONSERVATION STATUS:P4

Coll.: W.E. Blackall s.n. Date: 12 1930 (PERTH 1090623)

LOCALITY Yallingup. 32 km W of Busselton WA

LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 2 Min 0.000 Sec E

Previous det.: Anthotium humile var.

junciforme (Vriese) E. Pritzel

Anthotium junciforme

(de Vriese)D.A.Morrison (Goodeniaceae)

CONSERVATION STATUS:P4

Coll.: G.J. Keighery 9562 Date: 04 02 1988 (PERTH 1090674)

LOCALITY 7.5 km E of Ruabon on

Wonnerup Road WA

LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E

Prostrate perennial herb, purple flower.

Winter wet flats, brown clay over ironstone.

Shrubland.

Abundance: scattered.

Anthotium junciforme

(de Vriese)D.A.Morrison (Goodeniaceae)

CONSERVATION STATUS:P4

Coll.: W.E. Blackall s.n. Date: 12 1930 (PERTH 1090666)

LOCALITY Yallingup, 32 km W of Busselton WA

LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 2 Min 0.000 Sec E

Previous det.: Anthotium humile var.

junciforme (Vriese) E. Pritzel

Aotus cordifolia

Benth. (Papilionaceae)

CONSERVATION STATUS:P3

Coll.: N. Casson & T. Annels SC 32.5 Date: 04 11 1996 (PERTH 04741129)

LOCALITY 400 m S along track which is 800 m E along O'Byrne Road from the intersection of Commonage Road, WA

LAT 33 Deg 40 Min 7.000 Sec S LONG 115 Deg 6 Min 15.000 Sec E

Shrub 70 cm high. Dense shrubland of Agonis flexuosa and Agonis linearifolia and grassland of

Cyathochaeta sp. with emergent Eucalyptus calophylla over relatively open low

storey. Associated species: Dampiera

hederacea, Acacia divergens, Pteridium

esculentum, Xanthorrhoea preissii,

Lepidosperma tetraquetrum, Chorizandra

enodes, Mirbelia dilatata.

Aotus cordifolia

Benth. (Papilionaceae)

CONSERVATION STATUS:P3

Coll.: R. Clark 470 Date: 18 10 2000 (PERTH 05748097)

LOCALITY R. Clark's property, McLachlan Road, Dunsborough, WA

LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E

Scrambling climber, flowers yellow.

Creekbank. Litter, brown sandy clay over clay.

Edge of open paddock on forested creekline.

Tremandra diffusa, Leptospermum firmum.

Frequency:occasional.

Asplenium aethiopicum

Not possible
Acacia p2
ac. acemosa
(add in)

Not possible

Possible in peaty
Soils of
the wetter
large hills
Not seen during
survey.

- Maidenhair fern
NOT seen during survey.

(Burm.f.)Bech. (Aspleniaceae)
CONSERVATION STATUS:P4 *new old*
Coll.: L. Smith 871 Date: 11 10 1916 (*record*
PERTH 03249018)
LOCALITY Quindalup WA
LAT 33 Deg 38 Min 12.000 Sec S LONG
115 Deg 8 Min 41.000 Sec E
Among rocks and in moist ground.
Previous det.: Asplenium praemorsum Sw.

(8) Boronia anceps
Paul G. Wilson (Rutaceae)
CONSERVATION STATUS:P3
Coll.: M.G. Corrick 8985 Date: 29 10 1983 (*record*
PERTH 946311)

Not found LOCALITY Near Bunker Bay E of Cape
Naturaliste. WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 2 Min 0.000 Sec E
Spreading bush branching from ground level;
30 - 40 cm high, flowers pink. On
gravelly lateritic soil.
Associated with Eucalyptus calophylla and
Eucalyptus cornuta.
Previous det.: Boronia sp. flat stems (A. Strid
21427)

(9) Boronia capitata
subsp. gracilis Paul G. Wilson (Rutaceae)
CONSERVATION STATUS:P2
Coll.: G.S. McCutcheon GSM 2943 Date: 05
09 1996 (PERTH 06403409)

Possibly occurring in area but not found during survey.
LOCALITY Capel, For. Ref. FO 3536 WA
LAT 33 Deg 41 Min 56.355 Sec S LONG
114 Deg 59 Min 37.922 Sec E
Degraded. Nuytsia, Banksia ilicifolia,
Banksia attenuata, Kunzea ericifolia, Regelia
ciliata, Adenanthos meisneri, Jacksonia
furcellata, Hypocalymma angustifolium,
Phlebocarya ciliata, Leptocarpus tenax.

(10) Boronia tenuis *Blue Boronia*
(Lindl.)Benth. (Rutaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 5544 Date: 25 09 1986 (*record*
PERTH 06166563)

Not found during survey. Unlikely to be present
LOCALITY ca 3.5 km NW along Cape
Naturaliste Road to Y-junction, then ca 2 km
along Meelup Beach Road, then downslope SE
towards Sail Rock. ca 3km NNW of
Dunsborough WA

LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Pink flowered slender shrub. Lateritic
loams. Upslope SW from Sail Rock.
In granitic scrub. Beneath B. grandis, Nuytsia
and Jarrah.
Frequency:common.

Boronia tenuis

(Lindl.)Benth. (Rutaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 5523 Date: 23 09 1986 (*record*
PERTH 06166539)

LOCALITY ca 3 km NW from Dunsborough
along Cape Naturaliste Road to Meelup
Beach road junction, then 3.7 km N to coastal
granite area past Meelup Brook WA

LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Full flower. Cal. longicauda,
Hibbertia, Melaleuca acerosa, Santalum
acuminatum, Cheilanthes.
Frequency:common 200 + plants.

Boronia tenuis
(Lindl.)Benth. (Rutaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 5518 Date: 22 09 1986 (*record*
PERTH 06166520)

LOCALITY ca 1 km due S of W edge of
Rocky Point. ca 9 km NW of Dunsborough
WA
LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
Shrub to 30 cm tall, flowers pink with
prominent blue midribs on underside of petals.
ca 15 m upslope from foot of rock. Seepage on
track.

In regenerating heath of Casuarina humilis,
Xanthorrhoea preissii, Hibbertia,
Acacia ? pulchella, Logania, Stypantra,
Darwinia citriodora.
Frequency:common.

Boronia tenuis
(Lindl.)Benth. (Rutaceae)
CONSERVATION STATUS:P4
Coll.: H. Cole 211 A Date: 12 10 1999 (*record*
PERTH 05666295)

LOCALITY .5 km NW from Meelup Beach
car park, WA
LAT 33 Deg 34 Min 3.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Open shrub 300 mm high x 200 mm wide.
Flowers very pale blue. Hillside. Litter.
brown sandy clay over granite.

Forest, Chorizema rhombium, Leucopogon
tenuis, herbs.
Frequency:occasional.

Boronia tenuis
(Lindl.)Benth. (Rutaceae)
CONSERVATION STATUS:P4
Coll.: N. Gibson & M. Lyons 995 Date: 22 10
1990 (PERTH 3140709)

LOCALITY S side of Meelup Beach Road, c.
1 km E of Eagle Bay settlement (Plot: eb1)
WA

LAT 33 Deg 33 Min 47.000 Sec S LONG
115 Deg 4 Min 22.000 Sec E
Slender woody subshrub 0.3m. Flowers pale
blue.
Soil: Skeletal dark reddish brown sandy loam.
Topography: Well drained gentle NE
facing slope. Geology: Precambrian Granite.
Vegetation: Calothamnus graniticus Low
Heath C.
Previous det.: Boronia ramosa

Boronia tenuis
(Lindl.) Benth. (Rutaceae)
CONSERVATION STATUS: P4
Coll.: G.S. McCutcheon GSM 2165 Date: 06
09 1989 (PERTH 05484898)
LOCALITY Eagle Bay, FE 0747, WA
LAT 33 Deg 33 Min 50.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
Shrub 30 cm tall, flowers pink. Shallow
soil in pockets among rock.

(11)
Possible
but not found
Caladenia arrecta
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: P4
Coll.: H. Cole 428 Date: 07 09 2001 (PERTH 06385532)
LOCALITY 1 km W of Lot 20, Eagle
Crescent, Eagle Bay WA
LAT 33 Deg 33 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
Upright orchid. Flowers red lined petals. Leaf
length 280 mm. Hillside. Brown sandy
clay over granite. Litter.
Low Woodland A, Heath A, Herbs, Very open
low sedges. Leucopogon oxycedrus, Banksia
grandis.
Frequency: one only.

(12)
possible in
past but
was not
found
during
survey
Caladenia busselliana
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
TYPE STATUS: HOL
Coll.: G. Bussell s.n. Date: 20 10 1990 (PERTH 02648733)
LOCALITY 4 km SSW of Quindalup. 5.4 km
NW of Carburnup River, along the old Vasse to
Yallingup railway line. WA
LAT 33 Deg 39 Min 59.000 Sec S LONG
115 Deg 7 Min 59.000 Sec E
Creamy gold yellow colouration and labellum
lamina uniform in colour, sepals terminating in
golden yellow clubs.
In sandy loam soils over clay. Eucalyptus
calophylla regrowth on once cleared area,
Banksia sp., Melaleuca sp.
and Anigozanthos sp.

(13)
Caladenia caesarea

(Domin)M.A.Clem. & Hopper subsp. maritima
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS: R
Coll.: B.R. Maslin BRM 2804 Date: 02 09
1972 (PERTH 251054)
LOCALITY Meelup, near Cape Naturaliste
WA
LAT 33 Deg 34 Min 24.000 Sec S LONG
115 Deg 5 Min 6.000 Sec E
Flowers lime yellow with maroon stripes.
On granite outcrop.
Previous det.: Caladenia caesarea (Domin)
Hopper

Caladenia caesarea
(Domin)M.A.Clem. & Hopper subsp. maritima
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS: R
Coll.: S.D. Hopper 4520 Date: 09 09 1985 (PERTH 0911178)
LOCALITY Castle Rock Bay, Eastern Point, 4
km N of Dunsborough WA
LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 6 Min 0.000 Sec E
Last flower, calli glistening on top. On
granite slope with N aspect. Growing in low
heath.

Caladenia caesarea
(Domin)M.A.Clem. & Hopper subsp. maritima
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS: R
TYPE STATUS: HOL
Coll.: S.D. Hopper 4518 Date: 09 09 1985 (PERTH 0911151)
LOCALITY Meelup Beach, ca 5 km NW of
Dunsborough WA
LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Flowers have a faint sweet smell. Coastal
granite. Growing with Caladenia longicauda
in Calothamnus heath.
Abundance: 50+ plants in last
flower.

Previous det.: Caladenia caesarea (Domin) M.
Clements & Hopper subsp. maritima Hopper &
A.P. Brown

Caladenia caesarea
(Domin)M.A.Clem. & Hopper subsp. maritima
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS: R
Coll.: N. Gibson & M. Lyons 1213 Date: 22
10 1990 (PERTH 3049884)
LOCALITY S side of Meelup Beach Road, c.
1 km E of Eagle Bay settlement (Plot: eb1).
Altitude: 20m. WA

LAT 33 Deg 33 Min 47.000 Sec S LONG
115 Deg 4 Min 22.000 Sec E

found only
on coastal
granite out-
crops.
∴ Not present
in the area

Perennial tuberous herb. Soil: Skeletal dark reddish brown sandy loam. Topography: Well drained gentle NE facing slope. Geology: Precambrian Granite. Vegetation: Calothamnus graniticus Low Heath C.

Caladenia caesarea
(Domin)M.A.Clem. & Hopper subsp. *maritima*
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS:R
Coll.: G.J. Keighery 8292 Date: 12 08 1986 (PERTH 792276)
LOCALITY Point Picquet, Meelup, Cape Naturaliste WA
LAT 33 Deg 33 Min 42.000 Sec S LONG 115 Deg 4 Min 42.000 Sec E
Tuberous herb 10 cm. Flowers green-yellow, maroon stripes. In brown loam over granite; granite headland.
Calothamnus graniticus shrubs.
Abundance: common.
Previous det.: *Caladenia filamentosa* R. Br.
Frequency: common.

Caladenia caesarea
(Domin)M.A.Clem. & Hopper subsp. *maritima*
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS:R
Coll.: G.S. McCutcheon GSM 2164 Date: 06 09 1989 (PERTH 05404029)
LOCALITY Eagle Bay, For. Ref. FE 0816 WA
LAT 33 Deg 33 Min 55.000 Sec S LONG 115 Deg 4 Min 5.000 Sec E
Clumped arrangement of stems leads to supposition that several arise from one tuber, then 39% are multistemmed, averaging 3.4 stems per plant; also 4% of stems are double flowered. Above figures much higher in other populations. Pockets of soil between or on granulite rocks.
Previous det.: *Caladenia caesarea* subsp. *maritima* Hopper & A.P.Brown

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: R. Jennings s.n. Date: 24 09 1967 (PERTH 0914940)
LOCALITY Between Dunsborough and Yallingup WA
LAT 33 Deg 38 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Previous det.: *Caladenia patersonii* R. Br.

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R

Coll.: A.S. George 9210 Date: 09 10 1967 (PERTH 290912)
LOCALITY ca 2 miles E of Yallingup WA
LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Perianth cream, labellum white and maroon.

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: S. Hazelden s.n. Date: 10 1990 (PERTH 01287540)
LOCALITY ca 300 metres S of the Yallingup Hall on Caves Road, CALM Map Busselton 1:50,000 map reference FLO577 WA
LAT 33 Deg 39 Min 0.000 Sec S LONG 115 Deg 2 Min 0.000 Sec E
Previous det.: *Caladenia* sp. (Leeuwin Naturaliste) SDH 4670

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: S.D. Hopper 3450 Date: 05 10 1983 (PERTH 237299)
LOCALITY Leeuwin-Naturaliste National Park, 1.4 km NE of Yallingup on Caves Road WA
LAT 33 Deg 38 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E
In white sand on undulating country. Growing in low forest of *Banksia attenuata*, *Casuarina fraseriana* and *Agonis flexuosa*.
Frequency: five plants in full flower.

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: S.D. Hopper 4653 Date: 25 09 1985 (PERTH 0907537)
LOCALITY 3 km NW of Dunsborough on Cape Naturaliste Road WA
LAT 33 Deg 36 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
In dark loam on slope. Rubbish dump reserve. Area burnt two summers previously. Growing in *Eucalyptus calophylla* woodland over *Agonis flexuosa* open low woodland over heath.
Abundance: one plant in full flower.

Caladenia excelsa
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: D.L. Jones 3169 Date: 16 10 1988 (PERTH 05898773)
LOCALITY Rubbish disposal site, c. 2 km S of Yallingup on Augusta road, Darling district WA

found during survey

LAT 33 Deg 40 Min 0.000 Sec S LONG
115 Deg 2 Min 0.000 Sec E
Previous det.: *Caladenia patersonii* aff.

(15)
Caladenia huegelii
Rchb.f. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: A.S. George 9207 Date: 08 10 1967 (PERTH 256404)
LOCALITY S of Yallingup WA
LAT 33 Deg 39 Min 0.000 Sec S LONG
115 Deg 2 Min 0.000 Sec E
Clay-loam over laterite. Jarrah forest.

Possible on the site due to suitable habitat, but not found during survey
Caladenia huegelii
Rchb.f. (Orchidaceae)
CONSERVATION STATUS:R
Coll.: A.P. Brown 428 Date: 23 09 1986 (PERTH 06007910)
LOCALITY Meelup Road over Eagle Bay, sandy rise above creek c. 2 km WSW of granite hill, WA
LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
In early flower. Sandy rise above winter wet swamp.
Eucalyptus patens, Banksia attenuata, Nuytsia floribunda over Leptospermum, Hakea trifurcata.
Frequency:5 plants.

(16)
on lower margin of Jarrah & Marri forest adjacent to ex. red granite outcrops.
possible in Jarrah forest
Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 4516 A Date: 09 09 1985 (PERTH 1193465)
LOCALITY On Cape Naturaliste Road, 2.8 km NW of Dunsborough WA
LAT 33 Deg 36 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
Flower has a small labellum. Dark grey sand, gradually sloping with a south eastern aspect.
Found in Marri and Agonis *flexuosa* woodland over low heath and open herbs.
Previous det.: *Caladenia longicauda* subsp. *clivicola* Hopper & A.P.Brown

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 4659 Date: 26 09 1985 (PERTH 1189824)
LOCALITY 1.4 km NW of Meelup turnoff on Cape Naturaliste Road, ca 500 metres SE of Eagle Bay turnoff WA
LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E

Loamy soil. Beneath recently burnt Marri and Agonis woodland.
Abundance: 30+ plants in full flower.
Previous det.: *Caladenia longicauda* Lindley subsp. *longicauda*

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS:P4
Coll.: H. Cole & D. Carter 427 Date: 07 09 2000 (PERTH 05681111)
LOCALITY W of Lot 20, Eagle Crescent, Eagle Bay, WA
LAT 33 Deg 33 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E
Upright orchid 500 mm high x 750 mm wide. Flowers: yellow-red stripe.
Hilltop. Litter, brown sandy clay over granite. Low Woodland A, Heath A, Herbs, very open low sedges. *Hibbertia hypericoides, Leucopogon oxycedrus, Leucopogon ionostephioides.* Condition of population: healthy.
Previous det.: *Caladenia longicauda* subsp. *clivicola* Hopper & A.P.Br.

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS:P4
Coll.: R.J. Cranfield 15452 Date: 06 10 2000 (PERTH 05351073)
LOCALITY Meelup area, WA
LAT 33 Deg 33 Min 57.000 Sec S LONG
115 Deg 4 Min 44.000 Sec E
Erect tuberous perennial dwarf shrub, height to 30 cm; flowers white.
Outcrop on hill; bare to littered brown clay loam over granite with 30% outcropping. Shrubland over heath with associated *Pimelea ferruginea, Dodonaea ceratocarpa, Darwinia citridora, Calothamnus graniticus.* 10% of population flowering (12 plants).
Floristic richness: 21-50 species.
Previous det.: *Caladenia longicauda* subsp. *clivicola* Hopper & A.P.Br.
Frequency:locally occasional.

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS:P4
Coll.: R.J. Cranfield 15451 Date: 06 10 2000 (PERTH 05351081)
LOCALITY Castle Rock, Cape Leeuwin area, WA
LAT 33 Deg 35 Min 1.000 Sec S LONG
115 Deg 5 Min 43.000 Sec E

Erect bulbous/tuberous perennial dwarf shrub, height to 35 cm, width to 13 cm; flowers white; immature fruits present.

Outcrop on hill; bare to littered brown clay loam over granite with 3% outcropping. Shrubland with associated *Calothamnus* graniticus, *Hakea trisperma*, *Dodonaea ceratocarpa*, *Darwinia citridora*, *Acacia pulchella*, *Corymbia calophylla*. 10% of population flowering (4 plants). Previous det.: *Caladenia longicauda* subsp. *clivicola* Hopper & A.P.Br. Frequency: locally occasional.

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS: P4
Coll.: R. Jennings s.n. Date: 24 09 1967 (PERTH 00914916)
LOCALITY Meelup WA
LAT 33 Deg 34 Min 23.000 Sec S LONG 115 Deg 5 Min 5.000 Sec E
Laterite.
Previous det.: *Caladenia longicauda* Lindley

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS: P4
Coll.: G.S. McCutcheon GSM 2184 A Date: 06 09 1989 (PERTH 05404010)
LOCALITY Eagle Bay, For. Ref. 0756, WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Flowers white, greenish and purple. Yellowish brownish loamy sand. Marri open woodland on upper slope.
Previous det.: *Caladenia speciosa* Hopper & A.P.Brown

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS: P4
Coll.: S.D. Hopper 5512 Date: 22 09 1986 (PERTH 873659)
LOCALITY E end of Bunkers Bay WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E
Erect tuberous herb. In full flower. NE slope of knoll 150 m from ocean. Low heath of *Hakea trifurcata*, *Hibbertia hypericoides*, *Daviesia horrida*, *Dodonaea ceratocarpa* and *Pimelia ferruginea*.
Abundance: Common.
Previous det.: *Caladenia longicauda* Lindley subsp. *longicauda*

Caladenia longicauda

subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS: P4
Coll.: S.D. Hopper 4654 Date: 25 09 1985 (PERTH 1668102)
LOCALITY Cape Naturaliste Road, 3 km NW of Dunsborough WA
LAT 33 Deg 36 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Dark loam. Sloping terrain. Recently burnt Marri and *Agonis flexuosa* woodland over heath.
Abundance: 50+ plants in full flower.
Previous det.: *Caladenia longicauda* Lindley subsp. *longicauda*

Caladenia longicauda
subsp. *clivicola* Hopper & A.P.Br.
(Orchidaceae)
CONSERVATION STATUS: P4
Coll.: S. Paust 130 Date: 07 09 1971 (PERTH 00278068)
LOCALITY Meelup - Eagle Bay, W of Busselton WA
LAT 33 Deg 34 Min 23.000 Sec S LONG 115 Deg 5 Min 5.000 Sec E
Previous det.: *Caladenia longicauda* Lindl. subsp. *clivicola* Hopper & A.P.Brown

(17) *Caladenia procera*
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
Coll.: A.P. Brown 250 Date: 14 10 1985 (PERTH 905399)
LOCALITY Carbanup, ca 16 km WSW of Busselton on Busselton - Augusta road, WA
LAT 33 Deg 42 Min 0.000 Sec S LONG 115 Deg 12 Min 0.000 Sec E
Erect tuberous herb 40 cm high. Flowers greenish-yellow with heavily clubbed sepals, labellum with a purple tip. Sandy clay soil. Jarrah-Marri woodland amongst dense low shrubs.
Previous det.: *Caladenia pectinata* R.S.Rogers
Frequency: 20+ plants seen in flower.

Caladenia procera
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
TYPE STATUS: HOL
Coll.: S.D. Hopper 5785 Date: 17 10 1986 (PERTH 1029266)
LOCALITY Bussell Highway, ca 500 m S of Carbanup Store, WA
LAT 33 Deg 42 Min 0.000 Sec S LONG 115 Deg 11 Min 30.000 Sec E
Erect, tuberous herb to 80 cm tall. Flowers rich golden yellow. Rich clay loam. Flat terrain.

In Jarrah, Marri
+ Peppermint
+ Sand
+ slumped canopy
+ Marri
Possible sweet
habitat
found during SW

In Marri tall woodland amongst dense heath and sedges.
Previous det.: *Caladenia pectinata* R.S.Rogers
Frequency: 15+ plants.

(16) *Caladenia viridescens*
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
Coll.: S.D. Hopper 4515 Date: 09 09 1985 (PERTH 1198238)
LOCALITY Cape Naturaliste Road, 2.8 km NW of Dunsborough WA
LAT 33 Deg 36 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Dark grey sand. Gradually sloping with a SE aspect.
Found in Marri and *Agonis flexuosa* woodland, over low heath and open herbs.
Abundance: six plants in full flower.

Possible on site, but not found during survey (Marri, Jarrah + Peppermint w/lands in characteristic loam sandy soils. Here drained soils.

Caladenia viridescens
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
TYPE STATUS: HOL
Coll.: S.D. Hopper 4657 Date: 26 09 1985 (PERTH 1099620)
LOCALITY Cape Naturaliste Road, 3.8 km NW of Dunsborough WA
LAT 33 Deg 35 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Flowers tall. Rich brown loam over granite. Sloping terrain with NW aspect.
Growing in Marri/Jarrah woodland over heath to 1 m.
Previous det.: *Caladenia viridescens* Hopper & A.P. Brown
Frequency: 20+ plants.

Caladenia viridescens
Hopper & A.P.Br. (Orchidaceae)
CONSERVATION STATUS: R
Coll.: S.D. Hopper 4650 Date: 25 09 1985 (PERTH 1198211)
LOCALITY Cape Naturaliste road, 3 km NW of Dunsborough WA
LAT 33 Deg 35 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Sepals and petals uniformly greenish-yellow. In dark loam on sloping terrain.
Recently burnt Marri and *Agonis flexuosa* woodland over heath.
Frequency: 10+ plants in full flower.

(17) *Calothamnus graniticus*
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS: P4
Coll.: T.J. Hawkeswood 77 A Date: 23 06 1979 (PERTH 04104803)

granitic soils on coastal heath

Not possible habitat on site.

LOCALITY Little Meelup Beach, Cape Naturaliste WA
LAT 33 Deg 32 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E
Erect, usually compact, wide shrub to 1.5 m high.
Previous det.: *Calothamnus graniticus* T.J. Hawkeswood subsp. *graniticus*
Frequency: locally common.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS: P4
Coll.: T.J. Hawkeswood 110 Date: 24 06 1979 (PERTH 1627708)
LOCALITY Little Meelup beach, Cape Naturaliste area WA
LAT 33 Deg 32 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E
Erect, usually compact, wide shrub to 1.5 m high. Heath with *Hakea*, *Leucopogon*, *Beaufortia* spp.
Abundance: locally common.
Previous det.: *Calothamnus graniticus* subsp. *graniticus* T.J. Hawkeswood

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS: P4
Coll.: T.J. Hawkeswood & P. Johnson 3 Date: 23 06 1979 (PERTH 04104226)
LOCALITY Eagle Bay, Cape Naturaliste WA
LAT 33 Deg 31 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E
Shrub to 1.5 m high.
Previous det.: *Calothamnus graniticus* T.J. Hawkeswood subsp. *graniticus*

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS: P4
Coll.: T.J. Hawkeswood 107 Date: 24 06 1979 (PERTH 1145762)
LOCALITY Opposite Sugar Loaf Rock, Cape Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E
Shrub to 1.5 m high. Leaves variably glabrous to tomentose.
Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS: P4

Coll.: S. Wilson 1 Date: 24 06 1979 (PERTH 1145177)

LOCALITY Opposite Sugar Loaf Rock, Cape Naturaliste WA

LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E

Erect bushy shrub to 1.5 m high.

Granulite rocks, shallow sandy soil.

Granulite heath association.

Previous det.: *Calothamnus splendens*

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood 74 Date: 24 06 1979 (PERTH 1145703)

LOCALITY Cape Naturaliste, opposite Sugar Loaf Rock WA

LAT 33 Deg 32 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E

Erect usually compact, wide shrub to 1.5 m high. Granulite.

Heath with *Beaufortia*, *Templetonia*,

Leucopogon, *Hakea* & *Melaleuca* spp

Abundance: locally common.

Previous det.: *Calothamnus* sp.

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood 110 Date: 24 06 1979 (PERTH 1627716)

LOCALITY Little Meelup beach, Cape Naturaliste area WA

LAT 33 Deg 32 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E

Erect, usually compact, wide shrub to 1.5 m high. Heath with *Hakea*, *Leucopogon*, *Beaufortia* spp.

Abundance: locally common.

Previous det.: *Calothamnus graniticus* subsp. *graniticus* T.J. Hawkeswood

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood & P. Johnson 2 Date: 23 06 1979 (PERTH 1145681)

LOCALITY Eagle Bay, Cape Naturaliste area WA

LAT 33 Deg 31 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E

Erect usually compact, wide shrub to 1.5 m high. Heath with *Hakea*, *Leucopogon* and *Beaufortia* spp.

Previous det.: *Calothamnus* sp.

Frequency: locally common.

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: B. Peters s.n. Date: 04 1963 (PERTH 1145258)

LOCALITY Sugar Loaf [rock] or Busselton WA

LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E

Previous det.: *Calothamnus torulosus*

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood 106 Date: 24 06 1979 (PERTH 1145746)

LOCALITY Opposite Sugar Loaf Rock, Cape Naturaliste WA

LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E

Shrub to 1.5 m high. Leaves variably tomentose.

Previous det.: *Calothamnus graniticus* T.J.

Hawkeswood subsp. *graniticus*

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood 76 Date: 24 06 1979 (PERTH 1145754)

LOCALITY Eagle Bay, Cape Naturaliste area WA

LAT 33 Deg 31 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E

Erect, usually compact, wide shrub to 1.5 m high. Heath with *Hakea*, *Leucopogon* and *Beaufortia* spp.

Abundance: locally common.

Previous det.: *Calothamnus* sp.

Calothamnus graniticus

Hawkeswood subsp. *graniticus*

(Myrtaceae)

CONSERVATION STATUS:P4

Coll.: T.J. Hawkeswood 75 Date: 24 06 1979 (PERTH 1145673)

LOCALITY Eagle Bay, Cape Naturaliste area WA

LAT 33 Deg 31 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E

Erect usually compact, wide shrub to 1.5 m high. Heath with *Hakea*, *leucopogon* and *Beaufortia* spp.

Abundance: locally common.

Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 77 Date: 24 06 1979
(PERTH 1144723)
LOCALITY Little Meelup Beach, Cape
Naturaliste area WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Erect, usually compact, wide shrub to 1.5 m
high. Granulite. Heath with Hakea,
Leucopogon, Beaufortia spp.
Abundance: locally common.
Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood & M. Peterson 1
Date: 24 06 1979 (PERTH 1144731)
LOCALITY Little Meelup Beach, Cape
Naturaliste area WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Erect, usually compact, wide shrub to 1.5 m
high. Granulite. Heath with Hakea,
Leucopogon, Beaufortia spp.
Abundance: locally common.
Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 72a Date: 24 06 1979
(PERTH 1145185)
LOCALITY Meelup Beach, Cape Naturaliste
WA
LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Erect shrub to 2 m high. On gneiss-
granite outcrops.
Abundance: locally common.
Previous det.: *Calothamnus graniticus* T.J.
Hawkeswood

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 71 Date: 24 06 1979
(PERTH 1145223)
LOCALITY Cape Naturaliste, opposite Sugar
Loaf Rock WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 0 Min 0.000 Sec E
Erect, usually compact shrub to 2.5 m high.
Granulite.

Heath with *Beaufortia*, *Templetonia*,
Leucopogon, *Hakea* & *Melaleuca* spp
Abundance: locally common.
Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: N. Gibson & M. Lyons 1035 Date: 22
10 1990 (PERTH 3139271)
LOCALITY S side of Meelup Beach Road, c.
1 km E of Eagle Bay settlement (Plot: eb1).
Altitude: 20m. WA
LAT 33 Deg 33 Min 47.000 Sec S LONG
115 Deg 4 Min 22.000 Sec E
Shrub 1.5m. Soil: Skeletal dark reddish
brown sandy loam. Topography: Well drained
gentle NE
facing slope. Geology: Precambrian Granite.
Vegetation: *Calothamnus graniticus* Low
Heath C.
Previous det.: *Calothamnus graniticus*

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 74a Date: 24 06 1979
(PERTH 1145169)
LOCALITY Opposite Sugar Loaf Rock, Cape
Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 0 Min 0.000 Sec E
Shrub to 1 m high (mostly 1m). On
granite-gneiss outcrops.
Previous det.: *Calothamnus graniticus*
Frequency: locally common.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: S. Patrick 226 Date: 01 01 1986 ()
(PERTH 1161032)
LOCALITY Lookout Rock, SE of and above
Castle Rock Bay, Cape Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Less hirsute form. Shrubs originally to ca 1 m
in height, had regenerated after fire to ca 0.5
m.
Found on sheltered E side on high granite
headland. In low open heath with *Dryandra*
nivea, *Darwinia citriodora*,
Adenanthos sp., *Leucopogon* sp., *Nuytsia*
floribunda.

Calothamnus graniticus

Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: D. Carter 11 Date: 22 08 1999 (PERTH 05521580)
LOCALITY Reserve 21629, Meelup to Eagle Bay Road, WA
LAT 33 Deg 35 Min 0.000 Sec S LONG 115 Deg 6 Min 0.000 Sec E
Compact shrub 1.5 m high x 1.5 m wide.
Flowers red.
Coastal. Stony brown sandy clay over granite. Granite outcrops. Open scrub, Peppermint, *Darwinia citriodora*.
Frequency:restricted.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: G.J. Keighery 3415 Date: 03 10 1980 (PERTH 01617273)
LOCALITY Sugarloaf Rock, mainland, Cape Naturaliste WA
LAT 33 Deg 33 Min 29.000 Sec S LONG 114 Deg 59 Min 54.000 Sec E
Spreading shrub, multi-stemmed, to 1.5 m; in fruit. In grey sand over granite.
Previous det.: *Calothamnus* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: R.W. Purdie 4086 Date: 10 11 1990 (PERTH 02974452)
LOCALITY Eagle Bay, near Cape Naturaliste, Darling District WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 2 Min 0.000 Sec E
Rounded shrub 2 m x 2 m. Low headland, rocky brown sandy earth.
Calothamnus graniticus shrubland.
Abundance: common

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: D. Carter 11 Date: 22 08 1999 (PERTH 05521599)
LOCALITY Meelup to Eagle Bay Road, WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Compact shrub 1.5 m high x 1.5 m wide.
Flowers red.
Coastal. Stony brown sandy clay over granite. Granite outcrops. Open scrub, Peppermint, *Darwinia citriodora*.

Frequency:restricted.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: S. Patrick 224 Date: 28 12 1985 (PERTH 1161024)
LOCALITY S of carpark area, Gull Rock, W side Cape Naturaliste, ca 1.5 km S of lighthouse WA
LAT 33 Deg 31 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E
Hirsute form. Growing exposed around W facing granite outcrops.
Scrub to 1.5 m with *Olearia* sp. *Lepidosperma* sp.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: J.A. Cochrane JAC 3866 Date: 01 02 2001 (PERTH 05766109)
LOCALITY Meelup Regional Park, plants extend from near Eagle Bay to Old Dunsborough along the coastal walkway, WA
LAT 33 Deg 34 Min 24.000 Sec S LONG 115 Deg 5 Min 7.000 Sec E
Erect but compact woody shrub to 1.5 m tall with crowded linear leaves with prominent oil glands. Flowers sessile and clustered on older stems, red. Fruit a sessile capsule with numerous seed.
Coastal. Sandy loam over granite.
Heathland. Associated species: *Agonis flexuosa*, *Sollya heterophylla*, *Darwinia citriodora*, *Eucalyptus calophylla*, *Verticordia plumosa*, *Calothamnus sanguineus*, *Melaleuca* sp.
Plants very healthy.
Frequency:1000+ plants.

Calothamnus graniticus
Hawkeswood subsp. *graniticus*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 108 Date: 24 06 1979 (PERTH 1145266)
LOCALITY Opposite Sugar Loaf Rock, Cape Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 0 Min 0.000 Sec E
Shrub to 1.5 m high. Leaves variably glabrous to tomentose.
Previous det.: *Calothamnus graniticus* T.J. Hawkeswood subsp. *graniticus*

Calothamnus graniticus

Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 92 Date: 24 06 1979
(PERTH 1145215)
LOCALITY Cape Naturaliste, opposite Sugar
Loaf Rock WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Variable shrub to 2 m high. Usually 4-merous,
some flowers on this specimen are 5-merous.
On granulite (granite-gneiss) outcrops.
Previous det.: Calothamnus graniticus T.J.
Hawkeswood subsp. graniticus

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 70 Date: 24 06 1979
(PERTH 1145207)
LOCALITY Cape Naturaliste, opp. Sugar Loaf
Rock WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 0 Min 0.000 Sec E
Erect, usually compact shrub to 2.5 m high.
Granulite.
Heath with Beaufortia, Tempeltonia,
Leucopogon and Melaleuca spp.
Abundance: locally common.
Previous det.: Calothamnus sp.

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood & P. Johnson 1 Date:
23 06 1979 (PERTH 1145274)
LOCALITY Eagle Bay, Cape Naturaliste area
WA
LAT 33 Deg 31 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Erect usually compact, wide shrub to 1.5 m
high. Heath with Hakea, leucopogon
and Beaufortia spp.
Abundance: locally common.
Previous det.: Calothamnus sp.

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 73 Date: 24 06 1979
(PERTH 1145770)
LOCALITY Little Meelup Beach, Cape
Naturaliste area WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E

Erect, usually compact, wide shrub to 1.5 m
high. Granulite. Heath with Hakea,
Leucopogon, Beaufortia spp.
Abundance: locally common.
Previous det.: Calothamnus sp.

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 72 Date: 24 06 1979
(PERTH 1145193)
LOCALITY Little Meelup Beach, Cape
Naturaliste area WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Erect, usually compact, wide shrub to 1.5 m
high. Granulite. Heath with Hakea,
Leucopogon, Beaufortia spp.
Abundance: locally common.
Previous det.: Calothamnus sp.

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: H.G. Elliott s.n. Date: 12 04 1927 ()
(PERTH 1145231)
LOCALITY Near Cape Naturaliste WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Previous det.: Calothamnus pinasta

Calothamnus graniticus
Hawkeswood subsp. graniticus
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: T.J. Hawkeswood 301 Date: 16 05 1980
(PERTH 1145150)
LOCALITY Meelup beach, Cape Naturaliste
WA
LAT 33 Deg 35 Min 0.000 Sec S LONG
115 Deg 5 Min 0.000 Sec E
Shrub to 1.5 m high. Growing on
granulite. Dominant heath plant.
Abundance: dominant.

Chorizema reticulatum
Meisn. (Papilionaceae)
CONSERVATION STATUS:P3
Coll.: H. Cole 327 Date: 09 09 1998 ()
(PERTH 05637635)
LOCALITY Lot 9, Seahill Crescent,
Dunsborough, WA
LAT 33 Deg 39 Min 0.000 Sec S LONG
115 Deg 6 Min 0.000 Sec E
Upright herb, 25 cm high x 15 cm wide.
Flowers orange/pink.
Hillside. Litter on surface of brown sandy clay
over granite.

W/S of the brown
granite. Possible to
the site, but not
found during the
survey.

Woodland, Heath B, Herbs, Low Sedges with
Dasypogon hookeri and Johnsonia lupulina.
Frequency: occasional.

Chorizema reticulatum
Meisn. (Papilionaceae)
CONSERVATION STATUS: P3
Coll.: S. Paust 141 Date: 07 09 1971 (
PERTH 04899237)
LOCALITY Meelup-Eagle Bay WA
LAT 33 Deg 33 Min 47.000 Sec S LONG
115 Deg 4 Min 29.000 Sec E
Flowers deep pink and orange. Few stems
from base.

Conospermum paniculatum
E.M.Benn. (Proteaceae)
CONSERVATION STATUS: P3
Coll.: G.J. Keighery 13502 Date: 23 08 1993
(PERTH 04221397)
LOCALITY Carbanup River Reserve, 5 km S
of Vasse WA
LAT 33 Deg 42 Min 36.000 Sec S LONG
115 Deg 11 Min 22.000 Sec E
Tangled erect multistemmed shrub to 50 cm.
Flowers pale blue, in full flower. Grey
sand over white sand.
Eucalyptus marginata/Banksia woodland.
Abundance: locally common

Cyathochaeta teretifolia
W.Fitzg. (Cyperaceae)
CONSERVATION STATUS: P3
Coll.: N. Casson & T. Annel SC 32.1 Date:
04 11 1996 (PERTH 04722515)
LOCALITY 400 m S along track which is 800
m E along O'Byrne Road from the intersection
of Commonage Road, WA
LAT 33 Deg 40 Min 7.000 Sec S LONG
115 Deg 6 Min 15.000 Sec E
Herb 130 cm high. Dense shrubland
of Agonis flexuosa and Agonis linearifolia and
grassland of
Cyathochaeta sp. with emergent Eucalyptus
calophylla over relatively open
low storey. Associated species: Dampiera
hederacea, Acacia divergens, Pteridium
esculentum, Xanthorrhoea preissii.
Lepidosperma tetraquetrum, Chorizandra
enodes, Mirbelia dilatata.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS: R
Coll.: C.A. Gardner 5572 Date: 12 09 1940 (
PERTH 05194326)
LOCALITY Carbanup River WA
LAT 33 Deg 42 Min 0.000 Sec S LONG
115 Deg 11 Min 0.000 Sec E
Caespitose, 3 ft tall.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS: R
Coll.: R.D. Royce 4688 Date: 25 10 1953 (
PERTH 1102230)
LOCALITY Carbanup [River] WA
LAT 33 Deg 42 Min 0.000 Sec S LONG
115 Deg 11 Min 0.000 Sec E
Previous det.: Daviesia elongata Benth.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS: R
Coll.: J.A. Cochrane JAC 2398 Date: 21 02
1997 (PERTH 04669002)
LOCALITY S boundary of Carbanup townsite
reserve, adjacent Bussell Highway WA
LAT 33 Deg 42 Min 18.000 Sec S LONG
115 Deg 11 Min 5.000 Sec E
Spreading shrub to 50 cm tall by up to 1 m
wide with bright green, flat,
straight phyllodes. Tangled stems come from a
common rootstock.
Gently undulating plain. Grey sandy loam, pH:
6.5.
Woodland with Eucalyptus calophylla, E.
marginata, Xanthorrhoea, Stirlingia.
Abundance: 50-100 plants.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS: R
Coll.: J.A. Cochrane JAC 1386 Date: 14 02
1995 (PERTH 04219384)
LOCALITY Carbanup Townsite Reserve
WA
LAT 33 Deg 42 Min 18.000 Sec S LONG
115 Deg 11 Min 5.000 Sec E
Spreading shrub to 1 m by 1 m wide and 50 cm
high. Multiple branching from
central base. Yellow orange flowers. Bright
green lanceolate leaves with prominent
midvein.
Grey sandy loam, pH: 6.5 Eucalyptus and
Banksia woodland, Eucalyptus calophylla,
Hakea
ruscifolia, Stirlingia latifolia, Banksia grandis,
Xanthorrhoea, Allocasuarina, Persoonia,
Banksia attenuata.
Abundance: 60 plus plants seen

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS: R
Coll.: J.A. Cochrane JAC 1388 Date: 14 02
1995 (PERTH 04219392)
LOCALITY Carbanup Townsite Reserve
WA

21
suitable habitat
on site.
Swampy
dus. Sandy
& clayey soils,
flashes, slopes.
iso in Jarrah/
Banksia woodland.
found during
survey.

22
Along water-
courses or
bordering swamps.
ble habitat
along ck. line,
& not found
during survey.

in low forest
over heath to
Jarrah, Dryandra
squarrosa +
Luzbury. On
sandy soil.
possible habitat suitability
but not found during survey.

LAT 33 Deg 42 Min 18.000 Sec S LONG
115 Deg 11 Min 5.000 Sec E
Spreading shrub to 1 m by 1 m wide and 50 cm
high. Multiple branching from
central base. Yellow orange flowers. Bright
green lanceolate leaves with prominent
midvein.
Grey sandy loam, pH:6.5 Eucalyptus and
Banksia woodland, Eucalyptus calophylla,
Hakea
ruscifolia, Stirlingia latifolia, Banksia grandis,
Xanthorrhoea Allocasuarina, Persoonia,
Banksia attenuata.

Abundance: 60 plus plants seen

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS:R *old record*
Coll.: R.D. Royce 4688 Date: 25 10 1953 (*old record*
PERTH 05194318)
LOCALITY Carburnup River WA
LAT 33 Deg 42 Min 0.000 Sec S LONG
115 Deg 11 Min 0.000 Sec E
Previous det.: Daviesia elongata Benth.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS:R
Coll.: A. Webb AW 1013 Date: 18 11 1996 (*old record*
PERTH 04874862)
LOCALITY SE end of Carbanup Reserve, on
the W side of Bussell Highway, WA
LAT 33 Deg 42 Min 20.000 Sec S LONG
115 Deg 11 Min 1.000 Sec E
Open sprawling shrub 30-40 cm high x ca 1 m
wide. Papilionaceae like flower, stirlingia like
blue/green leaves.
Flat, dry brown with some grey sand. Low
Forest A over Dense Heath B. Casuarina
fraseriana, Marri, Peppi trees,
Stirlingia latifolia, Melaleuca acerosa,
Hibbertia sp.
Abundance: frequent. Species is only present
in recently burnt top edge of reserve.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS:R
Coll.: M.D. Crisp & L.G. Cook MDC 9368
Date: 10 10 2001 (PERTH 06375391)
LOCALITY Carburnup townsite reserve, SW
firebreak. Darling District WA
LAT 33 Deg 42 Min 19.000 Sec S LONG
115 Deg 11 Min 2.000 Sec E
Diffuse multistemmed sprawling shrub to 0.5
m high. Petals yellow and dark red. Flat.
Grey sand.
Opening in Marri forest with Allocasuarina,
Stirlingia and Xanthorrhoea.

Previous det.: Daviesia elongata Benth. subsp.
elongata
Frequency:locally frequent.

Daviesia elongata
Benth. subsp. elongata (Papilionaceae)
CONSERVATION STATUS:R
Coll.: M.D. Crisp 5360 Date: 21 01 1979 (*old record*
PERTH 04187377)
LOCALITY 18 km from Busselton along road
to Margaret River, 1km S of Carburnup River
WA

LAT 33 Deg 42 Min 0.000 Sec S LONG
115 Deg 11 Min 0.000 Sec E
Many stems 0.5 m. Flat, pale brown
sand. Open forest with Eucalyptus
marginata and E. calophylla.
Frequency:locally common.

(24) Drakaea micrantha *In open sandy patches in Jarrah,
Banksia woodland with
Kunz-ericia, fine
Duck Orchid.
Then Drakaea
Low w/land or
mallee heath
open patches of
sand.
Possible habitat
& suitability but
found during survey*
Hopper & A.P.Br. ms (Orchidaceae)
CONSERVATION STATUS:R
Coll.: J. Henderson 451 B Date: 14 09 2000 (*old record*
PERTH 05751322)
LOCALITY RSM 183, Commonage Road,
Quindalup, WA
LAT 33 Deg 39 Min 0.000 Sec S LONG
115 Deg 6 Min 0.000 Sec E
Upright orchid. Hillside. Litter, grey
sand. *ilicifolia*
Low Woodland A. Banksia linifolia,
Melaleuca thymoides, Calytrix flavescens.
Previous det.: Drakaea micrantha Hopper
& A.P.Br.

(25) Dryandra sessilis
var. cordata (Meisn.)A.S.George
(Proteaceae)
CONSERVATION STATUS:P2
Coll.: C.A. & K.M. Pearce CP 261 A Date: 13
09 1997 (PERTH 05298601)
LOCALITY Yallingup, opposite Caves
Caravan Park WA
LAT 33 Deg 39 Min 0.000 Sec S LONG
115 Deg 2 Min 0.000 Sec E
Open forest. Host
voucher specimen for PERTH 05298407.
*White-grey sand
Coastal low eston
None seen
during survey.
Unsuitable
habitat*

Dryandra sessilis
(Knight)Domin var. cordata
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: D. Carter 164 Date: 19 09 1999 (*old record*
PERTH 05600731)
LOCALITY Lot 9, Caladenia Close, Eagle
Bay, WA
LAT 33 Deg 33 Min 0.000 Sec S LONG
115 Deg 4 Min 0.000 Sec E

Dense shrub 3 m high x 8000 mm wide.
Flowers yellow. Hillside. Litter, red
sandy clay over granite.
Forest, *Spyridium globulosum*, *Logania
vaginalis*, *Billardiera parviflora*.

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: Ph. Morat 8093 Date: 10 07 1988 (
PERTH 01882287)
LOCALITY Cape Naturaliste WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Arbrisseau a feuilles dentees, fleurs jaunes.
Previous det.: *Dryandra sessilis*
(Knight)Domin var. *cordata*
(Meisn.)A.S.George

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: T.E.H. Aplin 6537 Date: 18 10 1978 (
PERTH 04221478)
LOCALITY SW of sampling paddock,
Agriculture Protection Board Study area,
property of K. D'Espeissis, Cape Naturaliste
WA

LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Calcareous soils, rocky limestone.
Dryandra sessilis shrubland with *Melaleuca
huegelii*.
Previous det.: *Dryandra sessilis* (Knight)
Domin

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
TYPE STATUS: HOL
Coll.: A. Oldfield s.n. Date: (PERTH
01591193)
LOCALITY Cape Naturaliste WA
LAT 33 Deg 31 Min 59.000 Sec S LONG
115 Deg 0 Min 59.000 Sec E
Dense bush tree 10-12 ft. Flowers yellowish.
Previous det.: *Dryandra floribunda* var. *major*

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: J.A. Cochrane JAC 3865 Date: 01 02
2001 (PERTH 05814596)
LOCALITY Cape Naturaliste, around carpark
and lighthouse and access track into carpark,
WA

LAT 33 Deg 32 Min 12.000 Sec S LONG
115 Deg 1 Min 6.000 Sec E
Upright straggly shrub to 3 m tall with oak-
shaped pale green to grey leaves.
Prickly margins to leaves. Flowers pale
yellow. Fruit a follicle with seed dehiscing
when ripe.
Headland. Brown sand over limestone.
Heathland. Associated species: *Agonis
flexuosa*, *Olearia axillaris*, *Hibbertia
hypericoides*, *Spyridium globulosum*, *Acacia
cyclops*, *Adenanthos* sp.
Frequency:300+ plants.

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: M. Soutar MS 04 Date: 26 07 1999 (
PERTH 05532450)
LOCALITY Road to Leeuwin Lighthouse and
surrounding area, WA
LAT 33 Deg 32 Min 19.000 Sec S LONG
115 Deg 1 Min 8.000 Sec E
Erect, branched shrub/tree 2 m high. Flowers
yellow. Discolorous leaves.
Slope and crest of hill. Dry, brown sand,
coastal limestone. Coastal heath, *Spyridium
globulosum*.
Frequency:abundant in area along slope to
crest.

Dryandra sessilis
(Knight)Domin var. *cordata*
(Meisn.)A.S.George (Proteaceae)
CONSERVATION STATUS:P2
Coll.: G.J. Keighery 3416 Date: 03 10 1980 (
PERTH 04221443)
LOCALITY Cape Naturaliste, near Lighthouse
WA
LAT 33 Deg 32 Min 0.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Erect, single stemmed, large shrub, to 2.5 m,
flowers yellow, foliage dark green. Grey
sand over limestone.
Abundance: common
Previous det.: *Dryandra sessilis* (Knight)
Domin

Eucalyptus marginata x *megacarpa*
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: G.J. Keighery 5332 Date: 07 10 1982 (
PERTH 805297)
LOCALITY Cape Naturaliste, road to
Sugarloaf Rock WA
LAT 33 Deg 33 Min 10.000 Sec S LONG
115 Deg 1 Min 0.000 Sec E
Tall spreading tree 4 - 5 m. Bark coarse,
furrowed, grey. Mallee form.

sessilis
(not searched
for during
Survey.
Euc. marginata
seen during
Survey.

Interdunal. Brown sandy loam; brown calcareous loam. *Agonis flexuosa* woodland. Abundance: clump of 2 large, 9 smaller mallee form. Previous det.: *Eucalyptus marginata* x *megacarpa* Frequency: clump of 2 large, 9 smaller mallee form.

Eucalyptus marginata x *megacarpa*
(Myrtaceae)

CONSERVATION STATUS:P4
Coll.: G.J. Keighery 5332 Date: 07 10 1982 (PERTH 805289)
LOCALITY Cape Naturaliste, road to Sugarloaf Rock WA
LAT 33 Deg 33 Min 10.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E
Tall spreading tree 4 - 5 m. Bark coarse, furrowed, grey. Mallee form. Interdunal. Brown sandy loam; brown calcareous loam. *Agonis flexuosa* woodland. Abundance: clump of 2 large, 9 smaller mallee form. Previous det.: *Eucalyptus marginata* x *megacarpa* Frequency: clump of 2 large, 9 smaller mallee form.

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: M.I.H. Brooker 8151 Date: 31 05 1983 (PERTH 1044702)
LOCALITY Plateau on Meelup road overlooking sea [Above Meelup Inlet] WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Tree, 2 - stemmed, 4 m tall with coarse slabs of light grey-brown, non-decorticated rough bark. On laterite. With marri and jarrah.

Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: K.H. Rechinger 58888 Date: 20 10 1982 (PERTH 1044672)
LOCALITY Between Dunsborough and Cape Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E
In *Eucalyptus* forest.
Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R

Coll.: M.I.H. Brooker 9173 Date: 18 02 1986 (PERTH 1044699)

LOCALITY Above Meelup Inlet WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Tree (others are stout mallees) 4 m tall with flaky and hard corky rough bark (not fibrous), leaves glossy dark green.
With marri in flower.

Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: E. Holland MEE 392 Date: 24 10 1995 (PERTH 05029031)
LOCALITY 0.9 km NE from Cape Naturaliste Road along Meelup Beach Road to car park lookout on right WA
LAT 33 Deg 35 Min 3.000 Sec S LONG 115 Deg 5 Min 12.000 Sec E
Hilltop. Ridge. Brown concretionary gravel-laterite. Open Low Woodland A over open Scrub B with *Eucalyptus calophylla*, *Xanthorrhoea preissii*, *Allocasuarina humilis*, *Dryandra nivea*, *Hakea lissocarpha*.

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: L.A.S. Johnson & M. Johnson LASJ 9052 Date: 10 05 1988 (PERTH 2112752)
LOCALITY Lookout c. 200 m NW of Castle Rock road turn off Meelup WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Several stemmed treelet to 4 m. Bark at first smooth, becoming platy and grey. Laterite. Near heath at edge of low *Corymbosa calophylla* / *E. marginata* subsp. *marginata* woodland. Abundance: Only half a dozen plants seen. Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: D. Carter 134 Date: 24 09 1999 (PERTH 05578574)
LOCALITY Meelup Beach Road, WA
LAT 33 Deg 33 Min 3.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Mallee. Flowers white. Hillside. Litter, brown sandy clay over granite. Heath B. *Gastrolobium spinosum*, *Acacia nervosa*.
Previous det.: *Eucalyptus phylacis*
L.A.S.Johnson & K.D.Hill

mallee - heath
on island on
sterile soils
connected to
the Cape Naturaliste
area.
mallee scrubland
on island
connected to
the Cape Naturaliste
area.
summary

Frequency:rare - 1 only.

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: R. Curlewis s.n. Date: 06 04 1981 (PERTH 06206220)
LOCALITY Meelup Road overlooking Castle Rock WA
LAT 33 Deg 35 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Roadside heath with Marri.
Previous det.: *Eucalyptus phylacis*
L.A.S.Johnson & K.D.Hill

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: A. Webb AW 0242 Date: 06 11 1996 (PERTH 04874978)
LOCALITY E and W side of Meelup Road, ca 0.9 km NE of Cape Naturaliste road junction, next to lookout, WA
LAT 33 Deg 35 Min 2.000 Sec S LONG 115 Deg 5 Min 10.000 Sec E
Erect tree ca 7 m high x ca 5 m wide. A mallee type eucalypt.
Hilltop, dry yellowish/orangey/brown clayey sand. Some loamy soil was in deeper layers. Granite rocks are common nearby.
Open Low Woodland A, over Heath B. *Hakea trifurcata*, *Melaleuca acerosa*, Jarrah, *Xanthorrhoea preissii*, *Gastrolobium spinosum*, *Calothamnus sanguineus*.
Abundance: 18 trees.
Previous det.: *Eucalyptus phylacis*
L.A.S.Johnson & K.D.Hill

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: K.H. Rechinger 58886 Date: 20 10 1982 (PERTH 1044680)
LOCALITY Between Dunsborough and Cape Naturaliste WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E
In *Eucalyptus* forest.
Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
TYPE STATUS: ISO
Coll.: D. Blaxell, L. Johnson & M. Brooker DB 2000 Date: 31 05 1983 (PERTH 2824965)
LOCALITY Meelup, E side of Cape Naturaliste WA

LAT 33 Deg 35 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E
Small tree, 5 m high. Bark rough and flaky on main trunks and branches; outer branches smooth.
On lateritic hillside sloping seaward. In heath of various spp. with this taxon; Marri - Jarrah woodland
nearby but the two vegetation types tend to be separate. Abundance: frequent.
Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: D. Carter 134 Date: 24 09 1999 (PERTH 05578582)
LOCALITY Meelup Beach Road, WA
LAT 33 Deg 33 Min 3.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Mallee. Flowers white. Hillside. Litter, brown sandy clay over granite.
Heath B. *Gastrolobium spinosum*, *Acacia nervosa*.
Previous det.: *Eucalyptus phylacis*
L.A.S.Johnson & K.D.Hill
Frequency:rare - 1 only.

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: S.D. Hopper 4819 Date: 08 05 1986 (PERTH 1044664)
LOCALITY N of Meelup road WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Small tree or thick trunked mallee to 5 m tall. Bark rough, grey, with deep furrows and elongate flakes, exposing pale yellow new bark below. Canopy dull blue-green. Stamens cream.
Rich brown loam and outcropping granite. NW facing coastal slope. In ecotone between heath and marri forest.
Previous det.: *Eucalyptus phylacis*

Eucalyptus phylacis
L.A.S.Johnson & K.D.Hill (Myrtaceae)
CONSERVATION STATUS:R
Coll.: E. Holland MEE 392 Date: 24 10 1995 (PERTH 05029058)
LOCALITY 0.9 km NE from Cape Naturaliste Road along Meelup Beach Road to car park lookout on right WA
LAT 33 Deg 35 Min 3.000 Sec S LONG 115 Deg 5 Min 12.000 Sec E
Hilltop. Ridge. Brown concretionary gravel-laterite.
Open Low Woodland A over open Scrub B with *Eucalyptus calophylla*, *Xanthorrhoea*

preissii, Allocasuarina humilis, Dryandra nivea, Hakea lissocarpha.

(29) Eucalyptus rudis
subsp. cratyantha Brooker & Hopper
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: S.D. Hopper 4820 Date: 08 05 1986 (PERTH 1505564)
LOCALITY Meelup Beach ca 500 m from sea at foot of coastal slopes WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
10 m tree, bark grey, rough, tessellated. Leaves long and pendulous. Exceptionally large buds and fruits.
Rich loam. With Eucalyptus calophylla, Agonis flexuosa and Melaleuca lining water course.
Previous det.: Eucalyptus rudis subsp. cratyantha Brooker & S.D. Hopper

Eucalyptus rudis
subsp. cratyantha Brooker & Hopper
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: H. Cole 525 Date: 14 06 2001 (PERTH 05952530)
LOCALITY 100 m W of junction of Eagle Bay Road and Meelup Beach Road, WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 4 Min 0.000 Sec E
Dense tree 15 m high x 7 m wide. Flowers white. Valley. Litter, brown sandy clay. Forest, Heath B, Very Open Herbs, Low sedges. Hibbertia cuneiformis.
Frequency:occasional.

Eucalyptus rudis
subsp. cratyantha Brooker & Hopper
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: L. Johnson & B. Briggs LJ 9134 Date: 26 10 1988 (PERTH 1254391)
LOCALITY Eagle Bay (Fern Road, 3km N of Meelup Road) WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 3 Min 0.000 Sec E
Trees to 10 - 15m. Bark grey, subfibrous, typical 'rudis'. Sheltered hillside. Granite. Edge of C. calophylla woodland.
(This is Hopper's 'rudis Dunsborough' - simply a large fruited local population.)
Previous det.: Eucalyptus rudis subsp. cratyantha Brooker & S.D. Hopper
Frequency:locally frequent.

Eucalyptus rudis
subsp. cratyantha Brooker & Hopper
(Myrtaceae)

CONSERVATION STATUS:P4
Coll.: S.D. Hopper 4821 Date: 08 05 1986 (PERTH 1505556)
LOCALITY Meelup Beach, ca 500 m from sea at foot of coastal slopes WA
LAT 33 Deg 34 Min 0.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
10 m tree, bark grey, rough, tessellated. Leaves long and pendulous. Exceptionally large buds and fruits.
Rich loam. With Eucalyptus calophylla, Agonis flexuosa and Melaleuca lining water course.
Previous det.: Eucalyptus rudis subsp. cratyantha Brooker & S.D. Hopper

Eucalyptus rudis
Endl. subsp. cratyantha Brooker & Hopper
(Myrtaceae)
CONSERVATION STATUS:P4
Coll.: G.J. Keighery 8290 Date: 12 08 1986 (PERTH 1505572)
LOCALITY Fern Road, Eagle Bay, Cape Naturaliste WA
LAT 33 Deg 34 Min 30.000 Sec S LONG 115 Deg 5 Min 0.000 Sec E
Tall tree, rough barked for two thirds of its length. Height 7-12 m. Flowers white. Creek bank, sides. Loam over granite.
Eucalyptus rudis woodland.
Abundance: Abundant.
Previous det.: Eucalyptus rudis subsp. cratyantha Brooker & S.D. Hopper

(27) Goodenia arthrotricha
Benth. (Goodeniaceae)
CONSERVATION STATUS:P2
Coll.: G.S. McCutcheon GSM 2833 Date: 02 12 1993 (PERTH 05608961)
LOCALITY Kirup, For. Ref. FP 5470, WA
LAT 33 Deg 42 Min 31.000 Sec S LONG 115 Deg 1 Min 35.000 Sec E

(28) Hydrocotyle hamelinensis
H.Eichler ms (Apiaceae)
CONSERVATION STATUS:P2
Coll.: HJ. Eichler 23710 Date: 26 09 1985 (PERTH 04055829)
LOCALITY On path above Bunker Bay, from Cape Naturaliste lighthouse, when the path descends more steeply towards the coast WA
LAT 33 Deg 33 Min 0.000 Sec S LONG 115 Deg 1 Min 0.000 Sec E

Hydrocotyle hamelinensis
H.Eichler ms (Apiaceae)
CONSERVATION STATUS:P2
Coll.: G.J. Keighery s.n. Date: 01 10 1989 (PERTH 02391325)

No Euc. rudis seen along lines surveyed

Gravel, granite rocks, slope
Habitat not suitable for this species

Soil pockets in limestone rocks.
Habitat not suitable for this species.

LOCALITY 4 km SE. of Donnybrook,
For.Ref. FE 5321 WA
LAT 33 Deg 34 Min 14.739 Sec S LONG
115 Deg 1 Min 50.900 Sec E

Yellowish-red sandy loam with much
gravel.
Low woodland A of Marri & Jarrah
regeneration with Xanthorrhoea preissii,
Acacia
pulchella, Kunzea sp., Hemiantra leiantha,
Hibbertia hypericoides, Hypocalymma
angustifolia, Daviesia decurrens, Dryandra
bipinnatifida, D. nivea, Phyllanthus
calycinus, Acacia nervosa, Comesperma
calymega and others.

Tetrateca parvifolia
Joy Thomps. (Tremandraceae)
CONSERVATION STATUS:P3
Coll.: G.S. McCutcheon GSM 3003 Date: 24
12 1997 (PERTH 06402852)
LOCALITY Lot 348 Wade Road,
Brookhampton, Map Ref. FF 5382 WA
LAT 33 Deg 34 Min 35.622 Sec S LONG
115 Deg 1 Min 49.979 Sec E
Bushy shrub 0.35 m tall, 0.4 m wide.
Low woodland A of Marri and Jarrah.

37 ✓
Tyrbastes glaucescens
B.G. Briggs & L.A.S. Johnson
(Restionaceae)
CONSERVATION STATUS:P4
Coll.: G.J. Keighery 12914 Date: 02 11 1993
(PERTH 04057791)
LOCALITY Carbanup River townsite Reserve,
Busselton to Margaret River WA
LAT 33 Deg 42 Min 21.000 Sec S LONG
115 Deg 11 Min 13.000 Sec E
Robust rhizomatous herb, to 1.5 m. In flower.
Male. Brown red clay loam.
Eucalyptus patens tall open woodland.
Abundance: Clonal along river bank.
Previous det.: Taraxis glaucescens
L.A.S. Johnson & B.G. Briggs

Verticordia lehmannii
Schauer (Myrtaceae)
CONSERVATION STATUS:P4
Coll.: Dr. Diels and Pritzel 385 Date: 03
1901 (PERTH 01946714)
LOCALITY Sussex District. S of Quindalup
WA
LAT 33 Deg 38 Min 12.000 Sec S LONG
115 Deg 8 Min 41.000 Sec E

37
Wurmbea calcicola
T. Macfarlane (Colchicaceae)
CONSERVATION STATUS:R
Coll.: S.D. Hopper 5509 Date: 22 09 1986 (
PERTH 01999397)

LOCALITY Ca 1 km ENE of Cape Naturaliste
Lighthouse WA

LAT 33 Deg 31 Min 47.000 Sec S LONG
115 Deg 1 Min 34.000 Sec E
Tuberous herbs, leaves paired, glossy.
On limestone breakaway, E side of small bay
with spectacular caves to the W, ca 5-10 m N
of Cape Naturaliste.
In dwarf scrub. Abundance:
small population.
Previous det.: Wurmbea sp. Cape Naturaliste
(S.D. Hopper 5871)

Wurmbea calcicola
T. Macfarlane (Colchicaceae)
CONSERVATION STATUS:R
TYPE STATUS: ISO
Coll.: S.D. Hopper 5871 Date: 19 06 1987 (
PERTH 03204103)
LOCALITY Cape Naturaliste, "The Quarries",
ca 0.8 km ENE from the lighthouse WA
LAT 33 Deg 31 Min 59.000 Sec S LONG
115 Deg 0 Min 59.000 Sec E
Cormous herb to 25 cm high; leaves glossy,
pale green; corm to 4 cm long, tunica
dark brown; scape to 15 cm, 1-4 flowers;
flowers white with glossy deep pink
nectaries and purple anthers; faint honey
colour.

Along 400 m rim of coastal limestone cliffs, in
pockets of rich brown loam on rock outcrop.
In low heath and scrub of Melaleuca heugelii,
M. acerosa, Spyridium
globulosum, Beyeria viscosa, Olearia axillaris,
Guichenotia ledifolia, Templetonia retusa,
Acanthocarpus preissii.
Abundance: uncommon. Ca 200
plants in five small colonies.
Previous det.: Wurmbea sp.

Wurmbea calcicola
T. Macfarlane (Colchicaceae)
CONSERVATION STATUS:R
TYPE STATUS: HOL
Coll.: S.D. Hopper 5871 Date: 19 06 1987 (
PERTH 03204081)
LOCALITY Cape Naturaliste, "The Quarries",
ca 0.8 km ENE from the lighthouse WA
LAT 33 Deg 31 Min 59.000 Sec S LONG
115 Deg 0 Min 59.000 Sec E
Cormous herb to 25 cm high; leaves glossy,
pale green; corm to 4 cm long, tunica
dark brown; scape to 15 cm, 1-4 flowers;
flowers white with glossy deep pink
nectaries and purple anthers; faint honey
colour.

Along 400 m rim of coastal limestone cliffs, in
pockets of rich brown loam on rock outcrop.
In low heath and scrub of Melaleuca heugelii,
M. acerosa, Spyridium

Possibly
suitable
habitat.

Sandy clays
washed - west of
site is

Not suitable
as habitat.
Coastal heath in soil
pockets on limestone
rocks.

globulosum, *Beyeria viscosa*, *Olearia axillaris*,
Guichenotia ledifolia, *Templetonia retusa*,
Acanthocarpus preissii.

Abundance: uncommon. Ca 200
plants in five small colonies.
Previous det.: *Wurmbea* sp.

Wurmbea calcicola

T. Macfarlane (Colchicaceae)

CONSERVATION STATUS: R

Coll.: G.S. McCutcheon GSM 1816 Date: 16
09 1988 (PERTH 05381010)

LOCALITY Cape Naturaliste, For. Ref.

FC0496 WA

LAT 33 Deg 32 Min 10.000 Sec S LONG
115 Deg 1 Min 30.000 Sec E

Soil pockets on limestone clifftop.
Previous det.: *Wurmbea centralis* aff.

APPENDIX B

**Flora Species Present in each of the Vegetation Community Types
Recorded on Part Location Sussex 296**

Appendix B: Flora species present in each of the vegetation community types present on Part Sussex Location 296

Family	Species	Vegetation Community Type			
		1	2	3	4
ANARTHRIACEAE	<i>Anarthria prolifera</i>	X	X		X
ANTHERICACEAE	<i>Agrostocrinum scabrum/ stypanroides</i>		X		
	<i>Caesia micrantha</i>		X		
	<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	X	X		X
	<i>Johnsonia inconspicua</i> (Priority 3 species)		X		
	<i>Johnsonia lupulina</i>		X		
	<i>Sowerbaea laxiflora</i>		X		
	<i>Thysanotus patersonii/ manglesianus</i>	X			
	<i>Tricoryne elatior/ humilis</i>	X			
APIACEAE	<i>Centella asiatica</i>			X	
	<i>Trachymene pilosa</i>		X		
	<i>Xanthosia huegelii</i>		X		
	<i>Xanthosia</i> sp.	X			
	<i>Xanthosia tasmanica</i>	X			
ASTERACEAE	<i>Brachyscome iberidifolia</i>		X		
	? <i>Euchiton sphaericus</i>		X		
	<i>Lagenophora huegelii</i>		X		
	<i>Rhodanthe citrina</i>		X		
CASUARINACEAE	<i>Allocasuarina humilis</i>		X		
COLCHICACEAE	<i>Burchardia multiflora</i>			X	
	<i>Burchardia umbellata</i>		X		
CYPERACEAE	<i>Baumea articulata</i>			X	
	? <i>Baumea</i> sp.			X	
	Cyperaceae sp. (clumping/mounding)			X	
	<i>Lepidosperma ? tenue</i>			X	
	<i>Lepidosperma</i> sp.		X		
	<i>Lepidosperma squamatum/ pubisquamatum</i>		X		
	<i>Lepidosperma tetraquetrum</i>			X	
	<i>Mesomelaena tetragona</i>	X	X		X
	<i>Schoenus curvifolius</i>		X		
	<i>Schoenus grandiflorus</i>	X			X
	<i>Schoenus</i> sp.			X	
DASYPOGONACEAE	<i>Dasyogon bromeliifolius</i>		X		
	<i>Dasyogon hookeri</i>	X			
	<i>Lomandra caespitosa</i>	X			

Family	Species	Vegetation Community Type			
		1	2	3	4
DASYPOGONACEAE	<i>Lomandra nigricans/purpurea</i>		X		
	<i>Lomandra ? nigricans</i>			X	
	<i>Lomandra purpurea</i>		X		
DENNSTAEDTIACEAE	<i>Pteridium esculentum</i>	X	X	X	X
DILLENIAEAE	<i>Hibbertia cuneiformis</i>	X			
	<i>Hibbertia hypericoides</i>	X	X	X	
	<i>Hibbertia perfoliata</i>			X	
	<i>Hibbertia racemosa</i>	X		X	
	<i>Hibbertia vaginata/ subvaginata</i>		X		
DROSERACEAE	<i>Drosera macrantha</i> subsp. <i>macrantha</i>		X		
	<i>Drosera macrantha/ pallida</i>		X		
	<i>Drosera pallida</i>		X		
	<i>Drosera</i> sp.		X		
EPACRIDACEAE	<i>Andersonia caerulea</i>		X		
	<i>Leucopogon australis</i>			X	X
	<i>Leucopogon cordatus/ propinquus</i>		X		
	<i>Leucopogon ? elatior</i>		X		
	<i>Leucopogon ? propinquus</i>	X			
	<i>Lysinema ciliatum</i>		X		
EUPHORBIACEAE	<i>Phyllanthus calycinus</i>		X		
GOODENIACEAE	<i>Dampiera linearis</i>	X		X	
	<i>Scaevola calliptera</i>		X		
	<i>Velleia trinervis</i>	X			X
HAEMODORACEAE	<i>Anigozanthos flavidus</i>			X	
	<i>Anigozanthos manglesii</i>		X		
	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>		X		
	<i>Conostylis</i> sp. (? <i>aculeata</i>)	X			
	<i>Haemodorum laxum</i>	X			
	<i>Haemodorum</i> sp.	X			
	? <i>Phlebocarya ciliata</i>		X		
HYPOXIDACEAE	<i>Hypoxis occidentalis</i> var. <i>quadriloba</i>			X	
IRIDACEAE	<i>Patersonia occidentalis</i>	X			X
	<i>Patersonia umbrosa</i> var. <i>xanthina</i>		X		
JUNCACEAE	<i>Juncus pallidus</i>			X	
	<i>Luzula meridionalis</i>	X			
LAMIACEAE	<i>Hemiandra pungens</i>		X		

Family	Species	Vegetation Community Type			
		1	2	3	4
LAURACEAE	<i>Cassytha racemosa</i>		X		
	<i>Cassytha</i> sp.			X	
LENTIBULARIACEAE	<i>Utricularia multifida</i>			X	
LINDSAEACEAE	<i>Lindsaea linearis</i>	X		X	
LOGANIACEAE	<i>Logania serpyllifolia</i> subsp. <i>angustifolia</i>	X	X		
LORANTHACEAE	<i>Nuytsia floribunda</i>		X		X
MIMOSACEAE	<i>Acacia divergens</i>			X	
	<i>Acacia huegelii</i>		X		
	<i>Acacia myrtifolia</i>	X			
	<i>Acacia pulchella</i>	X	X		X
	<i>Acacia saligna</i>	X			
	<i>Acacia semitrullata</i> (Priority 3 species)		X		
	<i>Paraserianthes lophantha</i> var. <i>lophantha</i>			X	
MYRTACEAE	<i>Agonis flexuosa</i> var. <i>flexuosa</i>	X	X		X
	<i>Astartea</i> sp. (ex- <i>Astartea</i> <i>fascicularis</i>)			X	
	<i>Calothamnus sanguineus</i>		X		
	<i>Calytrix</i> ? <i>flavescens</i>		X		
	<i>Corymbia calophylla</i>	X	X		X
	? <i>Eremaea pauciflora</i>		X		
	<i>Eucalyptus marginata</i>		X		
	<i>Eucalyptus patens</i>			X	
	<i>Hypocalymma angustifolium</i>	X		X	
	<i>Hypocalymma robustum</i>		X		
	<i>Kunzea ericifolia</i> /glabrescens		X		
	<i>Melaleuca preissiana</i>			X	
	<i>Melaleuca thymoides</i>		X		
	<i>Taxandria linearifolia</i>			X	
ORCHIDACEAE	<i>Caladenia attingens</i> subsp. <i>atingens</i>		X		
	<i>Caladenia cairnsiana</i>		X		
	<i>Caladenia excelsa</i> (Declared Rare Flora species)		X		
	<i>Caladenia flava</i>		X		
	<i>Diuris longifolia</i>		X	X	
	<i>Elythranthera brunonis</i>		X		
	<i>Microtis media</i>	X		X	
	<i>Pterostylis rogersii</i> aff. <i>nana</i>		X		
	<i>Pterostylis vittata</i>		X		
	<i>Pyrorchis nigricans</i>	X	X		

Family	Species	Vegetation Community Type			
		1	2	3	4
ORCHIDACEAE	<i>Thelymitra crinita</i>		X		
PAPILIONACEAE	<i>Bossiaea eriocarpa</i>	X	X		
	<i>Bossiaea ornata</i>	X			
	<i>Chorizema aciculare</i> subsp. <i>aciculare</i>		X		
	<i>Chorizema cordatum/ilicifolium</i>	X		X	X
	<i>Chorizema rhombeum</i>		X		
	<i>Daviesia preissii</i>	X			
	<i>Gompholobium capitatum/tomentosum</i>		X		
	<i>Gompholobium knightianum</i>		X		
	<i>Gompholobium tomentosum</i>		X		
	<i>Hardenbergia comptoniana</i>		X		
	<i>Hovea chorizemifolia</i>	X			
	<i>Hovea elliptica</i>	X		X	
	<i>Hovea trisperma</i>		X		
	<i>Isotropis cuneifolia</i>		X		
	<i>Jacksonia furcellata</i>		X		
	<i>Kennedia coccinea</i>		X		
	<i>Mirbelia dilatata</i>			X	X
	<i>Pultenaea reticulata</i>		X		
	? <i>Sphaerolobium medium</i>	X			
	<i>Viminaria juncea</i>			X	
PHILYDRACEAE	<i>Philydrella pygmaea</i>	X			X
PITTOSPORACEAE	<i>Cheiranthra preissiana</i> var. <i>planifolia</i>			X	
POACEAE	<i>Austrostipa</i> sp.		X		
	<i>Neurachne alopecuroidea</i>		X		
	<i>Tetrarrhena laevis</i>	X			X
POLYGALACEAE	? <i>Comesperma confertum/flavum</i>	X			
PROTEACEAE	<i>Adenanthos barbiger</i>		X		
	<i>Adenanthos meisneri</i>		X		
	<i>Banksia attenuata</i>		X		
	<i>Banksia grandis</i>		X		
	<i>Banksia ilicifolia</i>		X		
	<i>Banksia littoralis</i>			X	
	<i>Dryandra lindleyana</i> subsp. <i>lindleyana</i>		X		
	<i>Hakea amplexicaulis</i>	X			
	<i>Hakea lissocarpha</i>	X			
	<i>Persoonia longifolia</i>		X		
	<i>Petrophile linearis</i>		X		
	<i>Stirlingia latifolia</i>		X		
	<i>Xylomelum occidentale</i>		X		

Family	Species	Vegetation Community Type			
		1	2	3	4
RESTIONACEAE	<i>Desmodcladus fasciculatus</i>		X		
	<i>Desmodcladus flexuosus</i>		X		
	<i>Hypolaena exsulca</i>		X		
	<i>Hypolaena pubescens</i>			X	
	<i>Lyginia imberbis</i>		X		
RHAMNACEAE	<i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>		X		
	<i>Spyridium globulosum</i>	X			
	<i>Trymalium ledifolium</i> var. <i>rosmarinifolium</i>	X		X	
RUBIACEAE	<i>Opercularia hispidula/ vaginata</i>	X	X	X	
RUTACEAE	<i>Philotheca spicata</i>		X		
SANTALACEAE	<i>Leptomeria pauciflora</i>		X		
STACKHOUSIACEAE	<i>Stackhousia monogyna</i>		X		
STERCULIACEAE	<i>Thomasia paniculata</i>			X	
STYLIDIACEAE	<i>Stylidium amoenum</i>		X		
	<i>Stylidium amoenum/ brunonianum</i>		X		
	<i>Stylidium ? brunonianum</i>		X		
	<i>Stylidium calcaratum</i>	X	X		
	<i>Stylidium crassifolium</i>		X		
	<i>Stylidium ? crassifolium</i>		X		
	<i>Stylidium enopodum/repens</i>	X			
	<i>Stylidium schoenoides</i>		X		
THYMELAEACEAE	<i>Pimelea angustifolia</i>		X		
	<i>Pimelea rosea</i> subsp. <i>rosea</i>		X		
TREMANDRACEAE	<i>Tetrateca setigera</i>	X			
XANTHORRHOEACEAE	<i>Xanthorrhoea brunonis/ gracilis</i>	X			X
	<i>Xanthorrhoea gracilis</i>	X			
	<i>Xanthorrhoea preissii</i>		X		
ZAMIACEAE	<i>Macrozamia riedlei</i>		X		
Introduced Species					
ARACEAE	* <i>Zantedeschia aethiopica</i>		X		X
ASTERACEAE	* <i>Arctotheca calendula</i>		X		
	* <i>Ursinia anthemoides</i>		X		

Family	Species	Vegetation Community Type			
		1	2	3	4
CARYOPHYLLACEAE	* <i>Petrorhagia dubia</i>		X		
CYATHEACEAE	* <i>Cyathea cooperi</i>			X	
HYACINTHACEAE	* <i>Lachenalia aloides/reflexa</i>	X			X
IRIDACEAE	* <i>Romulea rosea</i>		X		
MIMOSACEAE	* <i>Acacia cyclops</i>	X			
	* <i>Acacia iteaphylla</i>	X			
MYRTACEAE	* <i>Kunzea baxteri</i>	X			
	* <i>Melaleuca nesophila</i>	X			
ORCHIDACEAE	* <i>Disa bracteata</i>				X
OROBANCHACEAE	* <i>Orobanche minor</i>	X	X		
POACEAE	* <i>Briza maxima</i>		X		
	* <i>Briza minor</i>		X		
	* <i>Ehrharta calycina</i>	X			
	* <i>Holcus lanatus/setiger</i>			X	
PROTEACEAE	* <i>Grevillea olivacea</i>	X			
	* <i>Hakea laurina</i>	X			
VIOLACEAE	* <i>Viola odorata</i>			X	

Key to Vegetation Community Types

1. Marri woodland over mixed shrub and herb species on heavier soils
2. *Banksia*/Jarrah woodland with some individuals of Marri and Peppermint
3. Creekline riparian vegetation of Stout Paperbark/Moonah and Blackbutt
4. Peppermint/Marri woodland on sandier soils upslope from creekline